

UNIVERSITY OF STRATHCLYDE

DEPARTMENT OF HISTORY

THESIS SUBMITTED FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY

SCOTTISH MIGRATION AND EMIGRATION  
1861-1911

by

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VOLUME I

1990

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## ACKNOWLEDGEMENTS

During the time that I have been working on this research. I have had considerable help from a large number of people. I would like to thank three people in particular. Firstly, I would like to acknowledge the tremendous help I have received from my supervisor Professor T.M.Devine, who has given me substantial encouragement, guidance, and prompt advice when it was needed. Secondly, I would like to recognise the enormous amount of support given to me by Dr.S.K.Tagg, who managed to convert me to a competent computer-user from a complete computer illiterate. Thirdly, I am very grateful to Mr.D.Baines who devised the original method of estimating emigration and whose interest in my work has been most reassuring.

There are many other people in the University of Strathclyde whose help I would like to acknowledge. I had considerable help from many members of the Department of History on small problems, and Mrs.J.Fraser and Mrs.M.Hastie both gave me advice on how to type this thesis. Many people gave me assistance in the Computer Centre especially Mr.O.Allen, Ms.M.Cowans, Ms.A.Manzor, Mr.K.Storey, Mr.N.Wagstaffe, Mr.R.Williams and Mr.G.Watson, and in the Social Statistics Laboratory, Mrs.S.Hungan and Miss A.Mair.

I am grateful to several libraries for their help: University of Strathclyde, University of Glasgow and particularly to the Reading room in the Registrar Generals Office, New Register House Edinburgh. In that connection I would especially like acknowledge the help of Dr.Shaw, Mrs.S.Mackenzie and the porters.

I am obliged to Her Majesty's Stationery Office for permitting me to cite material that is Crown copyright in my thesis. I would also like to acknowledge the scholarship I received from the Scottish Education Department, which made this research possible.

Finally I would like to thank my family for all their help and encouragement. To Jeremy for being very understanding, to Yvette and to Gavin for numerous experiments on the home computer which resulted in the maps and diagrams. To my family and my Parents this thesis is dedicated.

## ABSTRACT

This research has estimated the volume of Scottish emigration and migration by decade between 1861 and 1911. It has used the published Census and Detailed Annual Reports, and a manuscript source (the Enumeration Books). These data sources have been analysed, the methodology for establishing mobility discussed and estimates of movement computed using SPSSx.

Movement out of the county-of-birth has been defined as migration and out of Scotland as emigration. These two forms of mobility have been measured nationally by population category and also by county-of-birth. Emigration and migration have been compared with each other over time, and also with England and Wales.

Population mobility in Scotland varied according to the demographic, economic and spatial characteristics of the county-of-birth. These features appeared to influence the native's decision whether to migrate or emigrate, but the type of movement was also gender specific, males being more likely to emigrate and females to migrate. Moreover, although both males and females migrated at approximately the same ages, peak adult female emigration was markedly older than male.

The young adult age-bands generally contained the highest proportions of losses, but the majority of current migrants and a sizeable proportion of emigrants were considerably younger. Both migration and emigration were estimated net of returns and both forms of mobility involved a considerable proportion of return

movement. This made mobility appear to end at 29 years, and disguised the movement of older people.

The international economic cycles were an important influence on the volume of emigration from Scotland. Nationally migration appeared to have an inverse relationship with emigration and this has been explored.

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## INTRODUCTION

The Scottish population in the second half of the nineteenth century has been depicted in literature as being exceptionally mobile, both in terms of emigration and also migration. However, evidence for this mobility is generally qualitative, rather than quantitative and very little is known about the origins of the migratory population. The behaviour of the two sexes is usually considered to be similar and those moving are assumed to be young adults.

This study will quantify Scottish population movement, both emigration and migration, between 1861 and 1911. At present our knowledge of migration is confined to local or regional studies and research into occupational groups. Migration tends to be considered only in terms of rural urban movement. Our understanding of emigration is rather greater. We have national estimates of aggregate Scottish losses and also estimates from the country of destination. Furthermore, there are regional and local studies. There are however big gaps in our knowledge on both forms of mobility. We do not know at what age movement took place, whether both sexes behaved similarly, if there was a regional or county dimension to mobility or how migration and emigration interacted.

The present study will evaluate population flows both regionally and by county-of-birth. The pattern of mobility in each sex will be analysed and the approximate age at which Scots first move will also be examined. Unfortunately any subsequent movement within Scotland cannot be recorded, due to limitations inherent in

the method adopted. Indeed the methodology of necessity creates its own set of assumptions and these artificialities, together with possible errors in the original data, make precise quantification impossible. This study will quantify population flows and the discussion will concentrate on issues where the degree of error does not invalidate the results and conclusions. These estimates of national population movements will enable comparisons to be made at the county or regional level, between the types of mobility and over time as well as between the sexes.

The sources of information used to estimate population movement in this study are mostly published and have always been available, but it was not until a methodology was devised by Baines,<sup>1</sup> that the potential value of these sources was appreciated. The present study has adapted Baines' approach so that specifically Scottish problems could be accommodated, and it has also modified Baines' methodology considerably, by making use of large samples of the migrant population.

The thesis will be divided into eleven chapters. Where relevant the chapters will include a summary of important findings. The eleven chapters divide into five main topics and a conclusion. The first reviews existing knowledge on Scottish mobility. The second one considers the data sources and the methodology for estimating population movement. The remaining three topics are the results of this study. The third one analyses migration, the

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1. Baines, D. *Migration in a Mature Economy. Emigration and Internal Migration in England and Wales, 1861-1900*, (Cambridge University Press, Cambridge, 1985). pp.90-125.

fourth, emigration and the fifth considers how emigration and migration patterns interact.

1. Chapter one reviews published literature on mobility in the Scottish population between 1831 and 1914 and considers its' shortcomings.

2. Chapter two evaluates the data sources used in this study, their advantages and limitations. It also discusses how problems with the sources were resolved and how the data were standardized. The subsequent chapters (three and four) discuss the theory behind the method of using the data sources to estimate population movement. Chapter three evaluates Baines' methodology and the reasons why it has been modified in the present study. There is also a discussion on the procedures used for creating the Scottish migrant age-structure samples. The following chapter (four) considers the basic assumptions of the method used, its strengths and weaknesses and how these affect the estimates. The programming of the computer to calculate mobility will be described in the appendices.

3. The next three chapters discuss the estimates of Scottish migration. Chapter five analyses migration derived from the Scottish census tabulations. This shows the impact of inter-regional migration. It also considers whether some counties have a declining indigenous population or are merely losing their natives through out-migration. The subsequent chapter (six) examines out-migration in each decade both nationally and by county-of-birth, using the computer calculations made in this study. Chapter seven

compares the estimates of migration with other Scottish work and also with assessments of migration made for England and Wales.

4. Two chapters (eight and nine) evaluate emigration from Scotland. They adopt a similar style to chapters six and seven, so that calculations discussed in these chapters can easily be compared. Chapter eight considers the estimates of emigration made in the present study and the ensuing chapter (nine) provides a comparative dimension with existing studies both of Scotland and the rest of Britain.

5. Chapter ten considers emigration and migration together as different manifestations of population movement. It compares the significance of the two flows and reflects on the implications of this mobility regionally.

6. The final conclusion will provide an overview, by summarising the main findings of the study, and collating the conclusions made in the earlier chapters.

1. See, for example, "Introduction: Scotland, 1830-1914. The Making of a Nation," in *The People of Scotland*, ed. by F. Fraser, I. H. and G. H. S. Jones, (Edinburgh, 1980), pp. 1-7.

2. See, for example, *Migration in a Modern Economy*, p. 45, fn. 1.

3. See, for example, "The People" in Fraser, F. H. and G. H. S. Jones, *The People and Society in Scotland*, vol. II, 1830-1914, (Edinburgh, 1980), p. 5.

4. See, for example, "Introduction," in Fraser, F. H. and G. H. S. Jones, *The People and Society in Scotland*, vol. I, 1780-1830, (Edinburgh, 1980), pp. 1-8.



## CHAPTER I

### REVIEW OF PUBLISHED WORK ON SCOTTISH POPULATION

#### MOVEMENT: 1830-1914

#### INTRODUCTION

This survey of literature on Scottish population movement will consider work on the period 1830-1914, so that the present study (1861-1911) can be placed in a wider perspective.

This epoch has been described by Morris as "making a nation within a nation".<sup>1</sup> Scotland still retained her national distinctiveness, and this was apparent even in population movement.<sup>2</sup> During these years (1830-1914) the population of Scotland doubled, although this growth was not spread evenly throughout the regions, but concentrated in the Central Lowlands.<sup>3</sup> Scotland was part of a rapidly expanding world economy, having experienced a major social transformation in the period prior to 1830.<sup>4</sup> In 1830 however the assumptions, attitudes and experiences of a rural society still permeated much of Scotland, but by 1914 the entire population was more thoroughly urbanised.<sup>5</sup>

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1. Morris, R.J. "Introduction: Scotland, 1830-1914. The Making of a Nation within a Nation." in Fraser, W.H. and Morris, R.J. (eds.) *People and Society in Scotland, vol. II, 1830-1914*, (John Donald, Edinburgh, 1990), pp.1-7.

2. Baines. *Migration in a Mature Economy*. p.45, fn.1.

3. Anderson, M. and Morse, D.J. "The People" in Fraser, W.H. and Morris, R.J. (eds.) *People and Society in Scotland, vol. II, 1830-1914*. (John Donald, Edinburgh, 1990), p.8.

4. Devine, T.M. "Introduction." in Devine, T.M. and Mitchison, R. (eds.) *People and Society in Scotland, vol. I, 1760-1830* (John Donald, Edinburgh, 1988), pp.1-8.

The survey will be divided into six sections. The first part will provide a brief overview of the economic and social factors likely to influence population movement. The second one will consider issues concerning Scottish mobility, which are of relevance to both emigration and migration. Only a few researchers have considered both forms of population movement, but where they do they will be included in this section. The next two sections will consider migration (part 3) and emigration (part 4) where they have been studied in isolation or where direct comparisons of two populations movements were not possible. It will not repeat Baines very detailed analysis of European emigration,<sup>6</sup> but instead will concentrate on Scottish movement. The following section (five) will discuss issues concerning Scottish mobility and the final part will consider the weaknesses in our knowledge.

There are relatively few studies that consider Scottish population movement in detail, but there are many other works that provide evidence of mobility and these will be included in the discussion. With regard to emigration, only literature from the perspective of the sending country and not that of the receiving one will be considered. The destinations of overseas emigrants will not be discussed unless it is of relevance to subsequent analysis.

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5. Campbell, R.H. and Devine, T.M. "The Rural Experience" in Fraser, W.H. and Morris, R.J. (eds.) *People and Society in Scotland, vol. II, 1830-1914*. (John Donald, Edinburgh, 1990), p.46.

6. Baines. *Migration in a Mature Economy*. pp.8-89.

## 1. SCOTTISH POPULATION MOVEMENT 1830-1914 - THE SOCIAL AND ECONOMIC FACTORS

Macdonald's pioneering research on population movement identified three general causes or motives that encouraged out-migration:- rural depopulation through changes in agricultural practices, the concentration of industrial development mainly in the Central Lowlands with a perceived better lifestyle, and finally poverty and poor-relief administration.<sup>7</sup> It is debatable whether these three causes are equally valid, however they do provide a framework for analysis.

### AGRICULTURE

In agriculture by 1830 almost every area in the Lowlands had been improved. This had considerably reduced the opportunities to acquire land, and increased the numbers dependent on wage labour. By the early twentieth century a diminishing proportion of the population lived in the rural areas, but as industrial development was confined to the densely populated but fairly narrow band of the Central Lowlands, most of Scotland was still essentially rural.

In 1830 small scale domestic industry and agriculture were often practised together but this was to become increasingly threatened by greater specialisation in larger units. Handloom weaving for example began to decline in many areas by the 1850s.<sup>8</sup>

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7. Macdonald, D.F. *Scotland's Shifting Population 1770-1850*, (Jackson, Glasgow, 1937).

8. Gray, M. "Scottish Emigration: the Social Impact of Agrarian Change in the Rural Lowlands, 1775-1875". in *Perspectives in American History*, 7, 1973. p.154.

Better transport facilities linked the Scottish regions. This improved the access to expanding markets but did not standardise agriculture. No single pattern of husbandry emerged; indeed areas of specialisation developed, with arable in the southeast, dairy farming in the southwest and livestock rearing in the northeast. Throughout central and southern Scotland the commercialisation of agriculture meant that labour was hired for six or twelve month periods and any surplus population was forced to migrate by the nature of the Scottish Poor Law and lack of housing other than that tied to the place of work. Additional labour needs were met by the employment of temporary migrants from the Highlands, Ireland, the larger towns and industrial villages.'

Throughout lowland Scotland there were increasing problems of attracting farm servants despite improving pay and conditions,<sup>10</sup> as workers preferred the attractions of urban life with less demanding work and more pay.<sup>11</sup> There had always been a marked shortage of accommodation for married farm servants, unless they were ploughmen in the Southeast and Fife, and so for the majority marriage meant leaving agricultural employment. The proportion of the national population employed in agriculture declined markedly

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9. Devine, T.M. "Temporary Migration and the Scottish Highlands in the Nineteenth Century" in *Economic History Review*, 32 (3), 1979, pp. 344-59.

10. Ploughmen, and those employed in the bothy and kitchen systems were all paid partly in kind. Campbell and Devine. "The Rural Experience," pp. 51-7.

11. Devine, T.M. "Woman Workers, 1850-1914." pp. 98-123, and Devine, T.M. "Scottish Farm Labour in the era of Agricultural Depression, 1875-1900" in Devine, T.M. (ed.) *Farm Servants and Labour in Lowland Scotland 1770-1914*, (John Donald, Edinburgh, 1984), pp. 243-255.

over the period from 24.3% in 1841 to 10.6% in 1911.<sup>12</sup> This could have been due to the mechanisation of agriculture, but Devine cites contemporary opinion as being "unanimous that most mechanical innovations were a consequence rather than a cause of labour shortage."<sup>13</sup>

Much of the previous discussion also applies to the northeast, but here the enlarging of farms caused the displacement of small farmers from the 1840s, even though tilled land continued expanding until 1901 through the colonisation of uncultivated land. This did permit some small scale farming to continue,<sup>14</sup> and in this region crofter's children provided the majority of farm workers.

The Highlands cannot be considered as one unit, but three regions and there was diversity even within these regions. Agriculture in the southern and eastern fringe resembled that further south, with family-size farms using wage labour and consolidation was in progress.<sup>15</sup> Lobban's work on Greenock<sup>16</sup> shows that it was the increasing awareness of the benefits of town life, rather than eviction by landlords that caused out-migration from

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12. Campbell, R.H. "Scotland." in Cage, R.A. *The Scots Abroad. Labour, Capital, Enterprise, 1750-1914*, (Croom Helm, London, 1985), table 1.4, p.14.

13. Devine. "Scottish Farm Labour." p.251.

14. Carter, I. *Farm Life in Northeast Scotland. The Poor Man's Country*. (John Donald, Edinburgh, 1979), pp.53-7.

15. Devine, T.M. assisted by Orr, W. *The Great Highland Famine. Hunger, Emigration and the Scottish Highlands in the Nineteenth Century*. (John Donald, Edinburgh, 1988), pp.1-2.

16. Lobban, R.D. "The Migration of Highlanders to Lowland Scotland 1750-1800." (unpublished Ph.D. thesis, University of Edinburgh, 1969).

the southern fringe of the Highlands.<sup>17</sup> Further north and west large areas had been cleared for commercial sheep farms (Inverness alone had 700,000 sheep in 1880)<sup>18</sup> or, increasingly, for deer forests.

On the western Highland seaboard the crofting system of farming was often unable to provide the bare necessities of life unless supplemented by temporary migration. Yet in 1831 the population in many crofting parishes was still rising<sup>19</sup> and social attitudes discouraged change. The climax came with the potato famine in the 1840s during which landlords encouraged and sometimes assisted the emigration of a redundant population.<sup>20</sup> Thereafter the removals were more subtle but still effective.<sup>21</sup> This pattern continued until the 1880s when, after considerable agitation, the Crofter Holdings (Scotland) Act of 1886 curbed the power of the landlords by giving crofters security of tenure. Nevertheless, the fundamental economic problems of the Highland remained and may have been made worse by "the freezing of the availability of land and so the structure of Highland society and economy."<sup>22</sup>

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17. Richards, E. *A History of the Highland Clearances*. Volume II: *Emigration, Protest, Reasons*. (Croom Helm, London, 1985), pp.181-2.

18. Devine, T.M. "The Highland Clearances", *Refresh*, Spring 1987, p.2.

19. Devine. *The Great Highland Famine*. table 3.i2. p.73.

20. *Ibid.* pp.192-225.

21. See *Ibid.* pp.212-243 and Orr, W. *Deer Forests, Landlords and Crofters. The Western Highlands in the Victorian and Edwardian Times*. (John Donald, Edinburgh, 1982), pp.119-141.

22. Campbell and Devine. "The Rural Experience," p.51.

## INDUSTRIAL DEVELOPMENT

The proportion of the population in Scotland living in settlements of over 5,000 rose from 31.2% in 1831 to 58.6% in 1911.<sup>23</sup> This growth reflects the structural changes in the Scottish economy, which could only be achieved by considerable immigration. There were new industries such as engineering, steelmaking and ship-building. Thus heavy industry replaced textiles as the leading sector.<sup>24</sup> The west of Scotland experienced the final decline of handloom weaving at the start of the period. In Ayrshire this deterioration provoked considerable emigration in the 1840s and 1850s,<sup>25</sup> but elsewhere weavers moved to new or expanding industries such as railways, iron and coal.<sup>26</sup> Industry grew, mechanised, but often remained essentially labour intensive.

Cities specialised in different industries; Glasgow had heavy industries, Dundee had textiles, while Edinburgh had a larger professional and service sector than the other major towns.<sup>27</sup> Thus the cities attracted different migrant populations, Dundee's textile mills attracted young females but relatively few males.<sup>28</sup>

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23. Morris, R.J. "Urbanisation and Scotland" in Fraser, W.H. and Morris, R.J. (eds.) *People and Society in Scotland, vol. 11, 1830-1914*, (John Donald, Edinburgh, 1990), table 1, p.74.

24. Campbell. "Scotland." p.15

25. Murray, N. *The Scottish Hand Loom Weavers 1790-1850. A Social History*, (John Donald, Edinburgh, 1990), p.73.

26. Smout, T.C. *A History of the Scottish People 1560-1830*. (Fontana/Collins, London, 1969, sixth impression 1981), p.402.

27. Morris. "Urbanisation and Scotland," pp.73-102.

28. Walker, W.M. *Juteopolis Dundee and its textile workers 1885-1923*, (Scottish Academic Press, Edinburgh, 1979), pp.1-31.

Potential migrants were aware of the comparative advantages of certain places, thus in 1911 the Census observes that the majority of male migrants from Lithlithgow (West Lothian), Perth and Sutherland went to Lanark, but most female migrants from Perth moved to Forfar (Angus) and from the other counties to Edinburgh (Midlothian).<sup>29</sup>

Industry did not develop at a steady pace with ever increasing growth but was subjected to troughs and booms. Treble has considered the construction industry, which employed approximately 7% of the occupied male labour force.<sup>30</sup> He found that between 1881-91, a poor decade for house building, the number of construction workers fell by 5.1%. In the subsequent decade, there was a vast increase in building work and employment increased by 43.4%. The following decade 1901-11 experienced another slump in building and the labour force contracted by 21.4%.<sup>31</sup> Clearly swings of this magnitude could not be accommodated easily by the labour force. In one decade the industry was attracting workers only to reject them subsequently. Some urban residents may have moved in and out of the trade, but the booms must have attracted vast numbers of in-migrants and the ensuing slumps probably encouraged out-migration and emigration.

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29. Census of Scotland 1911 Report on the Twelfth Decennial Census of Scotland, vol.11 [CD.6896] 1913, p.XCIII.

30. Treble, J.H. "The Occupied Male Labour Force." in Fraser, W.H. and Morris, R.J. (eds.) *People and Society in Scotland, vol.11, 1830-1914*. (John Donald, Edinburgh, 1990). appendix 1. pp.195-6.

31. *Ibid.* p.170.



## POVERTY AND POOR-RELIEF ADMINISTRATION

Macdonald has argued that the lack of uniformity in the provisions of the poor law encouraged migration. There was a drift from unassessed parishes, which paid no poor relief, to assessed parishes who aided only "the aged poor, impotent and decayed persons, who of necessity must live by alms".<sup>32</sup> In rural areas "poor-relief was meagre and unreliable or non-existent".<sup>33</sup> However, Macdonald's analysis ended in 1851, when the New Poor Law of 1845 was only beginning to take effect, thereafter the situation gradually improved,<sup>34</sup> as "all parishes were compelled to raise money to relieve the poor".<sup>35</sup> It was no longer necessary to migrate in order to obtain help, but it was still general practice to administer poor-relief on an out-door basis. For orphaned urban-born children, this could mean compulsory migration, as they were boarded with country families for a small fee.<sup>36</sup>

There were two famines in the Highlands, where outside assistance was required. In the first, the mini-famine of 1836-7, the British Government recruitment policy for emigrants was specific, those subsidised had to be under 35 years and of good

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32. In 1845 there were 650 unassessed and 230 assessed parishes. Macdonald. *Scotland's Shifting Population*. pp.103-4.

33. *Ibid.* p.105.

34. Patterson, A. "The Poor Law in Nineteenth Century Scotland." in Fraser, D. (ed.) *The New Poor Law in the Nineteenth Century*, (Macmillan, London, 1976), pp.171-193.

35. Crowther, M.A. "Poverty, Health and Welfare," in Fraser, W.H. and Morris, R.J. (eds.) *People and Society in Scotland, vol. II, 1830-1914*, (John Donald, Edinburgh, 1990), p.268.

36. *Ibid.* p.270.

character.<sup>37</sup> A landlord might also provide free passages in order to secure clearances for sheep,<sup>38</sup> and "philanthropy rode in tandem with landlord pressure to secure a vigorous exodus of the people".<sup>39</sup>

In the major crisis of the period, the Highland famine, the state assumed responsibility for relief, but "it allowed the detailed organisation of assistance to become the responsibility of the benevolent societies in the Lowlands, although the government officials still felt the need to influence the direction of their policies." Emigration was assisted both by the landlords and the Highland and Island Emigration Society and almost 17,000 people left.<sup>40</sup>

## 2. SCOTTISH POPULATION MOVEMENT 1830-1914

Levitt and Smout have analysed the appendices to the *Report of the Royal Commission on the Poor Law (Scotland)*,<sup>41</sup> which provided data for 1840-42. They found information on approximately a third of all emigrants and related that to information on migration. Unfortunately, in the original material, the coverage of population movement in the major urban centres was poor, although

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37. Richards. *A History of the Highland Clearances*. Vol.II. p.242.

38. This was the situation on the Mackenzie of Seaforth estates in 1838-41. *Ibid.* pp.244-5.

39. *Ibid.* p.245.

40. Devine. *The Great Highland Famine*. pp.111-45.

41. Levitt, I. and Smout, C. *The state of the Scottish Working Class in 1843. A statistical and spatial enquiry based on the data from the Poor Law Commission Report of 1844*. (Scottish Academic Press, Edinburgh, 1979).

the authors suspect that there was considerable emigration.<sup>42</sup> This study is of particular interest because it is (despite the limitations of the data sources) a national study and this has enabled a more comparative approach to be adopted.

In 1840-2 there were marked differences in the rates of emigration, with the Highlands providing the largest proportion of emigrants.<sup>43</sup> Nevertheless, even here there was a regional dimension, with people from the west Highlands being far more likely to emigrate than migrate. However, temporary migration was not considered by Levitt and Smout and both Devine<sup>44</sup> and Macdonald<sup>45</sup> have shown that this was very significant in this region. Argyll was different. By 1840 the farming in the south was large scale and emigration had already drained away the population. Out-migration was from small joint-tenant farms that were being reorganised for cattle farming.<sup>46</sup> This migration was therefore from the Highland fringe, that is the areas closest to urban development. This pattern of the inhabitants of rural areas nearest to urban development migrating rather than emigrating was also repeated in the lowland areas. For example people from districts near Aberdeen, Edinburgh or coastal Angus migrated, whereas those

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42. *Ibid.* pp.236-7.

43. *Ibid.* pp.238.

44. Devine. "Temporary Migration." pp.344-59.

45. Macdonald. *Scotland's Shifting Population.* pp.125-37.

46. Levitt and Smout. *The state of the Scottish Working Class.* p.239.

further afield in North Stirling, the eastern Borders, Banff, Perth and the western Borders emigrated.<sup>47</sup>

This research by Levitt and Smout has presented a regional dimension to both emigration and migration. In the lowlands Gray has analysed movement in 1800-51 using the census and has shown that differences in the nature of economic development within a parish could also influence the type of population mobility. He concluded that parishes with no industrial development were more likely to have higher emigration than those with an industrial component.<sup>48</sup> Levitt and Smout found the pattern in the urban areas of the West Central Lowlands (where the information was poor) was distinctive in that people were willing to emigrate, although they argue that this may have been due to the depression in the handloom weaving industry.<sup>49</sup> Murray would question this analysis and supports the conclusions of Gray. He has found that it was only in Ayrshire that weavers emigrated and elsewhere in the west of Scotland if they moved at all, they migrated.<sup>50</sup> In the northeast weavers in the vicinity of Aberdeen moved into the city to work in ship-building.<sup>51</sup>

Even in an extreme situation like the Highland famine there was more than one type of population movement. The relationship

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47. *Ibid.* p.240.

48. Gray. "Scottish Emigration: the Social Impact". p.97.

49. Levitt and Smout. *The state of the Scottish Working Class.* pp.240-1.

50. Murray. *The Scottish Hand Loom Weavers.* p.73.

51. *Ibid.* p.74.

between emigration and migration has been explored by Devine.<sup>52</sup> During the Highland famine considerable pressure was applied to expel crofters,<sup>53</sup> and this study reveals the variety of responses by crofters to this. These included temporary migration, local out-movement such as squatting, or migration to the nearest small town such as in Sutherland to Dornoch, in Lewis to Stornoway, or on Mull to Tobermory. Many crofters probably moved south permanently, although initially some may have intended only a temporary move. There were also two emigration flows from the Highlands which can be divided into unassisted and assisted, (the better off and the poor). The unassisted could leave first because they were not obliged to wait for help. These people were generally from the west mainland and southern islands, they had suffered less and left because of an "increasing threat to their social and economic position" as the potatoes had failed and cattle prices fell.<sup>54</sup> Assisted emigration was of two types; the young and single tended to go to Australia and family parties to Canada. It was the poorest classes (the cottars) that were given assisted passages and who, if they had remained, could have been the greatest drain on estate relief.

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52. This paragraph has been taken from Devine. *The Great Highland Famine*. chapter 8, pp.192-211.

53. "It was growth of population beyond the real productive capacity of agriculture that made emigration inevitable". This was an area from which permanent migration was traditionally low. Richards. *A History of the Highland Clearances*. vol.11, p.181.

54. Devine. *The Great Highland Famine*. p.200.

### 3. MIGRATION 1830-1914

The Scots are seen in the literature as a mobile population. Gray quotes an estimate from the 1851 Census showing that a third of the population had crossed a county boundary or moved from a rural to an urban environment.<sup>55</sup> This statistic appears to support this analysis, but what we lack is any international comparative dimension to substantiate the discussion.

It has already been argued that farming practices in lowland Scotland were forcing surplus labour to migrate.<sup>56</sup> A slow, steady migration was unlikely to be recorded until its effects became critical; thus by 1870 farm labourers were in short supply in the Carse of Gowrie and much of the northeast.<sup>57</sup> In Perth the dependence on unmarried farm labourers caused a drain from agriculture on marriage.<sup>58</sup> In the southwest it was the marginal hill country that lost its population first, people being replaced by sheep. Agricultural employment in Wigtown retained approximately the same proportion of the population throughout the period, but only because the total population fell sharply.<sup>59</sup>

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55. It should be noted that this estimate included migrants that had not crossed a county boundary, a definition that is considerably broader than the one used in this study. Quoting 1851 Census Great Britain, Parliamentary Papers, 1852-3. LXXXV-LXXXVII, "Birth Places of the People." in Gray, "Scottish Emigration: the Social Impact." pp.95-174.

56. See p.8.

57. Gray, M. "Farm Workers in Northeast Scotland," in Devine, T.M. (ed.) *Farm Servants and Labour in Lowland Scotland 1770-1914*, (John Donald, Edinburgh, 1984), p.21.

58. Gray, "Scottish Emigration: the Social Impact". p.165.

Gray has also compared Highland migration patterns in 1801 and 1851 using the census. He found that Highland-born migrants were mainly attracted to the West Central Lowlands, with almost half the migrant population going to Lanark and Renfrew.<sup>60</sup> They generally came from the farming regions of the Highlands (the fringe) rather than the far west, which were the really distressed rural areas.<sup>61</sup>

Research on Highland in-migration to the towns of Aberdeen,<sup>62</sup> Greenock,<sup>63</sup> Dundee, Perth and Stirling<sup>64</sup> and the police force in Glasgow<sup>65</sup> also shows that there was a pronounced regional dimension to Highland migration flows. Each urban centre had its own catchment area, although the out-movement was biased towards the west.<sup>66</sup> Thus the majority of movement into Greenock was from Argyll, but the Highland catchment area for Greenock became more

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59. Campbell, R.H. "Agricultural Labour in the South-West," in Devine, T.M. (ed.) *Farm Servants and Labour in Lowland Scotland 1770-1914*, (John Donald, Edinburgh, 1984), pp.55-59.

60. Gray, M. *The Highland Economy 1750-1850*. (Greenwood, Connecticut, 1957 reprinted 1976), table IXa, p.255.

61. Devine. *The Great Highland Famine*. p.197.

62. Withers, C. "Highland Migration to Aberdeen, c.1789-1891," abstract of a paper presented to the Social and Economic History Conference - "The Society and Economy of the North of Scotland since 1700" - University of Aberdeen, Sept. 1987.

63. Lobban. "The Migration of Highlanders."

64. Withers, C. "Highland Migration to Dundee, Perth and Stirling, 1753-1891," in *Journal of Historical Geography*, vol.11, (1985), pp.395-418.

65. Withers, C. "Highland-Lowland Migration and the Making of the Crofting community. 1755-1891," in *The Scottish Geographical Magazine*, vol.103, 1987, p.79.

66. Withers. "Highland Migration to Dundee, Perth and Stirling." p.399.

distant over time.<sup>67</sup> Likewise highland Perth was the main exporter of population to Dundee in the early nineteenth century, but by the second half of the century Ross and Cromarty had exceeded Perth in importance.<sup>68</sup> The evidence, Withers suggests, is that more distant parts of the Highlands were experiencing an increased level of out-migration,<sup>69</sup> but it is also possible that this volume of out-migration had always existed, but now mobility was over a greater distance. At present these hypotheses cannot be explored.

There was a relatively low proportion of wholly Highland-born family groups moving south.<sup>70</sup> Withers found that the age structure of the migrant population was fairly constant over time. In both 1861 and 1891 approximately three quarters of the Highlanders in both Dundee and Perth were between the ages of 20-44 years.<sup>71</sup> It is difficult, as Withers notes, to be sure that only permanent and not temporary migration is being recorded, especially as the vast majority of the Highland population in the two towns moved as single men and women.<sup>72</sup> However, in 1838 in Glasgow there

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67. The migrant catchment area became gradually more distant up to 1870, but after that date Highland migration to Greenock declined. The town was no longer expanding industrially, and better transport facilities made other cities more accessible. A new railway linked Oban to Glasgow. Lobban. "The Migration of Highlanders." p.328.

68. Withers. "Highland Migration to Dundee, Perth and Stirling." p.401.

69. Withers. "Highland-Lowland Migration." p.79.

70. Withers, C. *Highland Communities in Dundee and Perth, 1787-1891: a study in the social history of migrant Highlanders*, (Dundee, 1986), p.36.

71. *Ibid.* pp.16-8.

72. *Ibid.* p.35.



appears to have been considerable family migration amongst Highlanders,<sup>73</sup> and almost a quarter of the Highland-born population were under 10 years.<sup>74</sup>

Female migrants consistently exceeded males in numbers in both Dundee and Perth.<sup>75</sup> This was generally also the situation in Greenock, but "when a particular area first began sending migrants to Greenock, the initial contacts and first migrations were undertaken predominantly by men. After a short time, however the numbers of women from these districts came to equal and surpass the male migrants and thereafter they always remained in a majority among the migrants."<sup>76</sup> At present it is not clear whether Highland migrants generally were predominantly females, or whether it is a product of the places studied. If more industrial locations, towns with fishing interests or ports such as Leith were explored, would Highland males be more in evidence?

Rural populations could also have high local mobility, as research by Flinn *et al* has shown using the parish records of Greenlaw in Berwick (1839-42). This migration was related to the hiring practices in agriculture.<sup>77</sup> The Whitsun term records showed

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73. This year may have been exceptional coming as it does immediately after the mini-famine in the Highlands in 1836-7.

74. Richards. *A History of the Highland Clearances*. vol.II. p.237.

75. Withers has estimated an age and sex structure for both 1851 and 1891. Withers. *Highland Communities in Dundee and Perth*. pp.15-18.

76. Flinn, M. in Flinn, M. (ed.) *Scottish Population History from the Seventeenth Century to the 1930s*. (Cambridge University Press, Cambridge, 1977). p.478.

77. *Ibid.* pp.467-72.

considerable family movement, and indeed child migrants were almost as numerous as adults.<sup>78</sup> However, can we presume that this level of mobility continued in the later nineteenth century? Certainly no research is known that explores this.

Temporary migration had its roots in economic necessity. Its purpose was to maintain an existing lifestyle,<sup>79</sup> especially after 1815 when other bi-employments had failed. However, it also reflected the disparity between the Highlands and Lowlands both economically and demographically. There was greater economic growth in the Lowlands and labour shortages created opportunities for Highlanders.<sup>80</sup> Both Devine<sup>81</sup> and Macdonald<sup>82</sup> have studied this form of movement which existed in all the crofting areas of the Highlands. It was normally the young and single of both sexes that left, and if heads of household left, they were usually cotters.<sup>83</sup> In the northeast the migration was often seasonal, to take advantage of the earlier harvests in southeast Scotland before returning for their own.<sup>84</sup> Temporary migration could however last

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78. Table 6.3.5 recalculated measuring only movement at Whit term. All named individuals and spouses were considered adults. (Flinn notes that some farm servants classed as adults were very young). Total movement showed that 617 adults and 505 children migrated. *Ibid.* pp.470-1.

79. Macdonald. *Scotland's Shifting Population.* p.125.

80. Devine. "Temporary Migration." pp.344-5.

81. Devine. *The Great Highland Famine.* pp.146-70 and Devine. "Temporary Migration." pp.344-59.

82. Macdonald. *Scotland's Shifting Population.* pp.125-39.

83. Devine. *The Great Highland Famine.* p.157.

84. Carter. *Farm Life in Northeast Scotland.* p.63.

several years, and in times of exceptional hardship (such as the Highland famine), when cattle prices fell and potato blight hit crops, a very large proportion of the total population might leave.<sup>85</sup>

In more "normal" years temporary migration was popular because it fitted in with the routine of the croft. Fewer mouths thus had to be fed in periods when shortages of food were most likely and there was very little work, that is May to September.

Initially, temporary migration was mainly to work in agriculture, but work was also found in military employment, urban centres and the herring fisheries.<sup>86</sup> However, by the 1870s the east coast fishery was the single most important employment and agriculture and military service had diminished in significance.

#### 4. EMIGRATION 1830-1914

Emigration in this survey includes Scottish movement to other parts of Britain as well as overseas. After a general discussion, this section will divide into two parts. The first will consider emigration to the rest of Britain and the second movement overseas.

The total volume of overseas emigration from Scotland has been estimated by Carrier and Jeffery,<sup>87</sup> and varied significantly

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85. In the Highland famine cattle prices fell and potato blight hit crops and far more people than usual left. Devine. *The Great Highland Famine*. pp.156-65.

86. Devine. "Temporary Migration." pp.344-4.

87. Carrier, N.H. and Jeffery, J.R. "External Migration", *Studies on Medical and Population Subjects*, no.6. General Register Office (H.M.S.O. London. 1953) table 2. p.14.

from year to year. However, they used shipping lists which Flinn has shown seriously under-estimate the numbers of emigrants prior to 1853 because they ignore Scots leaving English ports.<sup>88</sup> Net movement into England and Wales has been estimated by Baines.<sup>89</sup> The volume of emigrants in both estimates fluctuate markedly. It is however difficult to interpret the significance of the volume of emigrants, as although emigration was generally increasing over time (albeit with fluctuations), the total Scots population was also rising. There are no national studies of emigration from the perspective of the sending country, and therefore the county-of-birth of emigrants can only be gauged from regional research.

#### EMIGRATION TO THE REST OF BRITAIN.

There is very little information on Scottish movement south beyond estimates by Baines<sup>90</sup> and Flinn.<sup>91</sup> The county-of-birth of Scottish emigrants was not stated in the English census until 1911<sup>92</sup> and the age of emigrants was not provided.

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88. Flinn *Scottish Population History*. p.95.

89. Baines. *Migration in a Mature Economy*. table 4.5. p.115.

90. *Ibid.* table 4.5. p.115.

91. Flinn *Scottish Population History*. pp.441-3.

92. *Census of England and Wales 1911*, vol.IX. *Birthplaces of Persons enumerated in Administrative Counties, County Boroughs & c., and Ages and Occupations of Foreigners*. (London, H.M.S.O. 1913). [cd 7017]. Table 6. Males and Females born in Scotland, Ireland, Islands in the British Seas, India and British Colonies and Dependencies and enumerated in England and Wales distinguishing those visiting from those resident in England and Wales in 1911. p.242.

The total number of Scots in England and Wales increased steadily throughout the period,<sup>93</sup> but when considered as a proportion of the total population they fell in the final census (1911),<sup>94</sup> which supports the evidence of Flinn that emigration declined in the decade 1901-11.<sup>95</sup> Anderson and Morse have found that the destination of those Scots moving south changed over time from being mainly to London, the Southeast and Lancashire; after 1870 more people went to areas of mining and heavy industry in England and Wales.<sup>96</sup> Certainly Shannon's findings suggest that the volume of Scottish emigration to London increased until 1891.<sup>97</sup> This change in the direction of the emigration flow suggests that different occupational groups may have begun to emigrate south later in the century. Anderson and Morse consider that it was young, single, well educated or skilled males who moved south.<sup>98</sup> Evidence in the 1911 English and Welsh census does not support this conclusion, as the volume of Scots of both sexes was roughly equal, and if measured by county-of-birth then females exceeded males in

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93. In 1851 there were 130,087 Scots in England and Wales but this had increased to 321,825 in 1911. *Ibid.* Table 8, Natives of several parts of the United Kingdom and elsewhere enumerated in England and Wales at each census 1851-1911, p.243.

94. There were 726 Scots per 100,000 in England and Wales in 1851, this increased steadily to 974 in 1891-1901 and then fell in the final census (1911) to 892. *Ibid.* Table 9, Natives of several parts of the United Kingdom and elsewhere per 100,000 persons enumerated in England and Wales at each census 1851-1911, p.243.

95. Flinn. *Scottish Population History*. table 6.1.2. p.442.

96. Anderson and Morse. "The People." p.17.

97. Shannon, H.A. "Migration and the Growth of London 1841-1891," in *Economic History Review*, 5, 1935, p.83.

98. Anderson and Morse. "The People." p.17.

over half the counties.<sup>99</sup> Clearly the evidence from 1911 does not necessarily present a true picture of the entire period, but it is also the case that the largest proportion of migrants from Scotland by county-of-birth came from the Borders.<sup>100</sup> Was this true emigration or migration over a land border? Undoubtedly this analysis of the county-of-birth of emigrants serves to show how little is really known about them.

Temporary migration within Scotland has been already been considered,<sup>101</sup> but in the late nineteenth century there was also temporary emigration by Scots to other parts of Britain. A study of the Great Yarmouth herring fishing industry<sup>102</sup> provides some information about the origins of the emigrants and the increasing volume of movement. This was probably not the only industry attracting Scots or the only occasion when large numbers moved south, but no other study is known.

The Scottish presence in Yarmouth increased rapidly taking advantage of the spectacular growth in the industry. In 1898 approximately 2,000 Scots and Northumbrian people came south for

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99. *Census of England and Wales 1911*, vol.IX. Table 6, p.242. Females emigrants in England and Wales exceeded males from the following counties-of-birth:- Aberdeen, Argyll, Banff, Bute, Caithness, Dumfries, Edinburgh (Midlothian), Elgin (Angus), Haddington (East Lothian), Inverness, Kincardine, Kirkcudbright, Nairn, Orkney, Ross and Cromarty, Sutherland and Wigtown.

100. Mallet, B. and Stevenson, T.H.C. "Report." in *Census of England and Wales 1911*, vol.IX. p.XIII.

101. See pp.22-3.

102. Fewster, M.I. "The Yarmouth Fishing Industry 1880-1960" (unpublished M.Phil. thesis, University of East Anglia, Norwich, 1985).

the fishing, and almost all the Scottish ships were from east coast ports.<sup>103</sup> By 1902 4,000 Scottish girls were going south as gutters and in 1906 10,000 Scots of both sexes were in Yarmouth for the fishing season.<sup>104</sup> By the peak year of 1913 about 38,000 Scots were employed in the industry of which nearly 13,000 were gutters.<sup>105</sup> Clearly the long journey was justified by the potential earnings, and a female gutter earned an average of £25 after expenses. "In the Helmsdale district the women workers had the unique experience of bringing more money home than the value of fish landed in that district during the whole year."<sup>106</sup> The temporary emigrants quickly identified a growing industry and took full advantage of it.

#### EMIGRATION OVERSEAS.

Analysis of emigration overseas is inhibited by the fact that detailed passenger lists did not exist until 1912, and only after that date did the returns distinguish genuine emigrants from temporary departures.<sup>107</sup> This lack of information has meant that

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103. The drifter ships (in order of volume) were from Banff, Kirkcaldy, Leith, Fraserburgh, Inverness, Berwick, Montrose, Wick, Peterhead, Aberdeen, Arbroath and Stornoway. *Ibid.* p.93. This may indicate the counties-of-birth of some of the temporary emigrants, but as Devine has shown many members of crofting families in the north-west Highlands were temporary migrants in the east coast fishing ports. Devine. "Temporary Migration and the Scottish Highlands." pp.353-355.

104. Fewster. "The Yarmouth Fishing Industry." p.98.

105. *Ibid.* p.101.

106. *Ibid.* p.102, quoting *The Report of the Committee on the North Sea Fishing Industry*, 1914, PXXXV1.

107. Tranter, N.L. *Population and Society 1750-1940. Contrasts in Population Growth.* (Longman, London, 1985), p.29.

researchers are forced to use secondary sources and this biases research towards institutionally organised emigration. Thus regions such as the Highlands (which were recognised by contemporaries as having problems), are likely to have more information on movement than, for example, small, relatively trouble-free towns.

The discussion on population movement has provided some information on regional emigration patterns,<sup>108</sup> but it is impossible to estimate their relative importance nationally. In general emigration is referred to as a rural phenomenon.<sup>109</sup>

This is not however born out by Stevenson's contemporary published record of experience of working class emigration to the United States. He travelled in 1879,<sup>110</sup> a year when emigration was increasing after a trough.<sup>111</sup> Stevenson noted the urban origins of the Scottish emigrants, and thought that many of the emigrants came from Glasgow,<sup>112</sup> and yet studies of urban emigration are rare. Erickson has emphasised the importance of this type of emigration using American passenger lists to study emigrants to the United

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108. See pp.14-8.

109. See for example Thomas. *Migration and Economic Growth*. pp.124-6.

110. Although Stevenson travelled to the United States in 1879, the book was not published until 1892 and so it is possible that the book is not entirely accurate. Certainly Raban who wrote the introduction considered it part fiction. However, Stevenson does stress that his purpose is to describe the type of people that emigrate. Stevenson, R.L. *The Amateur Emigrant. Part I: From the Clyde to Sandy Hook*. (Hogarth, London, published 1895, reprinted 1984), pp.5-6.

111. Flinn *Scottish Population History*. table 6.1.4, p.447.

112. Stevenson. *The Amateur Emigrant*. p.17.



States. She showed that in 1846-54, 58.9% of Scottish male emigrants were from industrial rather than agricultural counties and in 1885-8 this had increased to 79.9%.<sup>113</sup> Clearly the enlarged proportion of emigrants from the industrial counties reflected in part a national trend, but whereas in the 1850s the proportion of emigrants from the industrial counties was slightly below the national average, in the 1851 census and in the 1880s it was higher.<sup>114</sup> In the 1880s, unlike the earlier sample, there was a large emigration of urban labourers.<sup>115</sup> The marital status of emigrants also altered between the 1850s and 1880s. Whereas "before 1854 single men outnumbered men travelling with families 2:1, in the 1880s the ratio was 8:1."<sup>116</sup>

Emigrants are generally portrayed as young, indeed Stevenson stresses that he had expected to find young emigrants but "comparatively few men were below thirty; many were married and encumbered with families; not a few were already up in years."<sup>117</sup> It has already been noted that volume of emigration varied dramatically<sup>118</sup> and this may have been an atypical collection of

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113. See Table 11 for a list of counties classified as being industrial, defined as having less than 35% of the labour force employed in agriculture. Erickson, C.J. "Who were the English and Scots emigrants in the late nineteenth century?" in Glass, D.V. and Revell, R. (eds.), *Population and Social Change*, (Arnold, London, 1972), Table 11, p.377.

114. *Ibid.* Table 5, p.362.

115. In a sample from 1828-54 male labourers were well represented but only 15% came from large towns. *Ibid.* pp.364-8.

116. *Ibid.* p.371.

117. Stevenson. *The Amateur Emigrant*. p.14.

118. See p.24.

passengers. At present we simply do not know the age-structure of the emigrant population nationally.

The motives of emigrants are of interest and Harper has considered emigration from north-east Scotland.<sup>119</sup> She has used the local press and emigrant letters to expand her information, and her study suggests that the emigrants were mainly rural-born farmers, who were emigrating to better themselves rather than out of poverty. Unfortunately the less prosperous farm workers and those who chose to migrate were probably less likely to write letters. Such people tend to be missing in this study. There are other studies in this region. Carter has considered farm service and has found evidence of emigration amongst crofters' children,<sup>120</sup> and Watson and Allan analysed clearances and found non-enforced emigration, (mostly later than the clearance) to be the main form of depopulation.<sup>121</sup>

We have some generalised information about the occupations of emigrants. Thomas has found that about 50% of Scottish male emigrants to the United States were skilled in the period 1875-1914. Scotland also provided the highest proportion of professional and entrepreneurial grades of the four U.K. countries.<sup>122</sup> Flinn's

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119. Harper, M. *Emigration from North-East Scotland*, volume I *Willing Exiles*, and volume II *Beyond the Broad Atlantic*, (Aberdeen University Press, Aberdeen, 1988).

120. Carter, I. *Farm Life in Northeast Scotland*. p.95.

121. Watson, A. and Allan, E. "Depopulation by clearances and non-enforced emigration in the north East." in *Northern Scotland*, vol.10, 1990, pp.31-46.

study of passenger lists in 1912-3, has shown that in those years only 29% of males were described as labourers and only 19% came from agriculture, and the occupational skills of male Scottish emigrants were important in deciding a destination. The majority of female emigrants had no stated occupation, but of those who worked, most described themselves as domestic servants. An occupation does not however imply that the females were travelling alone, many were sisters or daughters of other emigrants.<sup>123</sup>

Some worker's organisations encouraged emigration. Handloom weavers formed emigration societies to relieve distress in that trade.<sup>124</sup> Trades unions also encouraged emigration. Scots coal miners had been emigrating to North America since the 1830s, but in 1864 it became union policy to reduce surplus labour by encouraging emigration, with a fund to help miners and provide information.<sup>125</sup> However, there are no precise estimates of the numbers of emigrants helped in this way, and they were probably very low when compared with the volume emigrating nationally.

Stevenson stressed the poverty of some the steerage passengers, but it is hard to believe that "many" had been long out of work,<sup>126</sup> as the fare for a family would have required

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122. Thomas, B. *Migration and Economic Growth: A Study of Great Britain and the Atlantic Economy*. (Cambridge University Press, Cambridge, 2nd. ed. 1973). p.62.

123. Flinn *Scottish Population History*. p.453.

124. Murray. *The Scottish Hand Loom Weavers*. pp.144-5.

125. Campbell, A.B. *The Lanarkshire Miners. A Social History of their Trades Unions. 1775-1974*. (John Donald, Edinburgh, 1979), pp.268-9.

126. Stevenson. *The Amateur Emigrant*. p.17.

considerable saving, unless the emigrant worked his passage.<sup>127</sup>  
The really poor could not emigrate without assistance. Campbell has argued, that regardless of their subsequent achievements abroad, many Scots often emigrated after failure at home.<sup>128</sup>

Even the poorest emigrant was not necessarily going to a completely unknown destination. Scots had a long tradition of emigration,<sup>129</sup> and Bumstead has argued that this eighteenth century emigration was the "beachhead for later movement."<sup>130</sup> In Ireland the crisis emigration of the famine of 1845-8 has been shown not to have been an aimless movement, but emigration to confirmed links that had already been made with places overseas.<sup>131</sup> Devine has shown that this was also true of unassisted emigration during the highland famine.<sup>132</sup>

Initially it was possible to emigrate from many Scottish ports, but by the mid-nineteenth century the emigrant shipping

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127. On the emigrant ship that Stevenson travelled two stowaways worked their passage. *Ibid.* pp.51-64.

128. Campbell. "Scotland," p.2. using the evidence of Stevenson. *The Amateur Emigrant.* pp.13-5.

129. In the period 1760-75 Bailyn has estimated that approximately forty thousand Scots emigrated to North America. This represents 3% of the total Scots population in 1760. Bailyn, B. assisted by DeWolfe, B. *Voyagers to the West. Emigration from Britain to America on the Eve of the Revolution.* (Tauris, London, 1986). p.26.

130. Bumstead, J.M. *The People's Clearance; Highland Emigration to British North America 1770-1815.* (Edinburgh, 1982), p.65.

131. Baines quoting the research of Cousens. Baines. *Migration in a Mature Economy.* p.31, fn.93. Cousens, S.N. "The Regional Pattern of Emigration during the Great Irish Famine". *Transactions of the Institute of British Geographers*, 28, 1960, pp.119-34.

132. Devine. *The Great Highland Famine.* p.200.

trade was concentrated on Glasgow and Liverpool.<sup>133</sup> The development of steam shipping in the late 1860s altered attitudes to emigration by reducing the financial and emotional costs to emigrants. The steamship meant that emigrants wasted far less time travelling,<sup>134</sup> and therefore the costs in terms of lost income whilst travelling were far less, and for the first time returning was feasible.<sup>135</sup>

Temporary emigration abroad only became practicable with the faster steam shipping. Erickson found evidence of temporary emigration amongst Scottish tradesmen to the United States in the 1880s.<sup>136</sup> Indeed 36% of all male emigrants were building workers and many were temporary emigrants.<sup>137</sup> This proportion of males was remarkably high in a decade of high total emigration. This transatlantic temporary movement was not restricted to the building trade, as miners were also very mobile.<sup>138</sup> The Scottish building workers included the granite masons which Harper has identified as

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133. Harper, M. *Emigration from North-East Scotland*, Volume 1. *Willing Exiles*, (Aberdeen University Press, Aberdeen, 1988). p.93.

134. Baines has pointed out that it took at least four or five weeks to cross the Atlantic by sail and steamships were a considerable improvement. However, the contemporary evidence of Stevenson suggests that conditions in steerage class on the steamships was still very unpleasant, although the journey was much quicker. Baines. *Migration in a Mature Economy*, p.33. Stevenson. *The Amateur Emigrant*. pp.5-50.

135. This section is based on Baines. *Migration in a Mature Economy*, pp.31-5.

136. Erickson. "Who were." pp.347-81.

137. *Ibid.* pp.366-7.

138. Laslett has some evidence of temporary emigration amongst men from Lanarkshire coal mines. Laslett, J.H.M. *Nature's Noblemen: The Fortunes of the Independent Collier in Scotland and the American Midwest, 1855-1889*. (Institute of Industrial Relations Publications, no.34, Los Angeles, 1983), p.35.

temporary overseas emigrants from Aberdeen to both Canada<sup>139</sup> and the U.S.A.<sup>140</sup> This movement was encouraged by demand abroad, and only in 1901 was the main motive a bad slump and financial hardship in Scotland.<sup>141</sup> However, this workforce was only a minor part of the total building industry which needs further investigation.

Temporary emigration implies that return to Scotland was always planned. However, other emigrants who may or may not have been successful also returned.<sup>142</sup> Return emigration was not a new phenomenon having been recorded as early as 1816<sup>143</sup> and possibly even earlier.<sup>144</sup> However, the numbers of returning emigrants from the United States increased during the Civil War, and during the Crimean War boom in Britain.<sup>145</sup> Shepperson has argued that prior to 1865, craftsmen and mechanics who recrossed the Atlantic did so because "of real or imagined dissatisfaction with America and not because they were temporary labourers."<sup>146</sup> Anderson and Morse have observed that although it is not possible to estimate the

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139. Harper. *Emigration from North-East Scotland*, vol.II, pp.161-6.

140. Harper. *Emigration from North-East Scotland*, vol.I, pp.254-9.

141. *Ibid.* p.254.

142. There is no known research on Scottish return emigrants but studies of European workers suggest that those who returned were no less prosperous than those who had remained. Baines. *Migration in a Mature Economy*. p.29.

143. *The Times*, August 24th. 1816, quoted in Shepperson.W. "British Backtrailers." in Ander,O.F. (ed.) *On the Track of Migrants*, (Rock Island, Ill. 1964), p.181.

144. Shepperson.W. *Emigration and Disenchantment*, (University of Oklahoma Press, Oklahoma. 1966), p.3.

145. Shepperson. "British Backtrailers." p.183.

146. Shepperson. *Emigration and Disenchantment*, p.78.

quantitative impact of return emigration before 1895, it was highly variable in volume but nevertheless substantial.<sup>147</sup> Shepperson has studied nineteenth century return emigration from the United States.<sup>148</sup> He shows that these emigrants were mature people often with families and who had taken time to investigate the possibilities in the United States before returning to Britain.<sup>149</sup>

##### 5. ISSUES IN SCOTTISH POPULATION MOVEMENT 1830-1914

Throughout the period 1865-1910, the most popular destination for Scottish overseas emigrants was the United States.<sup>150</sup> Jerome first noted that the fluctuations in American immigration from Britain and Germany were linked to the American economic cycles, especially after 1870.<sup>151</sup> These fluctuations in the total number of emigrants from Scotland are apparent in the estimates by Flinn.<sup>152</sup> This distinctive pattern has been observed in several countries, and has been the source of considerable theoretical discussion.<sup>153</sup> However, it is the work of Thomas<sup>154</sup>

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147. Anderson and Morse. "The People" p.16.

148. Shepperson. *Emigration and Disenchantment*, p.186.

149. *Ibid.* p.187.

150. Flinn *Scottish Population History*. table 6.1.7, p.451.

151. Gould, J.D. "European Inter-Continental Emigration 1815-1914: Patterns and Causes." in *Journal of European Economic History*, 8 (3), 1979, pp.629-30. Jerome, H. *Migration and Business Cycles*, (New York, National Bureau Economic Research, 1926).

152. Flinn *Scottish Population History*. table 6.1.4, pp.446-7.

153. Gould. "European Inter-Continental Emigration." pp.628-79.

154. Thomas. *Migration and Economic Growth*.

that is of particular importance in this study because he has provided a theoretical framework linking the emigration and migration flows from Britain with America. He has argued that the British and American building cycles alternate. When the building cycle in America rose, it attracted capital from Britain and as employment improved emigrants were attracted to America. When however there was an industrial and building boom in Britain, potential emigrants migrate to British cities instead. This pattern is apparent in Scotland, in that the booms in the building cycle (which have already been considered)<sup>155</sup> coincided with decades of low emigration and vice versa.

This study is mainly concerned with the question of how far Thomas's theory relates to Scottish population movement. Thomas has argued that rural areas were unable to absorb their natural increase, and therefore it was the rural-born population that was essentially mobile. In decades of industrial and building boom in Britain relatively few of these rural migrants emigrated, but in the decades of economic slump when investment was low, the same people were more likely to emigrate. Emigrants were therefore of rural origin.<sup>156</sup> There has been some regional research that supports the arguments on the rural origins of Scottish emigrants, for example that by Carter<sup>157</sup> and Harper<sup>158</sup> on out-movement from the northeast and the work by Devine on the Highland famine at the

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155. See pp.12-3.

156. Thomas. *Migration and Economic Growth*. pp.124-6.

157. Carter. *Farmlife in North-East Scotland*. p.95.

158. Harper. *Emigration from North-East Scotland*. vols.I & II.



beginning of this period.<sup>159</sup> But the evidence of Stevenson<sup>160</sup> and research by Erickson<sup>161</sup> suggests that there was a large urban-born element amongst the emigrants. It is possible that as passenger lists recorded last address, some of the emigrants "caught" by Erickson were rural-born, having migrated earlier.<sup>162</sup> Undoubtedly there is a need for more research on urban emigration.

Thomas's theory is not without its critics, both from a theoretical perspective<sup>163</sup> and from the results of Baines' research on England and Wales. This in fact showed that there was considerable urban-born emigration.<sup>164</sup>

## 6. OVERVIEW

This survey has discussed the existing literature on Scottish population movement in the nineteenth century. There are however large gaps in our knowledge, some of which have already been highlighted. This section will briefly discuss these omissions, considering first general issues, then secondly those concerning migration and finally emigration.

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159. Devine. *The Great Highland Famine*.

160. See p.29.

161. See pp.29-30.

162. Erickson. "Who were." p.355.

163. See pp.36, fn.152.

164. Baines. *Migration in a Mature Economy*. pp.220-276.

## POPULATION MOVEMENT

a. Population movement is a broad term that includes both emigration and migration, and yet there is relatively little comparative work on emigration and migration. Thus Gray could fault Harper's work on "the failure to discuss the relation between migration to other parts of Scotland and emigration."<sup>165</sup> In most regions of Scotland it is simply not known whether out-movement was predominantly emigration or migration. Thus at present it is impossible to provide a Scottish dimension to discussions of Thomas's theories on the mobility of the rural population.<sup>166</sup>

b. A comparative dimension is lacking in population movement, even where we already have some interesting research. For example, in temporary mobility, two distinctive types of movement have emerged. The first, within Britain is the marginal, rural poor supplementing their income<sup>167</sup> and the second, abroad skilled urban workers maximising their wages.

c. The research is restricted by its sources. We do not have adequate passenger lists and, unlike Scandinavia, national registration did not exist. The relatively late introduction of registration of vital data in Scotland has also limited research. The registration of births, for example, does state the parish of parent's marriage, which could be a measure of population movement.

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165. Gray. "Famine and Emigration." p.72. reviewing Harper. *Emigration from North-East Scotland. vols.1 & 11.* in *Scottish Economic and Social History*, 10, 1990.

166. Thomas. *Migration and Economic Growth*.

167. Devine. "Temporary Migration." pp.344-59.

The census has been used to measure total population loss, but the enumeration books, which provide a wealth of detail on movement (the birthplaces and occupations of all members of the family are stated) have only been used at the local level.<sup>168</sup> However, work on this source will remain very time consuming until the information in the books is put on computer.

#### MIGRATION.

a. After 1861 the census provides a breakdown of the population of Scotland using a county-of-residence by county-of-birth. It does not supply a breakdown of ages other than above or below 20 years, but it does indicate where the residents of a county were born. Stage migration cannot be identified, as it does not record any intermediate moves. Information on stage migration could be gained at the parish level using the Census enumeration books to analyse the birthplaces of parents and siblings. Anderson and Morse have used census data to show which parishes were experiencing the greatest population gains or losses,<sup>169</sup> but it is still not known, even at the county level, which counties were losing mainly through migration and which through emigration.

b. Migration has frequently been considered in terms of an occupational group. For example, a considerable amount is known about the type of situation that might promote mobility amongst

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168. See the work of Devine. *The Great Highland Famine*. and Withers on Aberdeen, Dundee, Perth and Stirling.

169. Anderson and Morse "The People." pp.21-2.

farm workers, both male and female, but rather less about workers in many industrial occupations.

c. The census provides us with tabulations of the total migrant population. These migrants could be long time residents or newcomers, it is impossible to tell. We cannot therefore identify a sudden increase in out-migration or an influx of newcomers.

## EMIGRATION

a. It has already been emphasised that institutionally organised movement tends to dominate this research, because of the intractability and scarcity of other materials. Thus in the Highlands we know far more about the numbers involved in assisted rather than unassisted emigration.<sup>170</sup>

b. The census has provided estimates of aggregate net losses from Scotland in each decade, but we do not know which counties experienced the greatest proportional losses per head of population and whether this pattern changed over time. It is possible to estimate emigration from Scotland using Baines' method, if instead of considering movement to other parts of Britain as out-migration (as Baines did), one regards it as emigration.

c. Erickson has found that the Lowland industrial counties were over-represented in Scottish emigration to the United States.<sup>171</sup> We do not know if this feature is restricted to the United States,

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170. Devine. *The Great Highland Famine*. pp.192-211.

171. Erickson. "Who were." p.361.

occurred only in periods of exceptionally high emigration, or was actually a widespread phenomenon.

d. Erickson's work has provided some interesting clues to the occupations of male emigrants in the 1880s,<sup>172</sup> which highlight the international mobility of certain tradesmen, particularly in the building trade, and Harper has considered the mobility of granite workers in the northeast.<sup>173</sup> On the other hand miners, which Erickson found were another very mobile group,<sup>174</sup> certainly need further investigation. Thus research on emigration is needed that looks at industrial occupation groups.

e. Erickson has found several interesting differences between emigration patterns amongst Scots in the 1850s and those in the 1880s. Both studies were in periods of high emigration but the ratio of single to married male emigrants altered markedly between them. This clearly needs further investigation, as it is still not known if this was a national trait or a regional change, or whether the age at which people left was altering.

f. Relatively few studies really consider female emigrants at all, except as appendages to males or as children. However Harper, in her study of emigration from the northeast, has recognised that despite their much smaller numbers female emigrants do justify

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172. *Ibid.* pp.361-7.

173. Harper. *Emigration from North-East Scotland*. vol.1, pp.254-9, & vol.11, pp.161-166.

174. Erickson. "Who were." p.365.

separate consideration.<sup>175</sup> Indeed many estimates of emigrants do not even disaggregate male and female movement.<sup>176</sup>

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175. Harper. *Emigration from North-East Scotland*. vol.11, p.231-87.

176. See for example all the tables on emigration in Flinn. *Scottish Population History*. pp.441-55.

## CHAPTER II

### METHODOLOGY: THE DATA SOURCES AND THEIR STANDARDISATION

#### INTRODUCTION

The overall aim of this study is to establish approximately how many people emigrated from each of the counties of Scotland during the period 1861 to 1911. However, it is a necessary function of the method adopted to calculate the volume of migration within Scotland and this is therefore an essential and historically useful secondary aim of the study.

Baines' method is not the only way of measuring population movement nationally, but it is the most easily applied. It is theoretically possible, if all the necessary data were available on computer,<sup>1</sup> to measure linkages and provide a far greater degree of accuracy than is feasible in this study, but it would be immensely time-consuming and extremely expensive. It would also be viable to collate all regional and local studies and by concentrating on gaps in our knowledge provide a generalised overview of mobility, but it would be exceedingly difficult to standardise information and a great deal of extrapolation would be involved.

As has already been noted this type of study has never been attempted before, because the only available "Government"

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1. This method would be feasible provided that full details of births, deaths, marriages and the enumerators returns were recorded in machine-readable form on a computer.

statistics were considered inadequate for the task.<sup>2</sup> It was not until the publication of Baines' study of emigration in England and Wales, the product of twenty years research, that a proven method for the measurement of emigration became readily available.<sup>3</sup> The work of Baines was therefore the starting point for this study.

The methodology used in this research will undoubtedly form a major part of this thesis and it is therefore proposed to divide the discussion on methodology into three chapters. The first (chapter II) compares the source material in both countries and the approaches to standardising data. The subsequent chapter (III) elaborates on the method of calculating migration and emigration in this study by comparing it with Baines' approach. This chapter also considers the migrant samples, their nature and value. Chapter IV reviews the basic assumptions used in the estimations of movement. A discussion of the computer programming to calculate mobility will be confined to appendices.

The present chapter has been sub-divided into five parts. Section one considers Baines' method of estimating mobility, its limitations and fundamental differences with this study. The source material for estimating Scottish population movement is considered in part two. The next section (three) reviews the accuracy and standardisation of data and the fourth part compares this with sources available for England and Wales. The final section discusses the methods used to "clean" data, including checking by

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2. See Introduction, p.2.

3. Baines. *Migration in a Mature Economy*. p.XIV, and pp.90-125.



analysis. This will conclude the chapter on the preparation of material prior to actual estimation of mobility.

#### 1. BAINES' METHOD OF MEASURING POPULATION MOBILITY

This section will briefly describe Baines' methodology and its limitations. It will also consider the redefining of migration and emigration that was necessary for the Scottish study.

Baines defined migration as being all population movement within the British Isles that crossed a county boundary and emigration as movement outwith Britain.<sup>4</sup> His method of measuring population migration and emigration appears superficially very simple. Firstly it is necessary to estimate how many people have left their county-of-birth and then to establish how many have migrated to other counties. In theory the difference between the two estimates must represent the movement of people from that county abroad. However, additional information clearly has to be incorporated in the model, such as the number of births and deaths in the county under consideration and also the migrant deaths in all the receiving counties (all births in a county are, by definition, native). This procedure has to be applied to all the counties for the censuses under consideration. The estimation of the number of emigrants from a county can therefore be described as the difference between the potential population of a county-of-birth at the previous census (the native population including migrants from that county plus births minus deaths) and the actual

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4. *Ibid.* p.121.

native population at the subsequent census (including migrants from that county).

Baines has admitted that his methodology was not always established in the way finally described in the book.<sup>5</sup> However, subsequent book reviews<sup>6</sup> and an analysis of the arithmetic formula by the Mathematics Department<sup>7</sup> have failed to reveal any serious flaws in the Baines' methodology.

Baines' methodology has three limitations, which are imposed by the data. Firstly, the census provides only a decennial "snapshot" of all the migration flows that have occurred in the previous ten years. It therefore misses some population movements, because it ignores all the intervening moves a migrant might have made. Secondly, it is the sum total of population movement in a county and therefore the accurate measurement of both migration and emigration is masked by those people that return. Thirdly, there is no precise method of estimating the return flows despite the fact that they are an important phenomenon in this period.<sup>8</sup> These shortcomings (which are acknowledged by Baines)<sup>9</sup> have to be considered whenever analysis of the results is contemplated. With

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5. D.Baines, (Department of Economic History, London School of Economics, London. February 1987) in conversation and *ibid.* p.114, fn.42.

6. Book Reviews of Baines. *Migration in a Mature Economy.* include Dewey, P.E. *Population Studies*, 41 (1987), p.165. Lee, C.H. *Scottish Economic and Social History*, 7 (1987), pp.95-96.

7. I would like to thank Dr.G.Gettingby and Dr.C.Robertson, Mathematics Dept. University of Strathclyde.

8. Anderson and Morse. "The People," p.16.

9. Baines. *Migration in a Mature Economy.* pp.118-21.

regard to the accuracy of the arithmetic calculations Baines has written that "the main conclusions.....do not depend on the estimates being exceptionally accurate" because the estimates "are sufficiently robust to stand a degree of error".<sup>10</sup>

If the discussion is now widened to include Scotland and general limitations on the study, a further weakness in the method becomes apparent due to the framework of measurement. The county is the smallest unit for which the census provides all the necessary data. The county is not however the ideal unit as it lacks consistency and uniformity, making comparisons between many counties impossible. In Scotland the counties vary enormously in population. In 1901 Kinross had the lowest population (6,981), whereas that of Lanark, the highest, was nearly 200 times greater with 1,339,327 people.<sup>11</sup> The counties also vary considerably in area, Clackmannan being the smallest and Inverness the largest, some 80 times greater. Moreover, they are not homogeneous geographically, Perth, for example having a highland economy in the northwest but also forming part of the Central industrial belt in the southeast. Rural counties with a major town such as Aberdeen or Ayr can have considerable rural-urban migration hidden within the county, whereas in counties such as Kinross or Sutherland the lack of any major town makes rural-urban migration to another county more likely. Indeed even within entirely rural counties the direction of migration can vary. In the northwest Highland counties

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10. *Ibid.* p.90.

11. See Appendices, appendix I, pp.34 and 37, for Kinross and Lanark respectively.

it has already been shown that the western crofting areas have a totally different pattern of migration to the inland farming communities.<sup>12</sup> This variation cannot be distinguished using the county as the unit of measurement. Moreover, counties such as Kinross, which are small in area, tend to show an exaggerated degree of mobility simply because their ratio of boundary to area is greater than for larger counties. It is for this reason that the smaller counties will only be considered in groups or regions for the purpose of drawing conclusions, even if many of the tables in this thesis list the counties individually. This problem is not restricted to Scotland. Baines acknowledged that similar difficulties existed in England and Wales with heterogeneous counties such as Yorkshire.<sup>13</sup> However, this research is intended to establish migration trends and not absolute statistics, and the county can therefore be used as the unit for study despite its inadequacies. Nevertheless, any conclusions must be interpreted as an average for the county rather than the absolute answer for any one area.

#### THE PRESENT STUDY

This study cannot be a carbon copy of its southern counterpart, because although many of the problems inherent in Baines' data also exist in the Scottish context, other factors (to be considered hereafter) are peculiar to Scotland and require different solutions. Moreover, even the basic procedure could not

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12. See chapter I, pp.10-1 and 19-24.

13. Baines. *Migration in a Mature Economy*. p.120.

be followed without modification of one of Baines' assumptions, which was that all population movement within Great Britain should be regarded as internal migration.

Baines did not know the county-of-birth of out-migrants from England and Wales into Scotland. He spread the total number of migrants as a percentage of every county, but allowed an increased proportion for those counties-of-birth near the Scottish border.<sup>14</sup> In Scotland a far greater proportion of a much smaller population migrated south, but again the county-of-birth was unknown, and numbers involved were too great a percentage to spread. Baines' assumption of an internal migration field embracing the entire British Isles had therefore to be abandoned, because it made the calculation of emigration impossible. A national "Scottish" perspective has been adopted, which means that all population movement out of Scotland is considered to be emigration, even if it is only to England or Wales.

Other modifications that had to be applied to the Scottish material in order to test its accuracy and also to standardise it will be considered subsequently. Finally, the use of a computer, which Baines did not have, has enabled the methodology and the data to be more rigorously tested.

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14. D.Baines, (Department of Economic History, London School of Economics, London. February 1987) in conversation and *ibid.* pp.121-2.

## 2. THE SOURCE MATERIAL

The main sources of information for this research will now be considered. These are: (I) the published "Birth-Places of the People" and "Ages of the People" tabulations in the decennial Censuses; (II) the tables of births and deaths in the Detailed Annual Reports of the Registrar General; and (III) a manuscript source, the enumeration books. The census will be analysed first, and then enumeration books which are the primary source from which the census was derived. This discussion will end by considering the Detailed Annual Reports.

It should be stressed that none of these sources was intended specifically for emigration research and caution must be exercised when using them for that purpose. The county framework is misleading and the standardisation of the source material will assume great importance.

### THE CENSUS

The 1861 Census was the first produced in Scotland. It was the result of a new national system of registration started in 1855 and followed the style of the earlier national censuses which were produced in England but included Scotland and used the county as the unit of measurement. In the Scottish census the thirty three Scots counties were arranged in geographical order, so that a zigzag beginning at the north of Scotland and carried to the south passed successively through every county. "In every series of tables therefore Shetland is No.1, Aberdeen No.10, Lanark No.23,

Edinburgh No.25 and Dumfries No.31".<sup>15</sup> This system of numbering counties did not change until the 1911 Census, when they were reorganized alphabetically. Many of the tables in this study will use the geographical order of counties. The Censuses used different names for some "modern" counties, for example •Edinburgh for Midlothian.<sup>16</sup> The Census county names will be used throughout this thesis including those in the alphabetically organized tables, although where feasible the alternative name will also be shown. Frequently the county name is the same as that of a town within that county. In this thesis the name alone will always refer to the county and the town or city will always have town or city written after it.

The Census used more than one county framework for tabulation. The two that concern this study are the Civil and Registration counties. Both county units experienced boundary reorganisations in 1891.

The pre 1891 "traditional" County known as the Civil County was an area administered by Sheriffs and Justices of the Peace. Thirteen civil counties "possessed detached enclaves situated wholly within neighbouring counties".<sup>17</sup> Nairn for example had five, and the Civil County boundaries frequently crossed parish

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15. *Eighth Decennial Census of the Population of Scotland taken 3d April 1871 with Report*, Vol.1, (Edinburgh, H.M.S.O. 1872), "Report," p.XIV.

16. In addition to Edinburgh for Midlothian, the Census also assigned Elgin for Moray, Forfar for Angus, Haddington for East Lothian, and Linlithgow for West Lothian.

17. Flinn. *Scottish Population History*. p.85.

boundaries. A very few amendments such as the one between Selkirk and Roxburgh in Galashiels were made prior to the major reorganisation of boundaries,<sup>18</sup> which was incorporated into the Second volume of the 1891 Census.<sup>19</sup>

A new arrangement of County boundaries was devised in Scotland for the purposes of recording vital data and census material, giving rise to the Registration county.<sup>20</sup> These Registration boundaries were more likely to follow the older parish boundaries, and so did not necessarily coincide with the "traditional" civil counties; at its most extreme, in both Lanark and Renfrew the Civil and Registration Counties contain quite dissimilar sized populations, the differences being significant enough to produce very different percentage rates of growth. In Renfrew, for example, between 1871 and 1881 the Registration County growth rates are +22.3% for males and +20.6% for females, whereas in the Civil County growth appears less remarkable (16.7% and 14.4% respectively).<sup>21</sup> Amendments were made to the Registration districts throughout the period up to 1891 and these account for the majority of the boundary changes.<sup>22</sup> A more major adjustment of boundaries

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18. See Appendices, appendix 1, pp.54-58, Roxburgh or Selkirk.

19. Flinn. *Scottish Population History*. p.86. is incorrect in stating that "it was not until the 1901 census that the revised county boundaries were incorporated in the Census". The second volume contains not only the Birth-Place enumeration in the revised county units, but the "Ages of the People" is similarly organised.

20. Civil Registration Act, 1854, 17 & 18 Vic, c 80.

21. See Appendices, appendix 1. pp.37-40 and 50-1 for Lanark and Renfrew respectively.

22. Both the changes and the differences in boundaries were listed in the "Explanation of Difference between the Civil and



occurred in the 1891 census and thereafter many Civil and Registration boundaries were common.<sup>23</sup> Although henceforth the birth-place tabulation was listed in Civil County units, it was not until the 1911 Census that all county statistics in the census used this system.

If the English and Welsh and Scottish Censuses are compared, the organisation of enumeration statistics in the two censuses is quite different. In the English and Welsh Censuses information is organised alphabetically by county or groups of counties called divisions. Tables are presented in a consistent order within each county. In contrast, the Scottish Censuses between 1861 and 1901 are organised according to subject matter and the counties retain the same geographical order in all tables. The 1911 Scottish Census is however quite different, adopting a style more similar to the English one; although some information is still presented in subject tables. The county-of-birth and age-structure tabulations are therefore presented quite differently in the two national censuses. The English and Welsh data are laid out in divisions, which means that information is found in different sections of the same census volume. The Scottish tabulation is laid out in one huge table,<sup>24</sup> so the information is very easy to follow and compare.

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Registration Counties" found in the first volume of each decennial census.

23. See Appendices, appendix I, pp.1-63, for counties where the Civil and Registration County boundaries continued to differ after 1891.

24. The 1861 "Birth-place" tabulation, for example, is 72 cm. by 28 cm. Thereafter the tables were spread over several adjoining pages. *Census of Scotland, 1861 Population Tables and Report, Ages, Civil or Conjugal Condition, Occupations, and Birthplaces of the People in Scotland: with the Number and Ages of the Blind, the*

With regard to birthplace information, there is however one subtle change in the layout of the Scottish tables. The 1861 and 1911 enumerations have the county-of-birth along the "x" axis and the county-of-residence along the "y" axis, whereas the remaining censuses have the two axes reversed.

#### THE BIRTH-PLACE TABULATIONS IN THE CENSUS

The system for classifying residents was very similar in both the English and Welsh and the Scottish censuses, which simplifies the collation or comparison of statistics. In the Scottish county-of-birth tables,<sup>25</sup> only people born in Scotland were enumerated by

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*Deaf-Dumb, and the Inmates of Poorhouses, Prisons, Lunatic Asylums, and Hospitals.* Vol.II. (Edinburgh, H.M.S.O. 1864), [63 c-226], "Table II.- Birthplaces of the Inhabitants of Scotland, 1861; distinguishing the number of each Sex, under and above 20 years, born in the Several Divisions and Counties and Countries." p.331.

25. The following county-of-residence by county-of-birth tabulations were used to estimate population movement:- see fn.18 for 1861.

*Eighth Decennial Census of the Population of Scotland taken 3d April 1871, with Report.* Vol.II, (Edinburgh, H.M.S.O. 1874), [c.-841], "Table XIII Birth-Places of the People in Scotland in 1871," pp.176 & 178-81.

*Ninth Decennial Census of the Population of Scotland taken 4th April 1881, with Report.* Vol.II, (Edinburgh, H.M.S.O. 1883), [c.-3657], "Table XIV, Birth-Places of the People in Scotland in 1881, Number of each sex, under and above 20 years of age, born in Scotland, its Divisions, Counties and in other Countries; and of those the number born in eight Principal Towns." pp.324 & 327-35.

*Tenth Decennial Census of the Population of Scotland taken 5th April 1891, with Report.* Vol.II, part i, (Edinburgh, H.M.S.O. 1893), [c.-6937], "Table XIV, Birth-Places of the People in Scotland in 1891, Number of each sex, under and above 20 years of age, born in Scotland, its Divisions, Counties and in other Countries; and of those the number born in eight Principal Towns." pp.278 & 281-9.

*Eleventh Decennial Census of the Population of Scotland taken 31st March 1901, with Report.* Vol.II, (Edinburgh, H.M.S.O. 1893), [cd.1481], "Table III. (1), Birth-Places of the People in Scotland in 1891, Number of each sex, under 20 years of age and 20 years and upward, born in Scotland, its Divisions, Counties and in other parts of the British Empire, in Foreign Countries; and at sea." pp.338 & 341-9.

county. People from the rest of Britain had only their country of birth defined as England, Wales, Ireland or the islands of Man, Guernsey and Jersey. Those born elsewhere were defined as "British Subjects born in foreign parts", "British Colonies", "Foreigners" and those "Born at Sea (British)". The aforementioned definitions occurred in the 1861 Census<sup>26</sup> and also in 1871.<sup>27</sup> Thereafter, the number of categories of outsiders increased, "British Subjects born in foreign parts" being subdivided in the 1881 Census into British Subjects "by birth" and people who had been "naturalized".<sup>28</sup> Moreover, an additional classification was introduced, that of birth-place "not stated"; this phrase occasionally occurs in enumeration books prior to this census and is difficult to resolve satisfactorily.<sup>29</sup> In the 1891 Census foreigners are sub-divided into "Europeans" and "Others".<sup>30</sup>

The 1901 Census clarified an ambiguity over 20 year olds by revising the "above and under 20 years" classifications to "under 20 years" and "20 years and upwards".<sup>31</sup> The 1911 Census expanded county-of-birth enumeration and examined the distribution,

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*Census of Scotland, 1911. Report on the Twelfth Decennial Census of Scotland. Vol.II, (Edinburgh, H.M.S.O. 1913), [cd.6896], "Table XXXVIII- Scotland-Birthplaces of the Inhabitants," pp.502-23.*

26. *1861 Census*, vol.II, p.331.
27. *1871 Census*, vol.II, pp.178-81.
28. *1881 Census*, vol.II, pp.327-35.
29. See Appendices, appendix III, pp.67-78.
30. *1891 Census*, vol.II, pp.281-89.
31. *1901 Census*, vol.II, pp.361-68.

nationality and occupations of all outsiders resident in Scotland.<sup>32</sup>

With regard to the birth-place tabulations, the 1861 Census considerably improved upon the 1851 Census by increasing the number of categories of information from two to four.<sup>33</sup> and this does provide a finer breakdown of the population than was available to Baines in England and Wales. Starting this research in 1861 has enabled the study to take advantage of all the censuses containing the four classifications of age and sex up to the First World War.

#### THE COUNTY-OF-BIRTH OF SCOTS RESIDENT IN OTHER PARTS OF BRITAIN: INFORMATION AVAILABLE FROM THE OTHER NATIONAL CENSUSES

The county-of-birth of Scots migrants was not normally provided in the English and Welsh and the Irish censuses. There is, however, one exception; the 1911 Census for England and Wales. This enumerates the county-of-birth of Scots (males and females) using county units and it also differentiates between residents and visitors.<sup>34</sup> However, these data may not be of value for much of the study period, as Baines has shown that in England and Wales the counties exporting most population were not consistent over a long period of time.<sup>35</sup> It would therefore be unwise to extrapolate too far back in time from the 1911 material without further data.

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32. *1911 Census*, vol. III, pp.3-69.

33. The four classifications were male, female, above and below 20 years.

34. See Appendices, appendix Va, p.80.

35. Baines. *Migration in a Mature Economy*. pp.178-212.

Nevertheless, it is a useful piece of information that can be used with caution and no comparable material was available to Baines.

For the majority of the period under consideration, the lack of county-of-birth data in the rest of the British Isles has meant that inter-county migration cannot be measured with any degree of accuracy across the countries of the British Isles. However, it has been calculated that throughout the period 1861 to 1911 approximately 90% of Scots migration to the rest of the United Kingdom was to England and Wales and generally less than 10% to the whole of Ireland.<sup>36</sup> This pattern of migration emphasises the importance of Baines' estimates of Scots going south, but his study had to use a national rather than a county enumeration unit because it used the English and Welsh Census.<sup>37</sup> This lack of county-of-birth census information on people from the rest of Britain in all three countries is unfortunate, because in the case of Scottish Enumeration books more detailed information on the county-of-birth of English residents is often provided, even though not asked for. The English and Welsh and the Irish Censuses do, however, provide data on numbers of resident Scots and analysis of where they stay using the county unit for measurement. Approximately 7% of all Scots in the United Kingdom lived outside Scotland between 1861 and 1911.

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36. See Appendices, appendix VI, p .92.

37. Baines. *Migration in a Mature Economy*. p.115.

## THE AGE-STRUCTURE OF THE SCOTTISH POPULATION

The age-structure of the Scottish counties was also published in the Census.<sup>38</sup> The titles of the tables show that the tabulations were not necessarily intended primarily for information on age-structure, but for discussion on marital status or educational needs. The data provided therefore vary substantially between censuses and this will now be considered.

The 1861 and 1911 censuses record a category of "age not stated",<sup>39</sup> so presumably in the remaining tabulations such individuals were spread proportionally throughout the age-bands, or ages simply guessed. The 1861 and 1871 censuses provided information in one year intervals for children under five years and thereafter in quinquennial age-bands up to 104 years with a

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38. Information on the age-structure of the county populations occurs in various tabulations in the different censuses:-

*1861 Census*, vol.11, "Ages of the People in the Registration Counties and Groups of Districts in Scotland in 1861," pp.2-3.

*1871 Census*, vol.11, "Table X, Ages of the People in the Registration Counties in Scotland in 1871," pp.8-9.

*1881 Census*, vol.11, "Table XI, Ages of the People in Quinquennial Periods in the Registration Counties and Groups of Districts in Scotland in 1881," pp.4-5, (for those over 5 years and for young children), "Table XII "Education Statistics in Scotland and it's Registration Divisions in 1881," pp.79-80.

*1891 Census*, vol.11, "Table XI, Ages of the People in Quinquennial Periods in the Civil Counties and Parishes of Scotland in 1891," pp.4-5, (for those over 5 years and for young children), "Table XII "Education Statistics in Scotland in 1891," pp.63-4.

*1901 Census*, vol.11, "Table I (1) Ages of the people under 15 years in the Civil Counties and Parishes of Scotland in 1901," pp.3-5, and "Table I (2) Ages and Condition as to Marriage of the People in the Civil Counties and Parishes of Scotland in 1901 at Quinquennial Periods from 15 years upwards," pp.37-43.

*1911 Census*, vol.11, "Population of the Counties by Sex and Conjugal Condition in Quinquennial Age Groups," pp.227-35.

39. *1861 Census*, vol.11, pp.2-3, and *1911 Census*, vol.11, pp.227-35.

category for 105 years and over.<sup>40</sup> In 1881 one tabulation provided information in five year age-bands up to 99 years and then a separate category for those over 100 years.<sup>41</sup> In a second table children aged under 15 years were classified separately in yearly intervals.<sup>42</sup> This pattern of two sets of data was repeated in the censuses of 1891<sup>43</sup> and 1901,<sup>44</sup> although in the latter census, which was concerned with marital status, the quinquennial classification did not include children under 15 years. The final census (1911) provided data only in five yearly intervals.<sup>45</sup>

### THE ENUMERATION BOOKS

Baines does not mention enumeration books in his study, probably because he relied on arithmetical methods of adjusting data, although one assumes he used them to check his theories. The English and Welsh enumeration books are only available up to 1881, because of the "hundred years rule". In Scotland however the 1891 books are also available and without these books the reconstruction of the 1891 pre-revision census would have been impossible.

"When the Registration Act came into operation in 1855, the whole of the Registration Districts into which Scotland was then divided received a number, so that the Districts were consecutively

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40. *1861 Census*, vol.11, pp.2-3, and *1871 Census*, vol.11, pp.8-9.

41. *1881 Census*, vol.11, pp.4-5.

42. *1881 Census*, vol.11, pp.79-80.

43. *1891 Census*, vol.11, pp.4-5 and pp.63-4.

44. *1901 Census*, vol.11, pp.3-5 and pp.37-43.

45. *1911 Census*, vol.11, pp.227-35.

numbered 1-901 (in the same geographical arrangement as the counties, each county having a consecutive group of numbers for the districts). For the sake of reference these numbers have been considered permanent and fixed, so that when additional districts were added they were distinguished as a, b or c; for instance Eckford Rd.789a: Edgerston Rd.789b.<sup>46</sup> or if a District were divided as Edinburgh or Glasgow the divisions were numbered 1 to 5 or 10, as the case might be, retaining the original number for the complete district".<sup>47</sup> This system was retained throughout the study period with only minor modifications although amendments were made to boundaries of the Registration Districts. Each Registration District was subdivided for enumeration purposes. In a rural area several enumeration books comprise a registration district, but as already noted, in a city the registration district may be subdivided so that there are numerous enumeration books .

In Scotland during the period for which enumeration books are available, the householder was given a schedule, which he was expected to complete, aided if necessary by the Enumerator. The Enumerator then copied particulars from the schedules into the enumeration book, checking them and totalling the number of males, females and households on each page. In the "General Instructions to Enumerators" printed in every enumeration book, the precise layout of the information gathered is clearly defined and the ages of people are put into different columns according to sex. The

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46. See Appendices, appendix II, pp.64-6, for an explanation of the abbreviations used in references.

47. *1871 Census*, vol.1, p.XIV.



numbers of males and females could be checked against the names of the persons, as well as against their relationship to the head of the household such as son, daughter or mother, but servants could refer to either sex. The County Registrar then checked the books for errors in classification, arithmetic problems and also for duplication or omission of households. The books were then sent to Edinburgh. It is these books and not the original schedules that have been preserved.<sup>48</sup>

A copy of the householder's schedule is printed in all the censuses with the exception of those of 1861 and 1911. Typical of the early instructions on how to fill in county-of-birth questions is that on the Householders schedule for 1881 which states "6. Where born. Opposite the names of those born in Scotland write the county and town or parish.....". No further instructions on county-of-birth questions for the benefit of the Enumerators were printed in the enumeration books seen (1861-91). The problem with this seemingly straightforward instruction is that it does not define whether the unit of enumeration is the Civil or the Registration County. This is a potential source of error, particularly for spurious migration in areas where the two county boundaries differ. This form of migration can be defined as migration artificially created by the lack of consistency in the definition of county boundaries, rather than by the actual movement of people, so that a person who has never moved is nevertheless recorded as a migrant. Spurious migration became a far less important problem once the

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48. The Enumeration books are preserved in the General Register Office for Scotland, New Register House, Edinburgh. I would like to thank Dr. Shaw and his staff at New Register House for their help.

birth-place tabulation was provided in a Civil County framework.<sup>47</sup> Spurious migration was a complication that did not occur in the English study to any great extent (although Baines looked for it in the misrecording of births)<sup>50</sup> because English county-of-birth data were being enumerated on the traditional "Ancient county" unit, and not the Registration county, which had ceased to be used for the county-of-birth unit after the 1851 census.

The enumeration books<sup>51</sup> were very important in this study in six ways. Firstly, they were used to check whether natives were

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49. There remained a risk of spurious migration after 1891, see pp.78-80.

50. Baines. *Migration in a Mature Economy*. p.96.

51. The Registration District's enumeration books listed in the "Explanation of differences between the Civil and Registration Counties were used in all four census years (1861-81).

The Registration Districts listed in the *Tenth Decennial Census of the Population of Scotland taken 5th April 1891*. Supplement to Volume I, *Showing the effect of the Orders of the Boundary Commissioners appointed under the provisions of the Local Government (Scotland) Act 1889 (52 and 53 Vict. c. 50, sections 44-50, as regards to the Population & co., of the Counties and Parishes of Scotland. With Report*, (Edinburgh, H.M.S.O. 1893), [c.69361, "Part II Table IV. Particulars of the Registration Districts which comprised Civil Parishes or parts of Civil Parishes dealt with by the Boundary Commission for Scotland. Showing (1) The Registration Districts as they existed before the operation of Commission's Orders. (2) The Alteration after the operation of Commissioner's Orders upon the Civil Parishes and parts of Civil Parishes which were comprised within Districts." pp.83-137.

The majority of those places used for the population samples were utilised in both 1861 and 1891. These have been classified in Appendices, appendix VII, pp.82-96.

The following enumeration books were consulted (parish name and registration district number):- Aberdeen (Rd.168), Abernethy (Rd.326), Alva (Rd.470), Alyth (Rd.328), Anstruther-Easter (Rd.402), Anwoth (Rd.855), Arbuthnott (Rd.250), Ardclash (Rd.120), Ardnamurchan (Rd.505), Ardrossan (Rd.576), Arisaig (Rd.505), Arngask (Rd.404), Ashkirk (Rd.781), Auldearn (Rd.121), Ballachulish (Rd.506), Banchory-Devenick (Rd.251), Banchory-Ternan (Rd.252), Bathgate (Rd.662), Beath (Rd.410), Beith (Rd.581), Bellie (Rd.126), Boharm (Rd.128a), Bonhill (Rd.493), Bothwell (Rd.625), Cabrach (Rd.177), Caddonfoot (Rd.774a), Cairney (Rd.178), Cambusnethan

recording their birth-place in civil or registration counties. The second use was to make a complete recount the county of Nairn and thus using it as a test case in order to discover how the counties were being tallied. Thirdly, they were consulted wherever Registration and Civil County Boundaries differed; fortunately the enumeration books were available for the entire period when this problem occurred (1861-91). Fourthly, they were used to standardise

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(Rd.628), Cameron (Rd.412), Caputh (Rd.337), Cawdor (Rd.122), Ceres (Rd.415), Cleish (Rd.460), Cockburnspath (Rd.731), Coupar-Angus (Rd.279), Cramond (Rd.679), Crieff (Rd.342), Cromdale (Rd.128b), Croy and Dalcross (Rd.94), Culross (Rd.343), Cutler (Rd.637), Dalry (Rd.587), Dalserf (Rd.638), Dalziel (Rd.639), Dalmeny (Rd.665), Daviot and Dunlichty (Rd.95), Dingwall (Rd.62), Dollar (Rd.467), Drumoak (Rd.189), Dryfesdale (Rd.820), Dunbarton (Rd.496), Dumfries (Rd.821), Dunbar (Rd.706), Dundee (Rd.282), Dunfermline (Rd.424), Dunse (Rd.735), Duthill (Rd.96b), Dyke and Moy (Rd.133), Dysert (Rd.426), Earliston (Rd.736), Edinburgh (Rd.685), Edrom (Rd.738), Edzell (Rd.285), Elie (Rd.427), Ellon (Rd.192), Errol (Rd.351), Eyemouth (Rd.739), Fala and Soutra (Rd.686), Falkirk (Rd.479), Fenwick (Rd.592), Forgandenny (Rd.353), Fossoway and Tulliebole (Rd.461), Fowlis-Easter (Rd.356), Fraserburgh (Rd.196), Galashiels (Rd.775), Gartly (Rd.198), Girthon (Rd.866), Glasgow (Rd.644), Glass (Rd.199), Govan (Rd.646), Greenock (Rd.564), Hamilton (Rd.647), Hawick (Rd.789), Innerleithen (Rd.762), Inveraray (Rd.513), Inverness (Rd.98), Inveravon (Rd.157), Keith (Rd.159), Kelso (Rd.793), Kettins (Rd.294), Kildonan (Rd.52), Kilmalie (Rd.520), Kilmorack (Rd.100), Kilmore and Kilbride (Rd.523), Kincardine O'Neil (Rd.209), King Edward (Rd.210), Kinross (Rd.462), Kinnettles (Rd.297), Kippen (Rd.484), Kirkliston (Rd.667), Kirkpatrick-Juxta (Rd.838), Kirkwall and St Oia (Rd.21), Lecropt (Rd.371), Leith (Rd.692), Lerwick (Rd.5), Liff, Benvie and Invergowrie (Rd.301), Linlithgow (Rd.668), Lismore (Rd.525), Logie (Rd.374), Maybole (Rd.605), Melrose (Rd.799), Moffat (Rd.842), Monifieth (Rd.310), Moy and Dalarossie (Rd.105), Muthill (Rd.386a), Nairn (Rd.123), New Cumnock (Rd.608), New Kilpatrick (Rd.500), New Machar (Rd.227), North Berwick (Rd.713), Old Deer (Rd.228), Oldhamstocks (Rd.714), Old Kilpatrick (Rd.501), Old Monkland (Rd.652), Orwell (Rd.463), Oyne (Rd.230), Peebles (Rd.768), Penninghame (Rd.895), Persie (Rd.386b), Peterculter (Rd.231), Petty (Rd.106), Portmoak (Rd.464), Portree (Rd.114), Prestonpans (Rd.718), Raey (Rd.40), Roberton (Rd.777), Rothes (Rd.141), Rothesay (Rd.558), Row (Rd.503), St. Fergus (Rd.166), Scone (Rd.394a), Selkirk (Rd.778), Small Isles (Rd.116), Sorn (Rd.613), Stanley (Rd.393b), Stirling (Rd.490), Stornoway (Rd.88), Stow (Rd.699), Stranraer (Rd.899), Terregles (Rd.880), Tobermory (Rd.549), Torphichan (Rd.671), Traquair (Rd.771), Tulliallan (Rd.397), Urquhart and Logie-Wester (Rd.84), Urray (Rd.85), Wick (Rd.43), Yarrow (Rd.779).

the county boundaries when there was a boundary change prior to 1891. Fifthly, the books were referred to in order to create an 1891 pre-boundary reform set of county units.<sup>52</sup> This provided two sets of county-of-birth data for 1891 using the old and the revised county units. Finally, the books were sampled to establish a migrant age-structure.

There were no collation or correction marks on the 1861 and 1871 enumerator's returns with regard to birth-place information, although arithmetic corrections of numbers of males, females and households were fairly common. This is a problem as it makes it impossible to check how a tally clerk might have transcribed a county-of-birth query. Thereafter red and blue pencils were used to distinguish natives of the county from outsiders (sometimes to the point of obliterating information). This was useful, especially if in an enumeration book (organised within the Registration county framework) there was a change of Civil County; the colouring system did not alter. This implies Civil Counties were being ignored by clerks when tallying birth-place data. It was very rare for county-of-birth information to be amended; if only the parish or village was provided the county generally was not added to the enumeration book, and when a person was born abroad it was often not clear whether they were a British Subject or not.<sup>53</sup>

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52. Information on the conversion from post to pre-revision boundaries is available in Shennan, H. *Boundaries of the Counties and Parishes in Scotland. As settled by the Boundary Commissioners under the Local Government (Scotland) Act, 1889*, (William Green & Sons, Edinburgh, 1892). and *1891 Census, Sup. to Vol I*, pp.83-137.

53. See appendices, appendix III, pp.62-77, for a discussion on the standardisation of information in the enumeration books.

In the 1861 enumerator's returns (and to a lesser extent those of 1871) the actual registration districts that were part of a different Civil County were not clearly defined. They were however almost always in a separate enumeration district and could be easily identified with reference to later books. These areas were listed in the "Explanation of differences between Civil and Registration counties" which occurred in the first volume of each census. These tables provide information concerning the numbers and sex of people affected and this is a useful confirmation that the correct district has been located. These tables do not actually list Enumeration Districts, but rather the parishes with which they generally share a common name.<sup>54</sup>

#### THE DETAILED ANNUAL REPORTS

When civil registration began in 1855, Flinn considers that the returns show that it was "very accurate from the start." Abstracts were published, but these offer "little more than tabulation of abstracts of returns."<sup>55</sup> It is the processed data which were presented in the Detailed Annual Reports and which were published later, that provide the material used in this study.<sup>56</sup>

The births and deaths layout was consistent throughout the period 1861 to 1910, but in 1911 the approach was changed and data

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54. For a listing and map of the parish and registration districts see the current publication (1990), *Guide for searchers: No.1, Civil Parish Map Index*, (General Register Office for Scotland, Edinburgh).

55. Flinn. *Scottish Population History*. p.90.

56. (7th-56th) *Detailed Annual Reports*. (Edinburgh, 1865-1912).

for that, the final year of this study, were unusable.<sup>57</sup> The information on births and deaths was published on a pre-revision registration county framework until 1892. Thereafter (1893)<sup>58</sup> it was tabulated in post-revision registration county units and indeed the revised registration county boundaries had their populations estimated for the 1881 census. This format was continued until 1906 when the county populations ceased to be stated. However, discussion in the 1907 report suggests that the registration county unit of measurement had been retained.<sup>59</sup>

### Births and Deaths

Births and deaths were tabulated by sex and county. The age at death was provided in impressive detail.<sup>60</sup> Babies were classified at 3 months, 6 month and a year. Children, aged between one and five years, had their deaths collated annually, and thereafter deaths were tallied in quinquennial age-bands up to a hundred years and above.

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57. The report notes a completely revised system for this year. Craufurd Dunlop, J. "Report to the Registrar General," *Fifty-seventh Annual Report of the Registrar General for Scotland 1911*, (Edinburgh, H.M.S.O. 1914), [cd-7332], pp.VII-IX.

58. Thirty-ninth Detailed Annual Report of the Registrar General of Births, Deaths and Marriages in Scotland [Abstracts of 1893], (Edinburgh, H.M.S.O. 1895) [c-7914].

59. Fifty-third Detailed Annual Report of the Registrar General of Births, Deaths and Marriages in Scotland [Abstracts of 1907], (Edinburgh, H.M.S.O. 1909) [cd-4808].

60. This table is provided separately for males and females and is entitled "Male (Female) deaths at different Ages in Scotland in..."

### 3. THE STANDARDISATION OF SOURCE MATERIAL

The quality of the source material is always important in research, but as Baines has stressed, "a residual method of estimating migration (the only possible way of estimating migration from the census) is totally dependent on the quality of the data",<sup>61</sup> as any under-recording will lead to an under-estimation of emigration and vice versa. This section will consider potential errors in the source material and how these problems have been minimised.

It is almost inevitable that in any census some people are missed and others who are perhaps travelling are recorded in different locations as both resident and visitor. It is unrealistic to assume complete accuracy in the initial enumeration, and although some errors may cancel themselves out, other errors in tallying have probably crept in. No studies on the accuracy of Scottish census enumeration are known.

The starting point for testing the data was the census because it was important to establish that the tabulations of birth-place information were accurate. There were several possible sources of error. First, were people recording their county-of-birth correctly? Secondly, was the tallying in this enumeration accurate? Finally how, could the differing county frameworks be reconciled?

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61. Baines. *Migration in a Mature Economy*. p.95.

In the Scottish Census prior to 1891, the birth-place tables used the Registration County as the base unit. It was therefore important to establish whether natives were recording their birth-place on a Registration or Civil County framework. Four Enumeration districts were chosen with a wide geographical spread and which were known to lie across the boundary between two Civil Counties.<sup>62</sup> The districts investigated were Reay (Caithness and Sutherland), Croy and Dalcross (Inverness and Nairn), Kirkliston (Edinburgh and Haddington) and Robertson (Selkirk and Roxburgh). The 1861 and 1881 enumeration books of the four districts were examined to make sure that the procedures adopted in the former were being continued in the latter. The last Enumeration Book available, 1891, was not used because of the complications of boundary changes in that year.

Table 2.1 shows that with the notable exception of Croy and Dalcross, (where the population appears to be very mobile, making it less obvious how birthplaces were being recorded), it is clear that people were recording their place-of-birth in Civil Counties, despite the fact that the birth-place data was enumerated in a Registration County unit. In the most extreme example, Reay in 1861, only 4.4% of the residents considered themselves to be Caithness-born and the overwhelming majority (91.7%) identified themselves as Sutherlanders by birth. This was despite the fact that they were residents in and were being recorded in Caithness Registration County.

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62. See p.64, fn.52.



TABLE 2.1.

THE ENUMERATION OF RESIDENTS IN REGISTRATION DISTRICTS WHICH  
CROSSED CIVIL COUNTY BOUNDARIES.\*

1861

REGISTRATION DISTRICT	PERCENTAGE OF PERSONS WHO CONSIDERED THEMSELVES AS BORN IN:			
	REGISTRATION COUNTY		CIVIL COUNTY	
Reay (40)	Caithness	4.4	Sutherland	91.7
Croy and Dalcross (94)	Inverness	36.8	Nairn	47.9
Kirkliston (667)	Linlithgow	18.3	Edinburgh	59.7
Roberton (777)	Selkirk	16.4	Roxburgh	55.5

1881

REGISTRATION DISTRICT	PERCENTAGE OF PERSONS WHO CONSIDERED THEMSELVES AS BORN IN:			
	REGISTRATION COUNTY		CIVIL COUNTY	
Reay (40)	Caithness	5.7	Sutherland	88.9
Croy and Dalcross (94)	Inverness	41.6	Nairn	41.0
Kirkliston (667)	Linlithgow	22.8	Edinburgh	44.0
Roberton (777)	Selkirk	11.4	Roxburgh	56.8

\* Only inhabitants living in the part of the district not in the Civil County under which the Registration County is listed are included.

There was no evidence in the enumeration books of birth-place data being amended to fit the Registration County. Letter-books in the General Register Office were not catalogued and very few instructions to Registrars could be found. For the 1881 Census the Instructions to the County Registrar on his duties make no mention of amending birthplace data; indeed this question was not specified as a subject to be calculated locally, although the Registrars were expected to check that the geographical boundaries of Enumeration districts were correctly defined. Moreover, the only instruction to Registrars in the 1881 Census on the place-of-birth enumeration was the same as that to the Enumerators: "opposite the name of those born in Scotland write the county and town or parish" etc. Clearly the type of county boundary being defined was ignored. Despite the additional complications of boundary amendments, the same ambiguous approach was continued in the instructions to Officers: "Birthplace. If in the case of persons born in Scotland the parish is unknown the name of the nearest village may be stated".<sup>63</sup> In this period there would still be many people alive who had been born before the 1891 boundary amendments.

It can be concluded that birthplace information, like that of occupation data, was not calculated locally, because there is no evidence of such calculations in the Enumeration Books. (Although the later books 1881 and 1891 have coloured markings to differentiate information, and occasionally a County name is added, there are still no birthplace tallies on the books). Neither are

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63. Census of Scotland 1911. "Instructions to the various local officers as to their duties in taking the census", p.32, fn.14.

there any instructions to Officers to complete the task.<sup>64</sup> Moreover, in the 1901 Preliminary Report, the Registrar refers to the "summaries" prepared locally before being sent to Edinburgh. These "summaries" were collated centrally and were published in the first volume of the report.<sup>65</sup> This seems to imply later tallying of county-of-birth data. Certainly, as with occupation enumeration, it was always published in the second volume of the census. It has therefore been assumed through lack of evidence to the contrary that the collation of birthplace information was done centrally. The centralised tallying of the data would ensure that a uniform approach was adopted with regard to the county boundary problem.

As it is assumed that the collation of birthplace data was centralised it follows that if one county were tallied manually it would probably be a fair test of how the other counties had been enumerated. The County of Nairn was chosen to check whether the Civil County unit that the native-born residents identified themselves with and recorded as their county-of-birth was being converted at a later stage to a Registration County framework. Nairn was chosen because it was one of the smaller counties and there was a considerable discrepancy between the boundaries and the size of the population in the Civil and Registration Counties. It was hoped that this would make the identification of problems easier.

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64. The 1881 Census "Instructions to Registrars..." was the oldest seen.

65. 1901 Census, Preliminary Report, p.3.

Using the 1861 Enumeration Returns for all the Registration districts in the Registration County the total population was counted. Table 2.2 implies that Civil County Birthplace data do appear to have been calculated on a Registration County base. The discrepancies between the original enumeration and the manual reconstruction were very few and could be accounted for by human error.

It was considered that Nairn, with its numerous boundary discrepancies between Civil and Registration counties would be a satisfactory test of whether or not it was feasible to convert the data to a Civil County unit. This exercise was only possible because the Enumeration Books were available. Parts of adjoining Registration Counties were therefore added to Nairn where they fell within the Civil County and other areas within the Registration county were deducted because they were not in the Civil County. As table 2.3. shows it was feasible to convert the data to the Civil County unit.

By converting the data to the Civil County it was hoped to show how much spurious migration was being created by errors in the original data. The Registration County did indeed underestimate migration from Inverness by 8.5% and exaggerate that from Elgin (Moray) by 9.5% (table 2.3).

Clearly the county could have been converted arithmetically to the Civil County base, but if there was a strong bias caused by distortion in the direction of the differing boundaries, it would not be revealed by an arithmetic calculation of the boundary

TABLE 2.2

THE 1861 CENSUS ENUMERATION OF PLACE-OF-BIRTH IN NAIRN REGISTRATION COUNTY COMPARED WITH A RECONSTRUCTION OF THE DATA FROM THE ENUMERATION BOOKS. \*

County	Census	Reconstructed Census	County	Census	Reconstructed Census
Shetland	3	2	Bute	1	1
Orkney	4	4	Renfrew	5	5
Gaithness	25	26	Ayr	11	11
Sutherland	26	26	Lanark	36	39
Ross and Cromarty	553	553	Linlithgow (W.Loathian)	0	0
Inverness	1444	1447	Edinburgh (Midlothian)	58	59
Nairn	4795	4791	Haddington (E.Loathian)	16	13
Elgin (Moray)	842	840	Berwick	7	7
Banff	99	100	Peebles	2	1
Aberdeen	103	103	Selkirk	2	2
Kincardine	5	5	Roxburgh	11	12
Forfar (Angus)	24	23	Dumfries	1	1
Perth	39	39	Kirkcudbright	1	0
Fife	15	12	Wigtown	4	4
Kinross	4	6	Not Stated	0	4
Clackmannan	1	0	England and Wales **	83	83
Stirling	13	13	Ireland	31	31
Dunbarton	3	3	British Subjects ***	58	58
Argyll	19	20	Foreigners	3	3

\* Birthplace information was provided in a Civil County framework despite being recorded in Registration counties.

\*\* Includes the Isles of Man, Guernsey and Jersey.

\*\*\* Includes naturalized Britons and also British subjects born in foreign countries, in British Colonies and at sea.

TABLE 2.3

THE DISTRIBUTION OF COUNTY-OF-BIRTH OF RESIDENTS IN THE CIVIL AND  
REGISTRATION COUNTIES OF NAIRN IN 1861

County- of-Birth	Registration County *	Civil County **	County- of-Birth	Registration County *	Civil County**
Shetland	0.04	0.03	Bute	0.01	0.01
Orkney	0.05	0.05	Renfrew	0.06	0.06
Caithness	0.30	0.28	Ayr	0.13	0.13
Sutherland	0.31	0.30	Lanark	0.43	0.35
Ross and Cromarty	6.63	6.76	Linlithgow (W.Loathian)	0.00	0.03
Inverness	17.30	18.90	Edinburgh (Midlothian)	0.69	0.65
Nairn	57.45	57.35	Haddington (E.Loathian)	0.19	0.15
Elgin (Moray)	10.09	9.21	Berwick	0.08	0.08
Banff	1.19	1.06	Peebles	0.02	0.02
Aberdeen	1.23	1.08	Selkirk	0.02	0.02
Kincardine	0.06	0.07	Roxburgh	0.13	0.12
Forfar (Angus)	0.29	0.26	Dumfries	0.01	0.01
Perth	0.47	0.44	Kirkcudbright	0.01	0.02
Fife	0.18	0.14	Wigtown	0.05	0.05
Kinross	0.05	0.04	Not Stated	0.00	0.00
Clackmannan	0.01	0.02	England and Wales ***	0.99	0.91
Stirling	0.16	0.14	Ireland	0.37	0.34
Dunbarton	0.04	0.03	British Subjects ****	0.69	0.64
Argyll	0.23	0.22	Foreigners	0.04	0.03

\* Birthplace information was provided in a Civil County framework despite being recorded in Registration counties.

\*\* Excludes the detached portion of Urquhart and Logie-Wester, which is considered to be in the civil county of Ross and Cromarty.

\*\*\* Includes the Isles of Man, Guernsey and Jersey.

\*\*\*\* Includes naturalized Britons and also British subjects born in foreign countries, in British Colonies and at sea.

TABLE 2.4

THE COUNTY-OF-BIRTH OF RESIDENTS IN THE CIVIL COUNTY OF NAIRN \* IN 1861: A MANUALLY RECONSTRUCTED CENSUS AND MATHEMATICAL ESTIMATION COMPARED.

County	Reconstructed Census	Mathematical estimation of census	County	Reconstructed Census	Mathematical estimation of census
Shetland	3	3.3	Bute	1	1.1
Orkney	4	4.4	Renfrew	5	5.4
Caithness	25	27.2	Ayr	12	12.0
Sutherland	27	28.3	Lanark	32	39.1
Ross and Cromarty	613	601.3	Linlithgow (W.Loathian)	3	0
Inverness	1715	1570.1	Edinburgh (Midlothian)	59	63.1
Nairn	5205	5213.8	Haddington (E.Loathian)	14	17.4
Elgin (Moray)	836	915.5	Berwick	7	7.6
Banff	96	107.6	Peebles	2	2.1
Aberdeen	98	112.0	Selkirk	2	2.1
Kincardine	6	5.4	Roxburgh	11	12.0
Forfar (Angus)	24	26.1	Dumfries	1	1.1
Perth	40	42.4	Kirkcudbright	2	1.1
Fife	13	16.3	Wigtown	4	4.3
Kinross	4	4.3	Not Stated	0	0
Clackmannan	2	1.1	England and Wales **	83	90.3
Stirling	13	14.1	Ireland	31	33.7
Dunbarton	3	3.3	British Subjects ***	58	63.1
Argyll	19	20.7	Foreigners	3	3.3

\* Excludes the detached portion of Urquhart and Logie-Wester, which is considered to be in the civil county of Ross and Cromarty.

\*\* Includes the Isles of Man, Guernsey and Jersey.

\*\*\* Includes naturalized Britons and also both British subjects born in foreign countries and those born in British Colonies.

changes (table 2.4). Here again migration from Inverness was underestimated by 8.4% and that from Elgin overestimated by 9.5% - a predictable result in view of the method adopted.

In retrospect it appears that Nairn was probably not a wise choice to use as a "guinea-pig", as it had an exceptionally mobile population as can be seen in appendix X.<sup>66</sup> The 1861 statistics show that Nairn is the only county north of Dunbarton with less than 60% of residents native-born, and only 5 counties in the entire country have a lower percentage of native-born. It was decided therefore that the risk of spurious migration would probably be even more significant in a less mobile county, where there are relatively few migrants, as shown by Reay (Caithness and Sutherland), in which 91.7% were spurious migrants (table 2.1).

Moreover, the risk of spurious migration varied according to age and sex. In the example of Sutherland migrants to Caithness (table 2.5), there is a greater drop in persons less than 20 years (63.8% for males and 65.5% for females) than there is in the older group (29.1% for males and 34.5% for females). This was because children and young adults were more likely to be resident in their county-of-birth than older people.

It was decided to reconstruct the county-of-birth enumeration on the Civil County unit, which would provide data that would not create spurious migration. Moreover, enumeration books were available for the entire period when this problem was likely to

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66. See Appendices, appendix X, p.100.



TABLE 2.5

A COMPARISON OF THE AGE AND SEX RATIOS OF SUTHERLAND MIGRANTS IN THE CIVIL AND REGISTRATION COUNTIES OF CAITHNESS IN 1871 SHOWING SPURIOUS MIGRATION.

	Males				Females			
	less than 20 years		20 years and over		less than 20 years		20 years and over	
	no.	%	no.	%	no.	%	no.	%
Registration County	309	14	766	33	282	12	946	41
Civil County	112	8	543	40	100	7	620	45
Percentage difference between Registration and Civil County	63.8		29.1		65.5		34.5	

Civil County Data taken from the 1871 Census vol.II pp.176-184 "Birthplaces of persons present in Scotland, its divisions and counties". The Registration County information was reconstructed using the Enumeration Books for 1871.

occur, that is up to and including 1891. The amendments could therefore be made by direct reference to the books.

#### PLACES WHICH HAD PROBLEMS WHICH REQUIRED INDIVIDUAL SOLUTIONS

There were two areas with distinctive problems, which could not be standardised in the normal way. These places will now be considered.

The Civil County of Nairn had an unforeseen and unique problem in the anachronistic detached portion of Urquhart and Logie-Wester buried in the Black Isle, which while legally part of Nairn considered itself to all intents and purposes as part of Ross and Cromarty. This problem has been considered in detail in Appendix I,<sup>67</sup> and here it will suffice to note all estimates and tables in the present study up to 1891<sup>68</sup> will assume Urquhart and Logie-Wester is included in Ross and Cromarty, unless stated to the contrary.

#### LANARK AND RENFREW

Another procedure has had to be adopted for Lanark and Renfrew, whose common boundary ran through the city of Glasgow. Here, as has already been shown,<sup>69</sup> the difference in population between the Civil and Registration Counties was significant. Moreover, many people recorded their birth-place as Glasgow without defining the county. It has therefore been decided to combine the two counties for analysis purposes. The calculations for Lanark and Renfrew are carried out using modified Registration Counties and not on Civil Counties, and conversions of data between the two counties have not been attempted.<sup>70</sup> Although this will make a huge unit the decision

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67. See Appendices, appendix I. pp. 42-4 or 52-3. Nairn or Ross and Cromarty respectively.

68. Urquhart and Logie-Wester becomes part of Ross and Cromarty in the boundary amendments of 1891.

69. See pp.51-3.

70. In theory each county could have been allocated a proportion of the city. For arguments against this see Brock, J.M. "Spurious

is not without precedent as Baines was forced to adopt the same procedure with regard to London and Middlesex.<sup>71</sup>

#### THE 1891 COUNTY-OF-BIRTH ENUMERATION

Nairn was tallied a second time to investigate whether adjustments were being made to birthplace enumeration when the Civil and Registration Counties were reorganised in 1891 (table 2.6). The 1891 Enumeration Books used the pre-revision boundaries and letters in the unedited letterbooks confirm that this was the planned arrangement. It was also stipulated that any proposed boundary amendments should be annotated. Indeed the first volume of the census was still organised using the pre-revision county units. However, the second volume, including the birthplace enumeration, used the revised Civil Counties.<sup>72</sup> The Enumeration Books contained a considerable number of notes on boundary changes. These were made particularly complicated because Croy and Dalross not only remained a district which straddled two counties, but the areas which were in each county were changed. The count revealed that despite minor discrepancies (there was an error of 1.16% in the tally for Nairn) there had been no attempt to adjust the birthplace data to the revised counties, because if such an attempt had been made the discrepancy would have been much greater. Because of the complexity of the boundary changes Nairn was found to have been probably the most difficult county to calculate, and it is possible

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Migration in the Scottish Census," in *Scottish Economic and Social History*, 9, 1989, p.87, fn.16.

71. Baines. *Migration in a Mature Economy*. pp.94-5.

72. See p.52, fn.19.

TABLE 2.6

THE COUNTY-OF-BIRTH OF RESIDENTS OF THE POST-REVISION COUNTY OF NAIRN IN 1891: A MANUAL RECONSTRUCTION COMPARED WITH THE PUBLISHED CENSUS ENUMERATION.

County	Census	Reconstructed Census	County	Census	Reconstructed Census
Shetland	0	0	Bute	3	4
Orkney	7	6	Renfrew	14	13
Caithness	29	30	Ayr	13	14
Sutherland	45	50	Lanark	68	71
Ross and Cromarty	561	573	Linlithgow (W.Loathian)	1	1
Inverness	1502	1525	Edinburgh (Midlothian)	79	79
Nairn	5239	5178	Haddington (E.Loathian)	14	14
Elgin (Moray)	805	826	Berwick	3	3
Banff	135	133	Peebles	4	4
Aberdeen	205	213	Selkirk	1	2
Kincardine	6	9	Roxburgh	18	14
Forfar (Angus)	41	38	Dumfries	16	16
Perth	53	52	Kirkcudbright	0	0
Fife	29	29	Wigtown	7	7
Kinross	9	9	Not Stated	7	7
Clackmannan	0	1	England and Wales *	129	126
Stirling	17	17	Ireland	20	23
Dunbarton	12	12	British Subjects **	40	32
Argyll	22	23	Foreigners	1	1

\* Includes the Isles of Man, Guernsey and Jersey.

\*\* Includes naturalized Britons and also British subjects born in foreign countries, in British Colonies and at sea.

that there may have been some errors in the original tallying. However, it is more likely that at least some of the errors were made by the author.<sup>73</sup> The enumeration books were marked to distinguish natives and outsiders, but the system remained the same, even if a revised county boundary meant a change of county in the middle of the book. This supports the earlier conclusion that there was no attempt to adjust the birth-place information despite the boundary changes. Indeed, in view of the scale of the task it is difficult to see how the Census Officers could have revised the entire country's data with any accuracy. It was decided that as there did not appear to have been any amendments to the 1891 Enumeration books, the post-revision data had been calculated using pre-revision units for place-of-birth information.

#### STANDARDISING THE BIRTH-PLACE TABULATIONS TO ONE YEAR

The 1851 census was rejected for research purposes because it had a different and less satisfactory classification of persons, and the incredible carnage of men in the First World War meant that it was quite impossible to use the residual method of calculating emigration thereafter and thus for the study to continue beyond that point to 1921. By rejecting the aforementioned censuses, it was decided that as neither of the two Scottish county-of-birth

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73. This count had to be made using a micro-film of the Enumeration Books, which was much more difficult to tally accurately than the books themselves, especially as there was no possibility of checking the Enumerator's totals, which have not been filmed. Moreover, in subsequent research using the Enumeration Books it could be seen that red and blue crayon marks were used to distinguish natives and outsiders (marks of both colours appear black on film and obliterated information).

runs<sup>74</sup> was long enough to be a satisfactory research project, an alternative solution was sought.

The County of Elgin (Moray) was chosen to test whether it was possible to standardise enumerated data for the entire period (1861 to 1911). Elgin had an unusually large number of boundary adjustments between the Civil and Registration Counties (ten separate districts were involved) and conversion to a standard unit was likely to be complicated. The population was not too large (43,431 in 1891).

It was found to be quite easy to standardise the data from 1861 up to 1891 and again it was possible to adjust the data back from 1911 to 1891; however no satisfactory method could be found to adjust all the data to either the pre- or the post-revision boundaries. Although not all the counties were as difficult as Elgin to convert, the data could not be standardised unless it was possible to do so for every county. Thus it was decided to produce two birth-place enumerations for 1891, one before and the other after the county boundary revision of that census (to be known hereafter as the 1891 pre-revision or post-revision enumerations).<sup>75</sup> All the pre- and post-revision enumerations were standardised to the two 1891 county bases.

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74. The two census runs were: (I) the pre-boundary revision dataset 1861-91 and (II) the post-boundary revision one 1891-1911.

75. This was feasible because details of the amendments were in *1891 Census*, sup. to vol. I, pt. II, table IV, and also because the Enumeration Books for the 1891 Census were available.

All the earlier censuses were standardised to the 1891 pre-revision Civil County units<sup>76</sup> and any amendment caused by these adjustments which meant that a County did not conform to its correct Civil County Population has been noted in appendix 1 for that County.<sup>77</sup> The excellence of recording in the enumeration books meant that only one area in the 1861 Books (Selkirk and Roxburgh) caused serious problems. Here it was felt that the adjustment for boundary amendments was possibly not quite accurate because the rapid growth of Galashiels meant that an area near the town that had been built up by 1871 had not existed and therefore could not be found in 1861. It should be noted that this process was quite unnecessary in Baines' study as the enumeration was recorded on the same county framework as that commonly recognised by the local population.

#### STANDARDISATION OF POST 1891 DATA

The checking of birth-place tallying after 1891 cannot be aided by the enumeration books, which are still protected by the "One Hundred Years Rule". Yet census enumeration continued to be taken in Registration districts, and not all counties shared common

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76. The 1861, 1871 and 1881 Enumeration Books were used to alter place-of-birth data in the censuses to the Civil Counties. The 1891 Enumeration Books were used to convert the post-boundary revision Place-of-Birth Enumeration in that Census to a pre-revision format. All amendments were made only after inspection of the Books. Assumptions had to be made in order to collate the data and an analysis of the categories used to classify the material is shown in Appendices, appendix III, pp.67-78.

77. See Appendices, appendix 1, pp.1-63.

Civil and Registration County boundaries.<sup>78</sup> It was impossible to discover if there was an arithmetic or manual conversion of birth-place data from Registration to the Civil Counties. Yet as has already been argued an arithmetic conversion would have an increased risk of spurious migration.<sup>79</sup> The present study has assumed that the conversation of data was satisfactory.

There was a second difficulty with migration data in this period because many migrants would probably continue to record their birth-place in the pre-revision Civil County units. However, this is likely to become a decreasing problem, firstly because an increasing number of people will be born in the revised Civil Counties while the proportion born in the pre-revision counties will decline, and secondly because although there were massive amendments to the county boundaries the majority of the population was not affected by them. Since only a minority of people in most counties ever migrate these boundary changes will be a possible source of spurious migration after 1891 which cannot be verified in the Enumeration books.

The two 1891 Enumerations do reveal a different percentage of native-born inhabitants in many counties and almost all show a decline except Stirling and Nairn.<sup>80</sup> Clearly there is an increased risk of spurious migration in this post-boundary revision census

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78. See Appendices, appendix 1, pp.1-63. The population of the registration county is only stated after 1891, if it fails to conform to that of the civil county.

79. See pp.72-3.

80. In Nairn this was because the problem of Urquhart and Logie-Wester was resolved.



TABLE 2.7

THE SIGNIFICANCE OF THE 1891 REVISION OF COUNTY BOUNDARIES AND THE EFFECT OF THESE CHANGES THEREAFTER IN THE COUNTY OF CLACKMANNAN.

	1891 Pre-revision Civil County*	1891 Post-revision Civil County*	1891 Percentage change from pre to post- revision County	1901	1911
Clackmannan-born	58.42	52.38	-10.34	63.70	63.35
Perth-born	7.26	6.96	-4.13	4.72	3.45
Stirling-born	7.21	15.48	+114.70	5.46	5.39

\* percentage of the total population of the Civil County of Clackmannan

enumeration as shown by Clackmannan (Table 2.7). After the 1891 boundary revision Clackmannan native-born residents decline by 10.3% (the most common trend), but the migrants resident in that county vary in their experience. Residents from Perth decline by only 4.1%, rather less than the native-born and those recorded from Stirling increase significantly by 114.7%. This, it must be stressed, is entirely the result of boundary amendments creating spurious migration; the calculations of Civil Counties are based on the same census Enumeration books.

The problem of spurious migration created by this 1891 boundary revision remains a possible source of error throughout the remaining study period, but all births hereafter are recorded in the revised counties and the death of older residents and migrants means the error is one of declining importance. Indeed table 2.7

also suggests that by the 1901 Census the birth-place enumeration in Clackmannan had reverted to the "normal" pattern, native-born residents had increased from 52.4% to 63.7% and Stirling-born migrants had declined from 15.5% to 5.5%. Although the percentage of all migrant groups in every county and for all censuses is now known, in appendix X<sup>81</sup> only the native-born population has been shown. This appendix shows that all the counties affected by the boundary amendments rapidly revert to their previous native-born population trends. In Perth for example the percentage of native-born in the population steadily decreases between 1861 and 1911, viz -3.2% (1861-71), -5.3% (1871-81), -3.8% (1881-91 pre), +0.6% (1891 pre to post), -4.3% (1891 post-1901), -4.0% (1901-11), with the only hiccup being as expected, in the 1891 post-revision data. Although it is not always as clearly defined, in-migrant groups in counties-of-residence reveal a similar return to previous trends. This can be seen in the percentage of migrants from Perth in the total population of Stirling between 1861 and 1911, viz 1.56% (1861), 1.84% (1871), 2.01% (1881), 2.11% (1891 pre), 1.92% (1891 post), 2.05% (1901) and 2.22% (1911). Clearly the effects of the 1891 revision are soon dissipated.

#### THE CLASSIFICATION OF BIRTH-PLACE INFORMATION BY AGE

It has been decided to take advantage of the additional data that only the Scottish county-of-birth enumeration provides, which categorises persons by age, as well as sex, and was not available to Baines for his research. This additional breakdown of data by

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81. See Appendices, appendix X, p.100.

age is a considerable advantage to the Scottish study. The measurement of the age distribution of migrants is an important factor in the calculation of migrant death rates and any information that can aid that research is of immense value. However, it is important to assess the accuracy of the information on age.

Birthplace information was split into two age categories "under 20 years" and "above 20 years", and this left the categorisation of 20-year olds very vague. The 1851 Census which included Scotland, but was produced in England, defined the age groups more precisely as "under 20 years" and "20 years and upwards".<sup>82</sup> In Scotland the age groups in birthplace data were not defined more clearly until 1901 when the descriptions "under 20 years" and "20 years and upwards" were introduced.<sup>83</sup> It has been assumed that as both the 1851 and 1901 definitions of age are the same, the vagueness in the intermediate censuses reflects a sloppy definition, rather than a change in policy. Moreover, in the more detailed information on county age-structure, the population was classified in quinquennial age-bands, and the population under 20 years equaled that in the birth-place estimates.<sup>84</sup> Therefore in conclusion "under 20 years" and "20 years and upwards" will be assumed throughout this study.

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82. *1851 Census*, vol.11, pp.1038-40.

83. *1901 Census*, Vol.11, pp.341-9.

84. *1861 Census*, Vol.11, p.2 and 331 for the age and birth-place of males from Shetland.

TABLE 2.8

THE PERCENTAGE IN THE TOTAL POPULATION BY AGE AND SEX AT EACH CENSUS AND THE OLDEST WHO HAD THEIR BIRTH REGISTERED.

YEARS	MALES			FEMALES			AGE OF OLDEST TO HAVE CIVIL REGISTRATION OF BIRTH	
	age	<20	20-69	>70	<20	20-69		>70
1861		49.1	48.4	2.5	43.3	53.3	3.4	6
1871		49.4	47.9	2.7	44.1	52.3	3.6	16
1881		49.0	48.4	2.6	44.5	52.0	3.5	26
1891		48.2	49.3	2.5	43.9	52.5	3.6	36
1901		45.4	52.2	2.4	42.0	54.6	3.4	46
1911		43.6	53.8	2.6	40.5	55.7	3.8	56

The registration of births had only begun in 1855 (much later than in England) and it seemed possible that people might have only a vague idea of their age. Certainly the number of persons enumerated in the censuses with ages between 95 and 105 years declines as the study period progresses, a feature tabulated in the 1911 Census.<sup>85</sup> Table 2.8 compares the age distribution of males and females, and there is a gradual decrease in the percentage of persons under 20 years and an increase in those between 20 and 69. Both sexes remain fairly constant in the over 70 years age-band. The decrease in the percentage of males under 20 years begins after

85. *1911 Census*, Vol. II, p. LVII.

TABLE 2.9

THE AGES OF MEMBERS OF A FAMILY AS RECORDED IN THE 1861 TO 1891  
 ENUMERATION BOOKS FOR MOY AND DALAROSSIE (105) \*

		1861	1871	1881	1891
P. McArthur	householder	32	45	51	62
I. McArthur	wife	27	37	46	-
John	son	4	-	-	-
William	son	2	12	22	-
James	son	10 mths.	-	-	-
Alexander	son	-	9	-	-
Duncan	son	-	7	16	25
Peter	son	-	5	14	-
Marjory	daughter	-	3	-	-
Angus	son	-	4 mths.	10	-
Jessicanne	daughter	-	-	7	16
Johanne	daughter	-	-	5	-
John Donald	son	-	-	2	12
Linah	daughter	-	-	?	14

\* This part of Moy and Dalarossie (Rd.105. Ed.6) is in the Registration County of Inverness and the Civil County of Nairn.

the 1881 Census and by then the oldest people to have their births registered were 26 years. This decline cannot therefore be interpreted as a consequence of registration. Clearly Scots must have had a fairly accurate idea of their ages.

A family which farmed the same smallholding between 1861 and 1891 was compared for the accuracy of age recording (table 2.9). It has been assumed that their birthdays were not all in the four day variation between census dates. It is clear that the members of the family were not very precise about their ages and that the children

(whose births would have been registered) were no more accurately recorded than the adults. Nevertheless, the discrepancy was never more than 3 years. However, three years, although not important in terms of the birth-place enumeration (unless the age was close to 20 years), was more significant in the quinquennial age-bands for the county age-structure also used in this research. No research is known that analyses this problem of age recording in Scotland, and so it has been decided to accept the age-structure in the census tabulations as correct. Nevertheless, subsequent findings in this study suggest that some "bunching" of ages does occur.<sup>86</sup>

## DISCUSSION

It has been argued that it is necessary to convert the Census Enumerations from the Registration to the Civil County in order to avoid spurious migration. Was the method adopted the most satisfactory?

The process of collating and amending the place-of-birth manually using the Enumeration Books is time consuming and there is a considerable risk of human error. Whilst it can be argued that this is the only feasible way to achieve a fairly accurate result at present, it is undoubtedly true that a considerably more precise enumeration could be achieved if all the information in the Enumeration Books were computerised.

At present the only alternative to the manual amendment of data is an arithmetic approach. Clearly this is feasible, but as

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86. See chapter IV, pp.157-8.

shown in a comparison of approaches using Nairn as the "guinea pig" (table 2.4), spurious migration is inevitable if a direct arithmetic conversion of the Registration County enumeration is made, because there are differences between the arithmetic calculation and a reconstruction. A factor could be applied in order to minimise the problem, because in those counties where comparisons have been made, there seems to be a constant relationship between Civil and Registration County enumeration, but this would need further investigation for every county. This would probably mean manually collating all the data which needs adjusting in at least one and probably two censuses, in order to ascertain the extent of the problem in each county and to establish if the arithmetic calculations are valid. This is nearly as time consuming as the method adopted and probably runs an increased risk of error due to arithmetic mistakes.

#### 4. THE METHODOLOGY USED BY BAINES COMPARED WITH THAT USED IN THIS STUDY FOR CHECKING THE ACCURACY AND STANDARDISATION OF DATA

In his study of England and Wales Baines did not have the same problems with the enumeration of place-of-birth as were found in Scotland because the data were provided in Ancient counties. Only the 1861 to 1891 Enumerations were on this unit and Baines did not try to convert either the 1851 Registration County enumeration or the 1901 and 1911 Administrative County units to the Ancient county bases, because of the risk of error.<sup>87</sup> The number of censuses that it was feasible to investigate in England and Wales

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87. Baines. *Migration in a Mature Economy*. pp.93-95.

(1861 to 1891) was however larger than occurred in Scotland, where 1861, 1871 and 1881 were enumerated on the Registration County, and 1891, 1901 and 1911 on the Civil County. Clearly, by reconstructing the 1891 pre-revision enumeration the period being studied for Scotland is now much longer than Baines could use and includes the first decade of the twentieth century when the greatest volume of emigration is thought to have occurred.<sup>88</sup>

In England and Wales, Baines therefore had place-of-birth enumerations for four census years which were already calculated in the same framework as that by which the residents would have designated their place-of-birth. This therefore made it unnecessary to follow all the processes of amending the enumeration which had to be carried out for Scotland. The entire labour of reconstructing the enumeration, distinguishing whether or not the inhabitants recorded their place-of-birth in Registration or Civil Counties and finally converting all the earlier censuses into Civil counties and recreating the pre-revision 1891 enumeration was unnecessary for Baines in England and Wales.

Minor boundary changes occurred throughout the study period in both the English and Scottish studies and both studies have been standardised to 1891. In the Scottish context this was the only possible date that would permit the two sets of data to be compared. This standardisation of analysis for both studies at 1891 will be of value for comparative purposes. The methods of standardising data were however entirely different, as Baines (who

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88. *Ibid.* p.95.



had a far larger population to analyze) used arithmetic methods,<sup>89</sup> whereas in Scotland a manual approach was adopted.

The number of classifications of persons in the birth-place tabulations is greater in Scotland than in its southern counterpart. In the English and Welsh censuses only two, those of 1861 and 1871, use four codifications which are males less than 20 years or 20 years and over, and females divided similarly. The later censuses distinguished only between males and females, and it was these more limited categories that Baines was therefore forced to use in his research. In Scotland all the censuses between 1861 and 1911 use the four classifications and this has enabled a finer breakdown of data to be used in this study

In conclusion, the standardisation of data from Scottish censuses has involved far more work considering the much smaller size of the population than was needed for Baines' study. However, this increased workload has not been without compensations, as the standardised Scottish birth-place enumerations cover a far longer period than those of Baines, and a finer breakdown of the age of residents in a county has been possible.

##### 5. THE CHECKS BY COMPUTER ON THE SOURCE MATERIAL

Although Baines used computers on an ad hoc basis to aid his research, there was no overall analysis of the data by computer. In this study all the data were put on computer in its original form except the birth-place tabulations, which had been corrected

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89. *Ibid.* p.95.

manually first. The computer sheets were typed twice as a check before being entered into the computer, and no errors were found subsequently that could be attributed to the typists.<sup>90</sup>

Two checks were applied to the data once it was on the computer. The first was to check the original tallying and the correct transcription of data. The data was aggregated in both the x and y directions and compared automatically with the totals provided. This cross-tabulation meant errors were easily identified and amended.

The second check was similar to one used by Baines, although he of course did not apply it to material on a computer. Baines' procedure is based on the assumption that "current migration makes a relatively unimportant contribution to the size of the lifetime migrant population compared to previous migration and the effects of mortality."<sup>91</sup> Baines searched for enumeration errors by fitting a trend "to the most important migrant populations within each county."<sup>92</sup> He compared the population of native-born and migrants in counties from one census to the next and where there appeared "a large deviation from trend the equivalent native...or migrant...population of adjoining counties were checked to see if they exhibited a comparable deviation from trend."<sup>93</sup> If a comparable deviation did occur in an adjoining county he presumed

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90. I would like to thank Margaret Gower and Anne Manzor for their help.

91. Baines. *Migration in a Mature Economy*. p.97.

92. *Ibid.* p.96.

93. *Ibid.* p.96.

an enumeration error. Fortunately he found only 29 adjustments necessary in almost 1,000 cases investigated.

The procedure for investigating enumeration errors in Scotland was simplified by having all the relevant data on a computer. The number of residents from every county within a county was shown as a percentage of the total for that county. The data were reorganised so that for every county, census years were shown consecutively. The data thus organised were very easy to check visually on a print-out. Appendix X<sup>94</sup> has been constructed from the print-out to show the percentage of native-born residents enumerated in the counties between 1861 and 1911. It can be seen that generally there is a steady relationship be it a decline or (less commonly) a rise. Where there is a pronounced deviation, other than the inevitable one between the two censuses in 1891, it has been investigated by referring back to the original data as well as to trends in adjoining counties. In 1871 for example, the proportion of native-born in the population of Kirkcudbright rose markedly from 71.98% in 1861 to 79.41% in 1871 and then returned to 68.86% in 1881 and 69.99% in 1891. The migrant populations were compared and in all the significant populations, including the English and Irish, a marked decline was found. As this was very unlikely to be an enumeration error, different reasons had to be sought. Around that time there was a serious slump in the textile industry of Gatehouse-of-Fleet, the only significant industry in Kirkcudbright, so it seems likely that the more mobile migrant population moved elsewhere. There is no comparable drop in the

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94. See Appendices, appendix X, p.100.

native population, hence the significant increase in the percentage of native-born. In contrast, a marked decline in the native-born of Selkirk in the same census is probably the result of the rapid growth of industry in Galashiels attracting in-migrants. In no case where a deviation from the normal was observed could it be concluded that enumeration errors were responsible.

The lack of enumeration errors in the data suggests that the census enumeration may have been better executed than in England and Wales. Certainly most Scottish counties are much smaller than their southern counterparts and therefore easier to collate. Moreover, the discrepancies between the Ancient and the Registration Counties were far greater in England than those between the Civil and Registration Counties in Scotland,<sup>95</sup> and in the English and Welsh Censuses the county-of-birth enumeration used the Ancient County framework. It is possible that errors were more likely to creep into the English and Welsh Census, although there were in fact surprisingly few. Moreover, the most critical counties for enumeration errors in Scotland (Lanark and Renfrew) were never converted to the Civil County framework in the period up to 1891 but remained as modified Registration Counties, and no attempt was made to adjust data when the correction would have involved the boundary between these two counties in Glasgow.<sup>96</sup> This is essentially the same procedure as adopted by Baines to deal with problems in London (London with Middlesex) and Bristol

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95. Flinn. *Scottish Population History*. p.86.

96. See Appendices, appendix I, pp.37-40 or 50-1, Lanark or Renfrew respectively.

(Gloucestershire with Somerset).<sup>97</sup> Thus by not amending Lanark and Renfrew, the introduction of errors arising from such a correction may well have been avoided. Elsewhere for the period up to and including 1891 data had already been "double checked" manually by the author in the process of converting from the Registration to the Civil County. It can therefore be argued that the lack of enumeration errors discovered at this stage is not altogether surprising. However, the data produced as a result of checking for deviant trends has provided a useful analytical tool.<sup>98</sup>

This discussion completes the analysis of the data sources in this study. The computer programming of this material has been considered in two papers<sup>99</sup> and also in appendix XI.<sup>100</sup>

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97. Baines. *Migration in a Mature Economy*. p.97.

98. The data has been much abbreviated in appendices, appendix X, p.99.

99. Brock, J.M. and Tagg, S.K. "Using SPSS-X to Create a Suitable Database for Estimating Scottish Population Movement, 1861-1911," in *History and Computing*, 2 (1), 1990, pp.17-23; Tagg, S.K. and Brock, J.M. "The Scottish Census 1861-1911," in *Assess SPSS European Users' Group, 2nd User Group Conference, Glasgow, 1990, Proceedings*.

100. See Appendices, appendix XI, pp.101-25.

## CHAPTER III

### METHODOLOGY: THE METHOD OF MEASURING SCOTTISH POPULATION MOVEMENT

#### INTRODUCTION

This research had planned to adopt Baines' method of estimating emigration,<sup>1</sup> modifying it where necessary for the Scottish data. This has already been discussed in chapter II. However, as the computation of the Scottish material evolved it became clear that a different approach was possible because in this research migrant age-structures had been explored in greater depth than Baines had done.

This chapter will be divided into two sections. The first part will consider briefly the important differences between this research and that of Baines in the method of estimating population. The second part discusses the migrant samples. The information obtained from these samples has prompted significant alterations to the method chosen to estimate population movement, although originally they were intended to do no more than justify the chosen current migrant age-structure. The section on samples will consider first the creation of the two sets of samples and the characteristics of the migrant population categories will then be reviewed. The chapter will conclude with a statistical analysis of the migrant samples, the method of computer programming being confined to appendix XI.<sup>2</sup>

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1. Baines. *Migration in a Mature Economy*. pp.90-125.

2. See appendices, appendix XI, pp.101-25.

# 1. DIFFERENCES BETWEEN THE ORIGINAL METHOD DEvised BY BAINES FOR ENGLAND AND WALES AND THE PRESENT STUDY OF SCOTLAND

The method of establishing the volume of population movement in Scotland uses similar published data sources to those of Baines, that is the census tabulations and the annual records of births and deaths, but the way in which these data were used differs fundamentally from the original study.

Baines used the same age ratios for current migrants of both sexes in every county and in every census.<sup>3</sup> These were fixed variables and the total number of current migrants was only influenced by age-specific mortality,<sup>4</sup> calculated per 1,000 of the population,<sup>5</sup> which itself was modified by what Baines described as the "nurture assumption".<sup>6</sup> This was based on the argument that migrants were likely to be healthier than the indigenous population and were therefore given a lower age-specific death rate than the

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3. Baines. *Migration in a Mature Economy*. pp.102-8.

4. *Ibid.* pp.108-18.

5. When this system of applying age-specific mortality (per 1,000 of the population) was used in Scotland, it provided poor results because it was inevitably applied to many who had in fact emigrated, and the population was thus not as large as the estimates suggested. It was for this reason that actual numbers of deaths were used and this was also true of births. Baines' calculation presumably made some corrections for this problem, although this is not stated.

6. Baines argues that migrants were more likely to be healthier than the native population because they could have come "from outside the large towns or rural areas". "Most lifetime migrants would probably not fall to the bottom of urban society and their age-specific mortality was probably less than that of natives." Baines therefore applied a different more favourable age-specific mortality rates to migrants and referred to it as the "nurture assumption." Baines. *Migration in a Mature Economy*. pp.109-114.

native population, for which the death rate was correspondingly increased.

The Scottish study has made considerable use of two large samples which attempt to establish the age-structure of the migrant population. This has resulted in the counties-of-residence being divided into four categories with different migrant age-structure ratios for each sex. (This introduction precedes a more detailed discussion on the sample migrant population). During computation the number of migrants in each county remained unaltered, but the age-bands were expanded from two to sixteen. This has been achieved by applying one of the four migrant age-structure ratios, devised on a basis of population growth or decline and computed for each census year. Current migrants were therefore established as a result of the difference between the migrant age-structure with deaths applied in one census and the migrant age-structure ten years later. The migrant age-structure was categorised according to population growth or decline and was therefore probably more precise than Baines' work, as some variation in migrant age-structures doubtless occurred in England too. Moreover, in Scotland it was found that the age-structure of the migrant population varied over time and this was also allowed for by calculating the necessary values for every census.

The Scottish research used the estimated migrant age-structure ratios as the fixed variable and, with the number of deaths deducted, it predicted the current migrant age-structure. In contrast, in the English study the current migrant age-structure



was critical and errors in its calculation were cumulative.' In the Scottish study it is the accuracy of the migrant age-structure that is important, but the fact that it is calculated by using four different migrant age-structures for each sex is likely to make it more accurate, and as data are only estimated from census to census, any errors are not cumulative, which is a substantial advantage. The Scottish migrant age-structures have been calculated from samples derived from a manuscript source. The validity of the samples is therefore important and this will be discussed in more detail subsequently.<sup>9</sup> However, the migrant age-structure ratios are tightly held by the data<sup>7</sup> and minor errors in the age-structures do not affect the final conclusions<sup>10</sup>.

The deaths applied are the actual number of deaths for the county<sup>11</sup> spread evenly throughout the age-band in question. The "nurture" assumption has been abandoned,<sup>12</sup> except for migrants less than three months old.<sup>13</sup> The concept behind the "nurture"

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7. Baines. *Migration in a Mature Economy*. p.99.

8. See pp.106-49.

9. In order to test the accuracy of the results, two standard errors were computed for each migrant age-structure ratio for every census year. The intention was to skew the age-structure ratios in two separate models by two standard errors. This proved impossible because there was not a large enough margin for error that would permit their application, thus indicating how tightly the migrant age-structure ratios are held by the data. See Appendices, appendix XII, pp.124-129.

10. The effects of applying two standard errors ± have been shown on all the final estimates.

11. The age-specific mortality was converted from the registration to the civil county framework and it was assumed that the vital characteristics of the population was same for both county units.

12. See p.99. fn.6.

assumption is that migrants are likely to have better health than the native population and therefore have a preferential death rate applied for migrants. The evidence in Scotland indicates that this assumption is doubtful.<sup>14</sup> Flinn has argued that differences between urban and rural crude death rates fell markedly between 1861 and 1891,<sup>15</sup> and therefore for much of the period 1861-1911, urban migrants were not necessarily experiencing a considerably increased mortality risk. Moreover, as will be shown subsequently, a considerable proportion of in-migrants were in fact urban-born. Finally, recent research by Landers<sup>16</sup> on London, admittedly for an earlier period (1675-1825), suggests that natives and migrants had similar mortality rates; and indeed that at times migrants may have been more susceptible to infection.<sup>17</sup>

Nevertheless, in order to make computation feasible, both the present method and that of Baines create a degree of artificiality which appears to be unavoidable, since although

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13. Migrants under three months old will be considered in greater detail subsequently, see ch.IV, pp.153-7.

14. In the Scottish context no evidence can be found to support the idea that migrants were healthier than the natives. Indeed tuberculosis was noted as a serious problem for Highlanders in urban areas, but the slow progress of the disease meant that some returned to the Highlands with the infection and it was also the largest single cause of death in the Highland counties, (P.Gibb; Doctoral studies at the University of Glasgow, on the Highlands and Islands medical service, January 1987). The disease may originally have been contracted in a migrant situation but was by no means a strictly Lowland problem, as the migrants introduced the disease to areas where it was previously unknown.

15. Flinn. *Scottish Population History*. p.383.

16. Landers, J. "Mortality and Metropolis: the Case of London 1675-1825", *Population Studies*, 41, (1987), pp.59-76.

17. *Ibid.* p.76.

demography is dynamic in nature it inevitably has to be measured in a static situation.

In conclusion, it should be stressed that although this study is still adopting Baines' original concept of measuring emigration by using the decennial census and vital data, it is no longer following Baines' method. This is because the "nurture assumption" may not be valid in the Scottish context and the migrant samples have provided more precise migrant age-structures. In the Scottish study there is no need to estimate the current migrant age-structure although this is fairly critical to Baines' method. However, differences in the method of estimating emigration will not prevent interesting comparisons of results being made.

## 2. THE MIGRANT AGE-STRUCTURE SAMPLES

The published census has the advantage of aggregating vast quantities of information, but the value of the county-of-residence by county-of-birth tabulations to migration research is limited by its' broad age-bands (above and below twenty years). The age-structure of the population tabulations is organised by county-of-residence, but does not distinguish native-born from outsiders. No nationwide study of the age-structure of the Scottish migrant population exists, so in order to check whether the assumptions made by Baines were valid in a Scottish context, it was necessary to sample a manuscript source, the enumeration books, and establish a migrant age-structure.<sup>18</sup> Furthermore this analysis of population

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18. For further information on the enumeration books, see chapter 11, pp.59-65.

movement in Scotland embraced a fifty year period from 1861 to 1911, so it seemed quite feasible that the age and sex ratios of migrants may have altered over time. Finally, during the conversion of registration counties to the civil county framework, it became apparent that Scottish migrants did not appear as concentrated into the young adult age-bands as had been suggested, indicating that further investigation by means of samples would be justified.

The original intention was to make two independent, large samples of the age-structure of the migrant population one in 1861 and the other in 1891. However, in the subsequent computation, it became apparent that there were four differing migrant age-structures and both the initial samples required considerable expansion in certain areas to meet new criteria. The original samples were not therefore useless and the idea was basically correct from the start, the samples only needed to be increased and adjusted in certain directions.

The logic behind the initial sampling method will now be considered along with reasons for the need for its' subsequent modification. Thereafter the revised sampling system will be considered. The final part of this section will discuss the value of the revised samples.

#### THE FIRST SAMPLES

Ideally the age-structure of all Scottish migrants in every census enumeration book would have been recorded, but this would have imposed an impossible workload. Samples of the migrant population were therefore created. The 1861 and 1891 censuses were

sampled, the former because it was the first in the study period and the latter on account of it being half way through the research and the last for which the enumeration books were available due to the "one hundred years" rule. Two censuses were sampled rather than only one, because it was thought possible that the sex or age ratios of migrants might have changed over time.

The samples were only interested in the migrant age-structure and not that of the total population. Moreover, it was recognised that migrants were not spread evenly throughout the population, but likely to be concentrated in areas of attraction. The sample was therefore biased in that, where possible, it concentrated on places thought to contain a relatively high proportion of migrants in the total population. A systematic sample which was, for example, based on every tenth person was likely to prove very unrewarding, because migrants were likely to be concentrated in populous localities and in rural districts sampling on this system could easily "miss" the few resident migrants. Random sampling<sup>19</sup> was likely to encounter a similar problem. Moreover, sampling, for example, every tenth entry, would have required numerous books, but each book would have taken only a relatively short time to process. This would have imposed a heavy work load on the porters at the General Register Office.<sup>20</sup> It was therefore concluded that the best solution was to make complete samples from a small number of

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19. Hammond, R. and McCullagh, P.S. *Quantitative Techniques in Geography*, (Clarendon Press, Oxford, 1982), 2nd. edn. pp.133-6.

20. I would like to thank Dr. Shaw, Mrs. S. Mackenzie and the porters in the Library of the General Register Office for Scotland, New Register House for being so helpful.

enumeration books. The selection of the places to sample thus became of critical importance, and this is discussed below.

#### CRITERIA BY WHICH THE FIRST TWO SETS OF SAMPLES WERE CREATED

The sample from the 1891 census was not intended to be a cross-section of the entire population. Indeed it was a judgemental or purposive sample,<sup>21</sup> in that the samples were deliberately chosen from settlements likely to attract migrants,<sup>22</sup> but other criteria were also imposed. An attempt was made to include all the main occupations so as not to bias the type of migrant included.<sup>23</sup> Nevertheless, certain trades were probably unintentionally under-represented, but in agriculture, for example an endeavour was made to include a sample from every major agricultural region, both from areas relying mainly on agriculture<sup>24</sup> and those with rural

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21. Barnett, V. *Elements of Sampling Theory*, (The English University Press, London, 1974), p.13.

22. I would like to thank the following people for their advice in February 1987 on suitable places to sample migrants:- Professor J. Butt, University of Strathclyde, (Gatehouse-of-Fleet), Dr. C. Brown, University of Strathclyde, (Edinburgh), Professor T. M. Devine, University of Strathclyde, Dr. A. Durie, University of Glasgow, (Aberdeen), Mrs. J. Hamilton, University of Strathclyde, (Lanarkshire Coalfields), Dr. D. Morse, University of Edinburgh, (Haddington), Mr. W. Sloan, University of Strathclyde, (Glasgow), Mrs. I. Sweeney, University of Glasgow, (Glasgow), Dr. J. Treble, University of Strathclyde, (Dundee and Glasgow), Dr. N. Tranter, University of Stirling, (Wigtown) and Dr. C. J. Withers, The College of St Paul and St Mary, Cheltenham, (Dundee).

23. See Appendices, appendix VII, pp.82-9.

24. The rural districts sampled from the 1891 enumeration books were:- Anwoth (excluding Gatehouse-of-Fleet) Kirkcudbright, (Rd.855), Arbuthnott, Kincardine, (Rd.250), Errol, Perth, (Rd.351), Girthon (excluding Gatehouse-of-Fleet) Kirkcudbright, (Rd.866) and Dyne, Aberdeen, (Rd.230). The 1861 samples were of Arbuthnott, Kincardine, (Rd.250) and Errol, Perth, (Rd.351).

industry present.<sup>25</sup> Places which straddled two counties or where confusion was likely over differences in Civil and Registration County boundaries were avoided. This was because it was important to establish that migrants were people that had genuinely moved across county boundaries. This unfortunately meant that Fort William,<sup>26</sup> Galashiels<sup>27</sup> (known to be attracting high in-migration) and parts of Glasgow<sup>28</sup> had to be omitted. Finally, a deliberate attempt was made to include a good geographical spread across the country. Places such as Tobermory (Argyll) and Stornoway (Ross and Cromarty) were therefore sampled, even though they were not expected to contain a high proportion of migrants.

Within the Lowlands every area of high migrant-attraction could not be sampled. Glasgow was sampled six times, but Edinburgh (city) was ignored. In Glasgow it was possible to deliberately choose different types of areas to sample. The same would have been possible in Edinburgh, but to have sampled both adequately would have considerably increased the workload and to have taken a few from each would have risked obtaining samples that were neither exactly comparable nor distinctly different.<sup>29</sup> It was therefore

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25. Fenwick, Ayr, (Rd.592), Kirkwall, Orkney (Rd.21), and Portree, Inverness, (Rd.114) were sampled in both years and these districts had some rural industry.

26. Fort William is in the Registration District of Kilmallie in Argyll but the Civil County of Inverness.

27. See Appendices, appendix 1, pp.54-8, Roxburgh or Selkirk.

28. The city of Glasgow was mainly in Lanark, but parts were in Renfrew. See Appendices, appendix 1, pp.37-40 or 50-1, Lanark or Renfrew respectively.

29. To sample districts within cities, several criteria were used. Districts were chosen with the advice of those who knew the city (see fn.22), but where such help was not available the dominant

being assumed that migrants in different urban centres were likely to have a similar age-structure. Some areas of low in-migration in the lowlands were also recorded such as Larkhall (Lanark).<sup>30</sup>

Scots were only classified as migrants if they had left their county-of-birth,<sup>31</sup> and the categories used are summarised in appendix III.<sup>32</sup> Migrants were recorded separately by sex and in

occupation(s) of the district, which was inevitably a subjective evaluation, was used as a point of reference. In order to maintain an element of objectivity the number of rooms with windows in an enumeration district were recorded and this was divided by the number of inhabitants. A prosperous district such as parts of Partick in Glasgow (in 1861 Rd.646-2, Ed.12), had 1.6 windowed rooms per person, whereas a poor over-crowded district such as Craighill Rd. St. Rollox in Glasgow only had 0.28 windowed rooms per person (in 1891, Rd.644<sup>a</sup>, Ed.72). Enumeration districts that had approximately the same window ratio, as well as occupations, were chosen for a sample for the sake of consistency. Each sample from the city was deliberately chosen to be quite distinctive both in terms of occupation and the ratio of windowed rooms per person, because it was thought that different migrant age/sex structures might exist according to the district sampled.

30. Two samples were taken of Larkhall in Lanarkshire in 1891. The county population was growing very fast and therefore the low proportion of Scottish in-migrants is surprising, especially as the district does not appear to have attracted Irish-born immigrants either. In the first (Larkhall, Dalserf, Lanark, 1891, Rd.638-1, Ed.1 + sup.) 13.9% of the population were Scottish in-migrants, but in the second sample (Larkhall, Dalserf, Lanark, 1891, Rd.638-1, Ed.4) only 6.1% were Scottish in-migrants. The second sample shows one of the lowest percentages of migrants found anywhere in Scotland, and even in the first sample the proportion is low. Campbell has shown that Larkhall's population expansion up to 1874 was gradual and "took place within ... established communities." It is possible that this pattern continued until 1891 and this would account for the lack of in-migrants, growth having been due to high native fertility and in-migrants from other parts of Lanarkshire. Campbell. *The Lanarkshire Miners*. p.137.

31. People who stated that they did not know their county-of-birth or recorded it as Scotland were ignored, because it could not be assumed that they were outside their county-of-birth. Fortunately the numbers recorded thus were very few. The only time this rule was relaxed was for an elderly woman in a Borders county who spoke Gaelic and was therefore clearly a migrant.

32. See appendices, appendix III, pp.65-78.



sixteen 5 year age-bands.<sup>33</sup> Non-Scottish migrants were considered only superficially. They were recorded in three classes: English and Welsh, Irish, and those born abroad.<sup>34</sup> People in Institutions and visitors were not counted as migrants, the former because they distorted samples by concentrating large numbers of migrants in a few age-bands. Visitors were assumed to be staying only a short while and were therefore not true migrants. The marital status of migrants was also recorded and categorised as single, independent or married in order to explain age distribution.

In all 61 localities were sampled from the 1891 enumeration, which contained a total of almost 32,000 migrants representing 3.5% of the total Scottish migrant population. Twenty-six places were sampled from the 1861 Enumeration, to see if migration patterns were changing over time.<sup>35</sup> This earlier sample was created by stratified sampling in order to avoid a statistically biased sample.<sup>36</sup> The 1891 samples were classified according to whether their percentage of migrants in both sexes was above or below the percentage age distribution mean for 1891 in two key age-groups, children less than 15 years and young adults (ages 15-29 years).

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33. The sixteen age-bands were of 5 year intervals, that is 0-4, 5-9, 10-14 etc. The final age-band contained all those over 75 years. Children under 5 years old were also recorded by year and in the second "revised" samples, babies less than 12 months were listed by month.

34. Those born abroad included British subjects born abroad, Colonials, those born at sea, children born abroad of British parents and Foreigners.

35. For a classification of the places samples, see Appendices, appendix VIIa & b, pp.83-90.

36. Stratified sampling as defined in Pressat R. (edited by C. Wilson) *The Dictionary of Demography*. Oxford. 1988.

There were therefore four classifications of extremes in age-groupings, as well as an average category (+3%) which made nine separate groups of migrant samples.<sup>37</sup> Each group was checked to make sure that the geographical spread was mixed and that certain parts of the country were not always placed in the same order. This was to avoid too many samples coming from one part of the country. The third, seventh and eleventh place-name<sup>38</sup> in each migrant sample group was then chosen for the 1861 sample. The 1861 sample was then checked to see that all types of community were represented and as a result a coal mining area was added.<sup>39</sup>

This method of sampling the same places in 1861 as in 1891 was not totally successful, because the nature of some settlements changed in the intervening thirty years. A much better system would have been to select a much larger new sample, but at the time this was considered too time consuming. The 1891 sample locations had

37. The samples were classified by sex and whether the percentage of the migrant population was above or below the mean in the age-groups 0-14 and 15-29 years. Those samples that were within 3% of the mean were classed as average. This system provided nine categories of migrant samples which were :-

Category	Males		Females	
	<15	>15	<15	>15
1	+	-	+	-
2	+	-	-	+
3	-	+	-	+
4	-	+	+	-
5	+	-	average	
6	-	+	average	
7	average		-	+
8	average		+	-
9	average		average	

38. There were not an equal number of samples in each migrant age-group classification and so some had only the third or third and seventh place sampled.

39. Coatbridge, Old Monkland, Lanark, 1861, Rd.652<sup>2</sup> Ed.10-12 & 22.

been selected as being suitable for that year, but it was often less than ideal for 1861. More consideration should have been given to places that were attracting migrants in both years, although at the level of the district this was unlikely to be exactly the same place. Moreover, locations which in 1891 had a large migrant population could have a completely different migrant age pattern in 1861. This was the case with Oban<sup>40</sup> which lacked the large numbers of independent, single females (domestic servants) in 1861 found in 1891. It was therefore difficult to establish whether or not a representative sample had been achieved. Furthermore, in one of the systematic sample categories the 1861 Enumeration Books for Eyemouth (Rd.749) and the second selection North Berwick (Rd.713) were both missing and a third choice, Tobermory (Rd.549), had to be sampled. Another category tended to contain sample places that did not exist in 1861, such as Hamilton Palace Colliery Row and the St. Rollox chemical factory in Glasgow. It was therefore decided to make some additional samples from areas thought to have high migrant populations in 1861 such as Bathgate, Dunbar, Greenock and Peebles, and to take samples from different districts in Aberdeen, Dundee and Glasgow. As a result 26 enumeration districts were sampled in 1861, 13 more than was originally planned in the systematic sample, as compared with 61 in the 1891 sample. This second sample involved over 9,000 people, comprising 1.5% of the total Scottish migrant population in 1861.

To determine whether the samples were an accurate representation of the Scottish migrant population, the ages of the

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40. Oban, Kilmore and Kilbride, Argyll, 1861, Rd.523 Ed.1-4.

sample migrants were aggregated by sex into the two age-bands used in the census (above and below 20 years) and the results compared with the published figures. In both years the proportion in each category was found to be within 1.5% of the national average for Scottish migrants.<sup>41</sup> This suggested that the sample migrant population was indeed representative of the total migrant population.

#### THE SCOTTISH MIGRANT POPULATION AS DERIVED FROM THE SAMPLES FROM THE 1861 AND 1891 ENUMERATION BOOKS.

There were Scots migrants of both sexes recorded in all the places sampled from the 1861 and 1891 Enumeration Books, although there were not necessarily migrants in every age or status group.<sup>42</sup>

In all the samples which were of entire settlements,<sup>43</sup> there were at least 8% migrants of both sexes in the population, with the exceptions of Lerwick, Shetland<sup>44</sup> (females 6.8%) and Oyne, Aberdeen<sup>45</sup> (males 7.4%), both in 1891. Percentages above this minimum level of in-migration for both sexes were found even in

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41. For breakdown of age-structure of migrants sampled, see appendices, appendix XIII, p.98.

42. For definitions of migrant classifications see Appendices, appendix III, pp.67-78.

43. Settlements in this context means a registration district, village or town.

44. Lerwick, Shetland (Rd.5) .

45. Oyne, Aberdeen (Rd.230).

areas of considerable out-migration such as Kirkwall,<sup>46</sup> Portree,<sup>47</sup> Stornoway,<sup>48</sup> and Tobermory.<sup>49</sup> In rural Registration Districts the percentage of migrants could be high, especially in areas where there was alternative employment such as Cleish.<sup>50</sup>

The percentage of migrants in samples taken from within a larger city or town could vary far more. In the 1891 samples, very low percentages of migrants were found in Aberdeen<sup>51</sup> and also, as already noted, in Larkhall<sup>52</sup> while in contrast half the female

46. Kirkwall, Orkney (Rd.21)

	Males	Females
1861	16.4%	9.8%
1891	12.1%	10.5%

47. Portree, (Skye), Inverness (Rd.114).

	Males	Females
1861	10.9%	8.1%
1891	11.8%	10.3%

48. Stornoway, (Lewis), Ross and Cromarty (Rd.88).

	Males	Females
1891	13.3%	12.1%

49. Tobermory, (Mull), Argyll (Rd.549).

	Males	Females
1861	11.4%	11.2%
1891	16.1%	20.0%

50. Cleish Kinross (Rd.460), 57.9% male and 57.1% female migrants. Although these high percentages are probably due in part to the small size of Kinross county, there was employment in both agriculture and coal-mining.

51. Aberdeen (1) Aberdeen, 1891, (Rd.168-1 (St. Nicholas) Ed.43), 3.4% male and 4.5% female migrants. This area (Pocra Quay, York Street and along the sea beach) specialised in white fishing.

52. Larkhall (1) Lanark (Rd.638-1 (Dalserf) Ed.4), 7.3% male and 4.8% female migrants. This part of Larkhall (McNeil Street, Curries Buildings, Raploch Street, Union Street and Frames Buildings), employed men in the coal industry, but there was also female employment in silk weaving and on bleachfields (see also fn.29 p.108). The reasons for the low percentage of Irish migrants in Larkhall, compared with Coatbridge, Lanark has been discussed by Campbell. *The Lanarkshire Miners*, pp.117-145. With regard to Scottish migrants in samples from both towns, it cannot be said

population in a prosperous district sampled in Glasgow were migrants, the percentage of male in-migrants being much lower.<sup>53</sup> This very high level of in-migration was not typical of all parts of Glasgow, and yet elsewhere within the city there was one sample where only approximately 10% of the population were Scottish migrants.<sup>54</sup>

The samples taken of an entire settlement inevitably included a more "rounded" population than a district within a city. A sample comprising part of a city or town could lack many (or even have disproportionately high numbers) of public servants.<sup>55</sup> These were an important element in the migrant population of areas normally associated with out-migration. Moreover, some categories of public servant such as lighthouse keepers, coastguards and railway

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from the limited samples available that the percentage of Scots migrants in both places differed markedly.

The percentage of Scottish migrants in samples in Coatbridge and Larkhall Lanark.

	sample year	males	females
Coatbridge (coal)	1861	11.2	11.0
Coatbridge (iron)	"	11.7	12.5
Coatbridge (steel)	1891	10.4	8.1
Larkhall (1)	"	7.3	4.8
Larkhall (2)	"	13.8	13.6

53. Glasgow (6) (Rd.646-3, (Partick) Ed.45), 29% male and 53% female migrants: this district contained very large single family occupancy houses (often containing 12 or more rooms with windows, except for a few smaller coach-houses). Both the residents and their servants were often migrants.

54. Glasgow (4) (Rd.644-10, (Anderston) Ed.4, 6 & 8), 9.2% male and 11.4% female Scottish migrants. This district contained a higher percentage of migrants from other parts of Britain (mainly Ireland: 39.4% male and 29.0% female migrants). This part of Anderston (Clyde Street and Piccadilly Street) provided employment mainly in the docks or as general labourers, and people lived in 1 or 2 rooms with windows.

55. Public Servants in this context includes coastguards, inland revenue inspectors, lighthouse keepers, ministers of all denominations of churches, railway employees and school teachers.

employees were extremely mobile. For example the birthplaces of two lighthouse keepers and their families living in Fraserburgh show that they had between them lived in an absolute minimum (assuming that a child was born every time that they moved) of ten different counties as far apart as Shetland and Wigtown.<sup>56</sup> These migrating public servants and their families were a significant source of in-migration, although clearly in areas of out-migration they probably never equalled the numbers leaving. No attempt has been made in this study to analyse the type of employment migrants took in towns, although the main sources of employment in any sample area have been recorded and individual examples will always include occupation where stated.

#### THE PROBLEMS OF PROVIDING A BALANCED SAMPLE.

It was very important yet very difficult to know if a balanced sample had been achieved. In the Registration Districts of Errol, Perth<sup>57</sup> in 1891 and Portree, Inverness<sup>58</sup> in 1861, the rural population appeared to lack young adults, but when the villages were added to the rural-based population the age-structure became more balanced.

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56. Kinnairdhead Lighthouse.  
Fraserburgh, Aberdeen, 1891, (Rd.196, Ed.3, p.3, sch.76 and 77)

57. Errol, Perth (Rd.351).

58. Portree, Inverness (Rd.114).

TABLE 3.1

## ERROL PERTH. THE RURAL AND TOTAL MIGRANT POPULATIONS IN 1891

Age	<5	<10	<15	<20	<25	<30	<35	<40	<45	<50	<55	<60	<65	>65
<b>Rural - Males</b>														
Single	14	17	23	12	4	2	2	0	0	0	1	2	0	0
Independent	0	0	0	17	20	5	3	0	0	0	1	0	0	0
Married	0	0	0	0	3	9	12	12	12	12	9	7	5	12
<b>Rural - Females</b>														
Single	10	15	13	4	5	2	1	1	1	2	1	1	1	2
Independent	0	0	0	3	9	2	4	0	0	1	1	2	0	2
Married	0	0	0	0	3	4	8	11	12	15	6	10	6	12
<b>Total - Males</b>														
Single	17	25	30	16	6	3	2	0	0	0	1	2	0	0
Independent	0	0	0	23	26	5	4	0	0	0	3	2	0	0
Married	0	0	0	0	3	11	15	16	15	15	11	8	10	16
<b>Total - Females</b>														
Single	13	21	19	10	6	2	3	3	1	3	2	1	1	2
Independent	0	0	1	3	9	4	4	0	0	1	2	2	0	2
Married	0	0	0	0	5	5	11	17	14	21	11	12	2	20

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In rural Errol in the Carse of Gowrie (Table 3.1),<sup>59</sup> the steady increase in numbers of migrants from early childhood is obvious, but a decline occurs in both sexes in quite young adults (males over 20 years and females even earlier). There is a sharp decline in the female migrant population aged 15-19 years. Moreover, this fall in the numbers of females would have been even more significant if Errol Park House had been considered part of

59. In Errol Perth 1891, (Rd.351) the village is recorded in Ed.7-8. Errol Park House is also transcribed in these books, but is included in the rural part of the parish (Ed.1-6).



the village rather than the rural area,<sup>60</sup> as the House employed young females as servants and this accounts for most of the rural female migrants classified as "independents" in Table 3.1. This example is typical of many in that in rural areas country houses were important employers of young females who were frequently outsiders. The village of Errol provided some of the "missing" young females with employment in shops etc.<sup>61</sup> It is noticeable that these village-based female migrants are classified as single, not independent. This raises an important point that families often appear to migrate to places where the majority of the employable members of a family could find work.<sup>62</sup>

The problem of missing migrants was also found in Portree.<sup>63</sup> This Registration District contained a very large landward area and in this area there was a lack of male migrants between 20 and 34 years. The village of Portree itself did however provide these young migrants with employment, and so did the Navy.

Clearly if this problem of an unbalanced and therefore biased sample can occur in a rural area, it is likely to be even more significant in large centres of population, and more difficult if

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60. See fn.59. The House employed six females aged between 20 and 34 years as servants.

61. Although the girls employment appeared to be in the village, this is not to say that they did not work in the fields in when needed. The census was taken when farmers' demands for labour were low and later many girls may have done casual work. Devine. "Woman Workers." pp.98-123.

62. It was possibly only families with young children, and middle-class families where other members did not need to work, that dictated the migrant family location was dictate solely by the father's occupation.

63. Portree, Skye, Inverness, Rd.114.

not impossible to resolve. Inverness (town)<sup>64</sup> was the first large centre to be sampled and a migrant pattern typical of many cities soon emerged. As each Enumeration Division<sup>65</sup> was sampled the relative percentages of male and female migrants fluctuated according to the type of district and it soon became evident that female migrants tended to be concentrated as servants in middle class areas whereas migrant males were often in lodgings nearer their work.<sup>66</sup> Although this is a considerable over-simplification of the situation in the cities, attempts to sample a cross-section of a town were nevertheless abandoned and in subsequent samples areas were chosen to be typical of a type of population, rather than to provide a uniform sample of the entire population of the town or city. In the final analysis for estimating population movement, it did not matter if a different percentage of males had been sampled to females because data for the two sexes were being calculated independently.

#### THE PURPOSE OF THE FIRST SAMPLES

As has already been stated, the samples were only originally intended to check that the Scottish current migrant age-structure was similar to that found in England and Wales. However, it soon became apparent that they would be of value in overcoming another problem. It was impossible to calculate what proportion of Scottish

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64. Inverness, Inverness (Rd.98).

65. An Enumeration Division is the area cover by one Enumeration Book.

66. In towns with textile mills young, independent, migrant females were more likely to live in working class areas.

migrants above 10 years old<sup>67</sup> were in fact current migrants,<sup>68</sup> but the migrant age-structures derived from the samples did appear sufficiently reliable to use as a basis for computing the current migrant age-structures, thus avoiding the need to rely on estimates.

The migrant samples were used in the computerised estimates of population movement.<sup>69</sup> The 1861 and 1891 age-structures were recalculated to provide an estimate of the migrant age-structure in each census year to allow for a changing migrant age-structure. However, as the analysis progressed over the 50 year study period, it became clear that the sample migrant age-structure ratios were not valid in counties with rapid population growth. Moreover, when the Scottish migrant population in these counties with rapid growth was analysed separately using the census, it was plain that the proportion of the migrant population above and below 20 years did not conform to the previously calculated national average.<sup>70</sup>

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67. Migrants below 10 years old must by definition be current migrants because they have moved since the previous census.

68. Dennystown (Dumbarton, Dumbarton, Rd.496, Ed.9, 1861) and Hamilton Palace Colliery Row, (Bothwell, Lanark, Rd.625-1, Ed.1 (part), 1891) were the only places found that were so recently built that all migrants were current migrants. However, even that evidence is not proof that the migrants had just moved into the county, as some had probably moved initially to nearby places.

69. See Appendices, appendix XI, pp.101-25.

70. If the ratio of migrants in a population does not conform to the national average, the method of computation reveals it in two ways. Firstly, if the migrants are concentrated in a few age-bands and this results in the native population in those age-bands becoming negative, an impossible situation. Secondly there is an illogical jump or fall between the 15-19 and 20-24 years age-bands. This is because in the original published census tabulations the former age-band comes within the under 20 year old classification and the latter in the over 20 year olds and the migrant ratios are based on these two categories.

Indeed further investigations revealed four distinctive migrant population age-structure profiles that related to population growth or decline. Both the original samples were large and representative, they conformed to the published migrant national average (above and below 20 years) but this average disguised considerable variations in the migrant age-structure.

#### REASONS FOR THE INADEQUACIES IN THE ORIGINAL SAMPLES

Although, as has already been discussed, the age-structure of the samples conformed to the published migrant national average, when the samples were divided by place into the four migrant age-structure profiles, and compared with the recalculated information from the census, there were errors in the migrant age-structure. The reasons for these errors will now be considered.

When the original samples were taken, the proportion of migrants was important, and as the only information on age-structure was limited to two broad age-bands, the migrant age-structure less so. The initial samples concentrated too heavily on migrant attracting locations. These contained large numbers of young migrants (both above and below 20 years of age). This meant that the samples conformed to the broad age-bands in the published census, but they were nevertheless unrepresentative, and missed significant numbers of older life-time migrants. For example, subsequent sampling in Edinburgh (a county with rapid population growth) showed a greater proportion of elderly migrants in that city than in Glasgow.

It was recognised that the migrant population profile varied enormously from sample to sample and attempts were made using statistical tests such as factor and cluster analysis to find common characteristics that could account for the variation in migrant age-structure, but this proved impossible. However, by concentrating on the distinctiveness of individual samples, they were not considered in county or larger units. Indeed the fact that the samples were both large and conformed to the national migrant age-structure for each sex and in both years gave them credibility. Moreover, this reliability was supported by Baines' approach of treating all migrant-attracting counties as having the same type of current migrant age-structure.

Finally, by aiming for a wide geographical spread for the migrant samples,<sup>71</sup> too many places were sampled in some areas in relation to the total migrant population and not enough in others. However, it should be noted that until the criterion of population growth or decline was identified as the significant variable, a satisfactory geographical distribution was impossible to achieve. Nevertheless, the inadequacies of the original migrant age-structure samples were able to be corrected by sampling additional locations.

#### THE REVISED MIGRANT AGE-STRUCTURE SAMPLES

The criteria on which the revised migrant sampling were based was that of the expansion or decline of the county-of-residence

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71. See p.107.

population over the 50 years from 1861 to 1911. The counties were divided into four population categories:- "boom", "growth", "decline (north)" and "decline (south)". Table 3.2 shows the designation of migrant status to individual counties. These counties are illustrated on map 3.1. Map 3.2 shows the geographical distribution of population category counties. The four categories are merely groups of counties linked only by similar percentage increase or decline in population and not homogeneous clusters. Moreover, although the population categories are classified according to population growth or decline, they do not necessarily reflect any other demographic characteristics of the county-of-residence as can be seen in map 3.3. For example, Edinburgh and Lanark plus Renfrew have by far the greatest density of population in Scotland and both are within the "boom" category classification, yet that category also includes Selkirk, which has a much lower density of population.<sup>72</sup> Despite the fact that map 3.3 refers only to the population densities in 1891, which was mid-way through the study period, the majority of county population densities do not alter very drastically even in rapidly growing counties<sup>73</sup> and do not generally exhibit a change from the density

72. The population density per square mile in 1891 in selected "boom" category counties.

Edinburgh (Midlothian)	1,186.1
Lanark and Renfrew	1,178.1
Selkirk	103.8

73. The population density per square mile in selected counties

	Aberdeen	Berwick	Linlithgow	Inverness
1861	112.4	80.1	321.8	21.4
1891	144.1	70.6	439.7	21.7
1911	158.4	64.9	667.4	21.0

TABLE 3.2.

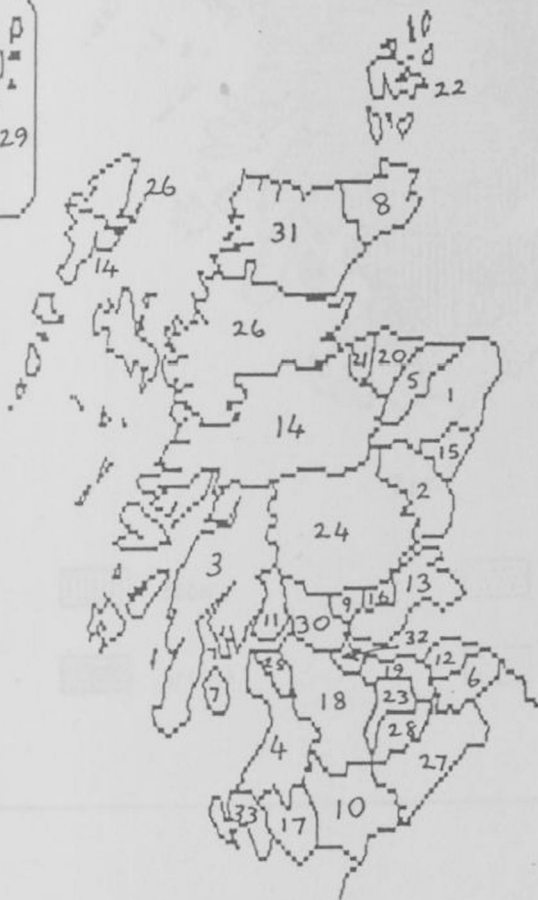
THE DISTRIBUTION OF COUNTIES INTO MIGRANT POPULATION CATEGORY\*\*  
 ACCORDING TO POPULATION GROWTH OR DECLINE 1861-1911

MIGRANT CATEGORY	CIVIL COUNTY	PERCENTAGE POPULATION GROWTH OR DECLINE
<u>Boom</u>	Dunbarton	+168.73
	Edinburgh (Midlothian)	+82.28
	Fife	+72.99
	Lanark & Renfrew	+117.71
	Linlithgow (West Lothian)	+107.41
	* Selkirk	+147.31
<u>Growth</u>	Stirling	+75.13
	Aberdeen	+40.89
	Ayr	+34.86
	Banff	+3.69
	Bute	+11.36
	Clackmannan	+45.09
	Elgin (Moray)	+1.71
	Forfar (Angus)	+37.66
	Haddington (East Lothian)	+14.93
	Kincardine	+18.98
	* Nairn	+2.68
	Peebles	+33.75
<u>Decline (North)</u>	Argyll	-11.07
	Caithness	-22.14
	Inverness	-1.82
	Kinross	-5.64
	Orkney	-20.06
	Perth	-6.86
	* Ross & Cromarty	-6.11
	Shetland	-11.87
	Sutherland	-20.07
<u>Decline (South)</u>	Berwick	-19.48
	Dumfries	-4.02
	Kirkcudbright	-9.71
	* Roxburgh	-10.35
	Wigtown	-23.99

\* Calculation based on modified civil county (see Appendices, appendix I for further information).

\*\* Population category and not homogeneous clusters but counties with similar population growth patterns.

## THE COUNTIES OF SCOTLAND



### Key

1. Aberdeen
2. Angus (Forfar)
3. Argy
4. Ayr
5. Banff
6. Berwick
7. Bute
8. Caithness
9. Clackmannan
10. Dumfries
11. Dunbarton
12. East Lothian (Haddington)
13. Fife
14. Inverness
15. Kincardine
16. Kinross
17. Kirkcubright
18. Lanark
19. Midlothian (Edinburgh)
20. Moray (Elgin)
21. Nairn
22. Orkney
23. Peebles
24. Perth
25. Renfrew
26. Ross & Cromarty
27. Roxburgh
28. Selkirk
29. Shetland
30. Stirling
31. Sutherland
32. West Lothian (Leithingus)
33. Wigtown



### The Migrant Age-Structure Categories



#### Key



Boom



Decline (North)

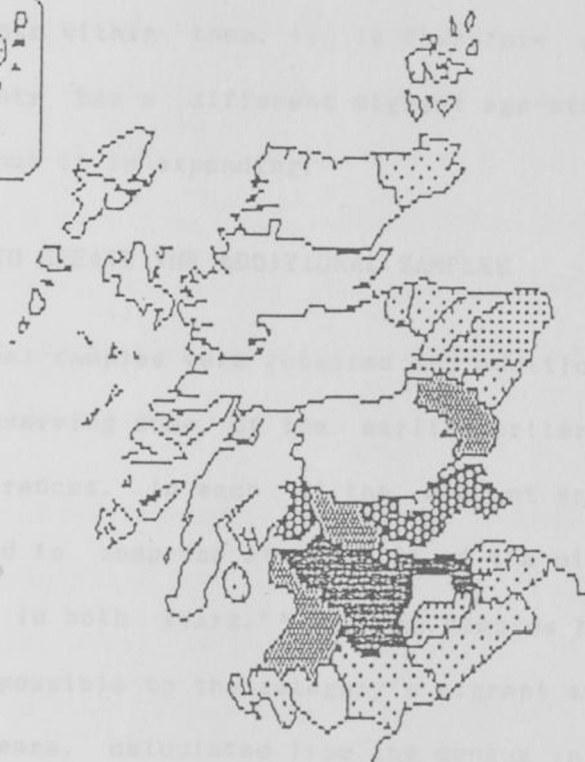


Growth

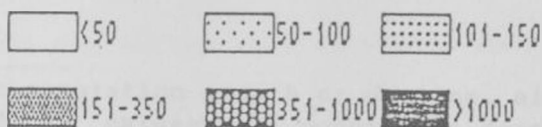


Decline (South)

### POPULATION DENSITY IN SCOTLAND BY COUNTY-OF-RESIDENCE IN 1891



Inhabitants per sq. mile



classification recorded in the key.<sup>74</sup> Map 3.3 can therefore be considered with reasonable confidence to reflect population density regardless of the decade being considered.

It should be noted that the counties defined within the population categories are counties-of-residence and not of-birth for the migrants within them. It is therefore argued that the attracting county has a different migrant age-structure according to whether or not it is expanding.

#### CRITERIA USED TO CREATE THE ADDITIONAL SAMPLES

The original samples were retained and additional samples were made, still observing some of the earlier criteria but with some important differences. In each of the migrant sample categories, the samples had to comprise at least 2% of the migrant population of both sexes in both years,<sup>75</sup> and the samples had to correspond as closely as possible to the category's migrant average for above and below 20 years, calculated from the census in both years (see appendix IX for breakdown of closeness of fit).<sup>76</sup> The population

74. Counties where population growth or decline, either before or after 1891 affected the category of population density per square mile designated in the key of the map.

	Aberdeen	Caithness	Dunbarton	Fife	Haddington	Linlithgow	Kincardine	Seikirk	Stirling
1861	112.4	60.0	211.5	306.8	140.9	321.8	90.2	39.1	204.0
1891	144.1	54.2	398.4	377.4	140.0	439.7	92.9	103.8	261.9
1911	158.4	46.7	568.4	530.8	161.9	667.4	107.3	92.2	357.2

75. The minimum 2% migrant sample for each sex was greatly exceeded in several samples (see Appendices, appendix IX, p.99). 2% was considered a safe minimum sample for the "boom" samples as in this category not only was the total population largest, but it also had the greatest number of migrants.

76. See Appendices, appendix IX, p.99.

categories therefore have external validation. Thus this remains a judgemental sample, but one held by a known age-structure.

In the northern area of "decline" the percentage of the migrant population sampled in the first sample was already in excess 2%, but the sample was expanded until the second criterion of closeness to the category average was also met. This meant that the percentage of migrants sampled in each region varied. In appendices VIIc and VIId,<sup>77</sup> which list all the places sampled according to the four migrant sample categories, asterisks indicate the original samples. It is clear that the population categories of "boom" and "decline south" were under-represented in the original samples in both the sample years.

When the revised samples were created the percentage of the total migrant population for each category was considered very important and the number of samples less so. In the "declining south" category a very large sample of migrants was taken in 1861<sup>78</sup> but it involved only seven locations, although some were of entire registration districts.<sup>79</sup> These samples fulfilled the criteria of closeness of fit to the category average, but when standard errors were calculated in order to check the validity of the results, the criteria of number of samples as opposed to number

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77. See Appendices, appendix VIIc & d, pp.91-7.

78. The percentage of the migrants sampled 1861 in the "declining south" category was 7.9% for males and 8.25% for females (Appendix XVI).

79. The seven large samples of migrants chosen in 1861 for the "declining south" category can be compared with the nineteen smaller samples used in 1891 (Appendices, appendix VII, pp.83-97)

or percentage of migrants assumed greater importance. The small number of samples meant that differences in the migrant age-structure of the samples became statistically significant.<sup>80</sup>

The population categories were finally computed from information from the two very large sets of migrant samples. The 78 samples taken from the 1891 Enumeration books contained 40,313 migrants which represents 4.3% of the Scottish migrant population in that census. A further 52 samples were taken from the 1861 enumeration, comprising 19,247 migrants, that is 3.1% of the Scottish migrant population. It should however be remembered that the total samples for each year do not contain the correct proportions from each population category.<sup>81</sup>

#### THE FOUR SAMPLE POPULATION CATEGORIES

The population "categories" are described thus because they cannot be called regions, and not all of them are geographical entities.<sup>82</sup> The "decline (north)" category embraces more than just the Highland counties as it includes Kinross, while Bute is omitted. It also included Caithness, Orkney and Shetland. All the counties that border either England or the coast of the Solway Firth are within the "Decline (south)" category, but the counties of Peebles and Selkirk which are part of the present (1990) Borders Region are not. The "Growth" category is the most disparate. The counties which normally comprise the North-east<sup>83</sup> are all included

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80. See Appendices, appendix XII, pp.126-8.

81. See p.128 and appendices, appendix IX, p.99.

82. See map 3.2. p.125.

but so also are six other widely dispersed counties (Ayr, Bute, Clackmannan, Forfar (Angus), Haddington (East Lothian) and Peebles). The "Boom" counties constitute the majority of those in the Central Lowland Belt of Scotland, but the peripheral counties of Ayr, Clackmannan, Haddington (East Lothian) and Kinross are not included. Selkirk is also a boom county.

The "Boom" category

The counties with greatest population expansion (hereafter referred to as the "Boom" category counties) were the ones that produced computation problems. These counties all had population growth in excess of 70% in the fifty year period; indeed in Selkirk, the small population more than doubled during the study period due to the rapid growth of Galashiels.<sup>84</sup> All the counties in the "boom" category except Selkirk had fairly high densities of population (see map 3.3). The proportion of the total Scottish-born population in the "boom" category increased from 44% in 1861 to 60% in 1911.<sup>85</sup> Indeed the total population of this category first exceeded 50% of the total Scottish-born population in 1881.<sup>86</sup> The "boom" counties contain the majority of the Scottish migrant

83. The North-east counties are Aberdeen, Banff, Elgin (Moray), Nairn and Kincardine.

84. See Appendices, appendix 1, pp.56-8, Selkirk.

85. The proportion of the Scottish-born population in the "boom" population category.

Year	Male	Female
1861	44.7	44.3
1911	61.1	59.7

86. The proportion of the Scottish-born population in the "boom" population category in 1881 was 51.2% of males and 50.5% of females.

population and indeed as table 3.3 shows, the volume of migrants doubled. The highest proportion of Scottish migrants in the total Scots population in this category was in 1881 and not in 1911 as might be expected: indeed the proportion was lower in 1911 than in 1861 (table 3.3).<sup>87</sup> Nevertheless, these "boom" counties share of the total Scottish migrant population increased from 58.2% in 1861 to 65.9% in 1911.<sup>88</sup> This was the only category whose share of the total Scottish migrant population rose between the 1861 and 1911, indicating that migrants were increasingly attracted to this region as the study period progressed.

#### The "Growth" Category

The "Growth" category counties may have experienced some periods of decline, but overall the population of these counties increased between 1861 and 1911, albeit by less than 50%. However, their proportion of the total Scottish-born population declined from 29% in 1861 to 24% in 1911.<sup>89</sup> The counties had a very varied population density; at one extreme Clackmannan was as populous as

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87. This proportion, which has been calculated for every population category, is the volume of Scottish migrants outside their county-of-birth, but including those from other counties within the category as a percentage of the total Scottish population in all the counties (see table 3.3).

88. This proportion, which has been calculated for every population category, is the volume of Scottish migrants outside their county-of-birth, but including those from other counties within the category as a percentage of the total Scottish migrant population in all categories.

89. The proportion of the Scottish-born population in the "growth" population category.

Year	Male	Female
1861	28.9	29.0
1911	24.1	25.1

TABLE 3.3.

## THE VOLUME AND PERCENTAGE OF MIGRANTS IN EACH POPULATION CATEGORY

POPULATION CATEGORY	YEAR	MALES			FEMALES		
		Nos.	% of Scots population <sup>a</sup>	% migrants <20 yrs.	Nos.	% of Scots population <sup>a</sup>	% migrants <20 yrs.
Decline (north)							
	1861	32398	13.55	33.52	33685	12.36	30.22
	1871	34154	14.65	33.47	36252	13.71	30.46
	1881	41377	17.63	33.70	42125	16.26	31.35
	1891	42279	18.59	31.14	44376	17.52	29.14
	1891	41987	18.59	31.32	44020	17.50	29.37
	1901	46750	20.92	28.63	49037	19.98	26.93
	1911	47711	22.16	29.13	51524	21.69	26.46
Decline (south)							
	1861	20282	18.84	33.27	22635	18.57	29.19
	1871	18417	17.45	31.01	21574	17.95	27.06
	1881	21932	20.50	33.06	25710	21.44	28.87
	1891	21543	20.87	32.70	26030	22.37	27.13
	1891	21530	20.88	32.77	25991	22.37	27.15
	1901	23018	23.49	31.18	27423	24.79	25.06
	1911	24419	25.41	29.02	29055	27.09	23.50
Growth							
	1861	72035	19.05	30.83	81200	18.99	26.80
	1871	78598	19.21	31.28	92200	19.93	27.09
	1881	87117	19.48	32.06	103011	20.66	27.67
	1891	90936	19.51	31.57	108373	20.75	26.80
	1891	93096	19.89	32.40	110939	21.15	27.59
	1901	100202	20.21	30.41	119521	21.50	25.61
	1911	104823	20.82	29.49	126479	22.22	25.23
Boon							
	1861	169886	29.06	30.02	195918	29.94	26.09
	1871	214777	30.66	29.78	240156	31.36	26.92
	1881	249812	30.13	29.13	281394	31.44	26.17
	1891	289284	29.97	28.77	317897	30.87	26.58
	1891	290643	30.14	29.00	319568	31.05	26.78
	1901	334059	29.24	25.47	362937	30.02	23.44
	1911	353340	27.66	23.89	389609	28.73	21.82

<sup>a</sup> This proportion, which has been calculated for every population category, is the volume of Scottish migrants outside their county-of-birth, but including those from other counties within the category as a percentage of the total Scottish population in all the counties.

There are two estimates for 1891, the first refers to the pre-revision civil county boundary and the second to that post revision.



many "boom" category counties, while Nairn and Peebles had very low densities."° The "growth" counties contained approximately a quarter of the total Scottish migrant population, although this declined from 24.4% in 1861 to 20.5% in 1911. The "growth" category had the second largest migrant population, which continued to increase throughout the period, both in volume and as a proportion of the Scottish population in that category.

#### The two "Declining" Categories

The two "declining" categories experienced a decline in both population size<sup>90</sup> and in the percentage of Scottish migrants attracted to these counties over the period 1861-1911. Clearly they could have been combined as one category, but it was thought to be unwise because the southern counties, despite their falling total populations were still attracting proportionally more migrants than the north (table 3.3). Moreover, the north was distinctive in that it was the only category that was consistently attracting proportionally more male than female migrants. Furthermore, the southern counties were more likely to be affected by the proximity of England than their northern counterparts. The population densities of the two categories were also different. In the north

90. Selected counties in the "growth" category with extreme population densities per square mile in 1891.

Clackmannan	607.2
Nairn	56.2
Peebles	42.5

91. The proportion of the Scottish-born population in the "decline" population categories.

Year	Decline (north)		Decline (south)	
	Male	Female	Male	Female
1861	18.3	18.5	8.2	8.2
1911	10.3	10.5	4.6	4.7

the counties were generally<sup>92</sup> very large and all were very thinly inhabited, particularly Sutherland. Orkney had the highest density in the northern category although even this was relatively low.<sup>93</sup> In contrast the southern counties were much smaller in area and whilst the population densities were still rather low they were nevertheless markedly higher than in the north.<sup>94</sup> The southern counties contained by far the smallest total population of the four population categories. Both the decline categories were rural areas, albeit with some towns.

Although these decline categories share of the total migrant population fell, in the north from 10.5% in 1861 to 8.8% in 1911 and in the south from 6.8% to 4.7% respectively, the volume and proportion of migrants in each category increased over time and this was despite the fact that their populations were decreasing.

It can be seen from this brief analysis of the population categories that their demographic and migrant experience differed markedly, but there were also aspects where they were similar. All the categories experienced an increasing volume of Scottish migrants over time, as is shown in table 3.3. The lowest proportions of migrants were in the "decline (north)" category, but

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92. The only small counties in "decline (north)" category were Kinross, Orkney and Shetland.

93. Selected counties in the "decline (north)" category with extremes in population densities per mile in 1891:-

Orkney	80.9
Sutherland	10.8

94. Selected counties in the "decline (south)" category with extremes in population densities per mile in 1891:-

Roxburgh	80.4
Kirkcudbright	44.4

even there whereas in 1861 one person in eight was a migrant by 1911 it was one in five. All the categories showed a decrease over time in the proportion of children and young people under 20 years in the migrant population, although this was least pronounced in the "growth" category. The discussion will now turn to considering the migrant population and the samples.

#### THE AGE-STRUCTURE OF THE MIGRANT POPULATION CATEGORY SAMPLES

The population categories have been collated in aggregated age-bands in table 3.4. The number of females exceeded males in every category and this was particularly true in the "growth" category. This particular category might be a little extreme<sup>95</sup> but there was always a significant majority of female Scots migrants.

In the age-band classifications of life-time migrants one sex tended to dominate in percentage terms regardless of the census year or population category. Table 3.4 shows that there was generally a greater proportion of males in the migrants under 5 years, and indeed this was always true of migrants under 15 years. Thereafter the domination of one sex was not so marked. Males tended to have greater percentages in the age-bands 15-24 years.<sup>96</sup>

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95. In the "growth" population category in 1891, 57.5% of the migrant sample population was female (table 3.4). This can be compared with 54.4% calculated from Appendices, appendix IX, p.99 (which used the census tabulation) for the proportion of females in the migrant population in the same category and year. Clearly a slightly larger proportion of females had been sampled than males, but as all estimates for the sexes are computed separately it will not affect calculations.

96. Males tended to have greater percentages in the age-bands 15-24 years, except in the "decline (south)" category, or in the "growth" category in 1891.

TABLE 3.4

THE PERCENTAGE OF MALE AND FEMALE MIGRANTS IN SELECTED AGE-BANDS BY  
YEAR AND POPULATION CATEGORY

1861			<5yrs	0-15yrs	15-19yrs	20-24yrs	25-44yrs	45-59yrs	>60yrs
Age-band	Sample size								
<b>BOOM</b>									
Male	3,418		5.4	20.5	8.9	12.3	34.7	15.8	7.8
Female	4,039		4.8	17.0	7.9	11.9	38.8	15.6	8.8
<b>GROWTH</b>									
Male	2,284		5.3	21.6	8.6	11.1	32.0	17.2	9.5
Female	2,587		3.7	18.3	8.9	9.4	35.0	15.6	12.8
<b>DECLINE (NORTH)</b>									
Male	1,681		5.7	23.3	9.6	9.9	32.5	16.0	8.9
Female	1,768		5.7	23.0	8.4	9.2	34.0	15.6	9.8
<b>DECLINE (SOUTH)</b>									
Male	1,602		6.7	23.2	9.4	7.8	33.3	17.4	8.9
Female	1,868		4.7	18.6	9.5	10.9	33.0	15.8	12.2
<b>1891</b>									
<b>BOOM</b>									
Male	5,035		3.9	18.1	10.0	12.4	36.0	16.7	6.8
Female	5,561		3.3	15.4	8.9	12.5	37.4	16.1	9.7
<b>GROWTH</b>									
Male	5,326		5.0	21.5	9.4	8.8	32.4	16.7	11.2
Female	7,214		4.0	16.7	10.3	10.6	33.0	16.5	12.9
<b>DECLINE (NORTH)</b>									
Male	5,531		3.8	20.2	10.3	9.6	31.9	16.9	11.1
Female	6,268		4.0	20.1	9.5	8.7	33.1	16.6	12.0
<b>DECLINE (SOUTH)</b>									
Male	2,438		4.6	21.3	10.1	8.4	33.0	16.5	10.7
Female	2,939		3.5	18.0	9.1	10.0	32.7	17.2	13.0

Females predominated in the 25-44 years age-band, and while this was reversed in the subsequent one (45-60 years), there was again a greater percentage of female migrants in oldest age age-band (60 years and over). However, although the proportions in age-bands differed according to sex, within each sex the age-band percentages in all population categories were remarkably similar and a variation of even four percentage points was uncommon except amongst the oldest. Nevertheless, it was also the case that there were proportionally more male migrants in the younger age-bands than females, which inevitably means that in the life-time population female migrants tended to be older.

However, when one compared the categories over time other patterns in the age-bands emerged. The most obvious was the decline in the percentage of migrants under 5 years, apparent in all categories except "growth". Here the percentage of female children actually increased over time. When all children under 15 years were considered all categories showed a decline in 1891. This meant that the "growth" category must have attracted families with very young migrant children. The decline in the proportion of young migrants could reflect several different scenarios, such as declining fertility, changing migration patterns or changing mortality rates which would be reflected in an ageing migrant population.

The proportion of migrants aged 15-19 years of both sexes increased between the two samples. In 1861 only females in the "decline (south)" category peaked at this age-band, but by 1891 this age-band represented the peak for both sexes in "decline (north) and males in the "decline (south)". This implies either

migrants were moving at a younger age in 1891 in the declining counties, or that there was a movement out of counties in these categories by people in the older age-band, which then inflated the younger one.

Hereafter, the changes in the higher adult age-bands became more complicated and no clear patterns could be discerned, except in the oldest group where improving age-specific mortality probably helped to increase the proportion in this age-band.

In conclusion, it should be noted that when this research was started it was expected that one age-structure would suffice for all counties. This was clearly incorrect and four age-structure categories were created for both sexes and these changed over time. However, some generalised observations about certain age-band patterns can be made. There were a greater proportion of male migrants in the younger age-bands. The decline in national fertility<sup>97</sup> probably accounts for some of the decrease in the proportion of younger migrants in 1891, but improving mortality rates also meant people lived longer, there was an increased proportion of migrants over 60 years. Nevertheless, there was more consistency in the proportion of migrants in each age-band than expected: for example the proportion in the age-band 25-44 years was between 32% and 36% in most categories and the subsequent age-band contained about 16% of migrants in the 1891 samples of both sexes in all categories.

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97. Flinn. *Scottish Population History*. p.337.

## THE STATISTICAL TESTS APPLIED TO THE SAMPLES<sup>o</sup> \*

The Scottish migrant population samples were divided by year of sample and then into four categories of age, place, sex and status.<sup>o</sup> An attempt was made to compare the samples despite their different sizes and in some districts the apparently very different economic bases of the community at the two census years.<sup>o</sup> Statistical tests were used independently on the two censuses

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98. I would like to thank Dr.S.K.Tagg, Dept. of Marketing, University of Strathclyde, for his advice on statistical tests and how to apply them using SPSSx.

99. Age was sub-divided into a further sixteen 5 year age-bands, place into 52 separate sample groups in the 1861 census and 78 in 1891. Sex was split into male and female and status into three categories; single, independent and married. Clearly age and status are not totally independent variables; there are connections in that all young children and most of the population up to 15 years were classified as single and at the other extreme the majority of people over about 35 years were or had been married. Nevertheless, it was hoped that status would begin to explain aspects of age, place and sex.

100. The entire economic structure of places such as Cowdenbeath, Beath, Fife (Rd.410 Ed.4 (1861) & 4-6 sample (1891)), Crieff, Perth (Rd.342 Ed.1-6 (1861) & 1-10 (1891)), Oban, Argyll (Rd.523) Kilmore and Kilbride (Ed.1-4 (1861) & Ed.1-6 & 13 (1891)) and Prestonpans, Haddington (Rd.718)\* altered in the thirty years between the two censuses sampled. Cowdenbeath grew from a small mining settlement to a large town. Crieff and Oban both grew by developing their leisure and retirement potential and providing work for migrant females, and in addition Oban grew as a port with the arrival of the railways. In Prestonpans the fishing industry was replaced by a variety of trades and coal mining increased in importance as an occupation.

\* In the 1891 enumeration of Prestonpans, Haddington (Rd.718 Ed.1-5) did not tally exactly with the stated population of the town in the census, but it was not clear which enumeration schedules should be omitted. Therefore 1175 males and 1091 females were sampled whereas the 1891 census states that the population of the town should be 1150 males and 1074 females.

because the number of places sampled was very different<sup>101</sup> and the results compared to see if the samples were compatible.

The statistical tests were not entirely satisfactory. This was because the variables age and status were linked<sup>102</sup> and the migrant age-structure was known to differ between the two samples from the birth-place tabulations in the census. Moreover, the samples had been deliberately created to conform to the changing migrant age-structure.<sup>103</sup> It was hardly surprising that the statistical tests could measure differences more easily than similarities. It would have required sophisticated mathematical modelling to provide a truly satisfactory test, and this was beyond the capabilities of the author. A Monte Carlo simulation was also possible,<sup>104</sup> but it was not feasible either in terms of computer time or human resources. In this research standard errors have been used to measure the accuracy of estimations of population movement.

The measure of standard errors used was a very rigorous test, in that it used the "worse case" scenario. This was based on the expectation that repeated sampling procedures within population categories would produce sampling errors that would go up or down at random in every age-band. A detailed description of the method

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101. The two samples were analysed separately statistically using SPSS-X, applying first bi-variate, and then multi-variate procedures. The bi-variate procedures included Breakdown and Crosstabs and their associated statistical tests. The multi-variate tests were Hierarchical Log Linear and Conditional Gamma. *SPSS-X Users Guide*, (Chicago, 1988, 3rd.Edition).

102. See fn.99.

103. See pp.127-9.

104. A Monte Carlo simulation is described in Hammond and McCullagh. *Quantitative Techniques in Geography*, pp.294-303.



can be found in appendix XII,<sup>105</sup> but here it should be noted that the variation in measurements of population movement using this method will over-estimate the likely variability in losses considerably.

An attempt was made to explain the age-structure of the population categories using Pearson correlations. This test had to be treated with caution because it assumed the same degree of importance for every sample, whereas the samples did in fact vary considerably in size. Moreover, the number of samples was critical and in 1861 both the "declining" population categories had rather too few samples. Therefore only the more statistically reliable categories will be considered.<sup>106</sup>

#### THE RELATIONSHIP BETWEEN AGE, PLACE AND SEX OF SCOTTISH MIGRANTS IN THE SAMPLE POPULATIONS USING PEARSONS' CORRELATION

Pearson's correlation<sup>107</sup> was applied to each sample year and population category, and each was correlated by age-band (5 year), place (sample) and sex. The purpose was to discover if there was a common pattern of age distribution which could explain migration

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105. See Appendices, appendix XII, pp.126-9.

106. See pp.128-9.

107. A correlation measures the mutual relationship between two or more variables. It measures statistically the interdependence of age and sex in all the sample places within a population category. The baseline for the correlations are 32 age-bands (16 for each sex), every age-band being compared with the remaining 31.

patterns. A positive correlation indicates that the two age-bands are in the same place<sup>108</sup> and a negative result the reverse.

All the correlations produced a very distinctive and similar pattern, an example of which is shown in diagram 3.1.<sup>109</sup> It is now proposed to consider the age, place and sex of life-time migrants in greater detail. In the following discussion it should be assumed that the argument refers to both years and all the categories unless it is stated to the contrary.

### YOUNG MIGRANTS

Positive correlations in the younger age-bands reflect migrant children within a family groups. In the "boom" and "growth"

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108. Place in this context refers to the location sampled in the enumeration books. The Pearson's correlations are measuring statistically the likelihood of two age-bands occurring in the same place. It is statistically significant whether the results are positive or negative. Non-significant results are shown by a blank.

109. This example from the "Growth" category in 1861 shows a typical pattern, there being positive correlations with similar age-bands which become negative as the age-bands differed. This occurred for both males and females. In diagram 3.1 it can be seen that males of 5-9 years correlate positively with all males aged up to 19 years. These were young migrants that were probably part of a family unit, but there was negative correlation with those aged 30-44 years and 50-59 years. When males were correlated with females similar age-bands positively correlated and again as disparity in age increased, it became negative. In this case positive correlations indicate the presence of children within a family, and older positive correlations married couples. However, there are also bands of positive correlations which bisect the pattern described. This male/female positive correlation is between generations. In the example, males aged 65-9 years correlate with males 35-9 years and presumably represent fathers and sons. Moreover, females aged 20-24 years correlate with males aged 40-44 and 55-9 years, and also those over 75 years. These males could have been fathers or grand-fathers if the female is at home or even employers if she is in service.

DIAGRAM 3.1

THE PEARSONS CORRELATION OF 1861 SAMPLES IN THE "GROWTH" CATEGORY BY AGE AND SEX

	MALES														FEMALES															
years	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<		
	1	1	2	2	3	3	4	4	5	5	6	6	7	7	1	1	2	2	3	3	4	4	5	5	6	6	7	7		
	5	0	5	0	5	0	5	0	5	0	5	0	5	5	5	0	5	0	5	0	5	0	5	0	5	0	5	5		
<5																														
M <10	+																													
A <15	+	+																												
L <20	+	+																												
E <25																														
S <30			-	-	+																									
<35			-	-	-	+																								
I <40			-	-	-																									
N <45			-	-	-		+																							
<50			-			+																								
Y <55			-	-	-		+	+																						
E <60			-	-																										
A <65					-	-																								
R <70			-	-	-		+	+	+	+																				
S <75			-				+		+	+	+																			
>75													+																	
F <5	+	+	+	+			-	-																						
E <10	+	+	+	+			-	-	-					+																
M <15	+	+	+	+			-	-	-					+	+															
A <20	+	+	+			-	-	-					+	+																
L <25							+		+				+																	
E <30							+					+												+						
S <35			-	-	-		+	+																-	-		+			
<40			-	-	-		+	+	+															-	-	-				
I <45			-	-	-		+	+	+															-	-	-		+		
N <50							+		+																					
<55			-	-			+		+	+														-	-	-				
Y <60			-	-	-		+		+															-	-		+	+	+	
E <65			-	-	-	-	+		+															-	-	-	+	+	+	+
A <70										+		+												-	-	+				
R <75			-	-	-		+					+	+	-	-													+		
S >75							-					+																+		
years	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<	<		
	1	1	2	2	3	3	4	4	5	5	6	6	7	7	1	1	2	2	3	3	4	4	5	5	6	6	7	7		
	5	0	5	0	5	0	5	0	5	0	5	0	5	5	5	0	5	0	5	0	5	0	5	0	5	0	5	5		
	MALES														FEMALES															

Key  
 + positive correlation  
 - negative correlation  
 Blank no correlation

categories there were strong positive correlations in the young migrant age-bands between sexes and in both years, and this was also found, albeit to a lesser extent in the "boom" category. This suggests that within the population categories that were growing (boom and growth) families were more concentrated in certain locations due to greater opportunities.

The "growth" category in 1861 was the only one where male and female migrants correlated positively until 20 years but this had changed by 1891 when females showed some negative correlations with males of the same age or younger. This meant that by 1891 females aged 15-19 years were not living in the same places as people with younger children, a situation that also occurred for both sexes and sample years in the "boom" category. This could imply three different scenarios as time progressed: firstly more young people aged 15-19 years could be leaving the family home; secondly families with young adults were moving as family units to places where there were less migrants with young children; and thirdly the places where migrant families with young adult siblings lived were long established settlements and were no longer attracting families with young migrant children.

#### ADULT MIGRANTS OVER 20 YEARS OLD.

It has already been noted that young adult female migrants correlated negatively with migrant children, as can be seen in diagram 3.1 and this pattern is typical of the age-band 20-24 years in all the categories. A negative correlation means that these young adult migrants were definitely not in the same places as

younger migrants. Moreover, migrants did not provide many correlations within their peer groups of either sex. This is possibly because these young male and female adults were not necessarily in the same sample places as each other. Although many migrants of both sexes were now of independent status or had moved as families to a place where most members could get employment (such as coal mining villages for males),<sup>110</sup> districts which could offer one sex work did not necessarily have any for the other. An example of this is in Glasgow (6) in 1891, where there were 475 female migrants, but only 99 males.<sup>111</sup> Moreover, 54% (256) of the migrant females in this district were in the age-bands 20-29 years, and most were employed in some form of domestic service,<sup>112</sup> whereas only 18% (18) of the male migrants were in the same age-band. This lack of correlation between young adult migrants is therefore probably in part a product of the sampling system used in urban areas; a wider sample might have revealed more correlations. Nevertheless, there was probably a genuine sex bias in some villages due to work availability. Mining villages in particular offered very little employment for females. In Hamilton Palace Colliery Row in 1891 there were four times as many males as females aged between 15-24 years.<sup>113</sup>

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110. This family of males was typical of many families able to stay together because they were all of the same sex. The only adult female, a daughter aged 20 years, became the housekeeper. Larkhall, Lanark, 1891 Rd.638-1 (Dalserf), Ed.4, p.18, sch.75.

111. Glasgow (6) 1891 (Rd.646-3, (Partick) Ed.45)

112. In this context domestic service includes cooks, maids, as well as governesses and nurses all of whom were employed by these households.

113. Hamilton Palace Colliery Row, Lanark, 1891. Bothwell Rd.625-1 Ed.1 (part).

Males did not correlate positively with young females after childhood until the age-bands which probably represent the age of marriage.<sup>114</sup> There are relatively few positive correlations between the age-bands that could be interpreted as parents with children considering that table 3.4 showed that there must have been many families with migrant children.<sup>115</sup> Perhaps one should therefore question whether the migrant children and migrant adults were necessarily part of the same family unit. It is also possible that the parental age-bands involved were so wide that no one age-band became significant. Moreover, it was not always the case that both parents were migrants, as one could have been native-born or an immigrant, both of which have been excluded from these calculations. Indeed the far fewer elderly migrants make a few positive grand-parent child correlations possible.

The lack of adult positive correlations is confusing. Clearly positive correlation should be expected between adults of roughly the same age, due to marriage, but there are negative correlations of both sexes with migrant children which suggest that adults are not in the same places as the children. This may mean that many of

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114. See Diagram 3.1 p.143, migrant males aged 25-29 years exhibit a positive correlation with migrant females aged 10-24 years. See also Flinn. *Scottish Population History*, pp.325-7. (Source Census). In 1891 46.4% of males aged 25-29 years, and 23.6% females aged 20-24 years were married. The percentage for females is much lower partly because they are younger, but the percentage of males in this younger age-band even was less (13.4%), no doubt because males tended to marry later than females, and in total a greater percentage of males than females married, presumably because there more females in Scotland. However, it should be noted that these percentages refer to the entire Scottish population, not just migrants.

115. See Table 3.4, p.136.

the adult migrants are not recent migrants and therefore have native-born children. Hence the lack of positive correlation with migrant children who come from different families, perhaps those of immigrants. Indeed in the West of Scotland many immigrants born in Ireland had children who were born in Scotland. These families were often very mobile and although this was not quantified when sampling the enumeration books, the impression in both Dunbarton<sup>116</sup> and Motherwell<sup>117</sup> was that many of the Scottish migrant children were of Irish parentage. For example in Dunbarton a family with Irish parents had five Wigtown-born children.<sup>118</sup> Research by Collins<sup>119</sup> and Handley<sup>120</sup> has shown that after the famine period the nature of Irish immigration changed, there being less families with young children and far more young adults, which would mean that Irish immigrants would be more likely to have Scottish-born children. This is not to say that there was no movement of Scottish families with children; indeed there is plenty of evidence to the contrary. For example, three generations of a family moved from Shetland to Leith, Edinburgh (perhaps not

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116. Dunbarton, Dunbarton, (1861, Rd.496, Ed.1,4,5,8) (1891, Rd.496 Ed.3,12,16).

117. Motherwell, Dalziel, Lanark, 1891, Rd.639, Ed.2,4,9.

118. Dunbarton, Dunbarton, 1861, Rd.496, Ed.1, p.9, sch.48. 25 High Street, (3 rooms with windows)

119. Collins, B. in paper 'The Origins of Irish Immigration to Scotland in the nineteenth and early twentieth centuries', presented in the Scottish Historical Studies Seminar Series, 1989-1990, 'Irish Immigrants and Scottish Society', in the Department of History, University of Strathclyde on the 7th November 1989.

120. Handley, J.E. *The Irish in Modern Scotland*, (Cork University Press, Cork, 1947). pp.242-9 and 304-17.

together), were all migrants and their ages ranged from 9 months to 74 years.<sup>121</sup>

#### MATURE ADULT MIGRANTS

Many migrants over 45 years were still economically active but less encumbered by young children. There were still positive correlations between contemporaries of the opposite sex reflecting marriage, but less expected was the correlation between middle-aged migrants and much older migrants, presumably their parents.

Elderly migrants formed a small but increasing percentage of the total migrant population.<sup>122</sup> Clearly it is impossible to discover how long these people had been away from their birthplace. There are many correlations between the sexes of these elderly migrants of near contemporary age, which suggests that many were still married or were relatives living together. Indeed by 1891 places such as parts of Crieff,<sup>123</sup> Nairn,<sup>124</sup> North Berwick,<sup>125</sup> Oban<sup>126</sup> and Rothesay<sup>127</sup> had become popular places for retirement.

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121. The head of this Shetland-born family, a married woman, was born in Brassa, her four children in Lerwick and her mother-in-law in Walls.

Leith, Edinburgh, 1861, Rd.692-2, Ed.36, p.3, sch.16.  
78 Shore Street (2 rooms with windows)

122. See Table 3.4, p.136.

123. Crieff, Perth 1891 (Rd.342 Ed.1-6 (1861) & Ed.1-10 (1891)).

124. Nairn, Nairn 1891 (Rd.123 Ed.1-10).

125. North Berwick, Haddington 1891 (Rd.713 Ed.1,2 & pt).

126. Oban, Argyll (Rd.523) Kilmore and Kilbride (Ed.1-4 (1861) & Ed.1-6 & 13 (1891)).

127. Rothesay, Bute 1891 (Rd.558 Ed.1-23 odd nos. & 22).



There are however also positive correlations between these old people, and younger mature migrants,<sup>128</sup> as already noted, which suggests some people may have migrated in old age, when no longer able to support themselves. If these old people had migrated younger their children would have been native-born and no correlation between the two generations would have been possible. It therefore seems likely that there were some very old people migrating.<sup>129</sup> This suggests that migrants did not necessarily abrogate responsibility for their aged parents and while, as Baines contends care of aged parents may not have hampered the decision to migrate,<sup>130</sup> elderly parents may well have followed on, that is migrated later, if they needed sibling help.

#### CONCLUSION

In concluding this section on the Scottish migrant samples, it should be noted that this laborious sampling process has provided considerable information on migrants and has also enabled migrant age-structures to be created. A current migrant age-structure can now be predicted with a fair degree of accuracy by the computer model, and eliminate the need to rely on an estimate, as used in the English study, which would mean that other measurements such as emigration would then dependent on the

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128. It should also be noted that there were relatively few elderly migrants and therefore correlations with migrants in younger age-bands were more likely.

129. See p.148, fn.121, although one cannot be absolutely sure that this family all migrated together the Shetland birthplace of the baby suggests that it might be a very recent move.

130. Baines. *Migration in a Mature Economy*. p.101.

accuracy of that estimate. It can therefore be concluded that the Scottish migrant samples will avoid one source of potential error when estimating population movement.

## CHAPTER IV

### METHODOLOGY: ASSUMPTIONS USED IN ESTIMATING POPULATION MOVEMENT

#### INTRODUCTION

This chapter will consider the premises inherent in the method adopted to estimate population movement, but it will not consider the actual methodology in detail, this will be confined to appendix XI.<sup>1</sup> The limitations of the data sources have already been discussed in chapter II,<sup>2</sup> and the migrant samples and their value were analysed in the subsequent chapter (III).<sup>3</sup> This chapter (IV) will be divided into two parts. The first, will examine the assumptions made in order to process the data, these involve the data sources, and then the second part considers the strengths and limitations of the final computer estimations of population movement.

#### 1. ASSUMPTIONS MADE CONCERNING THE DATA SOURCES

This discussion is in two parts. It will consider first the published sources, that is the census tabulations, and those derived from the detailed annual reports. The second part will discuss the migrant samples which were derived from the enumeration books. These samples have enabled both the migrant and the native age-structures to be calculated and, as already noted, this has

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1. See Appendices, appendix XI, pp.101-25.

2. See chapter II, pp.43-97.

3. See chapter III, pp.98-150.

radically altered the method of estimating population movement from that of Baines.<sup>4</sup>

## THE CENSUS

In the analysis of the available material, mention has already been made of the manual conversion of the tallies from Registration to Civil counties, of adjustments necessary to resolve boundary discrepancies and the risks of spurious migration.<sup>5</sup> However, another problem arises with the census in that the county-of-birth and age-structure of the population tallies are recorded in early April, whereas the births and deaths are tabulated annually from January to December. As the published Census was the major source of information, it was decided to convert other source material from the Detailed Annual Reports to conform to the April-to-March year.

## THE DETAILED ANNUAL REPORTS

The Detailed Annual Reports provided information on both births and age-specific mortality using the county-of-residence framework.<sup>6</sup> The original source material was recorded in registration not civil counties,<sup>7</sup> and in consequence it was necessary to apply an arithmetic conversion of vital data from the

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4. See chapter III, pp.98-103.

5. See chapter II, pp.50-9 and 67-91.

6. For further information see chapter II, pp.65-6.

7. The reasons for standardising all data to the civil county framework are considered in chapter II, pp.67-86.

registration county framework to that of the civil counties.<sup>8</sup> It has therefore been assumed that incidence of births and deaths occurred evenly throughout any county, although this clearly unrealistic and the differences between urban and rural districts might have been quite large.

## BIRTHS

Births were recorded by calendar year and the April to March year was computed using 3/4 of the present year's births and 1/4 of the subsequent one. Clearly this process slightly modifies the effects of abnormally high or low years.

In 1911 the format of the Detailed Annual Report was completely changed and did not provide data on births in a usable form and it proved impossible to obtain the necessary information elsewhere. As only the first 3 months of 1911 were required in order to create the April 1910 to March 1911 year, 1/4 of the births tabulation for 1910 was added instead of 1/4 of 1911 in order to provide data for the year April 1910-March 1911.

As has already been noted, all babies are natives at birth, even if their parents are migrants or immigrants.<sup>9</sup> This substantially eases the application of fertility data.

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8. As the counties of Lanark and Renfrew were combined to avoid the risk of spurious migration, the vital data for these counties was also merged. See chapter II, p.78 for further details and Appendices, appendix I, pp.37-40 or 50-1, Lanark or Renfrew respectively.

9. See chapter II, p.45.

## AGE-SPECIFIC MORTALITY

The problems already mentioned with regard to births, that is the April to March year, the differing county frameworks, and lack of 1911 data also affected age-specific mortality, and were resolved in a similar manner to that described for births. There were however far more significant conceptual problems associated with the application of age-specific mortality data.<sup>10</sup> The age-structure of the population was divided into sixteen five year age-bands except for those over 75 years. Initially the age-specific mortality was also divided into sixteen age-bands. However, this ignored the essentially dynamic nature of demography. For example the highest mortality was in the youngest and the oldest age-groups, but the youngest age-group was difficult to identify. Was it the existing 0-4 year olds or those to be born in the next five years? If one shifted the ages along one band to accommodate both the newly born and the 0-4 year olds, the age-specific mortality was nowhere near high enough for the final age-band which now included both those between 70-74 years as well as those over 75 years.

Clearly this was not a satisfactory solution, but it was also necessary to keep the problem in perspective, as the object was not to reproduce the entire demographic regime, but to measure population movement. Clearly a solution needed to be found that was a compromise between the kind of gross inaccuracy cited above and potentially time consuming work that might achieve a high degree of precision for mortality, but very little gain of accuracy in

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10. See chapter II, pp.65-6.

estimating migration. For example in theory it should be possible to calculate all the data in one year intervals. This would have been very laborious, involving enormous amounts of computer time and space. Moreover, the calculations would still have been potentially erroneous, because two of the data sources, the county-of-residence by county-of-birth tabulation and the age-structure of the population were only published decennially.

The solution finally adopted was to process the population under 5 years on a one year interval basis. For those over 5 years old less precision was required, as age-specific mortality did not fluctuate so much (indeed age-specific mortality was not even provided in greater detail than five year age-bands for those over five years old). These older people (over 5 years old) were computed in five year periods. These two different procedures will now be considered along with the problem posed by those children whose 5th birthday occurred during a five year period and were not entirely "caught" by either method.

#### AGE-SPECIFIC MORTALITY FOR THE POPULATION LESS THAN 5 YEARS

In the published census the age-structure of the total population was tabulated by one year intervals for the under 5 year olds, and migrant and native age-structure could therefore be calculated. The population patterns of young children could be mirrored fairly accurately by processing the data annually.

At the start of each year the age of the existing child migrant population was increased by a year. Births were added to each county. These were assumed to remain natives of their county

for the first three months and had the 3 month age-specific mortality for that county and year deducted from them. As has already been argued, there were probably very few migrants that young, although any that moved into a "Boom" category county<sup>11</sup> would have a higher survival rate in this model than would have been the case in reality, as the age-specific mortality, in the "boom" category counties, was particularly high in the less-than-3 months age-band compared with the subsequent 9 months.<sup>12</sup> This high young infant mortality was presumably a reflection of considerable post-natal mortality. There is no detailed analysis of the extent to which this occurred in Scotland and whilst acknowledging that the problem exists it has not been compensated for.

The age-structure of the migrant population under five years old in a county-of-residence was assumed to remain constant throughout the ten year period. A migrant age-structure was applied for those migrants over 3 months and where there was a shortfall in the migrant population these were assumed to be current. In the census year the migrant age-structure ratios were applied to all migrant populations. The number of migrants in each county-of-residence from each county-of-birth was assumed to remain the same for the subsequent decade, although the age of existing migrants was increased every year in the computer model in order to mirror reality. For migrants under five years of age this means that the

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11. There is an over-simplification of the mortality situation: certain "growth" category counties such as Forfar (Angus) also had high mortality rates.

12. A new born baby that was a native of a "boom" population category county and moved to a different category of county experienced the reverse of the situation described in the text.



migrant population was re-created every year. Thus the current migrant age-structure was partly a result of the age-specific mortality of the previous year and of the original age-structure created by the migrant ratios for the previous census.<sup>13</sup> These current migrants were then deducted from the native population of their county-of-birth, and the age-specific mortality applied to all populations (migrant and native) in the county-of-residence. The results of these computations were then carried forward to form the basis of the calculations for the subsequent year.

#### AGE-SPECIFIC MORTALITY FOR THE POPULATION AGED OVER 5 YEARS

Age-specific mortality was applied to the over 5 year olds in five year age-bands as originally planned using similar methods to those described above. The results were not entirely satisfactory as there tended to be some bunching of ages, particularly in the older groups. This might have been caused by people generalising their ages in the census enumeration or when registering deaths, or even by mistakes in both. Since many people had been born before births were officially recorded this problem was inevitable. Indeed evidence of this can be seen in Appendix XIII,<sup>14</sup> which charts the age-structure of the Scottish-born population both natives and

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13. In the census year the migrant age-structure ratios were applied to all migrant populations. The number of migrants in each county-of-residence from each county-of-birth was assumed to remain the same for the subsequent decade, although the age of existing migrants was increasing every year in the computer model in order to mirror reality. For migrants under five years of age this means that the migrant population was recreated every year.

14. See Appendices, appendix XIII, pp.130-6.

migrants. The charts provide evidence of bunching in the age-bands 35-44, 45-54 and 55-64 years in both sexes.<sup>15</sup>

#### THE AGE-BAND REACHING THEIR FIFTH BIRTHDAY DURING THE FIVE YEAR PERIOD

Clearly the methods adopted concerning age-specific mortality produce a problem of linking the system of yearly estimates for the under 5 year olds to the five year system for those over 5 years. This meant that every year a certain proportion of the under 5 year olds turned 5 years and were not caught until the next five year period began. These children had all had at least one year of age-specific mortality applied to them and for the oldest it had been applied every year, but most within this age-group would not have had the correct number of deaths applied. However, the age-band 5-9 years has a low age-specific mortality (in many counties the lowest of any age-band) and the error is therefore minimised. A special check was made to see if this 5-9 years age-group contained too many children, as a result of too few deaths being applied. But in fact the age-structure of the total population at the end of a five year period, when this group were finally incorporated back into the system, always appeared logical.<sup>16</sup> Furthermore, the fact that

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15. See fn.14. In each group of age-bands the two age-bands seem closer together than would be expected in a logical age-structure.

16. A visual check was made to ensure that the 5 to 9 years age-band was not too large in numbers, as a result of having rather less than the correct amount of age-specific mortality applied to it and thus distorting the data. The age-structure of the child population is that of a gradual decrease in numbers with age, which is caused by mortality and should be expected. However, this pattern is complicated by a decline over time in infant mortality coupled with declining fertility in proportion to the total population. Furthermore, out-migration and emigration affect the

the run is only from census to census means that errors are not cumulative in the long term.

It must be remembered that this model has not altered the total number of deaths in any way, but rather has adjusted their distribution within age-groups in order to mirror more accurately a dynamic situation.

#### THE MIGRANT AGE-STRUCTURES DERIVED FROM THE SAMPLES

The migrant samples were used to expand the information in the birthplace tabulation in the census by providing more detailed information on the age and sex of migrants. This information was also used to calculate current migration. The samples were therefore critical to the estimations of population movement, for which the recording of age and sex was necessary. It has already been noted that the migrant samples have external validation, as they have been "held" by the above and below 20 years tabulations provided in the original census.<sup>17</sup> This means that the migrant age-structure for the under 20 year olds applies to only four age-

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numbers of children in any age-band. Checks were made for every estimated census of the largest population of both sexes, invariably the native-born. In these numbers in the 5 to 9 age-band exceeded those in the preceding age-band (0 to 4 years) in a total of 16 cases out of 320 age-structures checked. However, there were also 35 cases where the 5 to 9 age-band had lower numbers than the subsequent age-band (10 to 14 years), i.e. a result which could not have been affected by the mortality calculations. This check was applied both to the data estimating emigration and to that used for current migration. Moreover, when the young were aggregated by year, age-band and sex, the total number in each age-band declined with increasing age as would be expected. This evidence suggests that the adjustments made to the data in this study in order to accommodate problems of age-specific mortality do not seriously affect results.

17. See Appendices, appendix IX, p.99.

bands of the total migrants in that category and for those over 20 years twelve age-bands are applied. The breakdown of the population by sex into above and below 20 years means that the sixteen age-bands do not have to be applied to the whole population at the start, as the above and below 20 years groups can be analysed separately. The migrant age-structure is also "held" during computation by the published age-structure of the population in the census.<sup>18</sup>

#### THE RECORDING AND PROCESSING OF AGE-STRUCTURE OF THE MIGRANT POPULATION

The ages of migrants were recorded by sex in sixteen five-year age-bands. The actual age was noted enabling the under 5 year olds to be sub-divided by year and those less than a year by month.

As the age-structures for 1861 and 1891 differed, an estimated migrant age-structure was computed for the censuses 1871 and 1881 and it was also projected on to 1901 and 1911 for both the sixteen five year age-bands and the one year bands for those under 5 years. This projection of the migrant data was not ideal; it would have been much more satisfactory if actual numbers could have been obtained for 1911, but as it was impossible to refer to the Enumeration Books after 1891 a more accurate migrant age-structure could not therefore be produced. It is possible that the age-structure of the migrant population in 1861 was exceptional; indeed research by Anderson<sup>19</sup> suggests that population movement in the

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18. See chapter III, p.101, fn.9.

19. M. Anderson, in a paper presented to the Scottish Economic and Social History Society in Dundee on 26th. November 1988.

previous decade was unusually large. A second scenario has therefore been considered in which the age-structure of the migrant population did not change after 1891. This alternative migrant age-structure has been used to compare the results with those achieved by projecting the age-structure.

With regard to those migrants that were less than a year old, the samples were small and there did not appear to be significant differences between the two sample years, the population categories or the sexes. Moreover, very few migrant babies were less than three months old. This was not surprising, as even if a baby migrated on its day of birth, the chance of it being enumerated within three months are low. It can however be argued that the number of very young migrants would probably increase steadily after the first few months of life.<sup>20</sup> This is an important argument as it has affected the approach adopted on age-specific mortality for very young migrants.

The migrant age-structure can be computed by selecting the correct year and category of age-structure ratios calculated from the samples. This ratio is applied to the migrant population in the county-of-residence by county-of-birth tabulation, which already

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20. A. Finlay (Applied Population Research Unit, Geography Dept. University of Glasgow, 23rd. October 1989), has suggested that the youngest migrants might have been even younger than has been allowed for in this research. In studies of female married migrants in Europe they have been recorded returning to their parents' home to have a baby. After giving birth the mother and child would have returned to the father and by this method many very young migrants are created. No evidence of this was found whilst taking the Scottish migrant samples, although whilst in the family home the grandparents, mother and native-born young child would not necessarily attract a researcher's attention.

lists the county-of-birth of all migrant and immigrant groups<sup>21</sup> resident in a county by sex and two age-bands. It is assumed that all migrants conform to the migrant age-structure of their county-of-residence once they leave their county-of-birth. This is not unreasonable, as a migrant in a textile mill is likely to experience very different health hazards to those in farm work or general labouring. However, this assumption implies that long distance migrants may well have a very different age-structure from those migrants who moved to counties adjoining their county-of-birth. This also means that the migrant age-structure of two adjacent counties-of-birth can be very different despite their being in the same population category when considered as counties-of-residence. This is because out-migrants are being attracted to counties-of-residence in differing migrant age-structure categories. In parts of Scotland where several adjacent counties are in different population categories the current migrant age-structure of each county is likely to be very different.

As already stated the age-structure of the county-of-residence by county-of-birth tabulation has been expanded from two to sixteen age-bands. The implications for the Scottish population are shown graphically Appendix XIII.<sup>22</sup> This is the revised census of the

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21. No accurate breakdown has been attempted of the age-structure of immigrant groups, which in this context includes English and Irish born. This study is not intended to provide detailed information on these groups and therefore the same age-structure has been assumed as for Scottish migrants. This assumption may not be totally valid and more work is required on the age-structure of immigrant groups.

22. See Appendices, appendix XIII, pp.130-36.

Scots-born population only, an aggregated version of the original data.

It has already been stressed that as calculations are only made from census to census there is the advantage that errors are not cumulative, but there is also a disadvantage in that long term changes in the migrant age-structure of certain counties are not necessarily carried across censuses. The standardised age-structure categories recreate the same ratios from the migrant population of every county-of-birth. A county-of-birth with an exceptionally large outflow of current migrants in one decade would subsequently have an ageing migrant population if this outflow was not continued. It is recognised that this problem probably does exist, but in the Scottish context it is somewhat ameliorated by the fact that the birthplace tabulation is in two age-bands, that is above and below twenty years. An ageing migrant population would have relatively few young migrants in a census, and the number would not have increased ten years later. For older migrants this ageing problem would mean that more migrants would die than the model predicts, and the current migrant population would be underestimated.

#### THE AGE-STRUCTURE OF THE NATIVE-BORN RESIDENTS

It has proved possible to establish the native-born age-structure of a county by deducting the aggregate outsider age-structure (migrants and immigrants) from the total county age-structure derived from the census. As has already been noted, new-born babies are by definition natives even if their parents are

migrants or immigrants and for the purposes of this analysis they are not considered capable of becoming migrants until they are at least three months old.<sup>23</sup>

#### METHOD OF ESTIMATING POPULATION MOVEMENT

This section will describe how the basic measures of population movement are calculated. It will not consider the computer programming techniques or the checking procedures which are described in appendix XI.<sup>24</sup> The degree of confidence that can be applied to the results is shown through the effects of applying standard errors to the data.<sup>25</sup>

The following is a brief summary of the method used so that it is not necessary for all readers to study the programming techniques. The migrant age-structure ratios are applied to the county-of-residence by county-of-birth tabulations for all censuses. It is assumed that the actual number of migrants and the migrant age-structure for each county-of-residence remain the same for the ten years after the census to which it was applied. This is important because as already noted the migrant age-structure for children under 5 years has to be created every year and for those over 5 every five years. The current migrant age-structure in the model is the difference between the newly applied migrant age-structure and the previous one (with the correct amendments for age applied). The previous migrant population will have had age-

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23. See p.152.

24. See Appendices, appendix XI, pp.101-25.

25. See Appendices, appendix XII, pp.126-9.



specific mortality applied in exactly the same proportion as the native population. This computer model therefore predicts the maximum population for the next census and the difference between this prediction and the actual census represents emigration and immigration. This model does not predict the current migrant population, but rather creates a hypothetical one from the ratios of the migrant age-structure which it is hoped bears some relation to reality. This hypothetical current migrant population and the life-time migrant population have had age-specific mortality applied to them.

It has already been noted that although the correct total age-specific mortality has been applied to every county-of-residence, children between 5-9 years have had slightly less than their correct number of deaths applied<sup>26</sup> and consequently all other age-bands must have had slightly above their allocation. It has been stressed that as age-specific mortality is low in this age-band the consequences are not likely to be serious. Minor errors that do occur probably result in slightly fewer current migrants being estimated in the age-band 5-9 years as less migrants and natives will die. This will mean that slightly too many emigrants in this age-band will be predicted but in all other age-bands a very slight reduction will occur. However, this will not have any overall affect on the aggregate estimations of emigration by county-of-birth.

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26. See pp.157-8.

This system of measuring both migration and emigration is net of returns. A migrant that emigrates, but is replaced by a current migrant in the same age-band from the same county-of-birth will not show up in the current migrant data, whereas the emigrant will appear as a loss from the county-of-birth and not from the county-of-residence. Moreover, when the data is aggregated a returning emigrant or migrant cancels out the effect of a new emigrant or current migrant despite the fact that the returning person is probably older. This means that one should not expect to find evidence of much mobility in older age-bands, even though it is quite possible that the elderly were continuing to migrate albeit in relatively small numbers.

It should be noted that whether the results are for current migration or emigration, the age-band of movement has errors contained within it. The computer model predicts the number in each age-band at the subsequent census. The number in each age-band that have moved is the difference between the actual numbers in the subsequent census and the number predicted by the model. This method of estimating both current migration and emigration therefore calculates the age at moving as the age they would have been if they had remained within either their county-of-birth (current migration) or Scotland (emigration). Clearly because measurement is over a decade, some 9 year olds could have migrated at less than a year and some 24 year olds at 15 years. Nevertheless, it should be noted that whereas for children less than 5 years old, the numbers stated represent the absolute minimum that could have left, for all other age-bands, some of their number

should probably be incorporated in the previous age-band. This problem, together with already mentioned problems of age-bunching, probably accounts for many of the anomalies in estimates for older age-bands.

The problem of the actual age of leaving the county-of-birth has been reduced by recalculating the data. It is assumed that half the population of most age-bands moved five years earlier than estimated by the model. This assumption is probably not fully justified, as movement did not occur uniformly but was spasmodic. With regard to emigration, certain years in each decade are known to have been peak or slump years from the evidence of passenger lists.<sup>27</sup> However, such detailed information is not available for current migration. Nevertheless, despite these reservations, this method of measuring movement permits a more accurate estimate of the actual age-band when people leave, rather than just their age at the end of the decade after they had departed. In the county-of-birth estimates for both current migration and emigration,<sup>28</sup> it has been assumed that in any age-band, excluding those less than 5 years and those over 75 years, half the people recorded as moving went when they were still in the previous age-band. This age adjustment has therefore been made to the number of migrants and emigrants in each county. Children under 5 years, as already argued, were already correctly recorded for the second five year period of the decade, but half the previous 5-9 years age-band

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27. The spasmodic nature of emigration can be seen in the table of annual overseas emigration in Flinn, *Scottish Population History*. Table 6.1.4. pp.446-7.

28. These will be considered in more detail subsequently.

needed to be added to account for the first five years. These adjustments assume that the population recorded in any age-band was equally likely to move in the first or second five year period of a decade, and that the fact they were 5 years younger in the first five year period made no difference to their propensity to move. The age-band over 75 years was treated separately as it could not be assumed that everybody in this age-band would have been below 75 years five years earlier. Therefore for this age-band only a quarter of the population were adjusted by five years. This factor cannot be supported by evidence but if it was increased significantly more then the age-band 70-74 years became too large in relation to nearby age-bands. It should be noted that these adjustments make no difference to the total population loss from a county.

The risks attached to projecting the migrant age-structure beyond 1891 have already been considered.<sup>29</sup> The computer model was therefore re-run to see the effects of using the 1891 migrant age-structure ratios, rather than the projected ratios, for the census tabulations of 1901 and 1911. The results tabulated in appendix XIV<sup>30</sup> suggest that the different migrant age-structure ratios made absolutely no difference to the 1891-1901 aggregated percentages for both current migrants and emigrants and only a slight difference to the aggregate figures for 1901-1911. However, within certain age-bands it did make significant differences to the number of people leaving, and for that reason a second graph of the

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29. See p.160.

30. See Appendices, appendix XIV. pp.137-41.

estimated losses for each category of birth in the decade 1901-1911 has been provided.

#### STANDARD ERRORS

The value of calculations, whether they be of current migration or emigration, are only as good as the estimates themselves. Methods of checking the data are discussed in appendix XI,<sup>31</sup> and estimates of total emigration can also be compared with the published literature.<sup>32</sup>

In order that the reliability of information can be assessed, the standard errors have been presented in most tables of estimates of population movement. County-of-birth estimates of the proportion lost through current migration<sup>33</sup> or emigration<sup>34</sup> showed that there was very little variation when standard errors were applied. Small counties invariably showed the greatest fluctuations and their results should always be treated with extreme caution.

Ideally every estimate should be accurate to  $\pm 2\%$ . Some showed a slightly larger error, but in most cases the fluctuation was less than  $\pm 2\%$ . For example in the estimates of current migration, the predicted loss of female migrants in Aberdeen in 1891-1901 is 9,721, which changes by only 0.37% when two standard errors are added and by 0.94% with two standard errors deducted.<sup>35</sup> The

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31. See Appendices, appendix XI, pp.101-25.

32. See Appendices, appendix XV, pp.142-4.

33. See Appendices, appendix XVI, pp.145-9.

34. See Appendices, appendix XVII, pp.150-4.

standard errors on individual age-bands are sometimes unsatisfactorily large, particularly in counties with small populations. As has already been argued,<sup>36</sup> these are a result of the sampling method used rather than the inadequacy of the sample itself. The two standard errors were applied to the county-of-residence migrant age-structure and the effects were then measured in the county-of-birth. This means that errors were likely to be concentrated in certain counties and age-bands. For example in current migration from Argyll, the resulting degree of variability in the data for females aged 30-39 years suggests that little significance can be attached to the results, but the estimates for younger females and of the total female migrants were considerably more reliable.<sup>37</sup> However, this discussion is considering a degree of accuracy that the results do not possess. The results are the product of various generalisations and simplifications that are required in order to make computation practical and it is not claimed that the results are accurate to a few people. Evidence of errors that could result from mis-recording of the original data are clearly seen in otherwise unexplained bunching, and in the results from the highest age-bands, which particularly in small population counties are often clearly absurd.

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35. See Appendices, appendix XVIII, p.156.

36. See Appendices, appendix XII, pp.126-9.

37. See Appendices, appendix XVIII, p.157, which tabulates standard errors in current migration data in every age-band and consider the county of Argyll. It is clear that in some years errors are virtually as great as the totals for females in the age-bands 30-34 and 35-39 years. However, the errors in female migrants under 20 years and the total numbers lost are very small.

## THE ASSUMPTIONS MADE IN PRESENTING THE ESTIMATES OF POPULATION MOVEMENT

It should be noted that all final estimates of population movement are presented from the perspective of the category or county-of-birth and not as in the calculation of estimates by county-of-residence. The assumptions on which this concept is based will be considered in detail subsequently.<sup>38</sup>

### CURRENT MIGRATION POPULATION

Current migrants are assumed all to be migrants who arrived in a county-of-residence between two censuses. In the model described above hypothetical current migrants are created by calculating the migrant age-structure. The failings of this method have already been considered, and the model creates rather than predicts current migration. This is adequate for computation of the emigration estimates, but the assessments of current migration have been calculated differently.

The estimated migrant population in any census year is considered to be the life-time migrant population, since those people arrived before the census enumeration. As no more migrants are incorporated into the model there are no current migrants. The native and life-time migrant populations have the county-of-residence age-specific mortality rates applied for the subsequent 10 years. The difference between this life-time migrant population predicted by the computer model and the actual migrant population

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38. See chapter V, pp.204-5.

obtained from the next census represents the current migrants who have arrived in the last 10 years. Clearly age-specific mortality complicates this estimation. The entire mortality for a county-of-residence is being applied to the native and life-time migrant population, because no allowance is being made for deaths amongst the current migrants. The estimated current migrant population is therefore too low and age-bands with the highest age-specific mortality reveal the highest under-estimates. This is however almost impossible to compute because the current migrant population in any county-of-birth is the sum of the current migrant populations in every county-of-residence. Nevertheless, the intention of this study is to show trends and not to determine precise numbers of current migrants. Therefore despite their acknowledged problems these estimates do have some validity.

The estimates of current migration are presented in six ways in order to make comparisons easier. The percentage aggregate losses per decade by county-of-birth were tabulated in two ways, the first estimates were calculated using both migrant age-structures for the post 1891 data (the projected age-structure and the 1891 one),<sup>39</sup> and the second includes standard errors.<sup>40</sup> Thirdly, this data been mapped by decade and sex to provide a visual impression of differing county losses.<sup>41</sup> Population loss was also considered by decade and age-band of departure.<sup>42</sup> Fourthly, it

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39. See Appendices, appendix XIV, pp.137-41. For further details of method see p.168.

40. See Appendices, appendix XVI, pp.145-9.

41. See Appendices, appendix XIX, pp.188-93.



has been tabulated by population category to show losses in each age-band<sup>42</sup> and fifthly, depicted by diagram.<sup>43</sup> Finally, losses in each age-band and for every county-of-birth have been tabulated with standard errors.<sup>44</sup> It has already been noted that the results for small counties are less likely to be accurate, and these show some erratic results particularly in individual age-bands.<sup>45</sup>

## EMIGRATION

Throughout this research the term emigration has been used to describe what is in fact current emigration. However, unlike migration where migrants can continue to move several times (although no longer measured), past emigrants cease to complicate models once they have left Scotland unless ofcourse they return. All emigration estimations should therefore be assumed to reflect current movement within the given decade despite the word current being omitted.

The basic method of estimating emigration has already been considered in some detail.<sup>47</sup> The hypothetical current migrant population model does have some advantages for the estimation of emigration. This is because the age-specific mortality of any county has been applied not only to the native population and life-

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42. See pp.166-8 for method of estimating age-band of departure.

43. See Appendices, appendix XX, pp.194-8.

44. See Appendices, appendix XXI, pp.199-223.

45. See Appendices, appendix XVIII, pp.155-87.

46. See pp.169-70 for further details.

47. See Appendices, appendix IX, pp.101-25. and chapter III, pp.98-103.

time migrants but also to the current migrants, which makes the estimation of emigration more accurate. The accuracy of estimation of emigration could undoubtedly be improved still further if a better method of creating the hypothetical current migrant population could be devised. This would doubtless involve estimating back from the subsequent census, as well as projecting forward from the earlier one as done in this research.<sup>48</sup> However, this improvement would necessitate considerably more complicated computer programming.

Although the appendices concerning estimates of emigration have been referred to generally already, they will now be considered in detail. The information on emigration is presented in six ways. The percentage aggregate losses per decade are tabulated including firstly estimates using both migrant age-structures<sup>49</sup> and secondly the effects of standard errors.<sup>50</sup> Thirdly, these data have also been mapped by decade and sex.<sup>51</sup> The fourth method of assessing emigration loss was by age-band of departure. Aggregate losses by population category in each age-band have been tabulated<sup>52</sup> and also portrayed by diagram.<sup>53</sup> Finally, losses in

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48. Clearly this proposal for better programming would improve the current migrant estimates as well. It would no longer be necessary to estimate these separately.

49. See Appendices, appendix XIV, pp.137-41. For further details of method see p.168.

50. See Appendices, appendix XVII, pp.150-4.

51. See Appendices, appendix XXII, pp.224-9.

52. See Appendices, appendix XXIII, pp.230-4.

53. See Appendices, appendix XXIV, pp.235-9.

each age-band, for every county-of-birth and in each decade are tabulated with standard errors provided.\* \*

#### COMPARISONS OF MEASUREMENT OF CURRENT MIGRATION AND EMIGRATION

It can be seen that the appendices for emigration loss were tabulated in a similar way to those of current migration. This was in order that comparisons can be made. However, care must be exercised when making such comparisons because estimates of percentages do not use the same baselines. Whereas estimates of migration use only natives in the county-of-birth as the baseline, those of emigration use the total county-of-birth population as a framework of measurement. It is being argued that for an accurate measurement of the percentage lost through current migration, only those natives left in the county-of-birth at the end of the decade under consideration plus of course present out-migration, are the baseline. When emigration losses from Scotland as a whole are being computed, it cannot be ascertained whether an emigrant has just left his county-of-birth or is already a life-time migrant. The baseline for these percentage calculations is therefore the entire county-of-birth population, regardless of which county it is at present residing in at the end of the decade under consideration, plus current emigration.

Mention has already been made of the fact that it is intended that this analysis should be compared with Baines' work on England and Wales and percentage losses are probably the most satisfactory way of measuring county-of-birth losses comparatively. Baines'

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54. See Appendices, appendix XXV, pp.260-92.

method of measuring loss<sup>55</sup> is quite different from those described for this study. His baseline for all percentage calculations (current migration and emigration) is "the mean native population"<sup>56</sup> which Baines has defined as the entire county-of-birth population regardless of where it resides in England and Wales.<sup>57</sup> The population that has been lost through emigration or migration is only partially included within these estimates. This method has the virtue of making direct comparisons between estimates of current migration and emigration possible, because they use the same baseline, but it can seriously under-estimate losses from individual counties because the relationship between the present native population and current migration is not being explored. The Scottish study has argued that the baseline is the county-of-birth population (native or total) at the end of the decade, that is the subsequent census plus the people who have left. It is saying that without current migration or emigration these people would have been in their county-of-birth and/or Scotland. By not including these measurements of loss in his baseline, Baines' estimates of percentage losses are inevitably going to appear far greater than those in Scotland regardless of whether they really are or not. Appendix XXVI has been created to make direct comparisons with population movements in England and Wales feasible.<sup>58</sup>

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55. Baines. *Migration in a Mature Economy*. Appendix I, pp.283-98.

56. *Ibid.* p.283.

57. Communication from D.Baines (Department of Economic and Social History, London School of Economics, London. 17th. January 1990).

58. See Appendices, appendix XXVI, pp.293-9.

## IMMIGRATION

Immigration has inevitably been recorded by the computer model. Outsiders almost invariably show an increase in numbers when the estimated and actual censuses are compared and this represents immigration. Although it is proposed in the future to study these estimations, they do not form part of this research which is on Scottish population movement. Appendix XXVII shows current immigration and it includes those born at sea.<sup>59</sup> Numbers in the latter category fluctuate wildly and this is a reflection of changing methods of classifying people in this category. It seems quite unrealistic that there should be nobody recorded in this category in the decade 1861-1871 and yet over 7,000 people in the subsequent decade.

## CONCLUSION

Chapters II, III and IV have attempted to provide a theoretical background on which to assess subsequent analysis. The first part considered why the methods used in this research have deviated from those devised by Baines, even though similar published sources are used. It has been argued that the revised method provides a more accurate model of current migration, which in turn should provide better estimates of emigration. The migrant samples created from the enumeration books are central to the method of estimating Scottish population movement and the discussion concerning their formation has therefore comprised the second part of this chapter. Finally, the computer model itself has

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59. See Appendices, appendix XXVII, pp.300.

been discussed, albeit briefly, but assumptions made in the model clearly affect all the estimations and it has therefore been necessary to consider these in some detail.

## CHAPTER V

### MIGRATION: AN ANALYSIS OF LIFE-TIME MIGRATION FROM THE PUBLISHED CENSUS

#### Introduction

This chapter is the first of three that will consider the results of research into Scottish population movement, the previous chapters<sup>1</sup> having considered the method and theory behind the measurements. Each of the three chapters on migration will consider a different aspect of population movement, which in this context is considered to be migration that crosses a county boundary.<sup>2</sup> This chapter (five) will use the published census in order to analyse the life-time migrant population, that is the total migrant population and not only those who had just moved. The next chapter (six) will consider the computer estimates of current migration (migrants who had moved for the first time in the previous ten years). The final chapter (seven) examining migration will compare the findings in this study with other research. It is intended that each of these three chapters on migration should build upon the information in the previous ones.

This chapter intends to consider the nature of Scottish life-time migrant population in three ways. Firstly, inter-regional movement will be reviewed. This will demonstrate that the migration recorded in the census is not just local inter-county movement, but

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1. Chapters II, III and IV.

2. This means that the county-of-birth is no longer the county-of-residence.

includes a significant proportion of long distance moves. Secondly, Scottish regional movement into England and Wales will be discussed and compared with the pattern within Scotland. Finally, the total county-of-birth population will be analysed, as differences between this and the native population can explain aspects of migration. The problem of the unbalanced sex ratio in Scotland will be discussed and in particular the implications for analysis of migration. This chapter will therefore attempt to provide an overview of life-time movement using the census, but it will also show the drawbacks of this data source.

The limitations of the census as a source of information on migration have been considered in the chapter on sources.<sup>3</sup> Despite these constraints it still provides useful aggregate material on population movement within Scotland and gives a coarse age-structure of the migrant population. This analysis uses the "cleaned" Scottish census material,<sup>4</sup> but not the "processed" data,<sup>5</sup> as it's source, and here the results may differ slightly from those published in the census.

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3. See chapter II, pp.45-97.

4. The "cleaned" census is the county-of-residence by county-of-birth tabulation. It is an amended version of the published information which has been corrected for spurious migration; county boundaries have been standardised and it includes the two 1891 tallies (before and after the county boundary changes). The two 1891 data sets are necessary in order that migration can be compared over time.

5. The "processed" census tabulation is the expanded county-of-residence by county-of-birth tabulation that has had the age-structure expanded from 2 to 16 age-bands



## 1. INTER-REGIONAL LIFE-TIME MIGRATION

It could be argued that a considerable proportion of inter-county migration "caught" by the census was in fact local movement that happened to cross a county boundary and not long distance movement. This analysis of regional migration in Scotland is intended to reveal the true extent of long distance movement.<sup>6</sup>

The regions are defined in table 5.1 and illustrated in map 5.1. The regions are not the same as the present Scottish administrative ones, nor do they correspond to the population categories devised in the present study to explain the migrant age-structure samples. Moreover, the regions are not the same as those used in the Scottish census,<sup>7</sup> nor those used by both Flinn and his colleagues and also Anderson and Morse.<sup>8</sup> This discussion is not a

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6. The movement of immigrants such as English and Irish into these regions is important in population terms, but for the purposes of this discussion of Scottish movement, such immigrants have been excluded from the calculations.

7. The published census frequently divides Scotland into eight regional categories, not just for migration analysis. These regions are:-

1 Northern - Shetland, Orkney, Caithness and Sutherland

2 North-western - Ross and Cromarty and Inverness

3 North-eastern - Nairn, Elgin (Moray), Banff, Aberdeen and Kincardine

4 East Midland - Forfar (Angus), Perth, Fife, Kinross and Clackmannan

5 West Midland - Stirling, Dunbarton, Argyll and Bute

6 South-western - Renfrew, Ayr and Lanark

7 South-eastern - Linlithgow (West Lothian), Edinburgh (Midlothian), Haddington (East Lothian), Berwick, Peebles and Selkirk

8 Southern - Roxburgh, Dumfries, Kirkcudbright and Wigtown.

8. The regions used by Anderson and Morse in "The People" are those originally devised by Flinn *et al.* *Scottish Population History*, p.XXIII, map 3.

TABLE 5.1.

THE REGIONS USED TO ANALYSE LIFE-TIME MIGRATION

NORTHERN ISLES

Orkney, Shetland

HIGHLANDS

Argyll, Bute, Inverness, Perth, Ross and Cromarty and Sutherland

NORTHEAST

Aberdeen, Banff, Caithness, Elgin (Moray), Kincardine and Nairn

WEST LOWLANDS \*

Ayr, Clackmannan, Dunbarton, Lanark, Renfrew and Stirling

EAST LOWLANDS \*

Angus (Forfar), East Lothian (Haddington), Fife, Kinross,  
Midlothian

(Edinburgh) and West Lothian (Linlithgow)

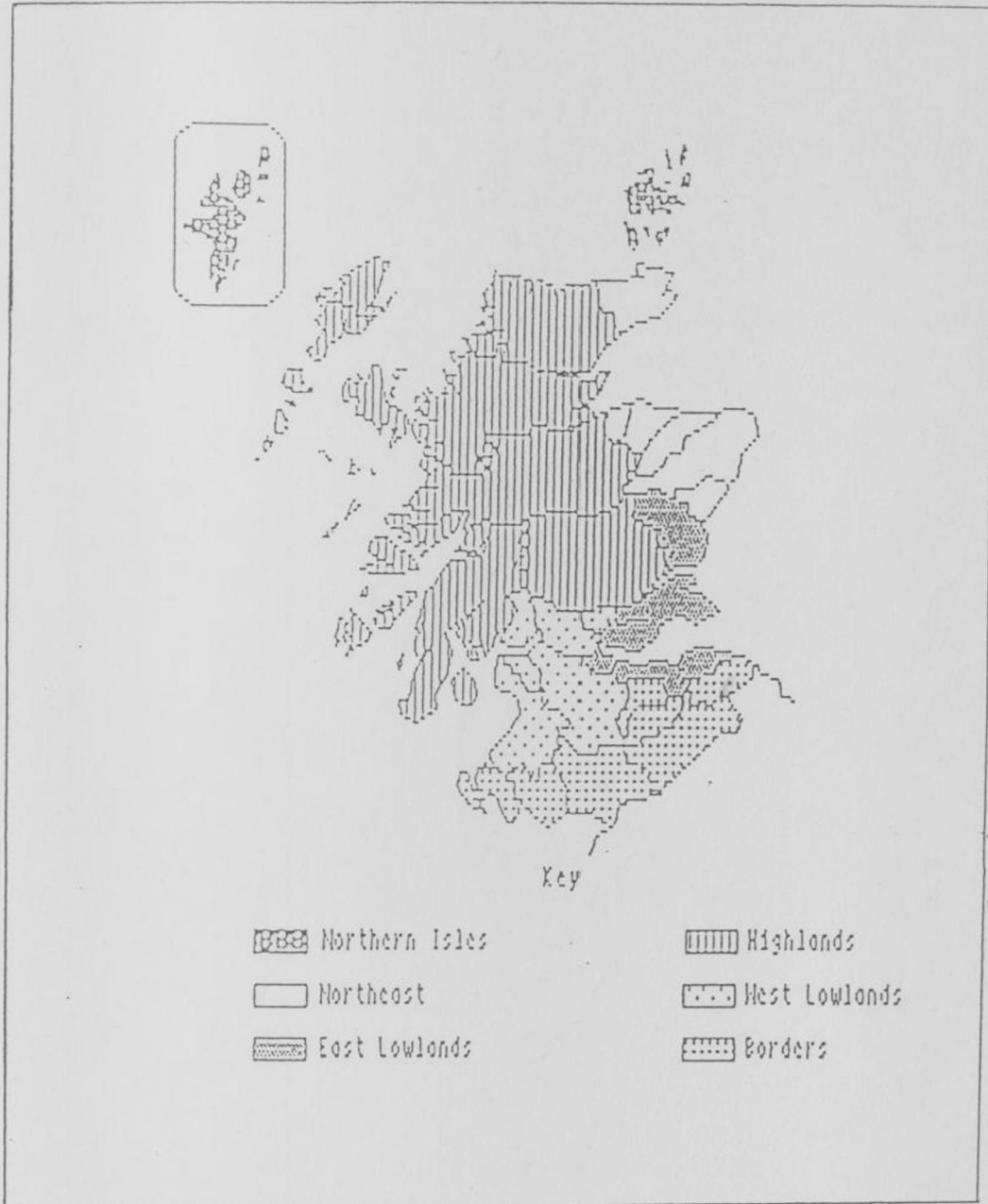
BORDERS

Berwick, Dumfries, Kirkcudbright, Peebles, Roxburgh, Selkirk and  
Wigtown

KEY

\* The East and West Lowlands will be described as the Central  
Lowlands if both regions are being considered together.

THE REGIONS USED TO ANALYSE LIFE-TIME MIGRATION



repetition of the analysis of migration by Flinn,<sup>9</sup> nor indeed of the more recent work by Anderson and Morse.<sup>10</sup> Both these works examine all population movement in Scotland regardless of nationality, whereas this analysis is restricted to Scottish migration.

To return to the present study, if counties are combined into regions and thereafter Scottish population movement is only considered at this inter-regional level, two types of long distance migration become apparent. These can be classified as either a rural to urban regional movement or as movement within the "urbanising" regions.<sup>11</sup> The greatest percentage of regional movement per head of population was from rural to urban regions and the greatest flows were from the Highlands and Borders. The Highlands were the greatest exporters of population; in 1861 23% of Highland-born were living elsewhere in Scotland and this had increased to 30% by 1911, but as Devine has recently shown, some temporary migration will be included in these figures.<sup>12</sup> The Borders also experienced high out-migration, which rose from 16% in 1861 to 27% in 1911.

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9. Flinn. *Scottish Population History*. pp.459-65.

10. Anderson and Morse. "The People" pp.13-22.

11. Urban counties in this context refers to counties with considerable urban growth; there were no totally urbanised counties. The counties comprising the West and East Lowlands were predominantly urban counties (defined in table 5.1, p.182). However, Kinross, which was defined as being within the East Lowland region, was not an urbanising county but was included to create a geographical entity.

12. Devine. *The Great Highland Famine*. p.147 and idem. Appendix 8: Numbers 'Temporarily Absent' at Census, Highland Parishes, 1841-1861, pp.317-9.

The West Central Lowlands had the lowest proportion of migrants to other regions in relation to its total population, although the enormous population concentrated in this region meant that its natives still formed a significant proportion of the population of other regions. For example, in 1911 migrants from the West Lowlands represented more than 7% of the adult male population<sup>13</sup> in the Borders, the East Lowlands and the Highlands and 8.5% of adult females in the East Lowlands and the Highlands. Furthermore, even in 1861 6% of adult Scots males in the Highlands had been born in other regions of Scotland, mainly the Central Lowlands and the Northeast, and by 1911 this had risen to 22%. This movement was not restricted to males, as adult female migrants were also involved in these counter-flows. In 1861 they represented 11.1% of the population of the Highlands and by 1911 this had increased to 22.4%. Thus although most of the migration was towards the Central Belt, one should clearly not ignore the significant counter-flows.

There are measurable differences in migration patterns between males and females (table 5.2.). Throughout the period studied a relatively greater proportion of adult males left the Borders, the Northeast and the East Lowlands, but in contrast a greater proportion of adult females migrated from the Northern Isles (Orkney and Shetland). The Highlands, which had the highest level of out-migration, experienced a changing pattern. In 1861

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13. In this context "adult" refers to everybody over 20 years old. (This is because the census has only two age classifications (above and below 20 years).

TABLE 5.2.

INTER-REGIONAL SCOTTISH LIFE-TIME MIGRATION - THE PERCENTAGE OF  
 MALES AND FEMALES OVER 20 YEARS WHO MIGRATED TO ANOTHER REGION  
 WITHIN SCOTLAND

REGION <sup>14</sup>	1861		1911	
	MALE	FEMALE	MALE	FEMALE
Northern Isles	8.98	10.93	23.53	23.94
Highlands	30.88	29.52	37.38	39.10
Northeast	14.58	12.87	25.63	24.66
West Lowlands	9.29	8.77	9.17	10.14
East Lowlands	18.70	15.56	20.46	18.02
Borders	23.38	21.73	37.05	33.17

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14. See table 5.1, p.182, for list of counties included in each region.

adult males provided the greatest proportion of migrants per head of population, but by 1911 the situation had reversed. This was also true, albeit on a lesser scale in the West Lowlands. Migrants, formed a much lower proportion of the under 20 age-group than of the over 20's, and in the younger age-group the proportion of each sex migrating was much closer. Nevertheless, these under 20 year old female migrants exceeded males in both the Highlands and the Northeast, while the reverse was true in the Borders and the East Lowlands. It was therefore only in the Borders and the East Lowlands that, regardless of age-group, males consistently formed the greater proportion of migrants.

The proportion of migrants in the total Scottish population increased until 1901,<sup>15</sup> but the percentages of the population leaving individual regions changed markedly between 1861 and 1911. In the Northern Isles the percentage of males leaving almost trebled, and females more than doubled. There was also a very significant increase in migrants from the northeast where the percentage also doubled. Both the Highlands and the Borders retained their positions as the major exporters of population, but the increase in people leaving was not so pronounced. In contrast the West Lowlands experienced a slight decline in males leaving.

Thus it can be concluded that although the regions used in this discussion are quite large, a significant volume of inter-regional migration can be measured. Undoubtedly some inter-county migration caught by the census represents purely local movement

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15. See Appendices, appendix XXIX [p], pp.301-5.

between adjoining counties, but a considerable proportion of the movement is over a long distance. The greatest percentages of regional migration are from rural to urbanising regions (the Central Lowlands), but there are also significant counter-flows by both sexes. These movements increase in all regions, except the West Lowlands, and some movements change direction over time. Moreover, migration can be differentiated by sex.

## 2. SCOTTISH REGIONAL MOVEMENT INTO ENGLAND AND WALES

This analysis of regional migration within Scotland is particularly interesting when compared with Scottish emigrants in England and Wales in 1911,<sup>16</sup> tabulated in appendix V.<sup>17</sup> In that year 7.2% of males and 6.6% of females of Scottish birth lived south of the border.<sup>18</sup> This represents over 320,000 Scots. Moreover, if that many Scots were resident in England and Wales in 1911, it calls into question Anderson and Morse's estimate<sup>19</sup> that only about 600,000 Scots-born moved to the rest of Britain, including Ireland, in the period 1841-1911.<sup>20</sup> Furthermore,

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16. See chapter II, pp.56-7 for a discussion of this data.

17. See Appendices, appendix V, pp.80-1. This table for 1911 is the only one known that tabulates Scots living in England and Wales by county-of-birth.

18. The percentages of Scots in England and Wales have been established by adding the total number of Scots south of the border to those born in Scotland, so that the results refer to people born in Scotland and resident in Great Britain.

19. Anderson and Morse. "The People" p.17.

20. See also Appendices, appendix XXVIII, p.301. which tabulates the life-time Scots-born population in England and Wales and Ireland 1861-1911.



evidence in this study (to be discussed later)<sup>21</sup> and work by Baines on England and Wales<sup>22</sup> suggests that the decade ending in 1911 was one of high emigration and low current migration (from England, Wales and Scotland) as the population of these countries were emigrating, there were probably less Scots moving south of the border. This may mean that we are observing a fairly old Scots-born population, that had been resident in England and Wales a long time.

A brief glance at appendix V [b]<sup>23</sup> suggests that above-average proportions of Scottish movement come from all the Border counties,<sup>24</sup> and parts of the East Lowlands<sup>25</sup> and the Northeast.<sup>26</sup> Although movement from the Borders may be explained, at least in part, by their geographical proximity to England, there does also appear to be a bias towards greater movement out of the eastern counties. The three regions considered all have high percentages of migrants within Scotland in 1911. However, a high proportion of migrants from a region does not necessarily imply large flows into

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21. See chapter VIII, pp.306-11.

22. Baines. *Migration in a Mature Economy*. p.95.

23. See Appendices, appendix V [b], p.81.

24. Ibid. Berwick, Dumfries, Kirkcudbright, Peebles, Roxburgh, Selkirk and Wigtown.

25. Ibid. An above average proportion of movement south came from Edinburgh (Midlothian) Forfar (Angus) (males only) and Haddington (East Lothian) (females only). Movement from Fife, Kinross and Linlithgow (West Lothian) was lower.

26. Ibid. An above average percentage of Scots emigrants to England and Wales from the Northeast came from Aberdeen, Elgin (Moray) and Nairn but from Banff, Caithness and Kincardine the proportions were lower.

England and Wales. The Highland region,<sup>27</sup> for example, despite the highest migration levels within Scotland, has relatively little movement south of the Border.<sup>28</sup> Nevertheless, in the Northern Isles males from Shetland were moving south, but Shetland-born females and Orcadians were far less conspicuous. Clearly in 1911 migration patterns within Scotland were not necessarily reflected in movement across the Border, although it should be noted that the West Lowlands not only have the lowest migration rate within Scotland, but also have lower rates of movement south than the other Scottish regions.

The decision to consider movement into England and Wales as emigration rather than ~~emigration~~ was made for ease of computation.<sup>29</sup> Nevertheless, this section has highlighted two other reasons that justify this decision. Firstly, there was geographical inconsistency in the movement south from Scotland. Although the highest proportions of population movement into England and Wales came from the closest counties,<sup>30</sup> regional patterns vary in a way that cannot be related to distance. Secondly, the evidence from 1911 and also earlier censuses<sup>31</sup> suggests that there were markedly

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27. The Highland region is defined in table 5.1, pp.182.

28. In the Highlands only Perth had an above average emigration to England and Wales.

29. See chapter 11, pp.48-9.

30. In England and Wales Baines found that population movement from Northern England more closely resembled migration than emigration in terms of sex ratios. Baines. *Migration in a Mature Economy*, pp.121-2.

31. Appendix XXVIII tabulates (in less detail) the Scots-born residents in England and Wales and Ireland 1861-1911. In both countries and in every decade there was a higher ratio of males to females, this suggests that Ireland as well as England and Wales is

different sex ratios in the two migrant populations (in Scotland and in England and Wales). It has been shown that there were far more female migrants than males within Scotland,<sup>32</sup> but the same pattern was not apparent in England and Wales in 1911, where Scottish-born males slightly exceeded females in numbers.<sup>33</sup>

### 3. THE COUNTY-OF-BIRTH POPULATION

It is important to appreciate that a declining county-of-residence population does not necessarily reflect massive emigration. The census not only records the total population by county-of-residence, but also the total population resident in Scotland by county-of-birth. This information has been collated into diagrams in appendix XXXI and shows the total population changes in two age-bands for each sex by county-of-birth 1861-1911.<sup>34</sup> The county diagrams reveal a variety of experience which can be compared with the national pattern.<sup>35</sup>

In the total adult Scottish population there was a significant majority of females. This is not only observed at a national level<sup>36</sup> and with regard to the Scots-born population, being correctly treated as an emigrant destination. See Appendices, appendix XXVIII, p.301.

32. See Appendices, appendix XXIX (t), p.303.

33. See Appendices, appendix V (a), p.80.

34. See appendices, appendix XXXI, pp.311-29.

35. Ibid. p.312.

36. The 1911 census tabulates the national excess of females over males for each census. It should be noted that this includes everybody resident in Scotland and not just Scots. In 1861 there are 111.2 females for every 100 males, but by 1891 this had declined to 107.2 females and by 1911 to 106.2 females per 100

but, as is clear from the counties-of-birth diagrams,<sup>37</sup> it is also true of every individual county.<sup>38</sup> However, it is also clear that the difference in numbers between males and females narrows over time. This is particularly noticeable in Shetland, where in 1861 there was the extraordinarily high ratio of 147.0 females for every 100 males, but this vast female majority was considerably reduced to 133.1 by 1911.<sup>39</sup>

In the censuses up to and including 1891, the number of Scots males over the age of twenty is not only less than females of the same age, but also less than Scots of both sexes under 20 years.

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males. Census of Scotland 1911 Report on the Twelfth Decennial Census of Scotland, vol.II London H.M.S.O. London, 1913 [cd 6896] p.XXII.

37. See Appendices, appendix XXXI, pp.311-29.

38. In the 1861 census it is noted that in Linlithgow (West Lothian) there were only 94.4 females for every 100 males. (Census of Scotland Population Tables and Report vol.I Edinburgh 1862, p.XXIII). However, this calculation is for the county-of-residence, and therefore includes outsiders. A similarly low ratio is calculated for subsequent censuses. If the data is recalculated for county-of-birth, Linlithgow-born still show a low ratio of females to males but it is no longer less than one and is never the lowest in Scotland, (the ratios per 100 males are:- 107.4 (1861), 106.1 (1871), 104.5 (1881), 101.7 (1891), 103.5 (1901) and 103.0 (1911). The lowest ratios of females to males are in Selkirk in 1861-81 (104.5 females in 1861, 105.0 in 1871 and 103.3 in 1881), in Haddington (East Lothian) (100.3 females in 1891 and 101.6 in 1911) and in Peebles (103.3 females in 1901).

39. This data for Shetland is calculated by county-of-birth. For every 100 males there were 147.0 females in 1861, 145.1 (1871), 143.8 (1881), 142.6 (1891), 133.2 (1901) and 133.1 (1911). The ratios for Shetland females are also calculated in the censuses of 1861 and 1911; these are for the county-of-residence and include outsiders. In these calculations the change in sex ratios is more dramatic, falling from 142.6 in 1861 to 118.7 in 1911. (Census of Scotland Population Tables and Report vol.I Edinburgh 1862, p.XXIII and Census of Scotland 1911 Report on the Twelfth Decennial Census of Scotland, vol.II London H.M.S.O. London, 1913 [cd 6896] p.VIII). It is clear that however the data is calculated there is an enormous majority of females both within and from Shetland.

Adults are less likely ever to numerically exceed the young in counties-of-birth with rapid growth, as in these counties newcomers, whether migrants or immigrants, have children which become natives of their parents' adopted county-of-residence and the young population therefore expands very fast. For example, in Dunbarton the young of Scottish birth always exceed the adults, and this reflects the enormous population growth of that county.<sup>40</sup> Moreover, in most counties-of-birth, even those with some population growth, a decline in the proportion of young in the population is common. This decline in the young can be found for example in Forfar (Angus) by 1901<sup>41</sup> and in Dumfries by 1881<sup>42</sup>. As indicated earlier, the declining proportion of the population under 20 years was probably, as Anderson and Morse<sup>43</sup> have argued, the result of limiting fertility and improving mortality rates.

Despite the fact that many county-of-residence populations are declining,<sup>44</sup> very few counties-of-birth experience an absolute decline in their population, except for Argyll, Perth, Shetland and Sutherland.<sup>45</sup> This means that although in most counties-of-

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40. The civil county of Dunbarton, that is the county-of-residence, increased its population by 169% from 1861-1911 (see Appendices, appendix 1, p.20 and table 3.2, p.123).

41. The civil county of Forfar (Angus), that is the county-of-residence increased its population by 38% from 1861-1911 (see Appendices, appendix 1, p.27 and table 3.2, p.123).

42. In the civil county of Dumfries, that is the county-of-residence the population declined by 4% from 1861-1911 (see Appendices, appendix 1, p.18 and table 3.2, p.123).

43. Anderson and Morse. "The People" pp.22-42.

44. See chapter III, table 3.2, p.123.

residence with a declining population emigration may be a significant factor. many of the native-born have migrated to other parts of Scotland so that the total county-of-birth population was not declining. Indeed any decline in the adult population by county-of-birth was very unusual.<sup>45</sup>

#### 4. THE AGE-STRUCTURE OF SCOTTISH POPULATION 1861-1911

The age-structure of the Scottish population was altering nationally between 1861 and 1911,<sup>46</sup> and this is reflected in the decreasing proportion of persons less than twenty years old. The vast majority of counties were experiencing a declining death rate by the 1881 census.<sup>47</sup> This would have the effect of decreasing the percentage of the population that was less than twenty years old. This is apparent at the national level,<sup>48</sup> and also in both the native<sup>49</sup> and the migrant<sup>51</sup> populations. It is undoubtedly fortunate for the purposes of this study that this problem of a decreasing proportion of young in the population does not have to

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45. For Argyll, Perth, Shetland and Sutherland see See appendices, appendix XXXI, pp.313, 325, 327 and 328 respectively.

46. A slight decline in the adult population when collated by county-of-birth is found in :- Caithness (1911), Kinross (1911), Kirkcudbright (1881), Orkney (1911) and Ross and Cromarty (1911) See appendices, appendix XXXI, pp.315, 321, 321, 324 and 326 respectively.

47. See Appendices, appendix XXX [p], pp.307-10.

48. Flinn. *Scottish Population History*. p.380-1. These data are probably calculated in Registration rather than Civil Counties but for the purposes of this analysis the difference is unimportant.

49. See Appendices, appendix XXIX [c], pp.302-6.

50. See Appendices, appendix XXX [n], pp.307-10.

51. See Appendices, appendix XXIX [m], pp.302-6.

be estimated in the calculations, and can be resolved by the above and below twenty years age-bands.

It should be noted when considering all the appendices that the percentage of Scottish life-time migrants within Scotland increased nationally until 1901 and thereafter decreased slightly.<sup>52</sup> Nevertheless, the percentage of migrants born in some counties decreased much earlier.<sup>53</sup> For example a decrease in the percentage of Dunbarton-born migrants was observed as early as the 1881 enumeration, and in Linlithgow (West Lothian) a decrease occurred only a decade later.<sup>54</sup> In contrast in many counties, such as Elgin (Moray) and Berwick, the proportion of migrants rose steadily throughout the period (1861-1911).<sup>55</sup> In both Dunbarton and Linlithgow (West Lothian), the population was growing very fast, the stimulus being rapid industrialisation, and these new opportunities would have encouraged the native population to

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52. See Appendices, appendix XXIX [p], p.303.

53. See Appendices, appendix XXIX [p], p.305.

54. The decline in young migrants from certain counties is not necessarily reflected in the diagrams in appendix XXX (See Appendices, appendix XXX, pp.307-10). This is because these diagrams include all those born in each county (natives and migrants).

55. Other counties-of-birth in which the percentage of migrants continued to increase throughout the study period were :- Aberdeen, Argyll, Banff (females only), Bute, Caithness (females only), Clackmannan, Dumfries, Edinburgh (Midlothian), Forfar (Angus), Inverness, Kincardine, Kirkcudbright, Lanark, Nairn, Orkney, Perth (females only), Roxburgh, Selkirk (females only) and Wigtown.

stay.<sup>56</sup> In contrast both Berwick and Elgin (Moray) were experiencing a declining population by 1911.<sup>57</sup>

In 1861, 22.5% of the Scottish population lived outside their county-of-birth.<sup>58</sup> and this proportion rose to a peak in 1901 when over a quarter of the population had migrated. The percentage of migrants in the total county-of-birth population is remarkably similar for both males and females, although in absolute terms there is always a significant majority of females.<sup>59</sup> An absolute majority of male migrants in the county-of-birth population is exceedingly rare, and only in Forfar (Angus) does it occur in every census.<sup>60</sup> In most counties with high out-migration female work was probably less likely to be available. In Forfar however, the textile industry was an important employer of female labour and males may have been less likely to find work. Male out-migration also exceeds female in Sutherland in 1861.<sup>61</sup> The county of destination for some migrants depended on the sex of that

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56. The population of Dunbarton increased by 28.0% between 1871-1881, and that of Linlithgow by 21.4% a decade later (calculated from data in Appendices, appendix 1, p.21 and 41 respectively).

57. See Appendices, appendix 1, Berwick and Elgin (Moray) p.10 and 23 respectively.

58. See Appendices, appendix XXIX [p], p.303.

59. See Appendices, appendix XXIX [t], p.303.

60. See Appendices, appendix XXIX [t]. p.308.

61. The published 1851 census tabulation of county-of-residence by county-of-birth does not distinguish males and females. It is therefore impossible to deduce whether the findings for males in Sutherland reflects the end of an earlier migration pattern or an abnormal situation in 1861.



migrant: indeed the 1911 Census cited three counties where migrants moved to different regions according to sex.<sup>62</sup>

High levels of out-migration from the counties attracting in-migration are also apparent. It frequently being a higher proportion of the total county-of-birth population than in counties normally considered the focus of out-migration. For example the migration-attracting counties of Dunbarton, Stirling and Linlithgow (West Lothian) all have levels of out-migration in excess of 33%.<sup>63</sup> while in contrast counties experiencing out-migration such as Ross and Cromarty or Sutherland are losing a much lower proportion of their population.<sup>64</sup> This is perhaps the most significant aspect of migration, as it shows that a high proportion is no longer from

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62. Census of Scotland 1911 Report on the Twelfth Decennial Census of Scotland, vol II [CD-6896] 1913 p.XCIII. "In the case of three counties Linlithgow, Perth and Sutherland, the largest numbers of the migrated males are found in Lanark, but the largest numbers of females in other counties, those of Linlithgow and Sutherland in Edinburgh and those of Perth in Forfar." An analysis of all the censuses has shown that for the counties of Linlithgow and Perth, these differing migration routes dependent on sex have existed since 1861 when the study began. For Sutherland however the situation has changed over time. In the 1861 and 1871 census tabulations, the majority of both sexes migrated to Edinburgh, but by 1881 Lanark became the preferred destination for males and this pattern continued thereafter.

63. Percentage of migrants from county-of-birth. See Appendices, appendix XXIX [p], pp.302-6.

	1861		1881		1901	
	M	F	M	F	M	F
Dunbarton	38.22	39.45	37.03	39.26	33.13	33.13
Linlithgow	35.30	39.35	43.97	48.45	40.41	45.33
Stirling	33.92	36.40	34.41	39.03	33.42	38.09

64. Percentage of Migrants from county-of-birth. See Appendices, appendix XXIX [p], pp.302-6.

	1861		1881		1901	
	M	F	M	F	M	F
Ross & Cromarty	17.91	16.61	23.53	23.37	26.73	28.18
Sutherland	23.30	19.10	26.40	26.98	30.07	32.23

remote rural areas to urban development, but is instead inter-urban migration.<sup>65</sup> However, this type of movement may not involve the same level of positive planning as previously. Migrants within an urban environment may well not even be aware of crossing a county boundary, especially if it occurs in towns straddling county boundaries such as Dundee or Glasgow, and it may well have implications for the age at which people move.

Nevertheless, whilst arguing that high levels of out-migration occur in migrant-attracting counties, one should not forget that smaller Scottish counties such as Nairn and Peebles also have very high levels of out-migration.<sup>66</sup> These counties are much more likely to record high levels of movement, simply because they are small and therefore many purely local moves are recorded as migration. There is however a second reason, in that these small counties have no large towns and are therefore unlikely to possess a major migrant-attracting location. Consequently people are more likely to leave for such locations in other counties.

The percentage of the migrants under twenty years was noticeably higher in the Scottish-born migrant population<sup>67</sup> than in the total migrant population,<sup>68</sup> which includes immigrants from

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65. It is incorrect to describe any Scottish county as urban, as all retain some rural areas, although clearly some counties have more urban growth than others. In this context the counties of the Central Lowlands are considered to be industrialising counties and therefore counties with considerable urban development.

66. See Appendices, appendix XXIX [p], pp.302-6.

67. See Appendices, appendix XXIX [m], pp.302-6.

68. Appendix XXX [m]. Appendices XXIX and XXX are not directly comparable and should only be used together with caution. Appendix

outside Scotland. There is therefore a greater proportion of Scots-born migrants under 20 years than in other immigrant groups.

In the Scottish population there was always a greater percentage of males under twenty years than females, although the difference appears to narrow over time.<sup>69</sup> There was moreover a greater number of females than males in the total population, as is clearly seen in the diagrams in appendix XXXI.<sup>70</sup> The importance of this becomes clearer when one compares the percentage and absolute data for migrants in appendices XXIX [p]<sup>71</sup> and XXIX [t].<sup>72</sup> In 1861, for example, 22.5% of Scots males were migrants, that is 294,602 males; for females the figures were 22.6% and 333,441. Thus almost 39,000 more females had migrated than males, but the percentage of each sex migrating was approximately equal.<sup>73</sup> The percentage of migrants less than twenty appears suggest a pattern of far more males migrating young than females,<sup>74</sup> but in fact 30.83% equals 90,826 young male migrants, and for females 26.89%,

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XXX considers age-structures using the county-of-residence as the framework but appendix X uses the county-of-birth. See Appendices, appendix XXIX and XXX, pp.302-10.

69. See Appendices, appendix XXX [p], pp.307-10.

70. See Appendices, appendix XXXI, pp.311-29.

71. See Appendices, appendix XXIX [p], pp.302-6.

72. See Appendices, appendix XXIX [t], pp.302-6.

73. It is because of the misleading nature of some percentage statistics that in Appendix X the population living outside the county-of-birth has been expressed as the total number of individuals as well as the percentage of the population. See Appendices, appendix XXIX [p] and [t], pp.302-6.

74. See Appendices, appendix XXIX [m], pp.302-6.

equals 89,662, a difference of 1,164 or just over 1%, which is nowhere near as great a difference as the percentages imply.

## CONCLUSION

This chapter has provided an overview of the life-time migrant population. It has highlighted the two major regional trends, rural-urban and inter-urban movement. Rural-urban movement provided the greatest proportions of regional migration, but the huge population in the urban counties meant that inter-urban was the more important flow by volume. Movement into England and Wales revealed considerable geographical variation, although the closest counties to England provided the highest proportions. As already noted the percentage of Scottish migrants in the population increased between 1861-1901, but individual counties do not necessarily conform to the national trends. Indeed a declining civil county population did not necessarily reflect massive emigration, but may simply have indicated out-migration. The county-of-birth diagrams in appendix XXXI<sup>75</sup> do however demonstrate the remarkable variety of population experience. Counties where population growth is most significant had a far greater proportion of their population under 20 years. The final part has examined the changing age-structure of the Scottish population and the marked differences in the age-structure according to sex. Although the high ratio of females to males decreased over time, this imbalance between the sexes could make some migration statistics misleading

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75. See Appendices, appendix XXXI, pp.311-29.

and disguise the fact that in every census a significant majority of adult migrants were female.

This chapter has considered the life-time migrant population and it cannot tell us anything about the decade in which a migrant moved and the coarse age-bands in the census means that very little is known about a migrants' age. We do not know for example if young migrants were moving as children or in their late teens. These problems will be explored in the subsequent chapter.

## CHAPTER VI

### MIGRATION: THE ESTIMATED CURRENT MIGRANT POPULATION

1861-1911

#### INTRODUCTION

This discussion of the migrant population has already analysed the census tabulations,<sup>1</sup> and it will now move on to consider the results of the computer estimations of current migration. Current migration in this chapter will be explored in seven sections. Firstly, in order to gain an overview of the current migrant losses, the aggregate losses by sex and for each decade will be reviewed. This information will then be expanded by considering the aggregate losses by population category (two); thirdly, the aggregate information by individual counties-of-birth will be considered as a proportion of the total native population. The age-band in which migrants leave will now be examined, both by population category (four) and also by county-of-birth (five). Sixthly, evidence of return migration will be discussed and finally, the main points will be highlighted in the conclusion.

#### 1. AN OVERVIEW OF CURRENT MIGRANT WITHIN SCOTLAND

This section attempts to provide an overview of the aggregate losses of the county-of-birth through current migration in each decade. Migration at the national level will be considered first using table 6.1. Despite its coarse scale the table demonstrates several important points.

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1. See chapter V, pp.179-201.

TABLE 6.1.

## SCOTTISH CURRENT MIGRANTS IN EACH DECADE 1861-1911

Decade	Current Migrants			Proportion of the native population*		Proportion of the total current migrant population	
	Male	Female	Total	Male	Female	Male	Female
1861-1871	-95309	-104900	-200,209	-7.80	-7.73	47.6	52.4
1871-1881	-107722	-119123	-226,845	-7.95	-8.09	47.7	52.3
1881-1891	-99825	-107072	-206,897	-6.88	-6.82	48.2	51.8
1891-1901	-120256	-128375	-248,631	-7.46	-7.41	48.4	51.6
1901-1911	-93119	-110479	-203,598	-5.49	-6.04	45.7	54.3

\* The proportion is calculated as current migrants over the native population in the subsequent census plus current migrants (that is the total native population at the end of the decade if nobody had moved out).

From earlier discussion, it should be expected that the excess of females in the population meant that males can show a greater percentage loss through current migration without necessarily reflecting a greater number of individuals. In fact the proportions of current migrants of both sexes were generally very close, except the final decade, but in absolute terms there were always considerably more female current migrants than males. However, it should be noted that the proportion of males compared with female current migrants in the total population increased until 1901.

There was a fluctuating pattern of current migration with three troughs interspersed with two peaks. The first trough (1861-1871) was least pronounced, it being much closer to the subsequent peak in percentage terms than later ones. There were two decades of high current migration, 1871-81 and 1891-1901.

The first peak in out-migration, 1871-81, had the highest proportion of current migrants. This is quite early in the study period and thereafter the overall impression is that the proportion of current migrants became less significant over time. This is not incompatible with the earlier statement that the life-time migrant population was increasing until 1901 because the life-time population included all earlier movement.<sup>2</sup> Moreover, despite the fact that the national population was increasing, the total native population as a proportion of the national population was declining (due to increased migration). This means that using the native population as a baseline for the proportion of out-migrants lost, gives a baseline that is itself diminishing in relation to the total Scottish population. Therefore the impression of the decreasing significance of current migration as a population pattern is not without foundation.

## 2. THE AGGREGATE CURRENT MIGRATION BY POPULATION CATEGORY

So far throughout this thesis the population categories have been used for analysis purposes as categories-of-residence. It has already been argued that the population category was likely to

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2. See chapter V, p.195 and appendices, appendix XXIX [p], p.303.



affect the type of migrants it attracts.<sup>3</sup> Moreover, the computer estimations of both migration and emigration were based on this premise. As has already been noted the actual population categories were groups of counties with similar characteristics of population growth or decline, rather than a regional grouping. Hereafter in the analysis the population categories will be used for discussion purposes as categories-of-birth rather than as categories-of-residence. It is not unreasonable to argue that current migrants from a category that had rapid population expansion were quite likely to have different age-structures from those in a declining category, which was remote from centres of population growth. It should however be noted that when current migration was measured by population category, it included all migration, even that recorded within the categories, which means that migration between two counties within the same category was still being classed as current migration. The aggregation of estimates into categories will thus enable an overview of population patterns to be discussed, before considering some of the individual counties. The complex results from thirty two counties in five decades for both sexes and in sixteen age-bands would be too detailed to provide an overview.

The discussion will now be widened to consider aggregate current migration by population category. It can be seen in table 6.2. that although the generalised statements in the previous discussion remain valid there are differences in the individual population categories and these will now be considered. The

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3. See chapter III, pp.122-7.

TABLE 6.2.

## SCOTTISH CURRENT MIGRATION BY POPULATION CATEGORY IN EACH DECADE

1861-1911

Decade	Current Migrants			Proportion of the native population*		Proportion of the total current migrant population	
	Male	Female	Total	Male	Female	Male	Female
DECLINE NORTH							
1861-1871	-20613	-24565	-45178	-9.39	-9.72	45.63	54.37
1871-1881	-18287	-22487	-40774	-8.64	-9.39	44.85	55.15
1881-1891	-17352	-18873	-36225	-8.57	-8.29	47.90	52.10
1891-1901	-18684	-21199	-39883	-9.56	-9.74	46.85	53.15
1901-1911	-9018	-13080	-22098	-5.11	-6.57	40.91	59.19
DECLINE SOUTH							
1861-1871	-9531	-9874	-19405	-9.85	-9.10	49.12	50.88
1871-1881	-10496	-11030	-21516	-10.98	-10.48	48.74	51.26
1881-1891	-10905	-10362	-21267	-11.78	-10.29	51.28	48.72
1891-1901	-11001	-11316	-22317	-12.80	-11.97	49.30	50.70
1901-1911	-7219	-7811	-15030	-9.15	-9.08	48.03	51.97
GROWTH							
1861-1871	-31573	-33611	-65184	-8.72	-8.32	48.44	51.56
1871-1881	-35779	-37767	-73566	-9.04	-8.72	48.54	51.36
1881-1891	-32369	-33285	-65654	-7.94	-7.44	49.30	50.70
1891-1901	-44011	-43023	-87034	-10.01	-8.97	50.57	49.43
1901-1911	-28345	-32908	-61253	-6.54	-6.92	46.28	53.72
BOOM							
1861-1871	-33592	-36850	-70442	-6.47	-6.55	47.69	52.31
1871-1881	-43170	-47819	-90989	-6.93	-7.23	47.45	52.55
1881-1891	-39199	-44552	-83751	-5.48	-5.89	46.80	53.20
1891-1901	-46559	-52837	-99396	-5.45	-5.88	46.84	53.16
1901-1911	-48536	-56681	-105217	-4.99	-5.54	46.13	53.87

\* The proportion is calculated as current migrants over the native population in the subsequent census plus current migrants (that is the total native population at the end of the decade if nobody had moved out). Current migrants are still considered as such even if they were resident in another county in the same population category.

standard errors for the total losses in each population category can be found in appendix XI.<sup>4</sup>

Hunt's analysis of regional wage variations has been used to explain the economic situation in each category and this may begin to account for the differing patterns of current migration.<sup>5</sup> The social conditions in each category also had important implications for population movement, but no comparative research on social conditions is known and indeed in some areas even the basic research is lacking. Where possible this discussion will include some analysis of the social structure of the population categories, but this will lack the rigorous analysis of Hunt's comparative dimension.

It should be noted that this study included an era of agricultural depression, 1875-1900, but Devine has argued that "in no sense was the period... one of 'depression' for the Scottish agricultural labour force. In these years wages and conditions changed for the better."<sup>6</sup> Large scale rural-urban migration and emigration cannot therefore be directly linked to this depression, although locally it may be significant.

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4. See Appendices, appendix XX, pp.194-8.

5. Hunt, E.H. *Regional Wage Variations in Britain 1850-1914*, (Clarendon Press, Oxford, 1973).

6. Devine, T.M. "Scottish Farm Labour in the era of Agricultural Depression, 1875-1900" in Devine, T.M. ed. *Farm Servants and Labour in Lowland Scotland 1770-1914*, (John Donald, Edinburgh, 1984). p.248.

## CURRENT MIGRATION FROM THE DECLINING POPULATION CATEGORIES

These two categories contained relatively small and decreasing proportions of the total Scottish population.<sup>7</sup> It was therefore not entirely surprising that these categories did not conform to the fluctuating pattern of troughs and peaks in current migration<sup>8</sup> that were apparent in the national data.<sup>9</sup> The declining categories were both rural areas with employment mainly in agriculture, although some employment in textiles came later in the century in the south.<sup>10</sup>

## CURRENT MIGRATION FROM THE DECLINE NORTH CATEGORY

In the decline north category the proportion of out-migrants in the native population was above the national average, except for male migrants in 1901-11. However, current migration fell over time, both in the volume and as a proportion of the native population, with the notable exception of the decade 1891-1901. Indeed the difference between the total number of migrants in the highest and lowest decades for out-migration was over 100%. This was the largest range in any population category and so clearly current migration patterns from the decline north category were changing far more than from any other category. Female migrants generally formed a higher proportion of the current migrant

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7. See chapter III, pp.133-4.

8. See table 6.2. p.206.

9. See table 6.1. p.203.

10. Lee, C.H. *The British Economy since 1700*, (Cambridge University Press, Cambridge, 1986), p.132.

population than in any other category. although this was less pronounced in the decades 1881-1901.

Unfortunately Hunt's regional wage analysis combines counties in the decline north category (the Highlands) with the those in the northeast and also Forfar, which in this study are in the "growth" category.<sup>11</sup> However, with regard to agricultural wages, Hunt noted that there were variations, Perth and Kinross having higher wages, while in the northwest crofting and payment in kind were common. This region (even when the northeast was included) was one of the lowest wage areas in Britain and indeed in 1907 labourers in Caithness, Orkney and Shetland were the worst paid in Britain.<sup>12</sup> Clearly there was a financial incentive to encourage long distance out-migration.

The crofting communities of the west experienced two decades of relative stability (1860s and 70s), their sneep were sold for high prices and the fishing industry grew rapidly.<sup>13</sup> This, Richards has argued, raised expectations which were not thereafter fulfilled.<sup>14</sup> Sometimes local casual work was available,<sup>15</sup> but crofter's income was mainly supplemented by a considerable volume

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11. The decline north category is part of region thirteen. Hunt. *Regional Wage Variations*. pp.8-9.

12. *Ibid.* pp.53-56.

13. Hunt, J. *The Making of the Crofting Community*, (John Donald, Edinburgh, 1976), pp.107-8.

14. Richards. *A History of the Highland Clearances. Vol.2.* p.489.

15. Devine. *The Great Highland Famine.* p.287.

of temporary migration.<sup>16</sup> Nevertheless, Devine has shown that estate policy strictly enforced could cause subtle, but in the long-term substantial, out-migration or emigration.<sup>17</sup> Moreover, in some areas crofters were being deprived of their hill pasture for animals as it was fenced for deer forests. Furthermore, as the animals also spoiled the crofters crops,<sup>18</sup> deer forests were a serious threat to their fragile economy,<sup>19</sup> and increased crofter's dependence on external earnings.<sup>20</sup> There were a series of bad seasons between 1856-1890, recalling the earlier potato famine and accommodation remained squalid,<sup>21</sup> therefore "the majority of inhabitants... continued to endure an existence of poverty and insecurity after 1861,"<sup>22</sup> and movement out of the Highlands continued.

It should however be noted that the majority of the foregoing discussion referred to the North and Western Highlands. The inland counties of Kinross and Perth although part of this population category cannot be included in this analysis and no study is known of this area. Yet Perth was one of the few counties

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16. Devine. "Temporary Migration and the Scottish Highlands". pp.334-359.

17. Devine. *The Great Highland Famine*. pp.238-41.

18. Orr. *Deer Forests Landlords and Crofters*. pp.131-2.

19. *Ibid.* pp.119-23.

20. Deer forests may have encouraged the growth of a tourist industry and provided some employment in towns. *Ibid.* p.123.

21. Devine. *The Great Highland Famine*. pp.295-6.

22. *Ibid.* p.295.

experiencing absolute decline in county-of-birth population<sup>23</sup> and clearly this needs further investigation.

#### CURRENT MIGRATION FROM THE DECLINE SOUTH CATEGORY

In the decline south the proportion of current migrants consistently exceeded the national average (indeed the proportion of the native population migrating was generally higher than for any other population category. This pattern occurred despite the declining populations of the counties in this category, and indeed the volume of current migrants generally increased until 1901.<sup>24</sup> Moreover, the proportion of male to female migrants was generally very close and in the decade 1881-91 male current migrants actually exceeded females. The proportion of male current migrants was a consistently higher proportion of the male native population than that of females, unlike in the decline north category where the reverse was true.

This pattern in the decline south category is difficult to account for, as Hunt's study of regional wages shows this region<sup>25</sup> to be one of high agricultural wages (the staple economic activity), but "it lacked the substantial industrial centres of the kind in which urban wages were usually high and well-paid

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23. See chapter V, pp.193-4 and Appendices, appendix XXXI, p.325.

24. The proportion of current migrants in the native female population did not rise in the decade 1881-91. See table 6.2, p.206.

25. Hunt's analysis includes the counties of Peebles and Selkirk in the region eleven, as well as all the decline south category counties. Hunt. *Regional Wage Variations*. pp.8-9.

occupations commonplace".<sup>26</sup> There was however increased employment in textiles.<sup>27</sup> The nearby "boom" category county of Selkirk in particular was growing very fast.

In the dairy farming counties of the southwest (Dumfries, Kirkcudbright and Wigtown) male employment in agriculture fell more heavily than in Scotland as a whole, and this trend was most pronounced in Wigtown; whereas female employment fell more extensively in Dumfries and Kirkcudbright than the national average.<sup>28</sup> In the Border counties of Berwick and Roxburgh mixed farming prevailed and Robson has also shown that here social changes were also underway, the employment of bondagers was becoming less common and money wages were taking over. This meant that agricultural workers were no longer protected from steep price rises.<sup>29</sup> This was likely to make them more willing to move in bad times. Moreover, Robson cites evidence that even in the late eighteenth century the inhabitants of the Border counties had always been very mobile.<sup>30</sup>

#### CURRENT MIGRATION FROM THE GROWTH CATEGORY

In this category the proportion of current migrants also consistently exceeded the national average. In the decade 1861-71

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26. *Ibid.* pp.47-50.

27. Lee. *The British Economy.* p.136.

28. Campbell. "Agricultural Labour in the South-West," pp.67-8.

29. Robson, M. "The Border Farm Worker" in Devine, T.M. ed. *Farm Servants and Labour in Lowland Scotland 1770-1914*, (John Donald, Edinburgh, 1984), pp.91-4.

30. *Ibid.* p.91.



the current migration losses by volume were almost as high as those in the boom category, though they represented the loss of a higher proportion of the native population. However, thereafter the volume of current migrants in the growth category failed to increase as rapidly as that in those in the "boom". This was because although the proportion lost through current migration in the growth category was consistently higher, the extraordinary population increase in the boom category meant that the volume of current migrants could increase, despite the lower proportions lost.

The growth category had fluctuating rates of current migration loss, but when out-migration was calculated as a proportion of the native population it was clear that the fluctuations were increasing in impact over time. For example the largest migration losses by volume were in 1891-1901 and the lowest were in the subsequent decade.

The proportion of male to female out-migrants was generally close to unity. Male current migrants generally exceeded females as a proportion of the native population, although more females left than males, but in 1891-1901 the decade of high out-migration, male migrants exceeded females in all measurements.<sup>31</sup>

The counties forming this population category were very disperse and cannot be related directly to Hunts' regional work.

31. It should be noted that in the growth population category male current out-migrants exceeded females in a decade of particularly high out-migration. However, in the decline south category, the decade when male migrants exceeded females was not a decade of exceptionally out-migration. Very high out-migration is therefore not in itself a cause of reversal of normal trends. See table 6.2, p.206.

Nevertheless, it is possible to show that agricultural wages in this category were below the British average in 1867-70, but improved overtime and were above the British average by 1898.<sup>32</sup> This suggests that increasing employment in industry may have been forcing agricultural wages upwards. Certainly Carter reckons that real wages in the northeast rose 30%.<sup>33</sup> This was because farm labour was in short supply, due to a decline in crofting, the traditional source of additional farm workers. At the start of the period (1861) this region was experiencing agricultural improvement, farms were being enlarged by incorporating crofts and displaced farmers and their offspring were increasingly unable to find other small farms to rent.<sup>34</sup> Only crofts that were useful as a method of reclaiming land were encouraged. After 1870 crofting which relied on family labour declined because crofters were unable or unwilling to continue paying the rents and their families no longer prepared to stay.<sup>35</sup> There was therefore movement from the land throughout the period, both emigration and migration.<sup>36</sup>

However, the pattern for individual industries is not so clear, as Campbell has shown that in 1886 wages in the granite industry (Aberdeen) were high but in the jute industry (Forfar)

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32. Appendix to chapter one and table 1-4 recalculated. Hunt. *Regional Wage Variations*. pp.63-4.

33. Carter. *Farm Life in Northeast Scotland*, p.86. Carter considers the northeast to include the counties of Aberdeen, Banff, Elgin, Kincardine and Nairn.

34. Harper. *Emigration from North-East Scotland, Vol.1*, p.166.

35. Carter. *Farm Life in Northeast Scotland*. pp.95-6.

36. Harper. *Emigration from North-East Scotland, Vol.1*. p.166.

they were low.<sup>37</sup> The latter is particularly important because a quarter of all new jobs in Tayside were in textiles.<sup>38</sup>

#### CURRENT MIGRATION FROM THE BOOM CATEGORY

The proportion of current migrants in this category was always below the national average. The boom category had the highest levels of population growth (every county had demographic growth in excess of 50% and sometimes much higher) and yet the difference between the highest and lowest volume of current migration in any decade was only 49%, which suggests that the level of current migration was declining. Indeed the proportion of out-migration was high in the first two decades and greatest in the decade 1871-81, while it was lowest in 1901-11. The proportion of current migrants to the native population did not fluctuate wildly and indeed the decades 1881-1901 were remarkably similar. The proportion of male to female out-migrants remained remarkably constant throughout the period although there was a slight increase in female migration vis-à-vis male.

This analysis has highlighted the main differences between the population categories. Current migration was above the national average in three of the four population categories. The lowest levels of current out-migration were found in the boom category. In Hunt's study the boom category corresponds approximately to region

37. Campbell, R.H. *The Rise and Fall of Scottish Industry 1707-1939*, (John Donald, Edinburgh, 1980), p.82.

38. Lee, C.H. "Regional Growth and Structural Change in Victorian Britain" in *Economic History Review*, vol.34, 1981. p.448.

twelve."<sup>39</sup> In this region wages improved relative to the other regions both in agriculture and industry, so that "by the early twentieth century it was one of the four highest-wage regions in Britain."<sup>40</sup> Clearly for natives of this category nowhere else in Scotland was able to offer better prospects, while at the same time it was extremely attractive to migrants from other regions. As Hunt has noted the "long term demand for labour was buoyant and wages were characterized by long-term improvement relative to other parts of Britain."<sup>41</sup> However, Lee has found that only in the Lothians was service provision comparable to that in the southeast of England, and the professional classes were under-represented in Fife, Stirling and the counties comprising Strathclyde. The counties that were within the boom category did not generally offer as good employment prospects for all classes as were available elsewhere in Britain.<sup>42</sup>

With regard to rural urban movement which still occurred in all the population categories, "rural incomes remained below urban so the effect of migration was to shift population to high wage areas."<sup>43</sup> Moreover, as Baines has observed "the rural-urban

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39. The counties of Ayr, Clackmannan and Haddington which are in the growth category in this study are also included in region twelve in Hunts' analysis. Hunt, *Regional Wage Variations*, pp.8-9.

40. *Ibid.* pp.50-3.

41. *Ibid.* p.177.

42. Lee, C.H. "Modern Economic Growth and Structural Change in Scotland. The Service sector Reconsidered" in *Scottish Economic and Social History*, vol.3. 1983, pp.5-35.

43. Baines, D.E. "The Labour Supply and the Labour Market 1860-1914" in Floud, R. and McCloskey, D. eds. *The Economic History of Britain since 1700, vol.2: 1860 to the 1970s*. (Cambridge University Press, Cambridge, 1981), p.158.

migrant could expect to benefit from lower urban prices for everything except rent and sometimes from greater employment opportunities for his family."<sup>44</sup> Throughout the study there remained better prospects for migrants in the urban centres, but as Tranter has argued the reasons for a migrant moving went beyond the purely pull motive.<sup>45</sup>

### 3. AGGREGATE CURRENT MIGRANT LOSSES BY COUNTY-OF-BIRTH

It is not proposed to analyse every county in great detail, but instead to highlight the main features of current migration patterns with examples. The aggregate computer estimates for every county-of-birth are tabulated in appendix XVI<sup>46</sup> and these should be referred to throughout this discussion.

The first point to notice is that the estimated percentage losses vary considerably according to the size of the county. As already noted, in a county that was small in area and did not contain a major town, many local moves could involve crossing a county boundary.<sup>47</sup> It is perhaps surprising therefore that in Kinross only about 25% of the native population migrated in any decade despite its small size. In a county with a small population, migration can fluctuate wildly due to the booms and recessions of a

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44. Ibid. p.156.

45. Tranter. *Population and Society 1750-1940*. pp.126-52.

46. See appendices, appendix XVI, pp.145-9.

47. See chapter V, p.198.

single industry such as woollen textiles in Selkirk.<sup>48</sup> Clearly results from these small counties should be treated very cautiously. The larger the physical size of a county, the less likely there are to be violent fluctuations in the results particularly if it has a major town within it. Moreover, when a big county with a large population does show a marked difference from the normal trend then it is significant because it was likely to have a broader based economy.

Five estimates of the percentage loss are provided for both males and females in every county, one for each decade from 1861-1911. These estimates are provided in appendix XVI<sup>49</sup> and it can be seen that the application of two standard errors plus or minus makes very little difference to the estimate. The estimates for Argyllshire males in 1891-1901 for example vary by 1.1% and 0.6% when standard errors are deducted or added. (The method of applying standard errors means that the degree of error is never constant).<sup>50</sup>

The estimates of current migration losses have been mapped according to sex for every county and in each decade to provide an

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48. There are slight problems with data from Galashiels in Selkirk in 1861 (see appendix I Selkirk). The rapid growth of the woollen textile industry in Galashiels reduced current out-migration in Selkirk, but later falling prices and decreasing demand in the woollen industry caused very high out-migration in the decade 1891-1901, indeed Lenman has calculated that the population of Galashiels "fell by a quarter". Lenman, B. *An Economic History of Modern Scotland 1660-1976*. (Batsford, London, 1977), p.187.

49. See appendices, appendix XVI, pp.145-9.

50. See Appendices, appendix XII, pp. 126-9.

overall picture of movement in Scotland.<sup>51</sup> These maps should be used in conjunction with the map showing population density in Scotland.<sup>52</sup> This is because a county that reveals high losses may in fact have a very low density of population and although such losses would be very relevant in the local or regional context, the numbers involved could be insignificant in an analysis of movement in Scotland as a whole. The counties of Kirkcudbright and Wigtown are good examples of counties with high current migration percentage losses but low population densities. Their population loss was therefore very significant locally and within the region of the southwest, but not so nationally where the greatest volume of current migration was within the Central Lowlands. This is an important point, as the greatest volume of current migration is always from the urban-based population of the Central Lowland counties regardless of the far greater percentage losses in other parts of the country.<sup>53</sup> The extraordinarily high proportion of the Scottish population concentrated in this area<sup>54</sup> makes this inevitable. Rural-urban migration although significant is never the dominant form of inter-county migration in the period 1861-1911.

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51. See Appendices, appendix XIX, pp. 188-93.

52. See chapter III, map 3.3. p.126.

53. The urban counties of Scotland referred to here are the same as those already used in the earlier discussion on inter-regional migration and listed in table I. (Ayr, Clackmannan, Dunbarton, Edinburgh (Midlothian), Fife, Forfar (Angus), Haddington (East Lothian), Kinross,\* Lanark and Renfrew, Linlithgow (West Lothian) and Stirling.

\* Kinross is included with these counties for geographical uniformity, although it is certainly not an urban county.

54. See chapter III, map 3.3. p.126 for population density.

The maps in appendix XIX<sup>55</sup> show that there are no clear regional current migration patterns. The information was therefore replotted to show the relationship of the individual county-of-birth to the national average for both sexes (table 6.1.)<sup>56</sup> and these are shown in map 6.1. It was not unusual for a county to remain in the same classification throughout the period 1861-1911. Indeed almost half the counties were consistently above the national average for both sexes, while three were always below.<sup>57</sup> The majority of counties (where measurement was possible<sup>58</sup>) were always above the national average. Lanark and Renfrew were consistently below the national average and the very large populations in these counties distorted the national average.

It is interesting that all the population categories had some counties above and others below the national average in most decades, and so the proportion of migrants is not directly linked to the demographic characteristics of the county-of-birth. The declining population categories had generally high rates of out-

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55. Appendices, appendix XIX, pp.188-93.

56. See table 6.1. p.203.

57. The counties-of-birth that had a proportion of current migrants consistently above the national average for the decades 1861-1911:- Argyll, Ayr, Berwick, Bute, Clackmannan, Dunbarton, Elgin (Moray), Haddington (East Lothian), Inverness, Kincardine, Kinross, Linlithgow (West Lothian), Nairn, Peebles and Perth. The counties-of-birth that had a proportion of current migrants consistently below the national average for the decades 1861-1911:- Aberdeen, Lanark and Renfrew and Shetland.

58. Only counties where both male and female proportions of current migrants were above or below the national average were considered. Only a very few counties had to be omitted, the largest number being four in the decade 1901-11 because the two sexes did not reveal common trends.



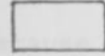


MAP 6.1.

CURRENT MIGRATION: THE RELATIONSHIP  
OF THE PROPORTION LOST BY COUNTY-OF-  
BIRTH TO THE NATIONAL AVERAGE \*

KEY

\* See table 6.1. p.203.

-  Both sexes above the national average
-  Both sexes below the national average
-  Results for each sex differ



1861-1871



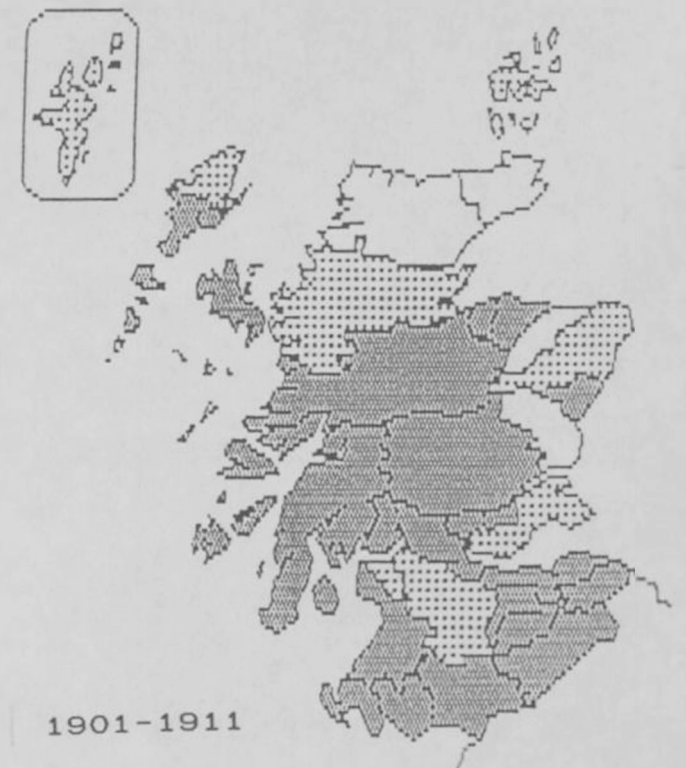
1871-1881



1881-1891



1891-1901



1901-1911

migration, but Shetland was consistently below average and Orkney and Ross and Cromarty were also low in three of the five decades, and likewise in the southern decline category both Dumfries and Roxburgh were low in two decades. In the growth category Aberdeen had a consistently low proportion of out-migrants. The boom category was the only one with a below average proportion of migrants, yet Dunbarton, Fife and Linlithgow (West Lothian) were consistently above the national average.

This approach can provide an overview of county migration. Referring back to appendix XIX,<sup>59</sup> the proportion of out-migrants lost becomes clearer (map 6.1. shows only the general trend in relation to national average). For example Kincardine has high rates of out-migration for both sexes in every decade, probably because it is surrounded by two counties with more industrial growth. Perth has consistently higher out-migration than the national average (map 6.1.) but appendix XIX shows that it was decreasing. It has already been noted that current migration from Lanark and Renfrew was low, as it was also from Aberdeen. Probably these counties offered the best opportunities in their immediate area and so there was less incentive to migrate.

Many counties-of-birth show a marked increase in the percentage of current migrants leaving in the decades 1871-1881 and 1891-1901.<sup>60</sup> This pattern is of interest especially when compared

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59. See Appendices, appendix XIX, pp. 188-93.

60. Counties-of-birth that showed a marked increase in current migration in the decades 1871-1881 and 1891-1901:- Banff, Berwick, Caithness, Clackmannan, Dumfries, Fife (females only), Kirkcudbright and Ross and Cromarty.

with emigration and will be taken up again in a subsequent chapter (chapter X).

It was anticipated that the maps of migration loss would show regional variations according to decade. This has not been the case, and indeed individual counties such as Roxburgh seem to follow a pattern that is unique to themselves. For example, current out-migration from Roxburgh was high in the decade 1861-1871 when it was low in the surrounding counties, and the reverse occurred in the subsequent decade. In 1881-1891 Roxburgh again exhibits higher levels of out-migration, (both in relation to itself in the previous decade and also with regard to nearby counties), but in this decade increased out-migration was a common feature in all the border counties. In 1891-1901 migration out of Roxburgh is lower than nearby counties, but all the border counties decline in the final decade.

Although current migration from a few counties such as Roxburgh fluctuate in a distinctive way, the results for most counties showed fluctuations that conformed to one of several patterns, and these will now be discussed. It should be noted that while either sex may predominate in current migration from different counties, peaks or troughs in the estimates are generally reflected in both sexes in the same decade. Shetland is however a notable exception to this, with each sex having quite different decades of high losses.<sup>62</sup>

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62. The peak losses of males from Shetland occurred in the decade 1891-1901, when the county lost 8.9% of the population but in the subsequent decade departures fell to only 0.8%. The female losses followed an entirely different pattern, the greatest being in the

The clearest current migrant pattern is one of steadily declining losses. Ayr is an example of a county which has the highest current migration losses in the decade 1861-71 and thereafter the percentage loss is progressively less severe. This is not entirely surprising as Ayr was a county with a growing population and with expanding industrial development, and thus increasingly able to hold its population. Dunbarton, Fife, Linlithgow and Stirling, which were all counties with "booming" population expansion reveal (with minor blips) migration patterns similar to that of Ayr and for the same reasons. What is perhaps more surprising is that both Argyll and Perth also conform to this migrant pattern, because both counties were experiencing absolute population decline<sup>63</sup> and yet they share the same current migrant profile as "boom" category counties. This raises the important point that counties-of-birth can share current migrant patterns without experiencing the same population expansion or decline. As noted in chapter V<sup>64</sup> some of the counties-of-birth with the greatest population growth also had very high rates of out-migration. All that can accurately said about these estimates is that the aggregate percentages show that the greatest proportion of the total population chose to leave the county-of-birth in question

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decade 1861-71 (4.6%) and thereafter there was a steady reduction in losses until the decade 1901-1911, with only a minor blip in 1891-1901.

63. See chapter V, pp.193-4. It should be noted that in Perth current migration declines from approximately 14% to 7% and in Argyll from 12% to 8% (the latter having a blip in 1891-1901). Out-migration therefore remains at a significant level equal for example to that in Ayr (12%-7%).

64. See chapter V, pp.197-8.

in decade 1961-71 and that subsequently this percentage continued to decline.

Kincardine experienced the reverse of the previous pattern, there being (with minor blips), a steadily increasing percentage of out-migration in almost every decade. In Kincardine crofting was declining because, as Carter writes, "Capitalist agriculture moves in to replace a family farming system that has lost the capacity to resist the intrusion."<sup>65</sup> Carter assumed considerable emigration,<sup>66</sup> but appendix XIV shows that migration was the more important movement from this county.<sup>67</sup>

Edinburgh (Midlothian), in contrast to all the other counties-of-birth, showed very little variation in the percentage loss of current migrants for both sexes, the estimates oscillating between 6.4% and 6.9%, except in the first decade when it was lower (5.9% for male and 5.5% for female migrants). Lanark and Renfrew also showed very little variation. These are the counties with very large populations and attracting vast in-migration. It should be noted that whilst the volume of out-migration is high, it represents only a small proportion of the total population. The consistency of the numbers leaving suggests that this is the migration equivalent of "natural wastage", that is the percentage

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65. Carter, I. "Dorset, Kincardine and Peasant Crisis: A comment on David Craig." in *Journal of Peasant Studies*, 1975 11, p.487.

66. Carter. "Dorset, Kincardine and Peasant Crisis." pp.483-8 and Carter, *Farm Life in Northeast Scotland*. p.95.

67. See Appendices, appendix XIV, p.140.

of the native population that will leave a prosperous county regardless of outside influences.

Some counties-of-birth lost consistently greater percentages of one sex than the other to current out-migration. Male current out-migration generally exceeded female in some northeast counties and the Borders.<sup>68</sup> In contrast female current out-migration usually exceeded male in most of the Highland and the West and Central Lowland counties.<sup>69</sup> Where there was a bias in favour of greater migration losses for one sex than the other, it appears to be related to availability of work in the county-of-birth.<sup>70</sup> However, the greater the population loss of one sex in the past, the smaller the present native population of that sex will be and therefore the actual loss can be less than that of the opposite sex in actual numbers, but still form the greater percentage loss. There is however some validity in this method of measurement, because if excessive population loss is confined to one sex its significance for the total population is greater, unless compensated by in-migration.

While the aggregate current migrant percentage estimates do show significant current migrant losses in all counties-of-

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68. Male current out-migration generally exceeds female in:- Banff, Berwick, Dumfries, Forfar (Angus), Kirkcudbright, Perth, Roxburgh and Wigtown.

69. Female current out-migration generally exceeds male in:- Argyll, Bute, Dunbarton, Inverness, Kincardine, Lanark and Renfrew, Linlithgow (West Lothian), Orkney, Stirling and Sutherland.

70. It should be noted that in absolute terms this may not mean that for example males are exceeding females (see chapter V, p.196 for further analysis).

birth in any decade, and therefore provide a useful tool for analysing overall trends, they also conceal a lot of information. For example, almost all the counties-of-birth experience current return migration and for some it is very significant. The aggregate figures disguise these important patterns and so the current migrant age-structure will now be considered in more detail.

#### 4. THE AGE-BAND OF DEPARTURE FOR CURRENT MIGRANTS

This section will consider the age-band in which current migrants left. There are two important issues that arise from the estimates of current migration losses by age-band of departure: the first is the differences between categories and the second is the changes over time.

#### CURRENT MIGRATION BY POPULATION CATEGORY

Table 6.2.<sup>71</sup> showed that each population category was quite distinctive in its current migrant profile.<sup>72</sup> It is not therefore surprising that the four categories have produced different migrant age-structure patterns, and these will now be considered individually using appendices XX and XXI.<sup>73</sup> It should be noted that two diagrams have been produced for 1901-1911: one shows the

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71. See table 6.2. p.206.

72. See pp.208-17.

73. See Appendices, appendix XX, pp.194-8 tabulates the standard errors for the age-band of departure by population categories. Appendix XXI, pp.199-223 shows the age-structure of the migrant population diagrammatically.

results using the projected 1901 and 1911 migrant age-structure and the second using the 1891 age-structure.<sup>74</sup>

#### THE AGE PROFILE OF CURRENT MIGRATION FROM THE DECLINE (NORTH) CATEGORY

We have already seen from table 6.1.<sup>75</sup> that the ratio of female current migrants was far greater than for males: indeed it was almost invariably the highest in any population category<sup>76</sup> and was always well above the national average.<sup>77</sup> Nevertheless, both sexes produced remarkably similar age-band profiles with high losses in young children and the greatest loss in the age-band 20-24 years. The estimates of child migrants were however lower than in the other population categories (to be considered subsequently). The decline north was the only category where the number of adult migrants in the age-band with the greatest volume consistently exceeded that of the highest one for children and so the volume of child emigration was clearly less than for other categories. With regard to adult migrants there was relatively little out-migration of people over 30 years, but far more young, adult females (aged 15-24 years) were migrating than males. Superficially this would

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74. For information on the reasons for producing both estimates see chapter IV, pp.160-1. The second estimate with the 1891 migrant age-structure in 1901-11, is only provided in Appendices, appendix XXI, pp.199-223.

75. See table 6.2. p.206.

76. In the decade 1891-1901 the females to males from the boom population category was marginally higher but the two categories were so close as to be within the margin of error. (see table 6.2. p.206).

77. Table 6.1. p.203.



appear to produce a very unbalanced young adult sex ratio in the county-of-birth, but Devine has shown that the Highland counties sex ratio in the age group 25-29 years was "virtually identical" to the Scottish norm.<sup>78</sup> The sex ratios of those leaving will be considered in more detail subsequently.<sup>79</sup>

The age-bands exhibit pronounced differences in numbers, perhaps because of the distance from areas of attraction, which would mean that people only moved when essential, thus tending to concentrate current migrants into specific age-bands. Even at this aggregate level return migration is in evidence in the older age-bands and it becomes increasingly important over time.<sup>80</sup> Indeed when the 1901-1911 material, was re-run using the 1891 migrant age-structure, the revised figures produced an increase in the number of young migrants but did not reduce the high levels of return migration. This suggests that the evidence of return migration is not simply an artifact created by the migrant age-structure.

#### THE AGE PROFILE OF CURRENT MIGRATION FROM THE DECLINE (SOUTH) CATEGORY

This category had a far greater proportion of children under 5 years as current migrants than "Decline North". Child migrants were the numerically dominant group in the first four decades (1861-1901) for males and this was also true for females up

78. Devine. *The Great Highland Famine*. p.289.

79. See chapter VIII, pp.289-90 and chapter XI, p.414.

80. During computation return migration is easily identified, because whereas out-migration is always negative, return migration is positive.

to 1891. There was a trough in the migrant losses in the age-band 10-14 years. Females had a second peak in migration in the age-band 20-24 years, while for males this second peak was not very pronounced in 1861-71 but thereafter became more so. The peaks in migration from the decline (south) category were generally not as pronounced as those from the north, implying that migration was more evenly spread throughout the age-bands, perhaps because many of the counties in this category were not so remote from centres of attraction as those in the north. As in the north out-migration was hardly apparent after 30 years of age. There must have been parents moving with their children, but as the results were net returns frequently cancelled out departures, a situation that must also have occurred in the north.

#### THE AGE PROFILE OF CURRENT MIGRATION FROM THE GROWTH CATEGORY

Children under 5 years formed the largest proportion of current migrants in any single age-band. For males this was true throughout the period and, for females until 1891. Over time there was an increasing similarity in the numbers leaving in each age-band up to 25 years. Females formed the majority of the adult migrants and although most current migration was completed by 30 years, males in particular did continue a low level of mobility thereafter. Return migration increased at the end of the period.

#### THE AGE PROFILE OF CURRENT MIGRATION FROM THE BOOM CATEGORY

"Boom" category migrants have been left to last because the current migrant age-structure was quite unlike any other. The volume of current migrants was enormous because the bulk of the

Scottish population was born in this category. Nevertheless, the proportion of current migrants in this category were consistently below the national average, making the boom category the only one where this occurred.

In 1861-71 the majority of the current migrants were less than 5 years and thereafter the numbers in each age-band dropped so quickly that current migration was negligible after 24 years for males and after 29 years for females. There was no second adult peak of current migrants. For males this pattern changed only slightly with time, but for females it altered gradually and more adult out-migration occurred in the age-bands up to thirty years.<sup>81</sup> Small amounts of return migration were recorded.

#### THE AGE PROFILE OF CURRENT MIGRATION FROM THE POPULATION CATEGORIES - DISCUSSION

The four categories revealed different current migrant age-structures. Nevertheless, there was some obvious affinity between all except the boom classification. The three similar categories had two periods of increased current out-migrant activity. The first involved young children and gradually tailed off as the children became older. The age-band 10-14 years was consistently the one when least child migration took place. Thereafter, there was an upsurge in migration again either of older family parties or

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81. The significance of the 1901-11 estimations is open to question. If the projected migrant age-structure is used, then female current migration in the age-band 15-19 years is more or less equally important as child migration 0-4 years. However, if instead the 1891 migrant age-structure is used for calculations, children continue to dominate current out-migration. (see chapter IV, pp.160-1. for further information on the two migrant age-structures).

TABLE 6.3.

OUT- AND RETURN MIGRATION IDENTIFIED FROM THE BIRTHPLACES OF THE  
FAMILY RESIDENT IN AYRSHIRE.\*

name	status	age	occupation	birthplace	
David McClymont	Head	mar	49	Woollen Weaver	Ayr, Maybole
Mary	wife	"	49		" "
James	son	unm	24	Shoemaker	" "
Mary	daug	"	17	Machinist Shoes	" "
Maggie	"	"	15	"	" "
David	son	"	12	Scholar	Argyll, Campbelltown
John	"	"	10	"	" "
William	"	"	8	"	" "
Robert	"	"	6	"	" "
Joseph	"	"	3	"	" "

\* Maybole, Ayr, 1891, RD.605, ED.7, p.19, sch.81  
23 Carrick Place (2 rooms with windows)

of independent migrants. This new tide of migrants rose to a peak in the age-band 20-24 years and large scale movement appeared to end by the age of 29 years.

The age-band 25-29 years probably involved large numbers of married migrants, but evidence from the samples suggested that individuals were continuing to migrate when much older than the tables suggest. This was certainly true of a family from Maybole, Ayr (see table 6.3): using the children's birthplaces as evidence it appears that the parents were about 37 years old when they migrated to Argyll, only to return 9-12 years later. Members of the family who, by this second move were rendered return migrants were

aged approximately 47 years (the parents) and 22, 15 and 13 years (the three oldest children). The parents were well above the age for mass exodus of migrants and their movement was probably masked by those returning. Moreover, the children as young return migrants would have cancelled out a similar number of young out-migrants.

In the "boom" category counties, the proportions of current migrants were not particularly high and yet the estimates by age-band show almost entirely child current migration, especially in the earlier decades of this study. This appears to illustrate the limitations of the method used in this study to estimate current migration. Since this method used the county-of-birth as the measure of migration, it ignored all intervening moves. In an area of "booming" growth, frequent inter-county migration for some migrants was probably inevitable, especially as the areas of greatest expansion were quite close. This secondary migration cannot be measured. It is clearly a mistake to consider county-of-birth as anything other than a transient location, an accident of time for some migrants. Table 6.4. provides an example of inter-urban county mobility, it shows that the children of the family living in Bathgate, Linlithgow (West Lothian) had been born in four different counties in the Central Lowlands, but were actually enumerated as living in a fifth county. Some of the children were already seasoned migrants, the eldest daughter having lived in at least four counties excluding the one in which she was born.

The "boom" category estimate showed that the first move for many migrants occurred at under 5 years and thereafter numbers tailed off sharply. This would give the "boom" category a migrant

TABLE 6.4.

INTER-COUNTY MIGRATION WITHIN THE CENTRAL LOWLANDS IDENTIFIED BY  
THE BIRTHPLACES OF A FAMILY RESIDENT IN LINLITHGOW (WEST LOTHIAN).\*

name	status	age	occupation	birthplace	
William Brown	Head	mar	40	Miner	Ayr, Muirkirk
Marion	"	wife	"		Edinburgh, Newton
Jane	"	daug	unm	17	" "
Thomas	"	son	"	13	Fife, Dysart
William	"	"	"	10	Haddington, Portseaton
Robert	"	"	"	7	Edinburgh, Newton
Marion	"	"	"	1	Lanark, Cambusneathan

\* Bathgate, Linlithgow, 1861, RD.662, ED.4, sch.120, p.25,  
Cochrane Street, (1 room with windows)

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age-structure similar to that of the "decline (north)" with its dramatic peaks and falls, which seems most unlikely. Much more reasonable would be a current migrant age-structure similar to that of the "growth" category, with which it shares some population features. It is therefore probable that after the first two age-bands, out-migration and in-migration were already beginning to cancel each other out, hence the very dramatic apparent decline in out-migration. However, it is also the case that many outsiders, both migrants and immigrants, must have had children born in this category and in this situation the parents would be recorded under their county or country of birth.<sup>82</sup> The problems of age-structure

82. This problem has already been identified in the life-time migrant population of rapidly growing counties-of-birth. See chapter V, p.193.

of both emigrants and migrants from the boom category will be considered in more detail subsequently.<sup>83</sup>

#### CHANGES IN THE CURRENT MIGRANT AGE-STRUCTURE ACROSS FIVE DECADES

The following discussion probably applies to all categories of migrant age-structure, but was scarcely evident in "boom" category males. The migrant age-structures for 1861-71 and 1871-81 differed very little in the relationship between age-bands. However, thereafter there was a gradual but steady decline in the proportion of young children so that by 1891-1901 (with the exception of boom category) the number of migrants in the age-band 20-24 years had fundamentally altered the relationship between that age-band and those less than 5 years. The evidence of the life-time migrant samples supports this analysis, in that there were less young migrants in the total migrant population in 1891 than in 1861.<sup>84</sup> However, these comments must be treated with caution, as the migrant age-structure used in the computation was projected after 1891, and reference to the 1901-1911 results using the 1891 age-structure shows less change in the relationship between children and young adults. There are two possible reasons why the projected estimates might be more accurate. The first is demographic; the declining fertility rates plus improving age-specific mortality meant that there were less young people in proportion to the total population.<sup>85</sup> The second is that it has

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83. See chapter VIII, pp.329-31.

84. The migrant samples had to fit the published migrant age-structure, this was known to have changed between 1861 and 1891. See chapter III, pp.127-38.

already been established that migration patterns were changing and therefore the volume of children vis-a-vis other age-bands might be altering. Although there is a slight fall in numbers of the very young in the "declining" categories there was no evidence of a marked drop in the number of current migrants aged less than 5 years except in 1901-1911, and this depended on the method of computation used.<sup>86</sup> The proportion of migrants in the life-time population was increasing until 1901,<sup>87</sup> but clearly the young were not increasing proportionally.<sup>88</sup> Indeed even in the "boom" category the volume of young migrants did not increase significantly after 1871. Less young children were migrating in proportion to the total population but there does seem to be some evidence that more were moving in the age-band 5-9 years, suggesting a modification in migrant patterns.

##### 5. THE AGE OF CURRENT MIGRANTS BY COUNTY-OF-BIRTH

The population category age-bands have provided an overview of the data on the age of current migrants and now the discussion

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85. See Appendices, appendix XXIX [c], p.303.

86. If the estimate of current migration used is that with the projected 1901 and 1911 age-structure, then there is a drop in the number of migrants below 5 years. However, if the 1891 age-structure is used for 1901 and 1911, the number of migrant under 5 years, is markedly higher and similar to the estimate for the previous decade.

87. See Appendices, appendix XXIX [t], p.303.

88. See Appendices, appendix XXIX [c], p.303. This improvement was not entirely unexpected, as increasing life expectancy would inevitably lead to a greater proportion of older people in the population. Nevertheless, improved infant mortality rates would also increase the survival prospects for children.



will turn to the individual counties. These results are presented in appendix XVIII.<sup>89</sup>

#### YOUNG MIGRANTS UNDER 5 YEARS

In many counties the number of young migrants under 5 years old was roughly the same for both sexes.<sup>90</sup> This is to be expected as young children migrate because of a family decision to move and therefore roughly equal numbers of both sexes seems rational. Despite the fact that the two sexes were calculated totally independently with their own age-specific mortality rates applied, for most counties the estimates showed similar results. There were however certain counties where the numbers of young children migrating never balanced<sup>91</sup> and a pattern seemed to emerge. The counties where the number of current migrants of both sexes under 5 years were similar tended (with the notable exception of Shetland)<sup>92</sup> to be those which were the greatest distance from the areas attracting migrants.<sup>93</sup> The counties which were losing young

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89. See Appendices, appendix XVIII, pp.155-87.

90. The larger counties where migrants under 5 years were roughly the same in numbers for both sexes were:- Berwick, Caithness, Inverness, Orkney, Ross & Cromarty and Sutherland. See fn.89.

91. Counties where there were always more current male migrants under 5 years than females:- Aberdeen, Banff, Edinburgh (Midlothian), Elgin (Moray), Forfar (Angus), Fife, Lanark and Renfrew, Perth, Roxburgh and Shetland. See fn.89.

92. Shetland has a most unusual migrant pattern with very little migration to nearby counties and very close links with Leith, Edinburgh (Midlothian). In the Enumeration books for Shetland it was not uncommon to see just "Leith" stated as the birthplace.

93. This discussion is supported by the 1861 evidence of Devine, who showed that the male majority which occurred naturally at birth was still present in the 0-9 years sex ratio in the remote West Highland parishes he selected. Devine. *The Great Highland Famine*. Table 12.2. pp.289-90.

males in greatest numbers were those which were, or were close to, migrant attracting locations. The excess of male child migrants over females was far greater than can be accounted for by the difference in number of births. The male bias in migrants of less than 5 years tends to correspond to the "boom", "growth" and "decline (south)" categories, but certainly does not include all the counties within these categories.

Clearly this interesting feature of young migration needs further investigation. The fact that some counties have roughly equal numbers of migrants under 5 years and others never do suggests that it is not just an artifact of the method, especially as already noted male and female migrants have their own age-specific rates applied to them makes this risk less likely.

#### CURRENT OUT-MIGRANTS IN THE AGE-BAND 5-9 YEARS

Current migrants aged 5-9 years occurred in roughly the same numbers in both sexes in most counties,<sup>94</sup> perhaps the reverse of what might have been expected considering the findings for those under 5 years. Whereas migrants in the younger age-band would have needed fairly constant supervision and been unable to work, those aged 5-9 years were capable of simple jobs and so different migration patterns according to sex might have been anticipated.

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94. The roughly equal numbers of current migrant males and females in the age-band 5-9 years occurs in every county-of-birth except Forfar (Angus) and up to 1881 in Fife where the age-band 10-14 years was when sexes were more or less equal.

The number of female migrants generally exceeded males in all age-bands up to 30 years. For adults greatest out-migration generally occurred in the age-band 20-24 years, though this was not always apparent for males.

Beyond thirty years of age the numbers of migrants were generally too small to investigate, or increasing return migration made it difficult to interpret the figures. However, in years of very high out-migration some counties showed losses in almost every age-band.<sup>95</sup> This was probably the "real" current out-migration situation, as in years of massive out-migration, return migration was probably low.<sup>96</sup> A county where this situation occurred was Forfar (Angus) which had a large population of over a quarter of a million and in the decade 1891-1901 current out-migration was unusually high.<sup>97</sup> Both sexes show losses through migration in all age-bands. Male migrants in the age-bands 30-49 years show fairly

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95. The counties (see fn.89) with unusually high current out-migration and the decade in which this occurred:-

1861-1871 Roxburgh  
 1871-1881 Kirkcudbright  
 1891-1901 Clackmannan  
           Forfar (Angus)  
           Selkirk

96. It seems unlikely that much return migration to a county would occur in decades of exceptional current out-migration.

97. It is not possible to account for this sudden increase in migration. Dundee was the main industrial centre and textiles the most important area of growth (see p.215). Walker does not analyse the economic fluctuations in Dundee manufacturing, but in the decade under consideration there was a serious strike in 1895 in the jute industry which may account for some out-movement. The jute industry was the largest employer in Dundee. Walker. *Juteopolis*, pp.167-73.

consistent losses which represent about a third of the losses of a young male adult age-band (for example those aged 15-19 years).<sup>98</sup> This middle-aged male migration (30-44 years) represented a loss of at least 5% of the native population in those age-bands. Females in the age-bands 30-39 years exhibited less tendency to migrate than males (although these data are far less reliable than that used for the male estimates),<sup>99</sup> but there was a blip in the age-bands 40-49 years, when out-migration almost trebled from the previous low. This could be accounted for by the evidence from the migrant samples which suggested that this increased migration probably reflected mothers moving with older children. The evidence for females from Forfar was less good, but it can be supported by evidence from several other counties, all of which show similar out-migration patterns in the older age-bands.<sup>100</sup>

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98. See Appendices, appendix XVIII, p.169, which shows the variation that occurred in each age-band when standard errors were applied. It can be seen that the errors were insignificant and do not affect the reliability of the conclusions.

99. It should be noted that appendix XVIII, p.169, shows that the standard errors for females in the age-bands 30-44 years are greater than those for males. However, even the extremes computed using the standard errors do not exhibit as high current out-migration for females as the more reliable male estimates.

100. Counties (see fn.89) which had very high levels of current migration in a decade, which has meant that almost every age-band contains out-migrants include:

Ayr (1861-1871)

Linlithgow (West Lothian) (1871-1881)

Roxburgh (1861-1871)

Selkirk (1891-1901)

Wigtown (1891-1901)

## 6. RETURN MIGRATION

Return migration<sup>101</sup> was in evidence in the majority of counties. In many it occurred in every decade, although it does appear to become increasingly significant in the later decades.

The estimates for every county suggest that return migration became an important feature in the age-structure of current migration over 30 years. The migrant samples also provided plenty of evidence of this phenomenon. Unfortunately the range of standard errors in the age-bands 30-39 years was generally high in most counties,<sup>102</sup> which worked against accurate quantification. Nevertheless, by the age of 40 years there was fairly reliable evidence of return migration in most counties. Consider the evidence of male return migration in Inverness.<sup>103</sup> If the age-band 0-4 years in the 1861-1871 estimates, the age-band 10-14 years in the subsequent census and the age-band 20-24 years in the next decade are aggregated and this is compared with the age-band 30-34 years in the decade 1891-1901, current return migration in the age-band 30-34 years accounts for approximately 10% of all the earlier migrants. This represents merely one age-band of several where return migration dominates. The return migration was net and would therefore have been balanced by some current migration, and so the percentage that returned was probably an under-estimate. Interestingly Baines concluded that 30% was a realistic minimum

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101. Return migration measures movement back to the county-of-birth, but not necessarily the place-of-birth.

102. See Appendices, appendix XVIII, pp.155-87.

103. See Appendices, appendix XVIII, p.171.

return migration rate,<sup>100</sup> and despite the totally different method of estimating migration, this study has also shown evidence of returning migrants, so perhaps one should regard the pattern exhibited in Inverness as normal rather than exceptional. In Argyll there was plenty of evidence of return migration in the samples, some of it related to the growth of Oban. In 1861 a carpenter returned with his young family having spent several years in Lanark and Renfrew,<sup>105</sup> and in 1891 return migration was still apparent in a labourer's family.<sup>106</sup> Return migrants were not just members of the working classes; for example a solicitor returned to Caithness having spent at least twelve years in Edinburgh.<sup>107</sup>

Return migration appeared to increase in a decade after unusually high out-migration. This apparent return ten years later is interesting because the method of computation used is not cumulative and though the results are therefore independently calculated, they still suggest that high out-migration may lead to

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104. Baines. *Migration in a Mature Economy*. p.104.

105. This move to Oban was current return migration for the parents, their three young children had been born in Lanark or Renfrew.

Oban, Kilmore and Kilbride, Argyll, 1861, RD.523, ED.3, sch.93, p.16

Tweedale Street (2 rooms with Windows)

106. Return migration in Oban. The husband had been born in Fife but his wife came from this parish. The wife had obviously returned before (perhaps only for a holiday or to give birth) as two of their children were born in Argyll and three in Glasgow.

Oban, Kilmore and Kilbride, Argyll, 1891, RD.523, ED.5, sch.186, p.29.

18 Burnside Street (2 rooms with Windows)

107. A professional family the head of which was a return migrant. He had previously lived with his large family in Edinburgh.

Wick, Caithness, 1891, RD.43, ED.1, sch.24, p.5

High Street, (9 rooms with windows)

increased return migration a decade later. This is clearly seen in Roxburgh,<sup>108</sup> in which 1861-71 was a decade of high out-migration. The subsequent decade had far less current out-migration and a marked increase in return migration. Current migration increased again in 1881-91 and there was also less return migration, but in both 1891-1901 and 1901-11 there was less out-migration and more migrants returning.

So far return migration has been referred to in terms of decreasing or increasing flows, but there is also a second interpretation which is theoretically possible. It has already been argued that in and out-migration cancel each other if both occurred in the same age-band. It is possible that the volume of return migration was fairly constant. This would mean that in-migration would appear largest in decades when there was least out-migration, and that decades apparently showing high return migration may instead be registering less out-migration.

## 7. CONCLUSION

This chapter has considered the computer estimations of current migration. It has shown that between 5.5% and 8.1% of the native population were current migrants in each decade and that far more females migrated than males. However, there was far more spatial variation than these bald figures suggest and when the data were divided into population categories, the proportion of migrants was highest in the decline south category, while the boom category was the only one with a below average proportion of migrants.

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108. See Appendices, appendix XVIII, p.182.

However, the very large population concentrated in this category meant it still contained the largest volume of current migrants.

The age-structure of the current migrant population was unexpectedly young, and in most categories the greatest number of migrants in any age-band were children. However, in the decline north category child migrants assumed a less significant role than in the other categories, while in contrast in the boom category the vast majority of all current migrants were children. Nevertheless, the age-structure of the migrant population changed over time and by 1911 there were fewer child migrants. It was not clear if this reflects demographic changes or a new migrant trend.

Return migration was in evidence in every county-of-birth and although it cannot be computed an estimate of 30% return migrants may well be realistic.



## CHAPTER VII

### MIGRATION: A COMPARATIVE APPROACH

#### INTRODUCTION

In 1909 Bisset-Smith wrote "the Scots are notoriously migratory".<sup>1</sup> The evidence so far presented seems to agree with this statement. However, estimates of movement alone cannot define mobility. This chapter will review internal movement within Scotland by comparing it both with other research on Scottish mobility and also contemporary migration elsewhere.

This discussion will begin by considering how this research relates to other work on Scotland, and will centre on whether Scots migration in this period was a unique experience, or was a continuation of earlier trends, and if it resumed after the 1914-18 War. Secondly, Scottish mobility will be compared with that in England and Wales. If it is to be argued that Scottish migration is in any way unique, then comparison with it's closest neighbour is essential. Moreover, similarities in the method of calculating migration<sup>2</sup> means that it is possible to make direct comparisons with the English results. Both similarities and differences will be assessed.

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1. Bisset-Smith, G.T. "A Statistical Note on Birth Registration in Scotland Previous to 1855; Suggested by Inquiries as to Verification of Birth for Old Age Pensions", *JRSS.* 72 (1909) p.618. quoted by Flinn. *Scottish Population History.* p.459.

2. Baines. *Migration in a Mature Economy.* pp.90-125.

## 1. THE SCOTTISH EXPERIENCE

### MIGRATION IN THE EARLY NINETEENTH CENTURY

There are no national studies of Scottish migration for the early nineteenth century to compare with this study. Nevertheless, it does appear that Scottish internal migration had altered since the early nineteenth century when, as Tranter has argued, migration was more diffuse and localised. Towns were generally small and were administrative and commercial centres, industry was small scale and as industrial and agricultural activity were closely linked industry was spatially scattered. Migration in the second half of the century was different in that movement was "increasingly concentrated towards a relatively small number of highly specific regions" such as Lanark and Renfrew.<sup>3</sup> Moreover, Tranter considers that the frequency of internal migration increased in the last quarter of the nineteenth century,<sup>4</sup> secondary movement cannot be measured in this study.

The volume of migration in the first half of the nineteenth century is difficult to ascertain, but for the decade 1831-41 Anderson and Morse have shown that many parishes experience population gains or losses in excess of 10%.<sup>5</sup> While this may not indicate movement on a scale found in this study, it is

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3. Tranter. *Population and Society*. pp.142-3.

4. *Ibid.* p.143.

5. Anderson and Morse. "The People." pp.19-22.

nevertheless significant. Moreover, Anderson and Morse have argued that there was a massive outflow of migrants in the 1650s.<sup>6</sup>

#### MIGRATION IN THE MID TWENTIETH CENTURY

This section will discuss aggregate migrant losses since the First World War in order to consider how they compare with the present study. It will then examine research on twentieth century migration.

No studies are known that consider twentieth century aggregate migration.<sup>7</sup> Flinn has estimated decennial population change which exhibits relatively low rates of population growth in the period up to 1939 and an actual decline in the total population of Scotland between 1921-31.<sup>8</sup> In this decade out-migration was 110.5% of natural increase;<sup>9</sup> this means movement out of Scotland exceeded natural increase. Clearly this loss reflects massive emigration (including movement into England and Wales). As the Scottish economy was depressed throughout much of this period,<sup>10</sup>

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6. *Ibid.* p.22.

7. The Census of Scotland for 1921-51 provided birthplace information but not in a usable form. (No census taken in 1941). Census of Scotland 1921, Report on the Thirteenth Decennial Census of Scotland, vol.II (Edinburgh, H.M.S.O. 1923), tables 50-7, pp.179-209.

Census of Scotland 1931, Report on the Fourteenth Decennial Census of Scotland, vol.II, Populations, Ages, Conjugal Conditions, Birthplaces, Gaelic Speaking and Housing, (Edinburgh, H.M.S.O. 1933), tables 40-7, pp.101-20.

Census 1951 Scotland, vol.II, Population of towns and larger villages (excluding burghs) and of urban and rural areas. (Edinburgh, H.M.S.O. 1952), tables 32-4, pp.49-53.

8. Flinn. *Scottish Population History*. table 5.1.1. p.302.

9. *Ibid.* table 6.1.1. p.441.

especially in comparison with other parts of Britain, the traditional migrant attracting region, the Central Lowlands, was unlikely to encourage in-migration.<sup>11</sup> It therefore seems improbable that in the period up to 1939, the proportion of current migrants exceeded levels attained in the present study.

The most thorough previous analysis of the age and nature of migration in Scotland is that of Hollingsworth,<sup>12</sup> who analysed movement between 1939 and 1964 using national registration and medical cards as a data source. Although it is outwith the period studied in this work, it is the only study known to consider Scottish current migration in detail. His work is on a much finer framework than was possible in this study. He concluded that mobility in Scotland was so great that by the age of 25 years almost all adults no longer lived at their place of birth.<sup>13</sup> This is a level of detail that the present study cannot hope to achieve, but it does indicate that high levels of mobility are not just a feature of the nineteenth century. Hollingsworth's most relevant work is on the current migrant age-structure. He identified ages when people were most likely to move, and his superior data source enabled him to locate all local migrations, rather than just

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10. Hobsbawn, E.J. *Industry and Empire*, (Pelican, London, 1968, reprinted 1980), pp.308-9.

11. Unemployment in Britain varied, and was highest in the manufacturing regions including Scotland. Lee. *The British Economy since 1700*. pp.258-60.

12. Hollingsworth, T.H. *Migration. A study based on the Scottish Experience between 1939 and 1964*, (Oliver and Boyd, Edinburgh, 1970)

13. *Ibid.* p.95.

county-of-birth and current residence. Hollingsworth was unable to calculate the volume of migration for young children, but estimated that it was initially high but decreased as children got older.<sup>14</sup> It is a pity that more accurate results were not possible but these findings do correspond quite well with this research.

In 1939-64 the lowest rates of child migration occurred at 12 years. Hollingsworth attributed this to the fact that child migration was within a family unit but this tended to be with younger children, and independent migration<sup>15</sup> was restricted by the necessity of school attendance.<sup>16</sup> The present research also found child migration to be lowest in the age-band 10-14 years, and although movement would not have been so restricted by a minimum school leaving age, lack of experience, if distance was involved, and an inability to gain adequate employment or accommodation may well have been powerful deterrents to young people moving alone.

Hollingsworth did not distinguish male and female migrants, arguing that they exhibit similar patterns. He found maximum frequency of migration occurred at 22 years.<sup>17</sup> However, in this study, despite the fact that the sexes were computed separately both sexes also generally peaked in the age-band 20-24 years. There

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14. *Ibid.* p.91 and 97.

15. It should be noted that Hollingsworth provides no evidence of marital status and just assumed status by age.

16. *Ibid.* p.97.

17. This age of maximum frequency of migration was influenced by the fact that national service caused males to be exceptionally mobile. However, in the present study the highest volume of adult movement is still in the same age-band even without the distorting influence of military service.

were far more female migrants than males in many counties, a phenomenon that had disappeared in the more recent study. Indeed, Hollingsworth states that "the two sexes have almost identical rates of migration, chiefly because married couples and their children usually move together".<sup>18</sup>

Hollingsworth identified "a slow decline" in migration levels from 22 to about 45 (years), after which there was little further change in the migration rate.<sup>19</sup> Hollingsworth, Cramond and Marshall have argued that people in public sector housing may be less likely to move than those in the private sector and in Scotland a high proportion of housing is rented from local authorities.<sup>20</sup> This would undoubtedly reduce the mobility of potential migrants aged between 22-45 years, a situation that could not have restricted migration in the present study, when such housing was not available.<sup>21</sup> Nevertheless, mobility did decline sharply after 30 years although it has been argued that some of this decline might have been exaggerated, because movement is measured net and return migration became more significant.

This analysis of Hollingsworth's migration analysis shows that the results in the present study are not exceptional. Despite

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18. *Ibid.* p.101.

19. *Ibid.* p.97.

20. Hollingsworth cites the findings of Cramond, R.D. and Marshall, J.L. "Housing and Mobility", *Scottish Journal of Political Economy*, XI, 1 (February 1964), pp.57-74. *Ibid.* p.35.

21. In the period 1861-1911, housing tied to a job was uncommon except in mining and agriculture.

changing lifestyles current migration patterns with regard to age seem to have remained remarkably constant. The larger proportion of female current migrants found in this study is the most noticeable difference that has changed over time.

## 2. COMPARISON OF SCOTTISH CURRENT OUT-MIGRATION WITH THAT IN ENGLAND AND WALES

### INTRODUCTION

This section will begin by considering the validity of comparing Scottish and English<sup>22</sup> migration. It will review not only the baselines used but also differences in the population structures. Initially the census data from Scotland and Baines' analysis of English and Welsh patterns will be considered. The discussion will then compare the estimates of current migration in England, Scotland and Wales. There will be two main areas for consideration: first the current migrant age structure and then secondly the volume of current migration.

It appears quite reasonable at first sight to compare the Scottish inter-county migrant age patterns with those in England and Wales. There are however risks attached in that Scottish counties and their southern counterparts are not really directly comparable. Although the average land area of English and Scottish counties is fairly similar,<sup>23</sup> the average population of each county was very different. In 1881 for example the mean population of the

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22. English in this context refers to English and Welsh.

23. For England and Wales the size of the average county is 2,851 sq.km. and for Scotland 2,387 sq.km.

Scottish counties was less than a quarter that of the English counties.<sup>24</sup> While acknowledging the artificiality of these average measurements because counties vary enormously both in population and area, the measurements are nevertheless useful benchmarks for comparison.

Clearly not all the Scottish population was thinly distributed in large counties as these statistics suggest. For the most part population had become increasingly concentrated in the Central Lowlands. Thus the distribution of the population can be described spatially as like a sandwich with two thinly populated outer areas comprising the bread, and the filling being the more densely populated Central Lowlands. This area of attraction represented almost a third of the counties of Scotland and was contiguous.<sup>25</sup> In contrast the pattern of population growth in England and Wales was spatially very different. Vast almost empty areas did not exist, and continuing the bakery theme, the counties could be likened to a fruit bun, the dough being the areas of out-migration, and the fruit being the several quite separate areas of attraction.

We now have two distinct patterns, Scotland having a far smaller population in the "average" county, and a central zone attracting in-migration, whereas England and Wales had a far larger

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24. For England and Wales in 1881 the population size of the average county is 488,117 and for Scotland 113,199.

25. These magnet counties of the Central Lowlands were Ayr, Clackmannan, Dunbarton, Edinburgh (Midlothian), Fife, Forfar (Angus), Lanark, Linlithgow (West Lothian), Renfrew, Stirling and parts of Haddington (East Lothian) and Lowland Perth.



more evenly spread population and several magnets for in-migration. The Scottish situation, was inherently more likely to produce a greater volume of migration per head of population. This was because the county, although covering a similar sized area, was effectively a much finer mesh when applied as the unit of measurement to a much less dense population. It is therefore four times more likely that population movement will be recorded as migration in Scotland than in England and Wales.<sup>26</sup> Moreover, once the Scots migrant was within the zone of high in-migration, he was more easily able to indulge in inter-urban migration. It seems reasonable to speculate that the Scots Lowland dweller was likely to have a more accurate knowledge of income opportunities than his southern counterpart, for whom the opportunities were possibly greater, but more dispersed.

Baines deliberately avoided discussing the results from English and Welsh counties with small populations because he considered that these presented an increased risk of error.<sup>27</sup> The county with the smallest population in England was Rutland (population in 1861 approximately 22,000),<sup>28</sup> but in the same year in Scotland, six out of the total of thirty-three counties had smaller populations.<sup>29</sup> This means that 18% of Scots counties had

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26. This argument assumes that the distance involved in a migratory movement had no influence on whether to migrate or not.

27. D.Baines, (Department of Economic History, London School of Economics and Political Science, February 1987) in discussion.

28. Mitchell, B.R and Deane, P. *Abstract of British Historical Statistics* (Cambridge, 1962) p.20. Radnor the second smallest county had a population in 1861 of 25,000 and was the only other one below 47,000.

populations that were less than the smallest of those designated by Baines as too small to analyse. This emphasises the argument that differences in baseline between England and Scotland should be born in mind when comparing data at the county level of analysis.

#### COMPARISON OF THE STRUCTURE OF THE LIFE-TIME POPULATIONS OF ENGLAND AND WALES AND SCOTLAND

This section will compare the life-time mobility first of the native population and then the migrant one. In 1861 imbalance between the sexes in the Scottish population was greater than in England and Wales, although by 1901 the situation was reversed.<sup>29</sup> This imbalance is important when considering mobility.

Baines found that in those English counties which were attracting migrants approximately 50% of the native population was under twenty years.<sup>30</sup> This proportion was generally exceeded throughout Scotland, where young males ranged from 59% in 1871 to

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29. In 1861 the Scottish counties with smaller populations than Rutland, England (population approximately 22,000 in 1861) were Bute (16,331), Clackmannan (21,450), Kinross (7,977), Nairn (10,065), Peebles (11,408) and Selkirk (9,926). (See Appendices, appendix 1, pp.12, 16, 34, 42, 46 and 56-7 respectively)

30. Mitchell and Deane. *Abstracts*. p.6.

Females per 1,000 Males, in England & Wales and Scotland

	England & Wales	Scotland
1861	1,053	1,112
1871	1,054	1,096
1881	1,055	1,076
1891	1,063	1,072
1901	1,068	1,057
1911	1,068	1,062

31. Baines. *Migration in a Mature Economy*. p.102.

53% in 1911 of the male native population, and females from 53% in 1881 to 49% in 1911.<sup>32</sup>

In 1861 the rapidly expanding counties such as Dunbarton and Midlothian had proportions of males under 20 years old in the native population that were as high as 66% and 61% respectively of the total native population. Moreover, these high proportions were not restricted to areas of population growth. Indeed the lowest recorded percentage of young males, in Ross and Cromarty was still almost 49%. Thus in high in-migration counties the proportion of males under 20 years in the native total population was over 60%, at least 10% higher than Baines' estimate. The proportion of young, native females in the high in-migration counties varied more, but was still higher than in England and Wales. In Scotland as a whole, females under 20 years averaged 51% of native females, a percentage which equalled the English and Welsh counties with high in-migration, but there was a variety of experience; in Dunbarton the proportion was as high as 61% but in Shetland it was only 37%.<sup>33</sup>

By 1911 the percentage of young natives, both male and female, had declined nationally to 53% and 49% respectively.<sup>34</sup> These proportions are closer not only to each other, but also to the English norm. Only the counties of Kincardine and Kinross continued to show an increasing proportion of young natives of less than 20 years in the population.<sup>35</sup> The decline in the national percentage

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32. See Appendices, appendix XXX [n], pp.307-10.

33. See fn.32.

34. See fn.32.

of natives was in part a reflection of the falling death rate but it may also reflect increased migration. The percentage of young natives in the population of counties with considerable in-migration remained high. Thus in 1911 young natives in Dunbarton still constituted 65% of males and 62% of females. Conversely, counties of high out-migration experience an ageing population. Evidence of this can be found across Scotland. In 1911 in Sutherland only 42% of males and 37% of females were less than twenty years and natives, in Orkney there were 40% and 33% respectively and in Berwick 44% and 41%.<sup>36</sup> Furthermore, when one considers the total county-of-birth population in these counties of out-migration the percentage of the population under 20 years falls even lower.<sup>37</sup> These high percentages of young natives in Scotland reflect not only native fertility, but also adult migrants and immigrants having families once they arrived. As has already been noted, these children would be considered not as migrants into, but as natives of the county.<sup>38</sup>

35. See Appendices, appendix XXX [n], pp.308-9. The proportion of natives less than 20 yrs.

		males	females
Kincardine	1901	55.92%	50.61%
	1911	56.04%	51.21%
Kinross	1901	55.81%	47.56%
	1911	57.85%	50.03%

36. See Appendices, appendix XXX [n], pp.307-10.

37. The Percentage of the native and total population less than 20 years in 1911 compared (Appendices XXX [n] and XXIX [c], pp.302-10.

	% of Natives <20 yrs. in county		% of total population <20 yrs. in county	
	Male	Female	Male	Female
Sutherland	42	37	34	29
Orkney	40	33	35	28
Berwick	44	41	32	29

38. See chapter II, p.45.

Baines found that approximately a quarter of the migrant population was less than twenty years<sup>39</sup> compared with about half of the native population. Moreover, he found that the proportion under 20 years in both categories declined over time. By 1911 the percentage of young migrants under 20 years was about 20% of the life-time migrant population.<sup>40</sup> Using the 1861 and 1871 censuses Baines calculated that there was a greater percentage of female life-time migrants less than 20 years in counties attracting in-migration (27.1% females as opposed to 25.5% for males).<sup>41</sup> The Scottish population revealed a higher proportion of young migrants throughout the period, males under 20 years ranged from 31% to 26% and females from 27% to 23%.<sup>42</sup> The proportion of young migrants from individual Scottish counties could be much higher, Lanark was attracting in-migration, but between 34% and 47% of its out-migrants were under 20 years.<sup>43</sup>

The finer "mesh" of the Scottish county may well be a factor in explaining the high proportion of young migrants within Scotland when compared with England and Wales, but it is impossible to attribute the greater percentage of young natives in Scotland to this factor. As previously argued the county unit of measurement is

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39. Baines. *Migration in a Mature Economy*. p.102, fn.33. In 1861 and 1871 "in the seventeen most important counties of in-migration" (in England and Wales) 25.5% of males and 27.1% of females were less than twenty years.

40. *Ibid.* p.102.

41. *Ibid.* p.102, fn.33.

42. Appendices, appendix XXIX [m], p.303.

43. Appendices, appendix XXIX [m], p.305.

more likely to record movement in Scotland than further south in England and Wales.

This section has attempted to review both the similarities and the differences in measurement frameworks and the demographic patterns north and south of the Border. The discussion will now move on to the framework of the county-of-birth and consider the estimates of current migration.

#### THE CURRENT MIGRANT POPULATIONS OF SCOTLAND AND ENGLAND COMPARED

Differences in the methodology for estimating current migration have already been discussed in chapter III.<sup>44</sup> Here it will suffice to note that in Baines' work the current migrant age-structure ratio was standardised and calculated prior to estimation, whereas in the Scottish study a life-time migrant age-structure ratio was applied and the current migrant age-structure was computed. Baines justified his age-structure through other evidence, while in this study of Scotland it was necessary to look for reasons to account for the results.

Table 7.1. charts the Scottish current migrant age-structure in selected age-bands by decade both nationally and by population category so that it can be compared with the proportions calculated by Baines for England and Wales.<sup>45</sup>

The most obvious difference was the much higher proportion of Scots children under five years who were migrating. There was at

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44. See chapter III. pp.99-104.

45. *Ibid.* p.107.

TABLE 7.1.

THE PERCENTAGE IN SELECTED AGE-BANDS OF THE SCOTTISH CURRENT MIGRANTS BOTH NATIONALLY AND IN EACH POPULATION CATEGORY, COMPARED WITH THE CURRENT MIGRANT AGE-STRUCTURE FOR ENGLAND AND WALES ESTIMATED BY BAINES \*

## Key

\* Baines assumed that all current migration took place before the age of 34 years and his total losses therefore equal 100%. In parts of Scotland not all current migration was completed by 34 years, whereas in some categories the proportion was in excess of 100%, cancelled out by return migration in older age-bands.

\*\* Baines. *Migration in a Mature Economy*. p.107.

## BAINES ESTIMATES OF CURRENT MIGRATION \*\*

Decade	Sex	total	Selected age-bands				total % lost *
			% lost <5 yrs	% lost 5-14	% lost 15-24	% lost 25-34	
ALL	BOTH		4.0	15.0	53.0	28.0	100.0

## SCOTTISH CURRENT MIGRANT POPULATION

Decade	Sex	total	Selected age-bands				total % lost *
			% lost <5 yrs	% lost 5-14	% lost 15-24	% lost 25-34	
1861-1871	M	-95309	16.89	37.38	27.31	10.86	92.44
	F	-104900	14.92	33.55	31.77	20.93	101.17
1871-1881	M	-107722	15.90	39.60	28.54	9.45	93.50
	F	-119123	13.89	34.74	33.64	17.92	100.20
1881-1891	M	-99825	16.86	45.10	32.01	7.57	101.55
	F	-107072	15.22	41.01	40.61	13.79	110.64
1891-1901	M	-120256	13.24	39.13	31.13	10.29	93.79
	F	-128375	11.81	35.02	39.72	12.67	99.22
1901-1911	M	-93119	15.36	51.61	43.51	8.12	118.60
	F	-110479	12.39	41.88	53.30	8.85	116.42

BAINES ESTIMATES OF CURRENT MIGRATION \*\*

Decade	Sex	total	Selected age-bands				total % lost *
			% lost <5 yrs	% lost 5-14	% lost 15-24	% lost 25-34	
ALL	BOTH		4.0	15.0	53.0	28.0	100.0

DECLINE NORTH POPULATION CATEGORY

Decade	Sex	total	Selected age-bands				total % lost *
			% lost <5 yrs	% lost 5-14	% lost 15-24	% lost 25-34	
1861-1871	M	-20612.5	12.29	27.40	35.82	20.62	96.14
	F	-24565.2	10.74	24.15	36.81	32.61	104.31
1871-1881	M	-18286.5	13.02	31.70	40.36	20.68	105.76
	F	-22487.3	10.73	25.51	42.46	33.08	111.77
1881-1891	M	-17351.8	12.97	34.82	45.80	21.95	115.54
	F	-18872.9	12.01	31.88	56.06	32.32	132.28
1891-1901	M	-18684.1	10.86	32.21	44.44	23.16	110.66
	F	-21199.4	9.52	27.77	53.64	28.10	119.02
1901-1911	M	-9018.1	17.44	58.16	83.03	29.43	188.07
	F	-13079.7	12.04	39.18	86.12	29.59	166.92

DECLINE SOUTH POPULATION CATEGORY

Decade	Sex	total	Selected age-bands				total % lost *
			% lost <5 yrs	% lost 5-14	% lost 15-24	% lost 25-34	
1861-1871	M	-9530.79	16.20	33.05	27.15	16.63	93.02
	F	-9873.98	14.51	32.62	36.55	20.68	104.37
1871-1881	M	-10486.3	15.03	35.45	28.91	14.58	93.97
	F	-11030.1	13.09	33.18	35.98	18.72	100.98
1881-1891	M	-10905.2	14.19	37.59	32.37	14.11	98.26
	F	-10361.9	13.73	38.86	41.46	16.06	110.11
1891-1901	M	-11001.6	12.35	36.42	33.77	14.78	97.32
	F	-11315.9	10.50	32.27	39.55	16.99	99.30
1901-1911	M	-7219.32	13.27	43.36	47.35	18.34	122.32
	F	-7810.86	11.43	39.83	59.44	18.75	129.46



BAINES ESTIMATES OF CURRENT MIGRATION \*\*

Decade	Sex	total	Selected age-bands				total % lost *
			% lost <5 yrs	% lost 5-14	% lost 15-24	% lost 25-34	
ALL	BOTH		4.0	15.0	53.0	28.0	100.0

GROWTH POPULATION CATEGORY

Decade	Sex	total	Selected age-bands				total % lost *
			% lost <5 yrs	% lost 5-14	% lost 15-24	% lost 25-34	
1861-1871	M	-31573.4	15.59	34.96	26.43	11.76	88.74
	F	-33611.2	13.86	32.06	30.50	21.23	97.65
1871-1881	M	-35778.8	14.39	35.64	27.54	11.64	89.21
	F	-37786.8	12.84	31.93	32.45	19.19	96.40
1881-1891	M	-32369.1	15.39	40.62	32.51	11.24	99.75
	F	-33285.3	14.31	37.88	41.51	16.24	109.94
1891-1901	M	-44010.7	10.87	31.75	30.72	15.30	88.64
	F	-43023.1	10.41	29.96	39.65	15.82	95.83
1901-1911	M	-28345.2	14.77	47.35	47.16	14.83	124.11
	F	-32907.7	11.95	37.20	56.95	12.74	118.84

BDOOM POPULATION CATEGORY

Decade	Sex	total	Selected age-bands				total % lost *
			% lost <5 yrs	% lost 5-14	% lost 15-24	% lost 25-34	
1861-1871	M	-33592.4	21.14	47.00	22.95	2.38	93.47
	F	-36849.5	18.79	41.44	28.28	12.92	101.43
1871-1881	M	-43170.2	18.57	47.25	24.28	1.64	91.73
	F	-47819.0	16.40	41.66	29.89	9.62	97.57
1881-1891	M	-39198.7	20.54	55.45	25.39	-3.63	97.75
	F	-44552.3	17.61	47.71	33.21	3.59	102.12
1891-1901	M	-46559.3	16.65	49.53	25.55	-.67	91.06
	F	-52836.7	14.16	42.63	34.23	2.99	94.00
1901-1911	M	-48536.2	15.62	54.10	33.47	-1.27	101.92
	F	-56680.4	12.86	45.50	42.77	.43	101.56

least three times more movement of young males than in England and Wales, and almost as great a proportion of young females. The movement of the very young was greatest in the "boom" migrant category, and least in the category containing the most remote counties, that of "decline (north)", but even here it never fell to anywhere near the levels predicted for England and Wales. This pattern of a greater proportion of young current migrants in Scotland was continued in the 5-14 years age-band, and indeed it was estimated that nationally at least 50% of the male current migrants were less than 15 years of age, compared with Baines estimate of only 20%. When each population category was considered, all tended to have lower proportions of child migrants in the decade 1891-1901, and "decline (north)" was generally the lowest. In contrast in 1881-1891, a relatively low migration decade (which generally seemed to result in a higher proportion of children migrating), as many as 76% of males and 65% of females in "boom" population category counties were less than 15 years old. Clearly in Scotland a very much larger proportion of migration was of young children than in England and Wales. All subsequent secondary migration cannot be identified by the computation methods used but the evidence of birth-places of children, which has already been discussed, was probably considerable.<sup>46</sup>

It is inevitable that as the proportion of child migrants in Scotland vastly exceeds that predicted for England and Wales, then the proportion of adults in Scottish migrants must be lower, and that is indeed the situation. It has already been observed that the

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46. See chapter V, pp.215-7.

majority of the Scottish population lived within the "boom" population category and only a relatively small proportion lived in the two "declining" categories. The Scottish current migrant age-structure was therefore disproportionately influenced by the "boom" and "growth" population categories. It was only when the migrant population was disaggregated that, in the "declining (north)", some similarities with the age-structure south of the border appear. It has already been argued that the migrant attracting counties within Scotland are contiguous, unlike in England and Wales, and that this could encourage movement by making it easier. This certainly might induce people with younger children to move, and indeed many counties, including some not actually in the "boom" category, but included within the "growth" and "decline (south)" population categories were also either close to or were themselves migrant-attracting locations. Most counties within the "decline (north)" population category were geographically more remote than anywhere in England and Wales, and despite improving transport facilities its' general isolation cannot be equalled. One should perhaps regard this category's similar migrant age-structure to that of England and Wales as a coincidence. Indeed it has already been noted that Devine has shown that in the Highlands, the census was picking up some temporary migration.<sup>47</sup> This was supported by the computer estimates of current migration which include high levels of return migration.<sup>48</sup>

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47. Devine. *The Great Highland Famine*. pp.147 & 317-9.

48. It is possible that the migrant age-structure was incorrect for some counties, this would also result in high return migration.

Before finishing this comparison of the estimates of the age of current migrants in Britain, we will return to the analysis of the life-time migrant population, because evidence in it supports the findings of this comparative approach. In Scotland over the period under consideration male migrants under 20 years declined from 31%-26% and females from 27% to 23% of the total migrant population.<sup>49</sup> In England and Wales they also declined from 25%-20%,<sup>50</sup> and there were clearly less young migrants than in Scotland, as should be expected, but particularly for females the differences were not very large. Baines' ratios of child to adult current migrants involved a far smaller proportion of children under 15 years. This implies a very high level of young adult out-migration in the age-band 15-19 years in England and Wales, considerably more than in Scotland.

#### THE ENGLISH AND WELSH CURRENT MIGRANT AGE-STRUCTURE ESTIMATED BY FRIEDLANDER AND ROSHIER

There has been a second estimate of current migration in late nineteenth century England and Wales, that of Friedlander and Roshier<sup>51</sup> and so far it has not been considered. This is because

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49. See Appendices, appendix XXIX [m], pp.302-6.

50. Baines. *Migration in a Mature Economy*. p.102. The percentage of the current migrant population who were under 20 years in England and Wales, was calculated from the "seventeen most important counties attracting in-migration." If the findings in Scotland are at all relevant here, it seems likely that the percentage would probably fall slightly if all 52 counties were included as the "boom" category had the highest proportion of migrant children.

51. Friedlander, D. and Roshier, R.J. "A Study of Internal Migration in England and Wales: Part 1", *Population Studies*, 19, 1966, pp.239-79.

the study was attempting to identify current migration flows and much of the analysis was not comparable with this study of Scotland. However, this second study of England did estimate the age-structure of current migrants and the estimates are very different from those of Baines',<sup>52</sup> in that it assumes a far larger proportion of migrant children. This age structure has been calculated by projecting the age distributions from 1851 to 1911, a procedure that Baines claims was spurious, because there was more than one possible solution.<sup>53</sup> The current migration age-structure of Friedlander and Roshier was estimated prior to calculating the volume of migration (as indeed was the Baines' method). It was only in the Scottish study that the life-time age-structure was applied and the current migrant structure calculated. Nevertheless, this second age structure (table 7.2.) is very interesting because it more closely resembled that of our Scottish study.

The current migrant age-structure estimated by Friedlander and Roshier<sup>54</sup> was common to both sexes and was estimated in ten year age-bands. These age-bands differed from those estimated by Baines<sup>55</sup> and table 7.2. shows the Scottish current migrant estimates in selected age-bands both nationally and by population

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52. See Table 7.1. pp.259-61.

53. Baines. *Migration in a Mature Economy*. p.124.

54. Friedlander and Roshier. "A Study of Internal Migration. part I" Table II.1., pp.272-3.

55. See Table 7.1. pp.259-61.

TABLE 7.2.

THE PERCENTAGE IN SELECTED AGE-BANDS OF SCOTTISH CURRENT MIGRANT BOTH NATIONALLY AND IN EACH POPULATION CATEGORY, COMPARED WITH THE CURRENT MIGRANT AGE-STRUCTURE FOR ENGLAND AND WALES ESTIMATED BY FRIEDLANDER AND ROSHIER. \*

## Key

\* Friedlander and Roshier assumed that all current migration took place before the age of 34 years and total losses therefore equal 100%. In parts of Scotland not all current migration was completed by 34 years, whereas in some categories the proportion was in excess of 100%, cancelled out by return migration in older age-bands.

\*\* Friedlander and Roshier. "A Study of Internal. part I" Table II.1, pp.272-3.

## FRIEDLANDER AND ROSHIER'S ESTIMATES OF CURRENT MIGRATION \*\*

DECADE	SEX	TOTAL MIGRANTS LOST	PERCENTAGE LOST IN SELECTED AGE-BANDS IN YEARS				
			<10	10-19	20-29	30-39	>40
ALL	BOTH		34.00	15.00	28.00	23.00	0.00

## SCOTTISH MIGRANT POPULATION

DECADE	SEX	TOTAL MIGRANTS LOST	PERCENTAGE LOST IN SELECTED AGE-BANDS IN YEARS				
			<10	10-19	20-29	30-39	>40
1861-1871	M	-95309	41.39	23.17	27.71	1.66	6.07
	F	-104900	35.83	25.14	37.16	-.68	2.56
1871-1881	M	-107722	41.60	25.90	26.38	.69	5.42
	F	-119123	35.13	27.61	35.53	-2.05	3.78
1881-1891	M	-99825	46.21	29.48	27.96	-2.22	-1.43
	F	-107072	39.55	34.52	38.36	-8.94	-3.49
1891-1901	M	-120256	38.32	26.29	29.39	1.30	4.70
	F	-128375	31.72	31.40	37.65	-6.80	6.02
1901-1911	M	-93119	47.40	37.06	40.15	-9.23	-15.38
	F	-110479	34.62	41.66	48.44	-19.02	-5.70

FRIEDLANDER AND ROSHIER'S ESTIMATES OF CURRENT MIGRATION

DECADE	SEX	TOTAL MIGRANTS LOST	PERCENTAGE LOST IN SELECTED AGE-BANDS IN YEARS				
			<10	10-19	20-29	30-39	>40
ALL	BOTH		34.00	15.00	28.00	23.00	0.00

DECLINE NORTH

DECADE	SEX	TOTAL MIGRANTS LOST	PERCENTAGE LOST IN SELECTED AGE-BANDS IN YEARS				
			<10	10-19	20-29	30-39	>40
1861-1871	M	-20612.5	30.58	15.52	51.60	-5.56	2.86
	F	-24565.2	25.85	17.24	57.99	-1.96	.87
1871-1881	M	-18286.5	34.46	17.42	58.21	-5.68	-4.41
	F	-22487.3	27.09	17.48	66.52	-7.36	-3.74
1881-1891	M	-17351.8	35.70	21.62	63.99	-8.63	-12.68
	F	-18872.9	31.10	25.72	81.16	-19.34	-18.64
1891-1901	M	-18684.1	31.44	20.49	62.80	-5.93	-8.80
	F	-21199.4	25.46	23.72	75.71	-17.13	-7.76
1901-1911	M	-9018.1	53.56	37.75	118.67	-39.45	-70.53
	F	-13079.7	33.46	35.68	119.50	-47.90	-40.75

DECLINE SOUTH

DECADE	SEX	TOTAL MIGRANTS LOST	PERCENTAGE LOST IN SELECTED AGE-BANDS IN YEARS				
			<10	10-19	20-29	30-39	>40
1861-1871	M	-9530.8	37.95	21.48	30.52	3.88	6.17
	F	-9874.0	35.18	24.80	43.34	-3.01	-.31
1871-1881	M	-10486.3	38.04	23.40	31.10	2.25	5.20
	F	-11030.1	34.22	24.61	41.29	-3.05	2.94
1881-1891	M	-10905.2	38.41	25.54	34.08	1.15	.81
	F	-10361.9	37.38	30.31	44.62	-8.63	-3.68
1891-1901	M	-11001.6	35.89	23.05	39.09	.78	1.18
	F	-11315.9	30.23	23.51	47.33	-6.79	5.72
1901-1911	M	-7219.3	42.07	22.21	65.88	-9.67	-20.48
	F	-7810.9	35.39	28.23	77.73	-26.44	-14.92

FRIEDLANDER AND ROSHIER'S ESTIMATES OF CURRENT MIGRATION

DECADE	SEX	TOTAL MIGRANTS LOST	PERCENTAGE LOST IN SELECTED AGE-BANDS IN YEARS				
			<10	10-19	20-29	30-39	>40
ALL	BOTH		34.00	15.00	28.00	23.00	0.00

GROWTH

DECADE	SEX	TOTAL MIGRANTS LOST	PERCENTAGE LOST IN SELECTED AGE-BANDS IN YEARS				
			<10	10-19	20-29	30-39	>40
1861-1871	M	-31573.4	38.47	21.40	27.96	3.32	8.84
	F	-33611.2	33.43	24.73	35.57	1.58	4.69
1871-1881	M	-35778.8	37.77	22.27	28.60	2.71	8.63
	F	-37786.8	32.36	25.24	35.91	.11	6.37
1881-1891	M	-32369.1	42.11	25.43	33.89	-1.15	-.27
	F	-33285.3	36.85	32.14	42.39	-8.21	-3.16
1891-1901	M	-44010.7	31.20	21.32	34.98	3.89	8.61
	F	-43023.1	27.49	27.51	41.52	-4.82	8.29
1901-1911	M	-28345.2	44.74	31.77	54.58	-10.92	-20.18
	F	-32907.7	32.38	36.67	59.03	-20.97	-7.11

BOOM

DECADE	SEX	TOTAL MIGRANTS LOST	PERCENTAGE LOST IN SELECTED AGE-BANDS IN YEARS				
			<10	10-19	20-29	30-39	>40
1861-1871	M	-33592.4	51.74	30.00	12.03	.84	5.40
	F	-36849.5	44.86	30.87	23.06	-1.28	2.50
1871-1881	M	-43170.2	48.65	33.11	9.92	1.34	6.98
	F	-47619.0	41.31	34.93	19.33	-1.03	5.46
1881-1891	M	-39198.7	56.41	37.39	5.42	-1.19	1.97
	F	-44552.3	45.64	41.01	15.76	-5.15	2.73
1891-1901	M	-46559.3	48.38	34.09	8.41	1.88	7.24
	F	-52836.7	38.00	39.34	17.17	-4.27	9.76
1901-1911	M	-48536.2	48.60	42.23	13.30	-2.56	-1.56
	F	-56680.4	36.07	47.78	21.87	-10.19	4.47



category so that the Scottish results can be compared with those of Friedlander and Roshier.

Table 7.2. showed that both studies calculated that about half of all current migrants were under 20 years, but the Scottish estimates still exceeded that proposed for England and Wales. This was despite the fact that the Scottish study has always assumed the numbers involved to be an under-estimate.<sup>56</sup> For migrants under 20 years, the English estimates (which were applied to both sexes) were more similar to the proportions of Scottish female current migrants than males. This may in part reflect the considerable female majority in the Scottish population, which as has already been shown can distort proportions.<sup>57</sup> Both studies had a lower proportion of current migrants in the 10-19 years age-band and the subsequent age-band (20-29 years) was higher.

The Friedlander and Roshier study assumed current migration to have totally finished by 40 years of age, in Scotland the vast majority of net movement was completed by 30 years. It is interesting that the estimates by both Baines (table 7.1.) and Friedlander and Roshier (table 7.2.) predicted far more current migrants in the age-bands 25-40 years. This suggests that either current migration in England and Wales involved a far greater proportion of adults than in Scotland, or that there was less return migration cancelling outward movement.

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56. See chapter IV, pp.171-2.

57. See chapter V, pp.199-200.

Baines has been quite dismissive of the research of Friedlander and Roshier<sup>58</sup> pointing out that the "current migrant group contains too many children. This age distribution implies that over 40% of current migrants were children under 10 (net of returns). Yet only 25% of the population of England and Wales were under 10 years old in 1861."<sup>59</sup>

However, in Scotland there was an even higher proportion of young current migrants than in the study by Friedlander and Roshier. Although it is possible that the age-structure of the current migrant population in Scotland was very different from that in England and Wales, one must consider whether Baines might have misinterpreted the evidence.

The national age structure is of a life-time population, whereas current migration records the first movement outside the county-of-birth, and ignores all subsequent moves. It therefore has a very different age structure. This is an important reason why, in the estimates for current migration,<sup>60</sup> there appeared to be very few parents migrating with their children, as for many adults this was not their first move. If one now considers the life-time migrant age-structure for Scotland in 1861,<sup>61</sup> male migrants under 20 years comprised only 30.8% of the Scottish migrant population. Yet this same age-band (less than 20 years) comprised 52.0% of the

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58. Friedlander and Roshier. "A Study of Internal Migration. Part 1" pp.239-279.

59. Baines. *Migration in a Mature Economy*. p.123.

60. See Appendices, appendix XVIII, pp.155-87.

61. See Appendices, appendix XXIX (m) and (c) pp.302-6.

entire national population, despite only 30.8% of male life-time migrants being under 20 years in 1861, and 30.6% in 1871. In the intervening decade (1861-71) males under 20 years comprised 64.6% of total male current migrants.<sup>62</sup>

This suggests that the current migrant population can be remarkably young, without the life-time migrant population appearing distorted in the same direction. The life-time migrant population had a markedly lower proportion of migrants under 20 years than the national age-structure, despite very high current migration. Baines appears to have assumed that child current migration should be markedly lower than the national age-structure. This evidence shows that in Scotland this was certainly not the case. However, there is no intrinsic reason why Scottish and English current migration should have the same age-structure.<sup>63</sup>

Unfortunately, the Friedlander and Roshier calculations of current migration in England and Wales were not presented in a way that made it feasible to make comparisons with Scotland. This section therefore will now return to comparing Scottish estimates with those of Baines.

Although the age-distribution of current migrants differed north and south of the border, the ratio of males to females was more or less the same. In Scotland approximately 47.5% of current

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62. See table 7.2. pp.267-9.

63. No study is known that has compared migrants in England and Scotland. In an earlier study which compared emigrants to America. Bailyn found the age profile and sex ratios of English and Scottish emigrants to be quite different. Bailyn. *Voyagers to the West*. pp.126-203.

migrants were males,<sup>65</sup> which was only slightly lower than in England and Wales.<sup>66</sup>

#### MOBILITY IN SCOTLAND AND ENGLAND COMPARED

Baines' estimates of population movement in England and Wales presented in Appendix 1<sup>67</sup> have been calculated differently from this study, a problem that has already been discussed.<sup>68</sup> Appendix XXVI<sup>69</sup> has therefore been created to make direct comparison with the southern study feasible and this should be referred to throughout this discussion.

Baines has provided tables of the percentage losses to counties-of-birth of current migrants.<sup>70</sup> These are of interest in their own right, but it is hard to make meaningful comparisons. Furthermore, it has already been argued that the much smaller average population in the Scottish counties means that one would

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64. The proportion of Scottish male and female current migrants in each decade.

Decade	Males	Females
1861-1871	47.6%	52.4%
1871-1881	47.4%	52.6%
1881-1891	48.2%	51.8%
1891-1901	48.4%	51.6%
1901-1911	45.7%	54.3%

65. Baines. *Migration in a Mature Economy*. p.121. In England and Wales "between 50% to 53% of the internal migrants were women".

66. *Ibid.* appendix 1, pp.282-98.

67. See chapter IV, pp.175-7.

68. See Appendices, appendix XXVI, pp.293-9.

69. Baines. *Migration in a Mature Economy*. p.121. See appendix 1, pp.283-298.

need to find far greater levels of out-migration if the actual degree of movement in both countries was similar.

Direct comparisons between counties north and south of the Border are difficult because no two counties are alike. It was therefore decided to compare migration in some of the largest and fastest-growing migrant-attracting counties. It would have been preferable to have compared some declining counties as well but it was impossible to find similar ones.<sup>70</sup>

To compare current migrant proportions counties with rapid demographic growth were chosen. In Scotland Edinburgh and Lanark and Renfrew were selected as counties with very large populations that were expanding.<sup>71</sup> Baines' work provides less evidence as to which these were in England and Wales and so after advice<sup>72</sup> two groups of counties Lancashire and London and Middlesex have been chosen based on the estimates of Hunt<sup>73</sup> and Friedlander and Roshier.<sup>74</sup>

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70. I would like to thank the following people for their advice on finding suitable counties to compare in February 1990:- Professor T.M.Devine, University of Strathclyde, (Scotland), and Dr.J.Walton, University of Lancaster, (England and Wales).

71. Scottish counties with small populations such as Selkirk were avoided because they were small even though they experienced even higher rates of growth. See Appendices, appendix 1, pp.56-8.

72. Baines had to combine the counties of London and Middlesex to avoid methodological problems (Baines. *Migration in a Mature Economy*. p.97), in Scotland Lanark and Renfrew were combined in the same way.

73. Hunt's study of migration suggested that both Lancashire and London and Middlesex, were in regions that had consistently high rates of decennial net migration, except in 1901-11. Hunt. *Regional Wage Variations*. table 7-1, p.247.

74. Friedlander and Roshier. "A Study in Internal. part 1" p.262.

Table 7.3. shows that the counties all reveal population growth in excess of 50%.<sup>75</sup> However, the percentage of migrants lost does not appear to relate directly to growth, since Lanark and Renfrew and London and Middlesex, which had the greatest growth, had the lowest and highest proportions of losses respectively amongst the counties considered. When one considers the four counties, the percentage of migrant losses could divide counties into two types. In one group are Edinburgh and London and Middlesex which reveal percentage losses which were generally in excess of 6%, although London's rates are higher, and in the other group are the counties of Lanark and Renfrew and Lancashire which have very low migrant losses of approximately 3-4%.

Of the counties considered Edinburgh (Midlothian) and London and Middlesex were probably most similar to each other.<sup>76</sup> Both had some industry but employment was not so concentrated in these occupations as in the purely industrial counties, and both had important roles as capital cities with larger professional and service sectors.<sup>77</sup> These counties both had a higher proportion of current out-migrants than the more strictly industrial counties. London and Middlesex were clearly losing a greater proportion of their population despite being more than ten times larger than

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75. The percentage growth 1866-1896 in selected counties-of-birth:  
 Edinburgh (Midlothian) 54%                      Lancashire 65%  
 Lanark and Renfrew 76%                      London and Middlesex 75%

76. Lee. *The British Economy*. p.133.

77. This argument is supported by the findings of Lee. Lee. "Modern Economic Growth and Structural Change." pp.21-2.

TABLE 7.3.

A COMPARISON OF THE PROPORTION OF CURRENT MIGRANTS IN  
SELECTED COUNTIES IN ENGLAND\* WITH THOSE IN SCOTLAND\*\*.

Decade	Edinburgh (Midlothian)		Lanark & Renfrew		Lancashire		London & Middlesex	
	M	F	M	F	M	F	M	F
1861-1871	5.3	4.9	3.0	3.4	3.9	3.8	7.1	7.0
1871-1881	6.2	6.0	4.6	4.8	3.6	3.4	6.4	6.4
1881-1891	5.9	6.1	3.2	3.7	3.1	3.2	7.1	7.6
1891-1901	6.2	5.7	3.3	3.6	3.9	3.7	8.2	8.4
1901-1911	5.8	5.6	3.7	4.0				

## KEY

\* Estimates for English and Welsh counties derived from Baines. *Migration in a Mature Economy*, pp.283-98. Appendix I "Net migration of natives into other counties....(% of mean decade population)".

\*\* Estimates derived from Appendices, appendix XXVI, pp.293-9.

MEAN NATIVE POPULATION IN SELECTED COUNTIES IN  
ENGLAND\*\*\* AND SCOTLAND IN 1866 AND 1896

Year	Sex	Edinburgh (Midlothian)	Lanark & Renfrew	Lancashire	London & Middlesex
1866	male	104,370	303,935	1,053,846	1,140,845
	female	119,235	331,077	1,107,894	1,285,714
1896	male	164,590	545,245	1,715,385	2,020,732
	female	180,796	577,333	1,856,757	2,235,714

## KEY

\*\*\* Estimates for English and Welsh counties derived from Baines. *Migration in a Mature Economy*, pp.283-98. Appendix I "Net migration of natives into other counties....(% of mean decade population)" data recalculated.

Edinburgh (Midlothian). London generated growth in adjoining counties as it was the centre of a group of suburban counties,<sup>78</sup> whereas smaller Edinburgh had adjacent counties with independent booming economic growth. Dunbarton, Fife, Lanark, Linlithgow (West Lothian), Selkirk and Stirling were all within 40 miles of Edinburgh (Midlothian).

Lanark and Renfrew had approximately a third the population of Lancashire but the two counties did have some common industries. The proportion of migrants from Lancashire varied very little and was very similar to that of Lanark and Renfrew except that in the latter there was a marked increase in the decade 1871-1881.

The Scottish counties also showed a marked bias towards one sex in terms of the percentage of current migrants lost. This may mean more migrants moved independently in Scotland than in England and Wales. If it is argued that a mature economy is one that fulfils the employment needs of both sexes equally, and thus creates a balanced society in terms of numbers of each sex migrating, current migration would not have a sex bias. In 1861-1901 the pattern of mobility reveals a sex bias in the prosperous counties of both countries, although half a century later Hollingsworth found that the sex ratio of current migrants in Scotland was unity.<sup>79</sup>

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78. Lee has argued that as London grew it generated growth in the neighbouring counties of Essex, Kent and Surrey. Lee. *The British Economy*. p.140.

79. Hollingsworth. *Migration. A study*. p.101.



London and Middlesex combined are remarkably similar in area to Edinburgh and so arguments concerning differences in size of county are not relevant here. Unfortunately, this is not true for Lanark and Renfrew combined which is only half the area of Lancashire.<sup>80</sup> One should therefore expect a greater proportion of current migrants in the former as indeed is the situation. If an allowance is made for the under-estimation of current migration in Scotland<sup>81</sup> by slightly inflating the Scottish results, there is still no evidence in the rapidly growing counties of a higher proportion of current migrants within Scotland; indeed there may well be less than in England and Wales.

Counties which are declining in population in England and Wales are more difficult to identify from Baines' research. Moreover, the geography of Scotland differs vastly from further south, as no English or Welsh counties are so remote from sustained economic development and growth as many of the northern counties such as Caithness, Orkney, Ross and Cromarty, Shetland, Sutherland and western Inverness. It has therefore been impossible to compare estimations of population loss.

80. The area of selected counties in acres.

Edinburgh (Midlothian)	234,325	Lancashire	1,201,888
Lanark and Renfrew	726,153	London and Middlesex	223,541

The county areas are taken from *The Concise Oxford Atlas*, (Oxford University Press, Oxford, 1958), pp.VII-XL. The acreages of counties are those current when the atlas was published. The Scottish study had county boundary changes in 1891, and the English and Welsh boundaries were also revised (Baines. *Migration in a Mature Economy*, p.95) and therefore acreages may differ slightly from those of the study period.

81. See chapter IV pp.171-3.

## CONCLUSION

This chapter has argued that current migration in the late nineteenth century may well have involved an unprecedentedly high proportion of the Scottish population. This statement does however need qualification because the data outwith this period (both before and after) are less satisfactory and the decade prior to this study 1851-61 is known to have high total mobility.

The age-structure of the Scottish-born current migrant population in this work is very similar to that of Hollingsworth's twentieth century study. This is probably because decisions on out-movement always tend to arise at similar times in peoples lives. However, the sex ratio of current migrants has changed and in the present study more females migrated than males whereas Hollingsworth found them to be equal.

There will now follow a brief summary of the main similarities and differences between current out-migration north and south of the Border. The similarities will be considered first, then areas where research on English and Welsh migration conflicts and therefore agreement or contrast with the present study depends on the authority used. Finally, the differences in migration patterns will be examined.

### Similarities

The vast majority of current migration was completed by the age of 30 years; nevertheless there was a markedly higher

proportion of out-movement in the age-band 25-40 years in England and Wales than in Scotland.

Return migration was an important component of migration in both countries. Baines's estimate of 30% return migration may well be realistic for both countries.

When individual counties were compared, the volume of population in the English counties was much higher, but the proportion of current migrants lost was similar. The lowest migrant losses were in the two industrial counties as opposed to London and Edinburgh which had much larger professional classes and service sectors.

#### Areas where results conflict

The Scottish current migrant population was much younger than that estimated by Baines for England and Wales. A substantial proportion of Scots migrants were less than five years (12-17% as opposed to 4% for England). However, the estimates of Friedlander and Roshier concerning the current migration of children in England and Wales are much closer to those found in the Scottish work and indeed both the latter studies estimated that about half of all current migrants were less than 20 years.

In Baines' work, English and Welsh current migration was concentrated in the age-band 15-24 years. In Scotland peak out-migration had occurred when migrants were younger and it was only in the final decade when comparisons with England, could not be made that peak migration was in this age-band. However, in the

was the highest, but the proportion in the age-band 20-29 years was also high. In Scotland this age-band (20-29 years) was also higher than the previous age-band (10-19 years). Moreover, for males, young child migration generally exceeded that in the older age-band,"<sup>82</sup> but for females the pattern was reversed except in the boom population category.

#### Differences

The age-structure of the Scottish migrant population varied according to the demographic characteristics of the county-of-residence and this affected the age profile of the current migrant population in the county-of-birth. Moreover, the Scottish age structure altered over time. One age structure and for both sexes was assumed for England and Wales in both studies.

As migrants were so young in Scotland and the main counties of attraction so close to each other, it is possible to speculate that secondary migration was much higher in Scotland than in England and Wales.

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82. Young male current migration did not always exceed that of the age-band 20-29 years in the Scottish population categories (see decline north and growth). See table 7.2., pp.266-8.

## CHAPTER VIII

### EMIGRATION: THE ESTIMATED CURRENT EMIGRANT POPULATION

1861-1911

#### INTRODUCTION

This chapter is the first of two that will consider Scottish emigration. This chapter (eight) analyses current emigration in the decades 1861-1911, using the computer estimations of losses. Chapter nine will compare this study with other research on emigration. These two chapters (eight and nine) are similar in layout to chapters six<sup>1</sup> and seven<sup>2</sup> respectively, which discussed current migration. Direct comparisons can therefore be made between the two forms of population movement.

This chapter will consider emigration in seven sections. Firstly, it will begin by providing an overview of Scottish emigration. The national aggregate losses by sex and for each decade will be considered. As will be seen, this shows that there is considerable variation in losses. The analysis has then been expanded in part two to consider emigration by the population category in each decade, thus showing the considerable diversity of experience. Thirdly, the aggregate losses for county-of-birth have been analysed to determine what proportion of the population emigrated. Fourthly, the age-band in which emigrants leave is examined, both by population category and also (fifthly) by county-of-birth, and then these findings are then discussed in part six in

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1. See chapter VI, pp.202-44.

2. See chapter VII, pp.245-80.

conjunction with other research on emigration from Scotland and other parts of Britain. Finally, the issues concerning emigration raised in this chapter are analysed and brought together. Reference will be made to similarities and differences between current migration and emigration, but a wider discussion on these two forms of population movement will be reserved for a subsequent chapter.<sup>3</sup>

## 1. AN OVERVIEW OF CURRENT EMIGRATION FROM SCOTLAND

This section attempts to survey the aggregate losses through Scottish current emigration in each decade. Emigration at this national level will be considered first because an overview can illustrate several general points which are tabulated in table 8.1. Although not all the results in this table are directly comparable to those in table 6.1. it is nevertheless instructive to compare the two tables where possible.<sup>4</sup>

Table 8.1. shows that in every measure of current emigration male emigrants exceeded females in every decade. This was in contrast to the pattern for current migration, where the volume of female out-migration invariably exceeded that of males and the proportion of females migrating was sometimes higher too.<sup>5</sup> Far more males emigrated than females, both as a proportion of the population and also in actual volume, and this low female

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3. See chapter X, pp.381-409.

4. For the pitfall in comparing the two sets of data see chapter IV, p.175. For comparable table concerning current migration see chapter VI, table 6.1. p.302.

5. See chapter VI, table 6.1. p.302.

TABLE 8.1.

## SCOTTISH CURRENT EMIGRANTS IN EACH DECADE 1861-1911

Decade	Current Emigrants			Proportion of the total Scots-born population*		Proportion of the total current emigrant population	
	Male	Female	Total	Male	Female	Male	Female
1861-1871	-115745	-81619	-197364	-7.40	-4.82	58.65	41.35
1871-1881	-116853	-89351	-206204	-6.74	-4.80	56.67	43.33
1881-1891	-162892	-114226	-277118	-8.46	-5.61	58.78	41.22
1891-1901	-103085	-62837	-165922	-5.00	-2.88	62.13	37.87
1901-1911	-188014	-137286	-325300	-8.24	-5.70	57.80	42.20

\* The proportion is calculated as current emigrants over the total population born in Scotland in the subsequent census plus current emigrants (That is the total population at the end of the decade if nobody had moved out).

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participation was particularly true of the decade of low emigration 1891-1901.

The proportion of Scots that emigrated fluctuated between decades, and by comparing tables 8.1. and 6.1.\* it can be seen that in aggregate the proportion emigrating fluctuated far more between decades than for those migrating.<sup>7</sup> The proportion of out-migrants tended to be highest when emigration was lowest and vice versa. However, this generalisation is an over-simplification, since in the first decade considered (1861-71), the volume of

6. See fn.5.

7. See fn.5.

migrants and emigrants was remarkably similar. Thereafter, the difference between the volume of current migration and emigration increased steadily over time regardless of whether emigration or out-migration was the dominant population movement. Emigration was high in the decades 1881-91 and 1901-11 and current out-migration in 1891-1901.

Although the greatest number of emigrants left Scotland in the final decade, which is to be expected because the Scottish-born population was increasing,<sup>8</sup> the highest proportion of the male Scottish-born population left in the decade 1881-1891, while for females emigrating the decade 1901-1911 was of greater significance.<sup>9</sup> This finding was not expected, as Baines had speculated that emigration in the final decade before the First World War was likely to be markedly higher than in all previous decades,<sup>10</sup> whereas the evidence for Scotland suggests that the decade 1881-91 was equally important.

The measurement of emigration (as with current migration) was net of returns. It cannot therefore automatically be assumed that a

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8. The Scottish-born population resident in Scotland rose from 3,061,531 in 1871 to 4,362,473 in 1911. The 1911 figure is not the same as that quoted in the census of that year (1911 Census, vol.II, table XXXVIII, pp.502-23). The estimate provided is more rigid than that in the census and includes only those born in Scotland.

9. Table 6.1. shows that for current out-migration the greatest proportion of the native population (both male and female) left in the decade 1871-81, which was earlier than the peaks for both sexes in emigration. See chapter VI, table 6.1. p.302.

10. Baines. *Migration in a Mature Economy*. p.95.



decade with a low proportion of emigrants reflects low current emigration, as it may indicate a high rate of return emigration.

#### A COMPARISON OF ESTIMATES OF EMIGRATION FROM SCOTLAND

The estimates of emigration made in this study make many assumptions and complete accuracy is impossible. Indeed it is known that minor errors are brought into the estimates during computation, these being a product of the computer language used, and they have been analysed in appendix XI.<sup>11</sup> This study has however, attempted to estimate the losses from each county and also the age profile of the emigrant population, which has not been quantified before. Nevertheless, it has been possible to compare the published aggregate estimates of emigration with those in this study.

Appendix XVa<sup>12</sup> tabulates published estimates of net out-migration and those calculated in this study. These estimates include immigration into Scotland both during and before the period of study. Although this estimation is not relevant to this study, it is easily calculated and provides a basis for comparing data. The estimates of net emigration are all close, although this study was compared with the other estimates, it estimated slightly higher emigration losses in 1871-81 and 1891-1901 and lower in the intervening decade. There is remarkable agreement between all three estimates in the final decade.

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11. See Appendices, appendix XI, pp.101-25, esp. appendix XIe, pp121-5.

12. See Appendices, appendix XV a and b, pp.142-4.

The estimates of total emigration (appendix XVb) vary slightly more. This study gives results above the published estimates in the first two decades, but all three estimates are very close in the decade 1891-1901. In the decade 1891-1901 this study predicts lower emigration, and its estimates are almost midway between the other two in the final decade.

Flinn's estimate of overseas emigration is based on calculations by Carrier and Jeffrey.<sup>13</sup> This cannot be directly compared with this study because it excludes emigration to other parts of Britain. It should however be noted that Flinn assumed considerably higher rates of emigration to the United Kingdom<sup>14</sup> than the more recent work by Baines.<sup>15</sup> Both Baines and Flinn assume levels of emigration to other parts of Britain that would make overseas emigration in this study lower than that of Flinn.<sup>16</sup> Furthermore, it should be noted that Baines assumed that there were far fewer children<sup>17</sup> in the current migrant population of England and Wales. If there had been more Scots children in England and Wales, the high rates of child mortality would have increased the

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13. Flinn. *Scottish Population History*. table 6.1.5, p.449.

14. *Ibid.* table 6.1.2, p.442.

15. Baines. *Migration in a Mature Economy*. table 4.5. p.115.

16. Flinn. *Scottish Population History*. table 6.1.2, p.442.

17. Baines assumed that immigrants (and that includes Scots) had the same current migrant age-structure as the native population. This means that he assumed that there were far less children in the Scottish population in England and Wales than would have been the case within Scotland. Baines. *Migration in a Mature Economy*. p.115.

number of emigrants from Scotland to England considerably, and as a consequence reduced the number of Scottish emigrants overseas.<sup>18</sup>

This brief overview of current emigration has enabled some patterns to emerge and has also compared estimates of aggregate emigration from Scotland. It is now proposed to widen the discussion and consider aggregate emigration using the population categories as a framework for analysis.

## 2. AGGREGATE SCOTTISH EMIGRATION BY POPULATION CATEGORY<sup>19</sup>

The analysis of current out-migration patterns in Scotland showed that the demographic experience of the population categories produced differing migration patterns.<sup>20</sup> This section will use the same population categories to consider and compare aggregate emigration rates which have been tabulated in table 8.2.

When table 8.2. is compared with the corresponding table for current migration (table 6.2.),<sup>21</sup> it is clear that at the national aggregate level the fluctuations between decades for current migration were less than those for emigration. However, once the framework was expanded to that of population category the fluctuations in current migration exceeded those of emigration.

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18. In this study, if the number of Scots emigrants to England and Wales increases, then the volume of overseas emigration must decline. This is because both estimates are based on the number of Scots left in Scotland at the subsequent census.

19. The analysis in this section can be compared with that in chapter VI pp.204-17 and table 6.2. p.206.

20. See fn.19.

21. See chapter VI, table 6.2. p.206.

TABLE 6.2.

## SCOTTISH CURRENT EMIGRANTS BY POPULATION CATEGORY IN EACH DECADE

1861-1911

Decade	Current Emigrants			Proportion of the total Scots-born population*		Proportion of the total current emigrant population	
	Male	Female	Total	Male	Female	Male	Female
<b>DECLINE NORTH</b>							
1861-1871	-19219	-11811	-31030	-6.60	-3.62	61.94	38.06
1871-1881	-16653	-11596	-28249	-5.80	-3.60	58.95	41.05
1881-1891	-21124	-13238	-34362	-7.35	-4.16	61.47	38.53
1891-1901	-13677	-8376	-22053	-4.94	-2.73	62.02	37.98
1901-1911	-23424	-14754	-38178	-8.60	-4.92	61.35	38.65
<b>DECLINE SOUTH</b>							
1861-1871	-12576	-10094	-22670	-9.52	-6.97	55.47	44.53
1871-1881	-10965	-10805	-21770	-8.24	-7.41	50.37	49.63
1881-1891	-11319	-9575	-20894	-8.39	-6.63	54.17	45.83
1891-1901	-10086	-8120	-18206	-7.69	-5.79	55.40	44.60
1901-1911	-9172	-8494	-17666	-7.22	-6.26	51.92	48.08
<b>GROWTH</b>							
1861-1871	-30682	-19056	-49738	-6.64	-3.82	61.69	38.31
1871-1881	-29224	-21018	-50242	-5.76	-3.85	58.17	41.83
1881-1891	-47695	-32216	-79911	-8.61	-5.48	59.69	40.31
1891-1901	-25978	-13964	-39942	-4.52	-2.28	65.04	34.96
1901-1911	-57773	-38830	-96603	-9.40	-5.95	59.80	40.20
<b>BOOM</b>							
1861-1871	-53267	-40658	-93925	-7.85	-5.61	56.71	43.29
1871-1881	-60012	-45931	-105943	-7.44	-5.41	56.65	43.35
1881-1891	-82754	-59197	-141951	-8.73	-6.01	58.30	41.70
1891-1901	-53344	-32376	-85720	-4.94	-2.98	62.23	37.77
1901-1911	-97645	-75208	-172853	-7.71	-5.70	56.49	43.51

\* The proportion is calculated as current emigrants over the total population born in Scotland in the subsequent census plus current emigrants (That is the total population at the end of the decade if nobody had moved out).

Table 8.2. shows that three of the four population categories were fairly similar in their emigration patterns, but the fourth (decline south) exhibited a very different one. The categories with common emigration characteristics will be considered first. These exhibited a pronounced majority of male emigrants and involved a fluctuating proportion of the Scottish population according to the decade. The proportions of the population in these three categories that emigrated in each decade varied relatively little and for the decade 1891-1901, which experienced a low level of emigration, there was remarkable similarity.

#### EMIGRATION FROM THE DECLINE NORTH CATEGORY

The number of emigrants in this category tended to increase over time, but the proportion of the population lost was below the national average (except for males in 1901-11). Moreover, in the decades of high emigration this increasing population movement was in contrast to the pattern for out-migration, where the volume of current migration was falling slightly over time (except in 1891-1901.<sup>22</sup> Furthermore, the growth in the volume of emigration should be considered in relation to a declining total population; indeed some counties-of-birth were experiencing absolute population decline.<sup>23</sup> There were three decades of high emigration 1861-71, 1881-91 and 1901-11, and the strength of these peaks increased over time. Male emigrants generally exceeded females by the largest ratio in this category and it was only in the decade with a low

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22. See fn.21.

23. The counties experiencing absolute decline were Argyll, Perth, Shetland and Sutherland. See chapter V pp.193-4.

proportion of emigrants, 1871-81, that female emigration exceeded 40% of the total.

Although emigration increased as out-migration fell, direct comparisons have some dangers, as the proportion of out-migration is measured against the native population and emigration against the total population from a county-of-birth. This is because emigrants did not necessarily emigrate from their county-of-birth and may have migrated first. Comparisons of the volume of emigration and current migration were safer, although the same caveat concerning emigration still applies.

#### EMIGRATION FROM THE GROWTH CATEGORY

This category generally had a lower proportion of emigrants than the national average, except in the decades 1901-11 and 1881-91 (the latter being males only). There were three peaks in emigration but the later two, 1881-91 and 1901-11, were much stronger than the first. Although demographic growth in this category was less than 50%,<sup>24</sup> when the decades 1861-71 and 1901-1911 are compared the volume of emigration doubled for females and was almost as high for males. The high ratio of male to female emigrants was not as pronounced as in the decline north category. However, the male:female ratio of emigrants did vary considerably from 58:42 in 1871-81 to 65:35 in 1891-1901, the latter being the lowest ratio of females emigrating in any population category or decade. It should be noted that the extremes in male:female ratio occurred in the two decades of low emigration, which suggests that

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24. See chapter III pp.121-33.

a high or low ratio of females was not directly related to the low proportion of emigrants leaving.

#### EMIGRATION FROM THE BOOM CATEGORY

The proportion of emigrants in this category was above the national average in every decade with the exception of males in 1891-1901. Moreover, the proportion of the population emigrating in each decade did not fluctuate markedly,<sup>25</sup> and indeed the proportion of emigrants leaving in the decades 1861-81 and 1901-11 were remarkably similar. Nevertheless, two decades were quite distinctive. 1891-1901 had a much lower proportion of the population emigrating and indeed the lowest number of emigrants, and in contrast 1881-91 had the highest proportion of the population emigrating, even if not the greatest volume of emigrants. These two decades 1881-1901 are particularly interesting for studies of population movement, because despite the fluctuations in the proportions emigrating, there were no similar or compensating fluctuations in the proportion migrating.<sup>26</sup>

#### EMIGRATION FROM THE DECLINE SOUTH CATEGORY

The proportion of emigrants in the decline south category was above the national average in every decade, except 1881-91 for males. Moreover, this category had an emigration pattern that was quite distinctive in three ways. Firstly, the largest number of emigrants and the highest proportion of emigrants were found in the

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25. The lack of fluctuations in the proportion of current migrants has also been noted in chapter VI, p.215.

26. See chapter VI, table 6.2. p.206.

decade 1861-71 and thereafter, the category experienced a relatively steady fall in emigrants in both measures, whereas the other categories recorded their greatest volume and highest emigration rates much later. Secondly, in the decline south category, unlike the other categories, there were no marked fluctuations between decades in the proportion of the population lost through emigration. Thirdly, although male emigrants still predominated, the ratio of male to female emigrants was very close to unity especially in the decades 1871-81 and 1901-11, and much closer than in the other population categories.

This different emigration pattern clearly needs to be accounted for. The counties which comprise the decline south category are adjacent or close to the border with England, and as already noted, movement into England in this study was defined as emigration.<sup>27</sup> Appendix V<sup>28</sup> has analysed counties-of-birth of the Scottish life-time population in England and Wales in 1911<sup>29</sup> and this showed that the highest proportions were born in the counties comprising the decline south population category.<sup>30</sup> Although the direction of population movement could have changed, this population from the southern Scottish counties probably reflected a

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27. See chapter II, p.49.

28. See appendices, appendix V, pp.80-1.

29. The 1911 English and Welsh census is the only one that tabulates Scottish residents in England and Wales by county-of-birth.

30. The only Scottish counties that had lost more than 10% of their native population through emigration to England and Wales were Berwick, Dumfries, Kirkcudbright, Roxburgh and Wigtown. These counties comprise counties in the decline south category and all have a border with England. See Appendices, appendix V, pp.80-1.



long standing pattern from a border region where emigration (as defined in this study) was as easy as migration.

Indeed the almost equal numbers of males and females suggests combination of both migrant and emigrant movement, because whereas in the migrant population females generally exceeded males both in volume and proportion,<sup>31</sup> in emigration males always exceeded females. This is not to argue that there was no genuine overseas emigration from this category, but that it was buried amongst the emigrants to England. Indeed the fact that this category recorded a consistently high proportion of emigrants, when other categories experienced decades of relatively low emigration, supports this argument that much of the emigration was into England. Furthermore, from the opposite perspective Baines has argued that emigration from the northern English counties into Scotland was also similar to migration in character.<sup>32</sup>

Finally, there were excellent reasons for emigrating only a fairly short distance south. Although, the decline south category was an area with agricultural wages above the national average, out-movement was high,<sup>33</sup> because there were even higher wages in agriculture in the four closest counties Cumberland, Durham,

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31. See chapter VI, table 6.2. p.206.

32. Baines. *Migration in a Mature Economy*. pp.121-2 and appendix 6, p.307.

33. See chapter VI, pp.211-2.

Northumberland and Westmoreland,<sup>34</sup> while in the northeast wages generally "were always amongst the highest in Britain".<sup>35</sup>

To conclude this analysis of the population categories, three of the four categories showed very similar emigration profiles with noticeably higher ratios of male to female emigrants. The fourth category, decline south, was quite distinctive and this was probably related to its close proximity to England.

When this analysis of how individual population categories related to the national average is compared with that for current migration<sup>36</sup> it is clear that population movements in the three categories have a consistent pattern. Current migration rates were above average and emigration rates were generally below average in the decline north and growth categories, while in the boom category the pattern was reversed. Only in the decline south category were there high proportions of both current migrants and emigrants, and it has already been argued that unusual factors may account for the high level of emigration. This interesting pattern suggests that emigration and current migration could be inversely related and this will be explored in more depth subsequently.<sup>37</sup>

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34. Hunt. *Regional Wage Variations*. pp.43-7.

35. *Ibid.* p.170.

36. See chapter VI, pp.204-17.

37. See chapter X, pp.381-94.

### 3. THE AGGREGATE CURRENT EMIGRANT LOSSES FORM THE COUNTY-OF-BIRTH

In order to avoid repetition it is not intended to consider every county-of-birth. but to follow the practice already adopted in chapter VI for current migration and highlight the main features. The aggregate computer estimates of the proportion of emigrants lost by county-of-birth are tabulated in appendix XVII,<sup>38</sup> together with estimates of standard errors. and these should be referred to throughout this discussion. The information has also been mapped in appendix XXII.<sup>39</sup> The proportions lost by county-of-birth through emigration and current migration can be compared in Appendix XIV.<sup>40</sup>

There was no obvious regional dimension to emigration in appendix XXII and therefore map 8.1. has been created to clarify the situation. Map 8.1. illustrates the relationship of the individual counties-of-birth to the national average proportion of emigrants for both sexes (table 8.1.).<sup>41</sup> Map 8.1. shows that it was very unusual for a county to remain in the same emigrant category throughout the period 1861-1911. The only three counties that showed this degree of consistency were Fife, Inverness and Linlithgow (West Lothian). These counties had lower proportions of emigrants than the national average in every decade. Moreover, no county was consistently above the national average for both sexes.

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38. See Appendices, appendix XVII, pp.150-4.

39. See Appendices, appendix XXII, pp.224-9.



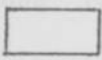
40. See Appendices, appendix XIV, pp.137-41.

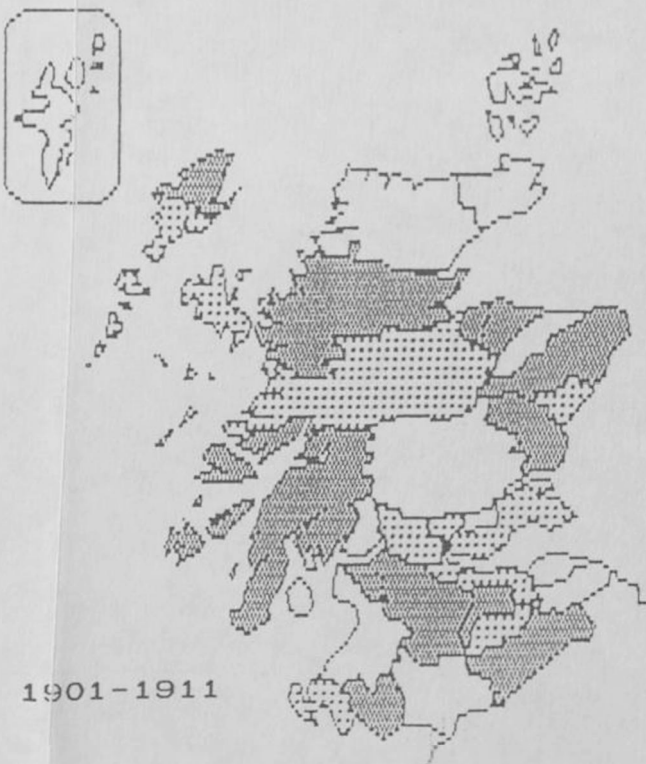
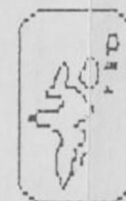
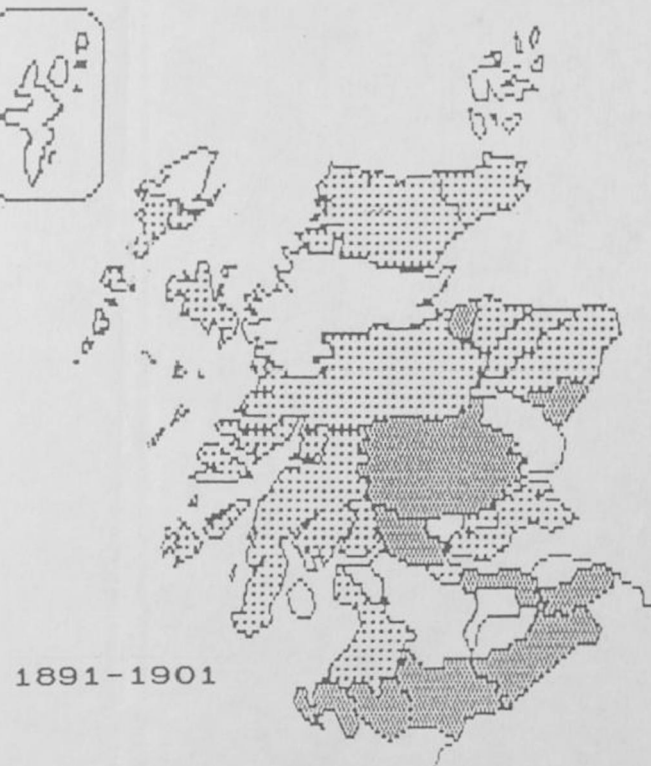
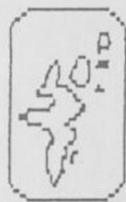
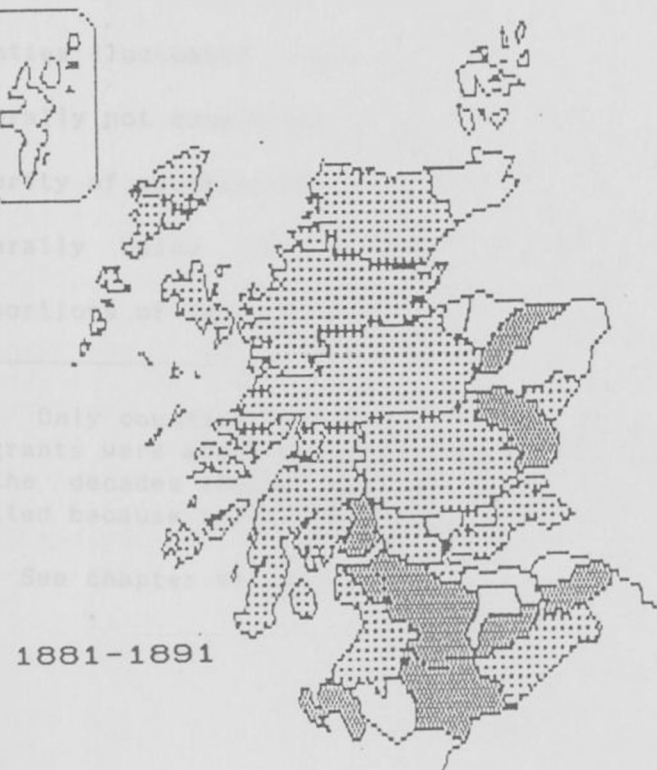
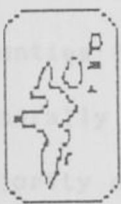
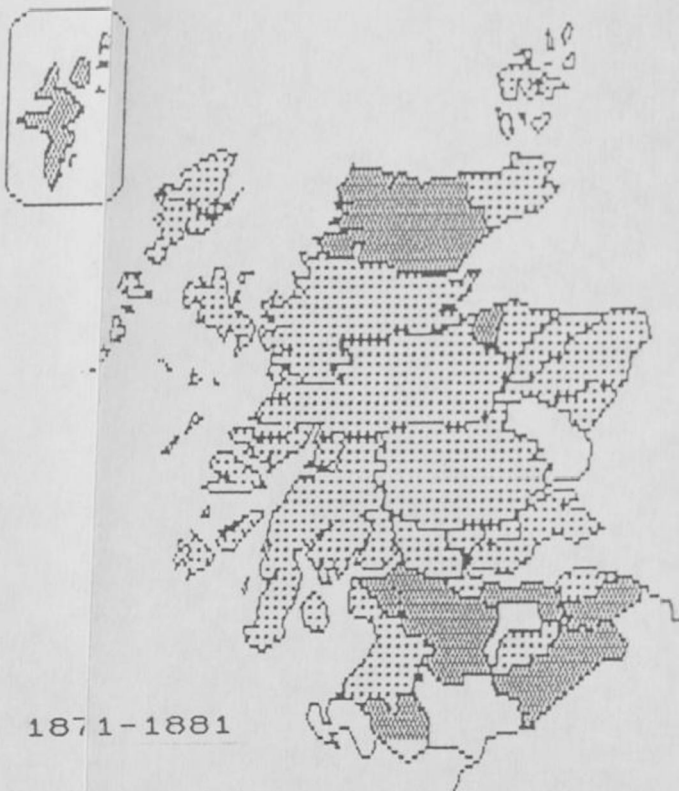
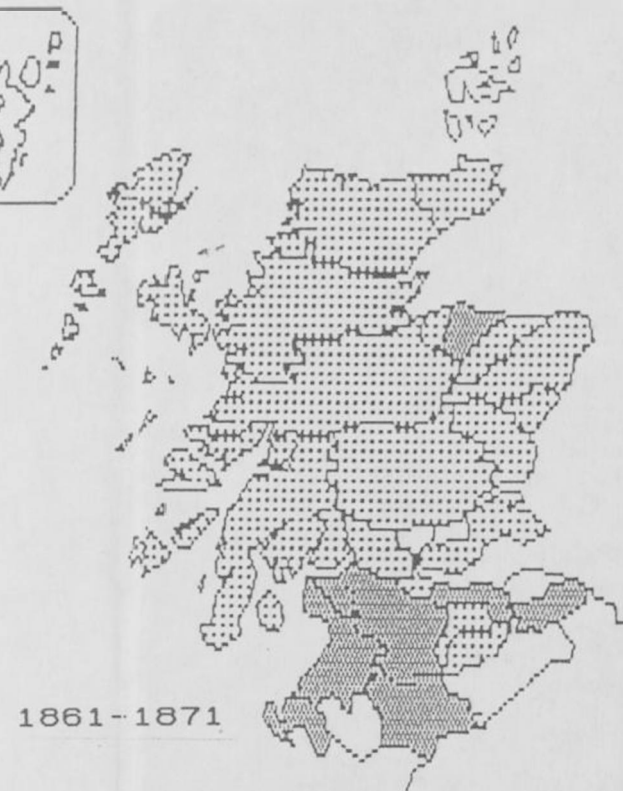
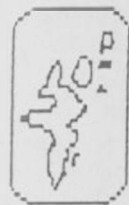
41. See table 8.1. p.283.

EMIGRATION: THE RELATIONSHIP OF THE PROPORTION LOST BY COUNTY-OF-BIRTH TO THE NATIONAL AVERAGE \*

KEY

\* See table 8.1. p.283.

-  Both sexes above the national average
-  Both sexes below the national average
-  Results for each sex differ



even including the counties in the decline south migrant population category which, as already noted, had a high proportion of emigrants, due partly to movement into England being classified as emigration. The majority of counties (where measurement was possible)<sup>42</sup> were always below the national average. This was because the largest counties, Edinburgh (Midlothian), Lanark and Renfrew, were generally above the national average for the proportion of emigrants and the very large populations in these counties distorted the national averages.

The relationship of the counties-of-birth to the national average for emigration (map 8.1.) is the reverse of the pattern found for current migration.<sup>43</sup> In current migration the majority of counties were consistently above the national average, and the county with largest population, Lanark and Renfrew, was much lower than the national average and thereby again distorted the data.

Having analysed this problem of distortion in national averages for current migration, the situation for emigration will now be considered. The proportions of emigrants from individual counties fluctuated far less than for current migration, but were generally not consistently above or below the national average. The majority of counties had proportions of emigrants leaving that were generally below the national average. Very few counties had proportions of emigrants that were above the national average but

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42. Only counties where both male and female proportions of emigrants were above or below the national average were considered. In the decades 1881-91 and 1901-11 a third of the counties were omitted because the two sexes did not reveal common trends.

43. See chapter VI, map 6.1. p.221.

those that did, particularly Lanark and Renfrew,<sup>44</sup> were the most populous counties.

Map 8.1. (emigration) complements map 6.1.<sup>45</sup> for current migration, although the framework of analysis is different. Map 8.1. shows that as with current migration individual counties go against the dominant trend in their population category, although far less frequently. Thus in the decline north category, although most counties had proportions of emigrants that were below average, Argyll, Ross and Cromarty, Shetland and Sutherland all exceeded the national average in one decade, whilst in Orkney and Shetland the proportion of emigrants in each sex differed enough to cause one to be above and the other below the national average in four out of five decades.<sup>46</sup> As one would expect in the decline south category the proportion of emigrants were generally above the national average, but every county had one decade with an anomalous result, that was the proportions of each sex changed, but in opposite

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44. The county of Edinburgh (Midlothian) agreed with Lanark and Renfrew in some decades but there was nowhere near the same degree to consistency in the relationship to the national averages for both emigration and current migration.

45. See fn.43.

46. In Orkney and Shetland the proportions of male and female emigrants only conformed to the national average in one decade (1871-81) when emigration was below average for the former and above for the latter. In the majority of decades the proportion emigrants was consistently above average for males and below average for females from Orkney. This was also true for Shetland except in the decade 1891-1901 when the pattern was reversed. See Appendices, appendix XIV, pp.140-1, and table 8.1. p.283. Many Shetland males worked in the merchant navy or in the Greenland whaling industry, so they would therefore have been transient emigrants unless they died or settled abroad. For reasons for the Shetland emigration see Smith, H.D. *Shetland Life and Trade 1550-1914*, (John Donald, Edinburgh, 1984). pp.157-9.

directions, and in the middle decade emigration from Roxburgh was low. In the growth category all the counties experienced several decades below the national average, but had estimates that were above average in at least one decade. Although the boom category experienced an above average proportion of emigrants, the counties of Fife and Linlithgow (West Lothian) were consistently below average, and Dunbarton and Stirling were also generally low. It can be seen from this that individual counties varied considerably from the norm of their population category.

The proportions of emigrants lost do not vary as much between individual counties as do those for current migration.<sup>47</sup> This is because there was no intrinsic reason why more or less people should emigrate, as opposed to migrate from a small county.<sup>48</sup> Moreover, the proportions lost through emigration were generally lower than for migration, although of course it must be remembered that the baselines were different (native population for migration, total population for emigration). Indeed, excluding the border counties where emigration was unusually high, it is unusual for emigration to reach 10% even for males.<sup>49</sup>

The basic emigrant pattern, that of three peaks interspersed by two troughs, has already been discussed. This pattern

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47. See Appendices, appendices XIV, XVI and XVII, pp.137-41, 145-9 and 150-4 respectively.

48. See chapter VI, pp.217-8.

49. The proportion of male emigrants was in excess of 10% in the following counties, (excluding the Border counties). These were:- 1871-81 Shetland, 1881-91 Elgin (Moray), Orkney and Selkirk and 1901-11 Aberdeen and Caithness. See Appendices, appendix XVII, pp.150-4.

predominates at the level of the individual county-of-birth in both sexes, but within this pattern differences between the counties do emerge. The variations cannot be classified as regional trends and probably relate to economic circumstances abroad as well as those within the county-of-residence, which may or may not be the county-of-birth. This is in contrast to current migration where the economic situation in the county-of-birth was likely to be a push factor.<sup>50</sup> However, sometimes a county-of-birth experienced a decade of high population losses through both emigration and current migration. This suggests that events in the county-of-birth had precipitated the out-movement. For example, in the county of Selkirk in the decade 1881-91, the proportion of both out-migrants and emigrants was high<sup>51</sup> which indicates that there may have been a crisis in the economy of that county.<sup>52</sup>

When emigration estimations were considered in aggregate, male and female results appeared to follow similar pattern, although there were far less female emigrants. This was also generally true at the county level. The major exception was Kincardine, a county with below average levels of emigration (table 8.1.) except in the decade 1891-1901. The proportion of male emigrants followed the "normal" pattern of peaks and troughs, but

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50. See chapter VI, pp.225.

51. See Appendices, appendix XIV, p.141, Selkirk.

52. A slump in the wool trade due to foreign competition may account for this movement out of Selkirk. Campbell cites evidence from the Royal Commission of 1886 with regard to a woollen manufacturer from Galashiels who stated that "trade was very bad" and that "we get no profits". Campbell. *The Rise and fall of Scottish Industry*. p.69.



in contrast female emigration was relatively high in the normally low decade 1871-81 and low in the final decade. Indeed in Kincardine female emigration as a proportion of the total population peaked in the decade 1871-81 and steadily declined thereafter. However, Kincardine also followed a distinctive pattern with regard to current migration, suggesting the presence of some special factors in that county.<sup>53</sup>

Several counties had emigration patterns where the two sexes did not conform in individual decades. These minor differences between the sexes are clearly emphasised in the large number of counties that could not be measured in map 8.1.<sup>54</sup> This is in contrast to the pattern for current migration where there were very few counties in which the proportion of migrants in both sexes did not agree in their relationship to the national average (map 6.1.).<sup>55</sup> This would suggest that the sexes were more likely to conform to the national average in current migration than was the case in emigration. However, the proportions emigrating from individual counties were generally much closer to the national average and therefore it was more likely that the sexes will not conform. With current migration the proportions lost from individual counties were widely dispersed from the national average and therefore both sexes were more likely to agree.

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53. See chapter VI, pp.225.

54. The lack of fluctuations in the proportion of current migrants has also been noted in chapter VI, p.215.

55. See chapter VI, map 6.1. p.221.

The pattern of three peaks and two troughs was not apparent in every county and the exceptions were not confined to counties with high or low proportions of emigrants. Nor could any regional pattern be established. Several counties did not experience the first trough in the decade 1871-81; these included Bute,<sup>56</sup> Forfar (Angus),<sup>57</sup> Kirkcudbright,<sup>58</sup> Peebles,<sup>59</sup> Shetland<sup>60</sup>, and Sutherland<sup>61</sup> where the proportion of male emigrants actually increased, and Aberdeen,<sup>62</sup> Banff,<sup>63</sup> Edinburgh (Middlethian), Fife,<sup>64</sup> Inverness,<sup>65</sup> Lanark and Renfrew,<sup>66</sup> Ross and Cromarty<sup>67</sup> and Selkirk,<sup>68</sup> where the trough for male emigrants was very slight.

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56. In this county the proportion of male emigrants in this decade increased.

57. In this county the proportion of female emigrants in this decade increased.

58. In this county the proportion of both male and female emigrants in this decade increased markedly.

59. In this county the proportion of female emigrants followed the same pattern as that of the males.

60. See fn.58.

61. See fn.59.

62. See fn.57.

63. See fn.57.

64. See fn.59.

65. See fn.57.

66. See fn.59.

67. See fn.59.

68. In the county of Selkirk in the decades 1861-81 the proportion of male emigrants was very low and for females there was net return emigration.

The marked peaks in the aggregate proportions of emigrants (Tables 8.1. and 8.2.) were also not apparent in every county. This was particularly true of female emigrants. Thus, in the decade 1861-71 the proportion of female emigrants was low from Fife, Forfar (Angus) and Inverness and in 1881-91 female emigration was low from Edinburgh (Midlothian). It should be noted that Fife and Inverness had below average proportions of emigrants, but that both Edinburgh and Forfar generally exceeded the average proportions in most decades. The counties-of-birth involved in this lack of female participation in emigration in these decades have large populations and so the findings are real rather than illusory, but it should be remembered that males may well be emigrating from a county-of-residence not the county-of-birth. The male peak in emigration could reflect males travelling ahead to investigate opportunities overseas<sup>69</sup> (or in England and Wales) before bringing out their families. However, it could also imply better opportunities for females in the mother-country; certainly work opportunities in Forfar were good for females.<sup>70</sup>

It has already been noted that certain counties did not conform to the general pattern of peaks and troughs in

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69. Robert Louis Stevenson, when travelling to the United States by ship in 1879, met emigrant males intending to assess their prospects in that country before bringing out their families. Another person was joining members of his family already abroad. Stevenson, R.L. *The Amateur Emigrant*, (Hogarth Press, London, 1984), p.8 and p.33 respectively.

70. In the decade 1861-71 in Dundee the linen industry was reaching its peak. This employed large numbers of males, but the jute-based industries which were still growing employed mainly females. Walker cites a newspaper report from 1864 which states that female workers were preferred in the jute industry. *Glasgow Free Press* 1864 cited in Walker. *Juteopolis*. pp.33-4.

emigration.<sup>71</sup> Shetland lost the highest proportion of its population in the decade 1871-81<sup>72</sup> and Roxburgh in 1891-1901,<sup>73</sup> these being decades when most counties experienced low emigration. However, this high loss through emigration was not complemented by an unusually high proportion of out-migrants in that decade.<sup>74</sup> This suggests that the high level of emigration cannot necessarily be related to strictly local events. Nevertheless, in the case of Shetland there may be a link between high emigration and low migration in the decade under consideration. Smith states that for Shetlanders "the availability of assisted passages to such places as New Zealand, energetically canvassed by emigration agents in 1874 and 1875" was a decisive factor when considering emigration vis-a-vis migration.<sup>75</sup> Both Roxburgh and Shetland had decades with above average proportions of emigrants and others where emigrant levels were very low, but these counties also had atypical out-migration patterns which have already been considered.<sup>76</sup>

It has already been noted that the proportion of male emigrants invariably exceeded that of females. Nevertheless, in

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71. See pp. 298-9.

72. This finding is supported by evidence Smith cites from *The Shetland Times* that emigration increased just after 1871, due to failures of both crops and fishing. Smith. *Shetland Life*. pp.157-9.

73. A decline in the woollen trade in 1891-1901 caused the population of Hawick to decline from 19,204 to 17,303 which suggests that there were serious economic problems in Roxburgh. Lenman. *An Economic History*. p.187.

74. See p.296.

75. Smith. *Shetland Life*. p.159.

76. See chapter VI, p.223.

Haddington (East Lothian) the proportion of females to males was close in every decade except 1891-1901 and females exceeded males in 1881-91. It is possible that family emigration was particularly high from this county making the female proportions more similar to those of males. But it is also the case that male and female emigrants could have moved separately and to different countries. As appendix V showed,<sup>77</sup> females from Haddington were attracted to England and Wales in greater numbers than males, although not in markedly larger numbers than from many other counties such as Edinburgh (Midlothian) and Inverness.

The proportion of current migrants from Edinburgh and Lanark and Renfrew fluctuated far less than from any other county,<sup>78</sup> but this was certainly not the case for emigration. The only county-of-birth with a relatively stable proportion of emigrants was Stirling and even here a lack of fluctuation was only found amongst the males. Moreover, the proportion of emigrants from Stirling was low, below the national average for both sexes, except in the decade 1891-1901, whereas the proportion of current migrants from Stirling was generally above average. Clearly, a stable proportion of either migrants or emigrants in every decade from an individual county was most unusual and was never consistent enough to include both forms of population movement.

To conclude this discussion on the proportion of the county-of-birth population lost through emigration, it is clear that the

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77. See Appendices, appendix V, pp.80-1.

78. See chapter VI pp.225-6.

counties with the largest populations (Lanark and Renfrew and to a lesser extent Edinburgh (Midlothian)) were important magnets for migrants. On the other hand nowhere else in Scotland was attractive enough to native-born residents within these counties to encourage a high level of current migration and therefore the proportion of their population that migrated was relatively low (although as has been shown previously, numerically it was very large and could form a significant proportion of the population in other regions).<sup>79</sup> It is therefore not entirely surprising that these counties had a consistently higher proportion of emigrants than the majority of counties (except of course the Border counties).

#### SCOTTISH EMIGRATION TO ENGLAND, WALES AND OVERSEAS DESTINATIONS

This chapter has argued that some Scottish population movement to England and Wales resembled current migration in the sex ratios, despite being classified as emigration.<sup>80</sup> Baines has estimated Scottish immigration into England and Wales<sup>81</sup> and if these figures are deducted from total emigration from Scotland, overseas emigration can be calculated. Table 8.3 shows the proportions of the total Scottish population that went either to England and Wales or overseas. In this context overseas destinations include Ireland, but as can be seen in appendix

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79. See chapter IV, p.185.

80. See pp.291-4.

81. Baines. *Migration in a Mature Economy*. Table 4.5. p.115.

TABLE 8.3.

THE PROPORTION OF THE SCOTTISH POPULATION WHO EMIGRATED  
TO OVERSEAS DESTINATIONS AND TO ENGLAND AND WALES<sup>1</sup>

DECADE <sup>2</sup>	TOTAL CURRENT EMIGRANTS		OVERSEAS DESTINATIONS <sup>3</sup>				ENGLAND AND WALES <sup>4</sup>			
	Male	Female	Proportion of the total Scots-born population <sup>5</sup>		Proportion of each sex		Proportion of the total Scots-born population <sup>5</sup>		Proportion of each sex	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1861-1871	-115745	-81619	-4.72	-2.48	63.7	36.6	-2.68	-2.34	51.4	48.6
1871-1881	-116853	-89351	-4.28	-2.61	60.5	39.5	-2.46	-2.19	51.1	48.9
1881-1891	-162892	-114226	-6.55	-3.81	61.9	38.1	-1.90	-1.60	50.0	50.0
1891-1901	-103085	-62837	-2.85	-1.15	70.2	29.8	-2.14	-1.73	53.9	46.1

<sup>1</sup> Baines, *Migration in a Mature Economy*, table 4.5, p.115.

<sup>2</sup> Baines did not estimate data for 1901-11.

<sup>3</sup> The proportion of Scots-born population emigrating abroad has been calculated by deducting Baines estimate of Scottish movement into England and Wales from the total emigrant population estimated in this study.

<sup>4</sup> The proportion of Scots-born population emigrating to England and Wales has been calculated by Baines.

<sup>5</sup> The proportion is calculated as current emigrants over the total population born in Scotland in the subsequent decade plus total current emigration. (That is the total population at the end of the decade if nobody had moved out).

XXXII,"<sup>82</sup> the life-time Scottish immigrant population in Ireland was only about 10% or less of that in England and Wales.

Table 8.3. shows that in every decade and for both sexes (except females in 1891-1901) overseas emigration exceeded that within Britain.<sup>83</sup> Male emigration overseas was markedly higher, but female movement was almost equally spread between the two destinations and only in the decade 1881-91, which it has been argued was one of exceptionally high emigration, did the proportion of female emigrants going overseas differ markedly from those to the rest of Britain.

The peaks and troughs in emigration have already been briefly analysed.<sup>84</sup> It is useful to consider the response of emigrants to a changing situation. In the decades 1861-81 the proportions emigrating were approximately the same, but in the subsequent decade, one of high emigration, far more emigrants of both sexes were going abroad. In the decade of low emigration 1891-1901 the proportion going to England and Wales increased slightly for males and not at all for females. Unfortunately, it is impossible to assess emigration to England and Wales using Baines' work in the

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82. See Appendices, appendix XXXII, p.330.

83. The estimates in table 8.3. for the proportions of total emigrants moving to other parts of Britain are lower than those of Anderson and Morse. They estimated that "about half" of Scots who emigrated moved south, but included Ireland in their calculations. However, appendix XXXII (which shows life-time emigration) suggests that emigration to Ireland was insignificant when compared with movement to England and Wales and is therefore unlikely to markedly increase the present estimation of British emigration. See Anderson and Morse. "The People" p.17 and fn.82.

84. See pp.283-4.



final decade.<sup>85</sup> However, Flinn has also estimated emigration to the United Kingdom,<sup>86</sup> and his calculations suggest that emigration south in 1901-11 was considerably lower than in the previous decades. For males the troughs in overseas emigration may have created a slight increase in emigration to England and Wales, but there was no evidence that female emigration was similarly affected.

The proportion of the population going overseas fluctuated according to the decade, but the proportion of the population emigrating to England and Wales declined over time. For females this decline was steady throughout the period. There was also evidence of decline for males, but it was complicated by the marked drop in the proportion of emigrants in the decade 1881-91. Nevertheless, 1891-1901 did have less male emigrants than 1871-81. Flinn's estimates of movement south in 1901-11 imply that the male flow south was even lower than in 1881-91.<sup>87</sup> This declining movement to England and Wales was not just in the proportions of emigrants, as Baines estimates show fluctuations in the volume leaving and they were higher in the years of lower Scots total

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85. Baines did not calculate his data beyond 1901. Baines. *Migration in a Mature Economy*. Table 4.5. p.115.

86. Flinn's estimates of Scottish emigration are to the United Kingdom, which includes Ireland, but they are still probably higher than Baines (see fn.85). Flinn. *Scottish Population History*. Table 6.1.2. p.442.

87. See fn.86.

emigration.<sup>88</sup> Therefore, the largest emigration flows south were in the years of high current migration.

In order to estimate emigration in this study it was necessary to consider all movement out of Scotland, including that to the rest of the United Kingdom, emigration,<sup>89</sup> but in view of the previous discussion, should movement to England and Wales be considered emigration? Table 6.1.<sup>90</sup> showed that nationally female current migration invariably exceeded that of males. In Baines estimates of Scottish movement into England and Wales male movement exceeded female in three of the four decades considered, but the volume was generally fairly close and the ratio of male to female emigrants was not typical of an emigrant population.<sup>91</sup> Movement to England and Wales was therefore probably a mixture of both types of population movement. Movement from the Border counties to the north of England probably did resemble current migration, but as has already been argued, the total movement to England and Wales was not typical of current migration. An emigrant-type population probably moved a greater distance and indeed Anderson and Morse have shown that emigration south was at first "focused on London and the Southeast and Lancashire" and after 1870 there was more movement to the heavy industry and mining towns of England and

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88. Baines estimates of Scottish males in England and Wales fluctuate more than those for females. Baines. *Migration in a Mature Economy*. Table 4.5. p.115.

89. See chapter II, pp.46-7.

90. See chapter VI, table 6.1. p.203.

91. See table 8.3. p.307.

Wales.<sup>92</sup> Therefore, if distance can be used as an additional criterion much of the movement should be considered emigration.

#### 4. THE CURRENT EMIGRANT AGE-STRUCTURE BY POPULATION CATEGORY

The method by which the emigrant age-structure has been computed has been discussed in chapter IV.<sup>93</sup> Here it will suffice to note that the age-band shown is that in which the emigrant is assumed to have left Scotland. However, it is not assumed that the emigrant was previously a resident of his county-of-birth, but could have lived anywhere in Scotland.

The analysis of this section will begin with a brief overview of the current emigrant age profile. The discussion will then be widened using the population categories and finally, interesting features of individual counties-of-birth will be considered. This is the same system as was used to analyse current migration. The emigrant age-structure by population category is tabulated in Appendices XXIII<sup>94</sup> and illustrated diagrammatically in appendix XXIV.<sup>95</sup> The individual county-of-birth emigrant age profile is shown with standard errors in appendix XXV.<sup>96</sup> These appendices can

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92. Anderson and Morse. "The People" p.17.

93. See chapter IV, pp.167-8 and 173-5.

94. Appendix XXIII shows estimates of the emigrant age-structure with standard errors  $\pm$ , see appendix XII for further details. Appendices, appendix XXIII, pp.230-4.

95. Appendix XXIV also shows the effects of applying the 1891 migrant age-structure instead of the projected one in calculations (see chapter IV, pp.168-9 for further details). Appendices, appendix XXIV, pp.235-59.

96. See Appendices, appendix XXV, pp.260-92.

be directly compared with those for the current migrant age-structure, appendices XX,<sup>97</sup> XXI<sup>98</sup> and XVIII<sup>99</sup> respectively.

#### AN OVERVIEW OF THE AGE PROFILE OF THE EMIGRANT POPULATION

Tables 8.4. and 8.5. show the estimated aggregate losses from Scotland in each decade and the proportion lost in each age-band. The estimated losses are shown with standard errors for each age-band.<sup>100</sup>

A fairly high proportion of emigrants were young children, a similar pattern to that found in current migration. The proportion of girls appears to exceed that of boys, but this is because far fewer females emigrated and there were proportionally less adults. In fact young boys exceeded girls in volume in every decade. The decades of very high emigration 1881-91 and 1901-11 involved proportionally far fewer children.

The age-band of maximum adult departures through emigration was one age-band younger for males (20-24 years) than for females

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97. See Appendices, appendix XX, pp.194-8.

98. See Appendices, appendix XXI, pp.199-223.

99. See Appendices, appendix XVIII pp.155-87.

100. In tables 8.4. and 8.5. three estimates have been provided for each age-band. Two standard errors have been applied to the original migrant age-structures, which were used to estimate the migrant age profile in the census county-of-birth by county-of-residence tabulations in order to calculate both current migration and emigration. The top estimate in both tables had two standard errors added to the original migrant age-structure, the middle one is the original estimated losses and the bottom line had two standard errors deducted from the original migrant age-structure for each population category. See Appendices, appendix XII, pp.126-9 for further details about standard errors.

TABLE 8.4. AN ESTIMATE OF THE VOLUME OF SCOTTISH EMIGRATING IN EACH AGE BAND BY DECADE WITH 2 STANDARD ERRORS +

	TOTAL	<5	<10	<15	<20	<25	<30	<35	<40	<45	<50	<55	<60	<65	<70	<75	75+
1861-1871																	
MALE	-116207	-29114.9	-5655.30	174.04	-17565.7	-30655.0	-22754.9	-9096.23	-2779.38	-1168.72	-1837.96	-2848.94	-2290.51	-277.48	-422.06	2052.33	8033.70
	-115745	-28826.3	-5721.12	-151.38	-17541.1	-30170.2	-22689.5	-9703.74	-3118.51	-1040.00	-1852.70	-2828.69	-2106.75	-148.73	-240.68	2209.90	8184.90
	-114729	-28241.0	-5864.53	-806.61	-17476.2	-29214.4	-22600.8	-10932.0	-3783.74	-739.09	-1821.59	-2739.19	-1712.34	104.46	77.53	2499.73	8520.62
FEMALE	-81750	-25758.0	-5433.32	1904.12	-2489.91	-10698.5	-17476.8	-14524.0	-6806.36	-2684.67	-2787.42	-3461.15	-2032.90	571.83	-1750.73	1110.95	10565.94
	-81618	-25652.7	-5410.06	1716.16	-2087.28	-9793.93	-17771.0	-15525.2	-7065.94	-2685.11	-2869.17	-3406.74	-1982.60	628.35	-1529.65	1266.70	10549.28
	-81251	-25453.4	-5370.00	1357.59	-1316.86	-8066.90	-18331.4	-17460.3	-7555.34	-2673.88	-2962.94	-3151.26	-1827.79	675.16	-1120.62	1571.86	10434.94
1871-1881																	
MALE	-117265	-30574.9	-9354.61	-2152.26	-16003.5	-28177.6	-20819.8	-9139.63	-2472.60	196.11	-1296.42	-2848.04	-2427.41	-362.05	-874.30	1490.91	7551.91
	-116853	-30430.8	-9363.46	-2377.45	-16099.2	-27877.5	-20678.5	-9571.13	-2774.09	201.69	-1412.98	-2876.66	-2101.53	-328.65	-752.52	1674.87	7715.17
	-116006	-30140.8	-9402.24	-2823.81	-16253.3	-27287.3	-20445.2	-10431.4	-3345.47	252.72	-1588.92	-2322.94	-1468.51	-256.28	-533.97	2009.29	8032.36
FEMALE	-89464	-27358.7	-9087.31	-2298.73	-5184.81	-11433.8	-14947.7	-11162.5	-4681.43	-2275.96	-2884.90	-3651.81	-2354.09	191.03	-2038.10	840.24	8863.68
	-89351	-27288.9	-9079.06	-2425.98	-4769.63	-10417.9	-15054.2	-12299.4	-5224.71	-2375.60	-2977.80	-3586.41	-2244.31	266.04	-1798.65	1023.09	8882.34
	-89052	-27163.2	-9073.08	-2659.52	-3951.29	-8467.47	-15276.2	-14520.7	-6286.70	-2563.56	-3109.22	-3302.92	-1994.81	379.40	-1341.54	1387.41	8891.29
1881-1891																	
MALE	-163309	-30614.1	-14921.6	-7168.38	-21195.7	-38326.7	-31801.6	-15307.1	-5809.67	-1617.69	-1553.88	-2913.58	-1744.16	790.22	260.10	1741.07	6873.79
	-162892	-30660.4	-14862.9	-7245.65	-21410.9	-38279.4	-31601.4	-15493.1	-6039.22	-1713.15	-1723.16	-2539.33	-1245.01	695.88	266.10	1930.95	7028.92
	-162091	-30752.5	-14768.2	-7389.76	-21783.3	-38185.7	-31265.9	-15863.3	-6454.05	-1854.63	-1994.79	-1814.13	-310.03	512.90	260.01	2268.33	7305.59
FEMALE	-114354	-27939.3	-14443.2	-7295.25	-8814.20	-14240.6	-18209.7	-13561.0	-5540.80	-2703.13	-2879.35	-4313.17	-3342.42	-50.11	-1311.93	1217.71	9072.33
	-114226	-27921.5	-14461.5	-7345.82	-8431.29	-13198.2	-18133.7	-14832.0	-6362.39	-2839.02	-2914.95	-4139.79	-3129.96	50.30	-1069.73	1411.02	9092.77
	-113919	-27898.4	-14507.4	-7424.12	-7653.45	-11193.7	-18010.1	-17306.5	-7968.12	-3091.66	-2930.24	-3731.97	-2705.18	209.39	-620.62	1788.21	9124.51
1891-1901																	
MALE	-103532	-23108.4	-6661.90	-2927.32	-17436.9	-29725.6	-21284.1	-5853.63	-506.97	-767.91	-914.11	-2241.26	-1616.05	1785.52	149.70	1068.65	6508.06
	-103085	-23376.0	-6500.61	-2807.65	-17826.7	-30018.0	-20998.3	-5717.28	-646.87	-1068.98	-1249.83	-1595.24	-883.32	1527.32	48.38	1295.34	6734.01
	-102259	-23907.2	-6202.21	-2557.51	-18528.8	-30583.5	-20509.0	-5458.29	-875.99	-1602.30	-1831.45	-369.08	474.10	1030.06	-163.98	1694.38	7131.30
FEMALE	-62964	-20517.4	-6033.13	-3119.23	-5748.56	-7170.32	-9639.31	-6645.05	-2233.38	-1896.60	-1995.32	-3133.03	-3119.08	15.02	-1399.03	968.61	8701.59
	-62837	-20546.7	-6078.27	-3075.35	-5368.46	-6016.15	-9258.48	-8024.60	-3403.14	-2158.64	-2062.57	-2927.44	-2829.66	128.56	-1146.41	1186.94	8743.44
	-62556	-20615.3	-6177.08	-2967.48	-4578.65	-3795.41	-8556.89	-10705.5	-5694.12	-2660.20	-2131.92	-2473.88	-2274.61	311.98	-685.94	1610.65	8838.44
1901-1911																	
MALE	-188552	-29441.3	-14429.6	-8820.06	-28967.3	-48635.3	-38365.0	-16879.5	-6492.35	-3652.90	-3361.31	-3445.40	-1875.87	2370.77	3281.83	2972.69	7189.53
	-188014	-29873.2	-14192.9	-8506.97	-29504.0	-49279.3	-37977.9	-16353.6	-6527.65	-4110.74	-3762.01	-2515.81	-899.88	1893.55	2955.10	3200.73	7440.14
	-187039	-30745.1	-13746.1	-7860.63	-30469.4	-50512.5	-37296.0	-15319.8	-6519.25	-4939.82	-4449.22	-750.87	886.06	970.50	2287.01	3567.80	7858.68
FEMALE	-137466	-26899.3	-13481.7	-9358.42	-15750.1	-21150.7	-21866.2	-15770.2	-8929.70	-7172.14	-5515.41	-3882.27	-4340.10	-1225.04	2579.86	4822.95	10471.97
	-137286	-26959.7	-13557.0	-9231.27	-15406.1	-19948.1	-21219.4	-17332.3	-10489.7	-7477.70	-5515.34	-3577.47	-3918.82	-1078.95	2834.26	5061.88	10529.79
	-136920	-27082.2	-13715.4	-8964.24	-14668.9	-17637.3	-20017.2	-20350.7	-13537.0	-8061.81	-5434.31	-2937.60	-3130.84	-847.87	3278.16	5517.27	10670.07

TABLE 8.5. THE PROPORTION OF SCOTS EMIGRATING IN EACH AGE BAND BY DECADE WITH 2 STANDARD ERRORS +

	<5	<10	<15	<20	<25	<30	<35	<40	<45	<50	<55	<60	<65	<70	<75	75+
1861-1871																
MALE	25.05	4.87	-.15	15.12	26.38	19.58	7.83	2.39	1.01	1.58	2.45	1.97	.24	.36	-1.77	-6.91
	24.91	4.94	.13	15.16	26.07	19.60	8.38	2.69	.90	1.60	2.44	1.82	.13	.21	-1.91	-7.07
	24.62	5.11	.70	15.23	25.46	19.70	9.53	3.30	.64	1.59	2.39	1.49	-.09	-.07	-2.18	-7.43
FEMALE	31.51	6.65	-2.33	3.05	13.09	21.38	17.77	8.33	3.28	3.41	4.23	2.49	-.70	2.14	-1.36	-12.92
	31.43	6.63	-2.10	2.56	12.00	21.77	19.02	8.66	3.29	3.52	4.17	2.43	-.77	1.87	-1.55	-12.93
	31.33	6.61	-1.67	1.62	9.93	22.56	21.49	9.30	3.29	3.65	3.88	2.25	-.83	1.38	-1.93	-12.84
1871-1881																
MALE	26.07	7.98	1.84	13.65	24.03	17.75	7.79	2.11	-.17	1.11	2.43	2.07	.31	.75	-1.27	-6.44
	26.04	8.01	2.03	13.78	23.86	17.70	8.19	2.37	-.17	1.21	2.29	1.80	.28	.64	-1.43	-6.60
	25.98	8.10	2.43	14.01	23.52	17.62	8.99	2.88	-.22	1.37	2.00	1.27	.22	.46	-1.73	-6.92
FEMALE	30.58	10.16	2.57	5.80	12.78	16.71	12.48	5.23	2.54	3.22	4.08	2.63	-.21	2.28	-.94	-9.91
	30.54	10.18	2.72	5.34	11.66	16.85	13.77	5.85	2.66	3.33	3.99	2.51	-.30	2.01	-1.15	-9.94
	30.50	10.19	2.99	4.44	9.51	17.15	16.31	7.06	2.88	3.49	3.71	2.24	-.43	1.51	-1.56	-8.98
1881-1891																
MALE	18.75	9.14	4.39	12.98	23.47	19.47	9.37	3.56	.99	.95	1.78	1.07	-.48	-.16	-1.07	-4.21
	18.82	9.12	4.45	13.14	23.50	19.40	9.51	3.71	1.05	1.06	1.56	.76	-.43	-.16	-1.19	-4.32
	18.97	9.11	4.56	13.44	23.56	19.29	9.79	3.98	1.14	1.23	1.12	.19	-.32	-.16	-1.40	-4.51
FEMALE	24.43	12.63	6.38	7.71	12.45	15.92	11.86	4.85	2.36	2.52	3.77	2.92	.04	1.15	-1.06	-7.93
	24.44	12.66	6.43	7.38	11.55	15.88	12.98	5.57	2.49	2.55	3.62	2.74	-.04	.94	-1.24	-7.96
	24.49	12.73	6.52	6.72	9.83	15.81	15.19	6.99	2.71	2.57	3.28	2.37	-.18	.54	-1.57	-8.01
1891-1901																
MALE	22.32	6.43	2.83	16.84	28.71	20.56	5.65	.49	.74	.88	2.16	1.56	-1.72	-.14	-1.03	-6.29
	22.68	6.31	2.72	17.29	29.12	20.37	5.55	.63	1.04	1.21	1.55	.86	-1.48	-.05	-1.26	-6.53
	23.38	6.07	2.50	18.12	29.91	20.06	5.34	.86	1.57	1.79	.36	-.46	-1.01	.16	-1.66	-6.97
FEMALE	32.59	9.58	4.95	9.13	11.39	15.31	10.55	3.55	3.01	3.17	4.98	4.95	-.02	2.22	-1.54	-13.82
	32.70	9.67	4.89	8.54	9.57	14.73	12.77	5.42	3.44	3.28	4.66	4.50	-.20	1.82	-1.89	-13.91
	32.96	9.87	4.74	7.32	6.07	13.68	17.11	9.10	4.25	3.41	3.95	3.64	-.50	1.10	-2.57	-14.13
1901-1911																
MALE	15.61	7.65	4.68	15.36	25.79	20.35	8.95	3.44	1.94	1.78	1.83	.99	-1.26	-1.74	-1.58	-3.81
	15.89	7.55	4.52	15.69	26.21	20.20	8.70	3.47	2.19	2.00	1.34	.48	-1.01	-1.57	-1.70	-3.96
	16.44	7.35	4.20	16.29	27.01	19.94	8.19	3.49	2.64	2.38	.40	-.47	-.52	-1.22	-1.91	-4.20
FEMALE	19.57	9.81	6.81	11.46	15.39	15.91	11.47	6.50	5.22	4.01	2.82	3.16	.89	-1.88	-3.51	-7.62
	19.64	9.88	6.72	11.22	14.53	15.46	12.62	7.64	5.45	4.02	2.61	2.85	.79	-2.06	-3.69	-7.67
	19.78	10.02	6.55	10.71	12.68	14.62	14.86	9.89	5.89	3.97	2.15	2.29	.62	-2.39	-4.03	-7.79

(25-29 years).<sup>101</sup> A larger proportion of elderly females emigrated than males, but return emigration was a significant component of the emigration patterns of both sexes.

#### THE EMIGRANT AGE-STRUCTURE BY POPULATION CATEGORY

The aggregate emigration age profile does not reflect the variety of experience in the individual population categories. These will now be considered. The age-structure of the emigrant population was similar to that of current migration in that it varied according to population category and sex. The migrant and emigrant age profiles for the same population category were however quite dissimilar. Moreover, the age profile fluctuated according to whether the it was a high or low emigration decade.

The standard errors for each population category have been tabulated in tables 8.4. and 8.5. When emigration was considered in aggregate the standard errors were very low.<sup>102</sup> However, the standard errors assume far greater importance when analysed by age-bands. For the purposes of this discussion it will suffice to note that it is the relative importance of individual age-bands for emigrant departure that is being considered, not the actual numbers, and where the results are anomalous this will be stated.

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101. In the estimates for females for the decades 1891-1911 one estimate (2 standard errors deducted) disagreed with the other estimates making peak emigration an age-band later. See table 8.5.

102. For the proportion of emigrants lost by county-of-birth, see Appendices, appendix XVII, pp.150-4 and for total lost by population category see Appendices, appendix XXIII, pp.230-4.

The population categories for the age-structure of emigrants will be considered in the same order as for current migration. As with current migration, the boom category age profile of emigrants was quite different from the other categories and therefore it will be considered last.

A brief summary of the main points concerning emigration that have already been established will be provided for each category, so that the new information can be placed in context.<sup>103</sup>

#### THE AGE-STRUCTURE OF EMIGRANTS FROM THE DECLINE NORTH CATEGORY

This category generally had a below average proportion of emigrants, although the proportion increased over time in the decades of high emigration and despite a declining population. Male emigrants exceeded females by a ratio of approximately 6:4.

This category had an emigrant age profile that fluctuated according to the decade. At the most general level the emigrant age-structure included very few young children.<sup>104</sup> Thereafter there was generally a gradual and fairly steady increase in male emigrants aged over 10 years. The peak age for male emigrants was generally in the age-band 25-29 years, but the age-bands either side were also important. The age-structure of female emigration was quite different from that of males. For females there appears to have been some return emigration in early adulthood.<sup>105</sup> Female

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103. These summaries are from pp.287-91.

104. Appendices XXIII and XXIV show that there was considerable variation in the estimations of young children. See Appendices, appendices XXIII and XXIV, pp.230-59.



emigration was concentrated in the age-band 30-34 years with the age-bands either side being considerably less important.

Male emigration over the age of 35 years fell rapidly at first and then remained at a fairly low level. Female emigration also fell but generally less steeply than for males. The estimates suggest that in every decade, even allowing for the problems of age bunching,<sup>106</sup> a proportion of the emigrants were quite old when they emigrated.

The volume of emigration from the decline north category increased over time, in contrast to current migration which was decreasing. Nevertheless, the volume of current out-migration exceeded that of emigration in most decades. It was only in the final decade that for both sexes emigration exceeded current migration in volume, but for males this also occurred in the decade 1881-91.<sup>107</sup> When the emigrant age profile is compared with that for current migration,<sup>108</sup> three important points emerge.

Firstly, it is clear that a very much higher proportion of young children were involved in current migration than in

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105. There is probably an error in the estimates of young adult females in the later decades (1891-1911), as the volume of return emigration for young female adults is almost equal to the volume who left 10 years before. This may be due to the incorrect recording of age in the original census, or the projected migrant age-structure for these decades may be incorrect. The 1891 migrant age-structure slightly improves estimates for the decade 1901-11 (see Appendices, appendix XXIV, pp.235-41).

106. See chapter IV, pp.157-8.

107. See decline north population category, Appendices, appendix XXIII, p.231 and appendix XXIV, pp.235-41.

108. See decline north population category, Appendices, appendix XX, p.195 and appendix XXI, pp.199-205.

emigration, although the proportion of child movement was lower both for emigration and current migration than in any other population category.

Secondly, the volume of current migrants of each sex may have differed but the pattern was remarkably similar, as both sexes experienced peak losses in the age-band 20-24 years. However, for emigration the age profiles of the sexes were different. Most males left in the age-band 25-29 years and females five years later. The greatest losses through current migration occurred in younger age-bands.

Thirdly, because current migration estimates are net of returns current migration appears to have virtually ceased after 29 years, whereas emigration (which is also estimated net of returns) continued throughout middle age. It is possible that there was more return migration than return emigration, it was probably cheaper for a migrant to return than an emigrant. This would have had the effect of disguising late current out-migration. The fact that older out-emigrants were measurable despite return emigration<sup>109</sup> means that there were considerable numbers of older people leaving Scotland, but it does not necessarily mean that current out-migration had ceased or was even low.

When the emigrant age-profile is considered in more detail, it cannot be generalised because there was not a consistent age-structure within each sex as there was for current migration. The

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109. The evidence of return emigration will be considered subsequently. See pp.352-8.

age profile of emigrants was influenced by the peaks and troughs in emigration, each decade tending to fit one of two patterns, and provided quite distinctive age profiles for both sexes.

The volume of child emigration increased markedly in decades of high emigration, whereas in the decades where the troughs occur child emigration became negligible. This pattern of child emigration occurred in both sexes, and it was not an artefact of the method, because the two sexes and each decade were calculated independently.

In adult emigration it was the male age profiles that varied the most. The first four decades will now be considered. In the two decades of high emigration (1861-71 and 1881-91) the number of emigrants in the age-bands with greatest volume increased dramatically, whereas the male age-structure in the trough decades (1871-81 and 1891-1901) had by comparison a flattened appearance. In the decades of high emigration, the volume of emigration was up in most age-bands but this increase was most pronounced in young adult males.

The final decade 1901-11 had a high volume of emigration from both sexes and for males it was above the national average. However, this decade did not produce the pronounced increase in young adult male emigrants that the previous discussion might lead one to expect. Whether the projected migrant age-structure or the 1891 one is used, it is quite clear that a large proportion of the increase in male emigration in this decade was due to males over the age of 30 years. Indeed, evidence of this is found in the age-

band 30-34 years which was equal to the "normal" peak age-band 25-29 years. This pattern of an increase in older emigrants was also apparent in female emigration.

#### THE AGE-STRUCTURE OF EMIGRANTS FROM THE DECLINE SOUTH CATEGORY

This category had the highest proportions of emigrants, well above the national average, but volume and proportion declined steadily over time. The proportion of male to female emigrants was very close, much closer than in any other category. The proportions of emigrants leaving did not closely follow the pattern of peaks and troughs in emigration. Moreover, the proximity to England and unusual emigrant patterns have led to the conclusion that emigration in the decline south category was a combination of "true emigration" and "current migration" across the border.<sup>110</sup>

It is very hard to distinguish a general emigrant age profile as the age-structure appears to differ in each decade. There was a large proportion of child emigrants in every decade and more children aged 5-14 years than in the other categories. Adult male emigration was spread across three age-bands (15-29 years). Adult female emigration was quite different. In the decades 1861-81 there was an increase in young adult emigrants,<sup>111</sup> but female emigration was concentrated in the age-band 30-34 years. Male emigration was negligible after 35 years except in the final decade. In contrast

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110. See pp.291-4.

111. In the decade 1861-71 female emigration increased after 15 years and fluctuated until the "normal" peak age-band (30-34 years). In the subsequent decade female emigration in the age-bands 10-19 years experienced a minor peak. See Appendices, appendix XXIII, p.232..

female emigration continued throughout middle-age in every decade but was more pronounced in the final one (1901-11).

In the decline south category the proportions of both emigrants and current migrants were well above the national average, although the volume of both forms of population movement were declining. The actual volumes of current out-migration and emigration were fairly similar.<sup>112</sup> In the decades 1851-71 and 1901-11 the volume of emigration exceeded out-migration and the reverse occurred in 1891-1901. In the remaining decades whilst the volume of male emigration exceeded that of current migration, the relationship was reversed for females. When the age profiles for emigration are compared with those for current migration<sup>113</sup> three interesting differences emerge.

Firstly, although child movement formed a far larger proportion of emigrants in the decline south category than in the decline north, the age-band with the greatest volume (0-4 years) often had only a third of the volume of the peak adult emigration. This contrasts with the situation for current migration, in which the volume of children was very much higher; indeed the 0-4 years age-band exceeded any other in volume in the first three decades. Therefore, although children were an important component of both population movements, they were far less significant as emigrants.

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112. See decline south population category, Appendices, appendix XX, p.196 (current migration) and appendix XXIII, p.232 (Emigration).

113. See fn.112.

Secondly, peak adult male movement, in both emigration and current migration, was in the age-band 20-24 years. Female current migration was also highest in this age-band, but for emigration the greatest losses were 10 years later (30-34 years).<sup>114</sup> There was a slight secondary peak in emigration in the age-band 20-24 years in the decades 1861-81, but thereafter this age-band was remarkable for its lack of female movement. This raises the question of whether there was a current migrant-type emigrant pattern from this category, because one would have expected an increase in female emigration aged 20-24 years, a peak age-band in current migration.

Thirdly, there was some slight evidence of current migration in older males but this was hardly apparent in emigration, except in the final decade (1901-11) when (as with the decline north category) the emigration of older males was noticeable. For females current migration amongst the old was not in evidence, but in every decade some older females were emigrating, especially in the final decade.<sup>115</sup> However, it is necessary to be cautious before dismissing the possibility of considerable current out-migration amongst the elderly as has already been discussed.<sup>116</sup>

The age-structure of the decline south category will now be considered. It has already been noted that the peaks and troughs in emigration were not very apparent in this category and did not seem

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114. See fn.112.

115. There are quite large standard errors in the middle-aged female age-bands, but despite this it is clear that some emigration was occurring. See Appendices, appendix XXIII, p.232.

116. See Chapter VI, pp.239-40.

to influence the age profiles to the same extent as in the decline north category. The age-structure seemed to change over time in a similar way to the current migrant age-structures, (less child and more adult movement). although unlike current migration, the differences between the sexes in emigration patterns remained pronounced. As with the decline north category, the emigrant age profiles of the sexes were distinctive and, despite marked differences, the decline south age profiles were still more similar to emigration in the decline north, than to current migration from the decline south category.<sup>117</sup>

Child emigration appeared to decrease over time both in volume, as one would expect in relation to declining emigration, but also in relation to adult emigrants. This does not necessarily indicate a change in the age at which people were emigrating, as it may be no more than evidence of the declining birth and mortality rates in Scotland. In the decade 1861-71 there was a peak in adult male emigration in the 20-24 years age-band. Moreover, the age-bands either side of this peak were also high. This pattern was repeated subsequently, but the age-bands 15-29 years shared a decreasing volume of male emigrants. In the final decade adult male emigration was spread across a broad range of age-bands of 10-34 years and emigration in this decade contained many older males, in contrast to the previous decades. Female emigration retained much the same pattern throughout the period with some emigration in most age-bands, but a peak in 30-34 years.

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117. See Appendices, appendix XXIV, pp.234-46 and appendix XXI, pp.206-11.

## THE AGE-STRUCTURE OF EMIGRANTS FROM THE GROWTH CATEGORY

This category had a proportion of emigrants that was generally below the national average, but it achieved the highest proportion of emigrants in 1901-11 and males also exceeded the national average in 1881-91. The ratio of male to female emigrants was fairly high, only the decline north category being higher.

The proportion of child emigrants was larger in the growth category than in the other population categories discussed so far. Indeed in several decades the volume in the age-band 0-4 years was nearly as large as that of the peak female adult age-band. Male emigration was almost always highest in the age-band 20-24 years.<sup>118</sup> but for females the peak was ten years later<sup>119</sup> so that at this age male emigration was generally much lower than female.<sup>120</sup> There was a little emigration by both sexes in later life and this became more significant over time.

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118. In the decade of very high male emigration (1901-11) most males left in the age-band 25-29 years (this was regardless of the migrant age-structure used, see Appendices, appendix XXIV, pp.248-53). Although it should be noted that in every decade emigration in the age-bands either side of the adult peak tended to be high. This group of age-bands shifted upwards in age over time, so that in 1861-71 the age-bands 15-29 years were the most important years for adult male emigration, by 1891-1901 it was 20-39 years, and in the subsequent decade 20-34 years. See Appendices, appendix XXIII, p.233.

119. The standard errors in female emigration are such that it is probably wiser to consider the age-bands 25-34 years the peak ages for emigration, although the majority of data do suggest that it is within the age-band 30-34 years. See Appendices, appendix XXIII, p.233.

120. In the decade of very high emigration (1901-11) the volume of male emigrants in the age-band 30-34 years was still higher than that of females. See fn.118.



When the current migrant and emigrant age profiles are compared the two types of population movement superficially appear to be closely inversely related. However, when the decade 1891-1901 is considered (it was generally exceptionally high for current migration and low for emigration) the proportion of males to females does not suggest an inverse relationship, the ratio for males to females being unusually high in both population measures.<sup>121</sup>

In the growth population category the proportion of current migrants was above the national average, but in contrast emigrants were generally below average except in 1901-11. The volume of current out-migration was generally much higher than that of emigration, except in the final decade, and again in 1881-91 but only for males. When the age profiles for current migration and emigration<sup>122</sup> are compared three points emerge.

Firstly, child current migration dominated the age-structure at the start of the period, but the volume remained fairly constant, which in a growing population meant that children were a decreasing proportion of the migrant population over time. In contrast the volume of child emigration gradually increased over time (except in the decade 1891-1901) although not as a proportion of the total emigration.

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121. See growth population category, Appendices, appendix XX, p.197 (current migration) and appendix XXIII, p.233 (Emigration).

122. See fn.121.

Secondly, adult current migration was greatest in the age-band 20-24 years and this was also the most popular age-band for male emigration. In contrast, female emigration increased after 25 years and was generally highest in the age-band 30-34 years.

Thirdly, although a small amount of both current out- and return migration was recorded amongst older people in the growth category, the net volume of emigration in later life was far higher.

#### THE AGE-STRUCTURE OF EMIGRANTS FROM THE BOOM CATEGORY

This category had proportions of emigrants above the national average, but these proportions did not fluctuate as markedly as in some other categories. Moreover, the proportion of male to female emigrants was closer than in the other population categories except decline south, another category with above average emigration.

The age profile of the boom category was quite different to all the others. There were far more child emigrants; indeed in all the decades up to 1901, emigrants aged 1-4 years exceeded in volume any other age-band. However, there was a second peak in adult emigration at 20-24 years.<sup>123</sup> This was the only category where, in most decades, the age-band with the greatest losses of adult emigrants was the same for both sexes. For older emigrants, male

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123. Differences in the standard errors do not affect these conclusions for male emigrants, but for females there is disagreement. In 1861-71 the peak age-band of female loss ranges from 20-34 years; in 1871-81 and 1881-91 it was 20-29 years and in 1891-1901 15-24 years. It is only in the decade 1901-11 that all three sets of data show female emigration concentrated in the 20-24 age-band. See Appendices, appendix XXIII, p.234.

movement remained more important than female,<sup>124</sup> although there was evidence of movement in both sexes.

It should be noted that the adult age-band of peak emigration was too young to account for the large child emigrant population. The same applies in terms of volume, but clearly for the adults this may in part be accounted for by return emigration cancelling out those leaving. This problem will be considered in more detail subsequently.<sup>125</sup>

When current migration and emigration are compared, it is the boom category which shows below average current migration and above average emigration.<sup>126</sup> Indeed the volume of male emigration always exceeded that of male current migration and in decades 1881-91 and 1901-11 there were approximately twice as many male emigrants as current migrants. The volume of female emigration was not so high and in two decades (1871-81 and 1891-1901) the volume of current out-migration exceeded that of emigration, in the later decade by 63%.<sup>127</sup> With this in mind three important points emerge.

Firstly, young children aged 0-4 years formed the greatest volume of movement in both emigration and current migration. It was

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124. In the decade 1901-11 older female emigrants were more in evidence and indeed there was another minor peak of female emigration in the age-band 40-45 years, which occurred regardless of the migrant age-structure used, see Appendices, appendix XXIV, pp.258-9.

125. See pp.329-31.

126. See Boom population category, Appendices, appendix XX, p.198 (current migration) and appendix XXIII, p.234 (Emigration).

127. See fn.126.

only in the decade 1901-11 that this pattern had changed enough for other age-bands to become more significant.<sup>128</sup>

Secondly, the age-structure for male current out-migrants was that of a steady decline in volume after the 0-4 years age-band. This was only slightly modified over time. In female current migration, child migrants also dominated but never to the same extent as for males. This pattern was also changed over time, until by 1901-11 the first four age-bands were much closer in volume due to more adult migration.<sup>129</sup> In contrast, the emigrant age-structure had two peak age-bands of emigration (0-4 years and 20-24 years) and these altered in their relationship to each other as adult emigration increased over time. The trough in emigration between the two peak age-bands meant that older children (5-14 years) were far more likely to migrate than emigrate.

Thirdly, in both current migration and emigration some mobility both outward and return was seen, although net movement was far higher amongst emigrants.

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128. The significance of the 1901-11 estimations is open to question. If the projected migrant age-structure is used, then female current migration in the age-band 15-19 years is equally important as child migration 0-4 years. (See appendices, appendix XXI, pp.222-3). Likewise, in emigration the volume of male emigration in the age-band 20-24 years was significantly greater than that of young children, while adult female emigration in the same age-band not. However, if instead, the 1891 migrant age-structure is used for calculations, children continue to dominate current out-migration, but estimates of emigration are not significantly altered. (See appendices, appendix XXIV, pp.258-9).

129. See fn.128.

## DISCUSSION OF EMIGRATION BY POPULATION CATEGORY

The population categories have produced some interesting emigration age profiles and before proceeding to the individual counties, these profiles will be considered. It is hoped that by considering the general emigrant age-structure now, too much repetition can be avoided later. Moreover, counties that are exceptions to the general trends can be more easily identified.

This section will begin by considering child movement. The arguments in this discussion are relevant to both current migration and emigration. Secondly, reasons for differences in the age profiles of each sex will be examined. Thirdly, possible reasons why elderly emigrants are more common than elderly current migrants will be discussed. Fourthly, transient emigration will be considered. Finally reasons for differences in the age profiles of emigrants in the peaks and troughs of emigration are analysed.

### CHILD MOVEMENT IN THE POPULATION CATEGORIES

In some respects emigration age profiles followed those of current migration. Certainly the pattern of child movement was similar in that very few children moved in the decline north category, but they dominated in the boom category. There are four possible reasons for the huge numbers of mobile children without apparently accompanying adults.

Firstly, in categories such as boom, the age-bands that would have included the children's' parents would have also

included considerable return movement<sup>130</sup> and as both emigration and current migration is calculated net, these returning Scots would have cancelled out some of those leaving. It was only in the decade 1901-11 that a minor peak in female emigration aged 40-44 years emerged and yet this seems a suitable age for the movement of mothers.<sup>131</sup>

Secondly, some children, particularly those born in the boom category counties, were undoubtedly travelling with parents who were born elsewhere in Scotland.<sup>132</sup> Their parents having migrated earlier. This may account for the relative lack of child migrants and emigrants in the decline north category. In that category female emigration was concentrated in the 30-34 year age-band, an age when one might have expected accompanying children.

Thirdly, it may also be the case that some of the Scots-born children who were migrating or emigrating were travelling with English- or Irish-born parents.<sup>133</sup> Certainly there were large concentrations in the counties that comprise the boom category.<sup>134</sup>

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130. Return emigration will be considered subsequently, see pp.352-8.

131. See fn.124.

132. The migrant samples provided plenty of evidence of this pattern and individual schedules from the enumeration books have been used as evidence. See chapter VI, pp.202-44.

133. It has already been argued using evidence from the Pearsons correlations that there were two distinctive young life-time migrant populations, possibly due in part to Irish-born parents with Scottish-born children. See chapter III, pp.142-8.

134. Anderson and Morse have noted that the English were "particularly concentrated in the cities." The peak immigration of Irish into Scotland occurred in the decade 1841-51, and in that year (1851) 18.2% of Glasgow's population were Irish-born.

Appendix XXVII<sup>135</sup> shows the volume of current immigrants into Scotland. The Irish in particular appear to fluctuate in volume following the same peaks and troughs as the Scottish national emigrant pattern.<sup>136</sup> It is possible that many young adult Irish who arrived in Scotland,<sup>137</sup> had children and then emigrated when there was an upturn in emigration from Scotland. This would have had the effect of increasing the volume of Scottish-born child emigrants and reducing immigration from Ireland (which is also calculated net in years of high out-movement).

Finally there was some assisted emigration of children from Scotland. Harper estimates that nearly 7,000 Scottish orphans were sent abroad by the Quarrier Homes in the period 1872-1930,<sup>138</sup> and this was only one of several philanthropic organisations encouraging child emigration. Nevertheless, in every decade this study has estimated that at least 60,000 children aged 0-10 years emigrated from Scotland.<sup>139</sup> The assisted movement of children can therefore account for only a small proportion of child emigration.

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Thereafter the rate of Irish immigration slowed down but the lifetime population decreased only slowly. Anderson and Morse. "The People" p.18.

135. See Appendices, appendix XXVII, p.300.

136. See table 8.1. p.283.

137. See chapter III, p.147 for discussion of Irish in-migration.

138. Harper. *Emigration from North-east. vol.1*, p.130.

139. See table 8.4. p.313.

## THE AGE-STRUCTURE AND SEX OF THE ADULT EMIGRANT POPULATION

It has already been established that far more males emigrated than females, but it was also clear that in the age-band of maximum volume adult emigration was sex specific. Whereas the majority of males emigrated at 20-24 years,<sup>140</sup> females emigrated when they were much older and except in the boom category the maximum number left in the age-band 30-34 years.<sup>141</sup> However, the enormous population in that category meant that nationally the largest volume of adult females left in the age-band 25-29 years.<sup>142</sup>

It is interesting to consider why these marked differences between the adult male and female emigrant age-structures have arisen. Erickson studied British emigration to the United States,<sup>143</sup> the most popular overseas destination for Scots,<sup>144</sup> and has shown that marital status of male emigrants from Great Britain altered between the 1850s and the 1880s. Single men had always outnumbered married men, but in 1854 the ratio was 2:1, whereas by the 1880s, a decade of high emigration, this ratio had increased of

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140. See table 8.5. p.314.

141. It has already been argued that the effects of high levels of both immigration and migration into the boom category may have produced a distinctive age profile for both migrants and emigrants. Moreover, return movement may have complicated the estimates. It is impossible to estimate whether there was an underlying pattern of emigration that was similar to the other categories, although it may be apparent in individual counties.

142. See table 8.5. p.314.

143. Erickson. "Who were."

144. Although the United States was the most popular overseas destination for Scots, more people emigrated to other parts of Britain. Flinn. *Scottish Population History*. tables 6.1.2 and 6.1.7. compared pp.442 & 451.



8:1.<sup>145</sup> Clearly, this study cannot identify the marital status of emigrants, and the Scottish ratio may never have conformed exactly to the British one. However, the mean and mode of the average age of marriage for males in Scotland<sup>146</sup> was older than the peak male adult age-band for emigration,<sup>147</sup> and so even in the peak age-band a large majority of males probably would not have been married. Moreover, if married men were leaving with wives, there would have been far more females of a similar age travelling. This age profile for males does not change markedly over time; indeed the proportion of males leaving in the age-band 20-24 years in 1861-71 was not exceeded until 1891-1901,<sup>148</sup> and therefore it seems possible that by 1861-71 the higher proportion of unmarried adult male emigrants was already in existence.

Female emigration age profiles also need to be accounted for. If females had emigrated with their husbands, they would have been about the same age or younger than their husbands<sup>149</sup> and so the peak in older females is unlikely to be accounted for solely by the emigration of married couples. It seems more likely that many men were going abroad alone first and were later joined by their wives or fiancées, hence the marked difference in age. Indeed Erickson has

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145. Erickson. "Who were." p.371.

146. See table 5.2.8 for average age at first marriage. Flinn. *Scottish Population History*. p.331.

147. See tables 8.4. and 8.5. pp.313-4.

148. See table 8.5. p.314.

149. The mean and mode age for first marriage of females was approximately two years younger than for males. See table 5.2.8 for average age at first marriage. Flinn. *Scottish Population History*. p.331.

identified this pattern of the males leaving first and considered it arose after the 1850s. In the 1850s she found family parties of emigrants were more common, but by the 1880s on any ship to the United States there was a complement of Scottish wives and children travelling alone, their husbands having probably left earlier.<sup>150</sup> In this study the evidence seems to support Erickson's findings for the later period.

Erickson's work suggested that the emigrant age profile had changed between the mid 1850s and 1880s. This study suggests that for Scotland at least, the 1880s emigrant age profile may have already existed in the decade 1861-71, as there was no firm evidence in the emigrant age-structures of a changing pattern of emigration. There are several reasons why Erickson's 1880s age profile may have existed in Scotland two decades earlier. Firstly, the transport for emigration had changed rapidly after Erickson's first sample. Baines has shown that the change to steamship for journeys to the U.S.A occurred in the late 1860s.<sup>151</sup> The faster speed and cheaper costs of the steamships<sup>152</sup> made it feasible for

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150. Erickson. "Who were." p.371.

151. Baines has estimated that whereas in 1862 only about 20% of emigrants travelled by steamship to the U.S.A.; by 1870 virtually everybody did. Baines has used evidence from Carrothers, W.A. *Emigration from the British Isles* (D.S.King, 1929), p.213. Jones, M.A. "Background to Emigration from Great Britain in the nineteenth century", *Perspectives in American History*, 7, 1973. pp.54-5, Hyde, F.E. *Cunard and the North Atlantic, 1840-1973, A history of shipping and financial management*. (Macmillan, 1975), p.59. Baines. *Migration in a Mature Economy*. p.77.

152. Hyde lists steamship prices from Liverpool dropping as early as 1863. Some Scots used Liverpool as a port for embarkation (Harper) and undoubtedly Scottish ports would have had to follow suit to remain competitive. Hyde. *Cunard*. p.64. and Harper. *Emigration from North-East*. vol.1, p.21-2.

one member of a family to travel ahead to investigate the possibilities abroad. Secondly, improved postal services meant information could be sent home easily, family contacts could be maintained over long distances, and many authors have stressed the importance of letters as a means of disseminating information.<sup>153</sup> Thirdly, the 1850s may have been a decade of exceptional emigration from Scotland. In the West Highlands Devine has shown that the long term effects of the famine were still being felt through emigration<sup>154</sup> and work by Anderson and Morse also indicates that the decade 1851-61 was one of exceptional population mobility.<sup>155</sup> Indeed Erickson has also speculated that emigration between 1846 and 1854 was probably the highest of the century in England and Scotland, with the exception of the decade of the 1880s.<sup>156</sup>

#### OLDER EMIGRANTS

It was because movement has been calculated net that current migration age profiles appeared to have a marked cut-off at 29 years, and although out-migration continued above that age it was unusual for it to be large enough to be significant. Current emigration appears to have continued until old age, although age-bunching has caused problems in this set of data and it is probably

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153. See Smith on the influence of letters in Shetland. Harper also quotes extensively from published and unpublished letters from emigrants born in the Northeast. Smith. *Shetland Life*. p.159. Harper. *Emigration from North-East*. vol.1 & 2.

154. Devine. *Great Highland Famine*. pp.275-84 and appendix II pp.327-32.

155. Anderson and Morse. "The People" p.22.

156. Erickson. "Who were." p.359.

wisest to combine the last three age-bands.<sup>157</sup> However, some emigration of the elderly was genuine and not an artifact of the method.

The process of one member of a family going abroad first and then others coming later may also account for some older emigrants, as they may have been going to join younger members of their family who had become established abroad.<sup>158</sup>

Return emigration was also apparent amongst the elderly and this will be discussed below as an aspect of transient emigration.

#### TRANSIENT EMIGRATION

Clearly, some emigrants went abroad intending to stay but later changed their mind, creating return emigration. However, some return emigration was undoubtedly a product of the method of estimating emigration used in this study. This cannot distinguish emigrants, that is those moving abroad permanently, from those going abroad for a limited period. In the 1880s Erickson found these transient people in many different groups, as commercial men, gentlemen and also building, iron, steel and engineering

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157. See fn.106, p.317.

158. This is based on the oral evidence of Mrs.A.Hepburn, (National Centre for Training and Education in Prosthetics and Orthotics, University of Strathclyde, 28th. August 1989) many of whose family moved from Glasgow to Saskatchewan, Canada in the late nineteenth century. An unmarried adult son emigrated first and later his brothers joined him. When they prospered they returned to Lanarkshire to collect first their fiances and then later their retired father. Harper also cites similar patterns of family movement from the north-east to Canada. Harper. *Emigration from North-East. vol.1*, pp.209-10.

workers.<sup>159</sup> while Harper found temporary migration to the U.S.A. amongst Aberdeen granite workers.<sup>160</sup> Transient emigrants could also be colonial civil servants, merchants or others working in the colonies. Many of these people had their families with them<sup>161</sup> but ultimately intended to retire to Britain.<sup>162</sup> Finally some people who were merely visiting overseas would have been picked up in the system. Stevenson found visitors to the United States even amongst the poorer steerage passengers.<sup>163</sup> Both long term temporary emigrants and short-term visitors were classified as emigrants in this study. Likewise their return was recorded as return emigration, and it is therefore not surprising that many older Scots appear as either out or return emigrants in the data.

#### THE EFFECT OF THE DECADE OF DEPARTURE ON THE AGE-STRUCTURE OF THE EMIGRANT POPULATION

The pattern of peaks and troughs in emigration was tabulated in table 8.1.<sup>164</sup> and subsequently expanded in table 8.2. and the accompanying text.<sup>165</sup> A pattern of three peaks and two troughs was

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159. Erickson. "Who were." p.371.

160. Harper. *Emigration from North-East. vol.1*, pp.254-9.

161. Duncan, describes the lifestyle of British-born young men in commerce in India, who married British-born ladies, but only to returned to Britain permanently to retire. Duncan, S.J. *The Simple Adventures of a Memsahib*, (Thomas Nelson, London, not dated).

162. It should be noted that these people working abroad may have intended to return to Britain, but if they died whilst still abroad then they became true emigrants.

163. Stevenson. *The Amateur Emigrant*. p.47.

164. See p.283.

165. See pp.287-94.

apparent to differing degrees in the age profiles of all the population categories except decline south.

Table 8.5.<sup>166</sup> showed that in the low emigration decade, 1891-1901, the age-bands of peak male departures (0-4 and 20-24 years) had above average proportions of emigrants and for females the children were also high. However, this pattern was not necessarily repeated in the individual population categories; for example the age-bands of peak adult emigration were less pronounced in decades of low emigration in the decline north category.<sup>167</sup>

This alternating pattern of age profiles is interesting, although it must be remembered that the coarse framework of analysis (the decade), which was dictated by the raw material (the Census), was not necessarily the ideal framework for analysis; it disguises the fluctuations that occurred annually in the numbers of emigrants leaving.<sup>168</sup> The "trough" decades reflect the minimum number of emigrants that had decided to leave whatever the circumstances, or for whom economic considerations were unimportant. Indeed work by Erickson shows that years of low emigration had proportionally more emigrants in the trades and professions because they were "relatively insensitive to the short-term forces governing" emigration and formed "a higher share of a reduced number of emigrants."<sup>169</sup> In contrast, in the "peak" decades

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166. See p.314.

167. See Appendices, appendix XXIII, p.231.

168. See table 6.1.4 for U.K. overseas emigrants of Scottish Origin 1853-1938. Flinn. *Scottish Population History*. p.447.

169. Erickson. "Who were." p.370.

opportunities for the unskilled increased, although obviously it was not just the young who were unskilled and so the largest increases were spread across several age-bands and not confined to the peak age-bands. Indeed the ratios of married to unmarried male emigrants calculated by Erickson were all estimated in years of exceptionally high emigration.<sup>170</sup> The ratios of single to married emigrants may well have been less extreme in decades of low emigration. Certainly the proportion of males aged 20-24 years tended to decrease more than in other age-bands.

It should be born in mind that the age-structure of the emigrant population described by Erickson was for an overseas destination<sup>171</sup> and many Scots emigrants were in fact moving south into the rest of Britain. In England and Wales Baines assumed that the Scottish immigrant population had the same age profile as the native migrant population.<sup>172</sup> This had less children and more young adults than the Scottish current migrant population,<sup>173</sup> and in that respect Baines' estimation for Scottish immigrants was closer to the computed emigrant population in this study.

With regard to overseas emigration, although the United States was the most popular destination for Scots, it was not the only one and Flinn has found that the ratios of emigrants of each

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170. See fn.168.

171. See p.332.

172. Baines. *Migration in a Mature Economy*. p.115.

173. See chapter VI, pp.227-40.

sex differed according to the country of destination.<sup>174</sup> One may speculate that the age profile of emigrants differed as well. Certainly for the years 1912-3 Flinn has shown that the skilled, unskilled and middle classes were attracted to different countries.<sup>175</sup>

#### 5. EMIGRATION FROM SCOTLAND BY COUNTY-OF-BIRTH

The previous discussion has considered the emigration patterns in the age profiles of the population categories. The individual counties will now be analysed to see how they fitted the general trends.

This analysis of emigration from counties-of-birth has focused on the peak age-band of adult departure of both sexes, as a method of distinguishing differing emigration patterns within counties. This section compares counties that followed the emigrant age profile proposed by Erickson (that is of adult males leaving at an earlier age than females) with those counties that have different profiles. Erickson's pattern was for movement to the United States<sup>176</sup> and there has been oral evidence of a similar profile in emigration to Canada,<sup>177</sup> but whether, for example, it occurred in Scottish movement to the rest of Britain is unknown. This method of comparing counties could therefore be identifying counties with common emigrant destinations and this will be

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174. Flinn. *Scottish Population History*. p.452.

175. *Ibid.* p.453.

176. See pp.334-5.

177. See p.336, fn.158.



considered as the analysis proceeds, (although there is only information on the county-of-birth of Scottish emigrants to England and Wales in 1911).<sup>178</sup>

Three main emigration groupings have been identified. The first, has the peak age-band of male emigration younger than that of females, the second had the peak age-band of both sexes coinciding, while the third type had the reverse pattern of the first group. The groupings were not as distinctive as the three classifications suggest and some counties formed a transitional group in which the analysis became blurred over time. Not every county will be discussed in detail, although appendix XXV provides estimates for every county.<sup>179</sup>

The first type of county includes all those which exhibited a peak emigration pattern similar to that described by Erickson,<sup>180</sup> that was of peak male emigration being much higher than that of females. The present study has shown that the greatest volume of male emigrants were one or more age-bands younger than females.<sup>181</sup>

There were not many counties where age-bands with the highest volume of emigration from each sex remained consistent throughout the study. The relationship between the age-bands of maximum emigration varied according to the county. In Inverness peak adult male emigration was in the age-band 25-29 years and for

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178. See Appendices, appendix V, pp.80-1.

179. See Appendices, appendix XXV, pp.260-92.

180. Erickson. "Who were." p.371.

181. See pp.311-20.

females it was five years later.<sup>182</sup> Child emigration was fairly low especially in the decade 1891-1901. In Aberdeen<sup>183</sup> adult emigration was similar to that in Inverness, but in the former more children were moving. In Shetland peak male adult emigration was younger (in the age-bands 20-24 years) but in contrast female movement was much older 30-34 years.<sup>184</sup>

In Ross and Cromarty the peak male emigration was much younger, in the age-band 15-19 years,<sup>185</sup> but for females it was 30-34 years. There were very few children emigrating, despite the females being well above the average age at marriage and this suggests that perhaps some were migrating before emigrating and children were being born in other counties.<sup>186</sup> In the final decade

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182. Adult male emigration from Inverness was high in the decade 1861-71 and embraced the age-bands 15 to 34 years. In contrast female adult emigration in the same decade was comparatively low. However, in the subsequent decade when young adult male emigration was much lower, adult females continued to leave. One can speculate that these females were joining males who had already left. Certainly the volume of emigration of each sex in this decade (1871-81) was much more similar than in any other. See Appendices, appendix XXV, p.276.

183. The estimates for female emigration from Aberdeen peak in the age-band 25-29 or 30-34 years, the application of standard errors provides differing estimates. The broad age-bands make this appear more serious than it is. Ibid. p.261.

184. In Shetland emigration was highest in volume in the decade 1871-81 for both sexes and possible reasons for this have already been considered see pp.304-5 and fn.72. However, even in this decade of high emigration relatively few young adult females were involved, peak adult male emigration still being much younger than female. Emigration was particularly low for both sexes in 1891-1901. See Appendices, appendix XXV, p.289.

185. The peak male adult emigration was an age-band older (20-24 years) in the decade 1861-71. Ibid. p.286.

186. This hypothesis may be incorrect as Ross and Cromarty had below average proportions of current migrants in the first two decades and the final one. See Appendices, appendix XVI, p.149.

there was a considerably higher proportion of emigrants than previously; indeed it was above the national average. However, the age profile for males was distinctive in that it exhibited no peak until the age-bands 45-59 years.<sup>187</sup> Female emigration was also high, but the age profile was "normal" for young females, albeit with a larger proportion of old emigrants. This evidence suggests that emigration in the decade 1901-11 involved considerable family movement, which included a large elderly element, but as there were so few young males the emigrants were presumably joining males who were already abroad.<sup>188</sup>

Dumfries also had young peak male emigration, but the peak age-band fluctuated,<sup>189</sup> indeed the age-bands 15-19 and 20-24 years both had a high volume of emigrant males. In the final decade male emigration peaked much later at 30-34 years.<sup>190</sup> Emigration overseas from Dumfries was probably an important population movement because in decades of high overseas emigration the volume of emigration from Dumfries was markedly higher. However, this county also had a high proportion of emigrants to England and Wales,<sup>191</sup> but as the proportion of emigrants moving south was

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187. This age profile is not just a product of the 1901-11 projected migrant age-structure, as it is equally apparent using the 1891 migrant age-structure.

188. There was a below average proportion of life-time emigrants from Ross and Cromarty in England and Wales in 1911. See Appendices, appendix V, p.80-1 and appendix XXV, p.289.

189. Male emigration peaked in the age-band 15-19 years in the decades 1871-81 and 1891-1901 and the age-band 20-24 years in 1861-71 and 1881-91. See Appendices, appendix XXV, p.269.

190. In the decade 1901-11 there was a second younger peak at 15-19 years. Ibid. p.269.

declining nationally,<sup>192</sup> it is likely that emigration south of the border had most impact on the estimations at the start of the study. Whilst this analysis provides possible reasons for the changing pattern, it cannot entirely account for it and it is possible to speculate that peak male emigration overseas occurred at a later age as time progressed.

Female emigration from Dumfries was much older than for males and consistently peaked in the age-band 30-34 years,<sup>193</sup> and in this county there were also fairly high rates of child emigration. It could be assumed that the children were offspring of the older females and it suggests that they emigrated directly from Dumfries. But it was also possible that the Dumfries-born females may have migrated before having children, and the younger children were born to outsiders.

This pattern of a peak in male emigration one or two age-bands before that of the females was apparent, but not consistent, in many counties. It should however, be noted that the age-bands are coarse, and the change in age may not be as large as the age-bands suggest. If emigrants became on average only a year older or younger, it could still affect the age-band of peak departures.

In Edinburgh (Midlothian) the age-bands of maximum departures for each sex also became closer over time until they

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191. See Appendices, appendix V, pp.80-1.

192. See table 8.3. p.307.

193. Kirkcudbright, another county with high emigration to England and Wales, followed almost the reverse of the pattern in Dumfries, in that peak male emigration was consistent and female movement fluctuated wildly. See Appendices, appendix XXV, pp.269. and 279.

were the same. Male emigration remained consistently highest in the age-band 20-24 years, whereas peak female emigration in 1861-71 was five years older, but by 1901-11 it was younger and coincided with that of males. Child emigration under five years was higher than that of adults. This pattern was also found in Forfar (Angus)<sup>194</sup> and Ayr.<sup>195</sup>

The counties so far considered share common characteristics in terms of emigrant age profiles, but they come from very different population categories and demographic experiences. Moreover, the counties were not attracted to the same emigrant destinations. Appendix V showed the Scottish life-time population in England and Wales. The counties analysed in this first group include those with very different proportions moving south of the border.<sup>196</sup>

This brings us to the second type of emigration age profile, which consists of a small group of counties in which the peak age-band of departure was the same for both sexes. Lanark and Renfrew were an example of this pattern and despite quite large standard errors the age-bands of peak emigration were generally consistent.<sup>197</sup> The adult age-band of maximum departure was 20-24

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194. Both Edinburgh and Forfar had some problems with standard errors in estimates of emigration, but they do not affect the overall trends. Ibid. pp.271 and 274.

195. In Ayr the age-band of departure for males increased. Ibid. pp.263.

196. See Appendices, appendix V, pp.80-1.

197. In the decades 1861-81 there is some slight disagreement with peak female emigration in that the estimates with two standard errors deducted peak in the subsequent age-band. However, it was

years, but there were always far more male emigrants than females. It has already been noted that within Scotland these counties offered the best prospects, hence their high in-migration. For natives there were unlikely to be better prospects elsewhere in Scotland.<sup>179</sup> Moreover, these counties contained the main emigration ports and it is possible that natives were better informed of opportunities abroad than elsewhere in Scotland. Clearly, as both sexes were leaving in greatest numbers in the same age-band, many young married people may have left together, but even if the males did leave first, being better informed about prospects, their partners were soon able to join them. Certainly, as females often marry slightly younger than males, a delay of a year or more between the sexes departing would not be apparent in the calculations.<sup>179</sup> Nevertheless, far more young adult males left than females and so clearly many males were independent or possibly travelling with their parents. The emigration of young children from this county was greater in volume than that of females in the largest age-band, although not as high as that of adult males. This evidence supports the hypothesis that many of the young children were accompanying parents who were outsiders, either in-migrants or immigrants.<sup>200</sup>

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decided to use this county as an example because it had such a large population and was therefore significant in that it had a distinctive age profile. See Appendices, appendix XXV, p.280.

198. There was a below average proportion of life-time emigrants from Lanark and Renfrew in England and Wales in 1911. See Appendices, appendix V, pp.80-1.

199. Flinn. *Scottish Population History*. tables 5.2.8. and 5.2.9. pp.331-2.

200. See pp.327-8

Emigrants from Argyll were much older (30-34 years) than those from Lanark and Renfrew, but followed the same pattern in that peak age-bands of departure for both sexes coincided,<sup>201</sup> Nairn also had peak age-bands coinciding in the first four decades.<sup>202</sup>

The third type of county to be considered is that where female adult emigration was younger than that of males. This age profile of the sexes was the reverse of that proposed by Erickson.<sup>203</sup>

Stirling was an example of a county where female peak emigration in the age-band 15-19 years was consistently younger than male (20-24 years).<sup>204</sup> This pattern was also apparent, but the age-bands not so consistent, in Linlithgow (West Lothian).<sup>205</sup> The counties were both in the boom population category, with heavy industry and mining attracting in-migrants, and they probably had

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201. Migrants from Argyll were most likely to move to Lanark and Renfrew and were perhaps subject to similar influences concerning emigration, although peak emigration from Argyll was much older than from Lanark and Renfrew. Argyll had some problems with standard errors in the estimates of emigration, but they do not affect the overall analysis, except in 1861-71. See Appendices, appendix XXV, pp.262 and 280.

202. In Nairn peak emigration occurred for both sexes in the age-band 25-29 years, except in 1901-11 when female emigration peaked in the age-band 15-19 years and males five years later. Ibid. p.282.

203. See pp.339-40.

204. See Appendices, appendix XXV, p.291.

205. In Linlithgow in both 1861-71 and 1891-1901, male emigration did not peak until the age-band 30-34 years. The estimates for 1901-11 were anomalous due to disagreement in standard errors. Ibid. p.281.

less work for females. Certainly, there was a higher proportion of female current migration than of males in both counties.<sup>206</sup> Indeed Linlithgow was the only county in Scotland that had a male majority in the population.<sup>207</sup> These counties had proportions of emigrants that were below the national average and in 1911 there were relatively few life-time emigrants from either Linlithgow or Stirling resident in England and Wales.<sup>208</sup>

A younger peak of female than male emigration was also found in Banff,<sup>209</sup> Elgin (Moray)<sup>210</sup> and Kincardine.<sup>211</sup> They all had one or more decades of above average emigration, but only Elgin had above average life-time emigrants in England and Wales in 1911. This was probably not therefore an emigration age-structure linked to movement to one destination.<sup>212</sup>

With the exception of Kincardine and Linlithgow, this third group of counties (where adult female emigration was highest in a younger age-band than for males) all peaked in the same age-bands

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206. See Appendices, appendix XIV, pp.140-1.

207. See Appendices, appendix I, p.41.

208. See Appendices, appendix V, pp.80-1.

209. In 1861-71 female adult emigration from Banff peaked in a much older age-band 30-34 years. See Appendices, appendix XXV, p.264.

210. In 1861-71 female adult emigration from Elgin (Moray) also peaked in a much older age-band 30-34 years, see fn.209. *Ibid.* p.272.

211. In Kincardine the age-band of peak emigration for females was always younger than males but not consistent in age-band. *Ibid.* p.277.

212. See Appendices, appendix V, pp.80-1.



and superficially there seem to be two regional groupings (Central Lowlands and Northeast), but no direct links could be found to account for the common age-bands. It is possible that this difference in age (which was only one age-band) represented no more than the difference between the male and female age at marriage, although this seems unlikely as both male and female emigrants in these age-bands were well below the average age at marriage for their region.<sup>213</sup> The young female emigration seems unlikely to be linked to movement south with the fishing industry, because if they were emigrating south one would expect to find more females in England and Wales than were apparent in 1911.<sup>214</sup> Alternatively, the movement could represent family emigration.

Having considered the age-structure of emigration by county-of-birth, the discussion will now consider issues that have arisen in the analysis. This will not repeat the discussion on the age profile in the population categories but will concentrate on new issues.

#### THE AGE PROFILE OF EMIGRANTS FROM THE BORDERS

It has already been noted that young child emigration (aged 0-4 years) was low from the decline north category and highest in the boom one. Furthermore, the border counties (decline south population category) were also distinctive in their young emigrant age profile, compared with the rest of Scotland. This age-structure was even more noticeable when the counties were considered

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213. Flinn. *Scottish Population History*. p.332.

214. See fn.212.

separately. Counties, outside the Borders, experienced a sharp drop after the age-band 0-4 years and the age-band 10-14 years was lower or at best equal to the 5-9 years age-band. In contrast, in the border counties the volume of emigrants in each of these three age-bands was often approximately equal, and if the 5-9 year age-band did decline the subsequent one increased again. This appears to be the most distinctive difference between the decline south category and the rest of Scotland. This, it could be argued, is further evidence of the mixed nature of emigration thought to have occurred in this area.<sup>215</sup>

#### THE PATTERN OF ADULT AGE-BANDS OF PEAK EMIGRATION.

The age-band of peak emigration in both sexes was used as a criterion for grouping counties. Attempts were made to find reasons to account for the wide gap in peak age-bands between the sexes that occurred in some counties but not in others. The rural counties appeared to be more likely to have males emigrating much earlier than females, but this was not true of the smaller counties in the northeast. The ratios of males to females did not appear to be important, but this was difficult to ascertain because the volume of males fluctuated so much. The volume of life-time immigrants in England and Wales in 1911.<sup>216</sup> was an imperfect measure because we have no idea how old the Scots were, how recently they had emigrated or even if this pattern was typical of earlier censuses.<sup>217</sup> Nevertheless, even in the Border counties,

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215. See pp.291-4 and 320-4.

216. See fn.212.

with high emigration south, there was no obvious link between the counties in peak age-band of emigration. The age-bands of maximum male emigration from Berwick<sup>218</sup> were much older than from Dumfries.<sup>219</sup>

The counties where peak emigrant age-bands for both sexes coincided, or where they were close, were usually industrialised counties (where less than 15% of the population was employed in agriculture in 1881).<sup>220</sup> However, also included in this group were the smaller counties in the northeast, which employed considerably more than 15% in agriculture, and Fife an important industrial and mining county had to be omitted.

#### FEMALE EMIGRATION

Erickson's suggested age pattern for adult emigrants assumed that the age profile of female emigration was largely a response to the earlier emigration by males.<sup>221</sup> Flinn has analysed female emigrants' occupations in 1912-13 and just over half were wives or did not state an occupation. Clearly, the rest were not all independent emigrants, as many would have been daughters, sisters or fiancés of emigrants, but there was some independent emigration.<sup>222</sup> Harper has analysed organised female emigration

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217. Flinn provides evidence that emigration to other parts of the United Kingdom was low in the decade 1901-11. Flinn. *Scottish Population History*. Table 6.1.2, p.442.

218. See Appendices, appendix XXV, p.265.

219. *Ibid.* p.269.

220. Erickson. "Who were." table 11, p.377.

221. *Ibid.* p.371.

from the northeast and found that domestic servants were particularly in demand.<sup>223</sup> Although the numbers involved are not significant in national terms<sup>224</sup> it might begin to account for the younger female peak emigration in the smaller northeast counties, where numbers leaving were low.

#### RETURN EMIGRATION

Return emigration was apparent in the estimates of emigrant losses and it was equally obvious in this study in the samples taken to establish a migrant age-structure. However, as with return migration, it remains impossible to quantify. Baines estimated that nearly 50% of outward passengers on the North Atlantic routes returned. This would have included transient emigrants, visitors and others who, in both Baines study and this one, have sometimes inevitably been measured. Baines concluded that as return movement increased after 1870, a 40% return emigration for England and Wales was reasonable.<sup>225</sup> Furthermore, estimates by Anderson and Morse for Scotland are only slightly more cautious considering that a third of emigrants returned.<sup>226</sup> Moreover, Hollingsworth's study on much more recent population movement in Scotland supports these conclusions for the earlier period, as he deduced that

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222. Flinn. *Scottish Population History*. p.453.

223. Harper. *Emigration from North-East*. vol.2. pp.231-288.

224. It is impossible to distinguish what proportion of the female emigrants in table I were Scots but in table II the volume was very small, although could possibly be significant in individual decades and age-bands. Harper. *Emigration from North-East*. vol.2. p.287.

225. Baines. *Migration in a Mature Economy*. p.279.

226. Anderson and Morse. "The People" p.16.

approximately 35-45% of emigrants from Scotland returned. Interestingly, Hollingsworth used the same definition of emigration as this study, in considering movement to England or Wales as emigration.<sup>227</sup>

We have therefore only rather imprecise estimates of what was clearly a very significant population movement. In this study there are two sources of evidence of return emigration. Firstly, there are the estimated emigrant age profiles and secondly, the samples from the enumeration books.

Exactly the same problems arise with measurement of return emigration as with return current migration. The estimations are net of returns and as return emigrants must overall be older than out-emigrants, it is therefore only as emigrants become older that the significance of return emigration can be appreciated. For example, a family from Melrose emigrated to Australia with two children and returned with four.<sup>228</sup> The youngest Scots-born child was no more than seven years old when she became a return emigrant. Her return trip to Australia was too rapid to be recorded by the system used in this study. Even if the emigration had been over different years so that her return had been "caught," it would

227. Hollingsworth. *A study based on the Scottish*. p.132.

228. Ladhope, Roxburgh, 1871, RD.799-2, ED.9, sch.52, p.10.

name	status	age	occupation	birthplace
James Coldwell	head	mar 33	Wool scourer	Roxburgh, Melrose
Elizabeth	wife	" 40		" "
Jane	daug	unm 11		" "
Maggie	"	" 7		Midlothian, Edinburgh
Mary	"	" 4		Australia
Elizabeth	"	" 2		At sea, Cape Horn

undoubtedly have been swamped by the larger volume of outward movement.

When the enumeration samples were taken in order to establish a migrant age-structure, examples of return emigration were noted because they were interesting, but without any expectation that they would have any great significance. Return emigration could only be identified if the family in question had children born abroad, and if these children were still young enough to be part of the family unit. There were therefore probably far more return emigrants in the samples than were pin-pointed, especially of people who had lived outside Scotland a long time and whose children had grown up or remained abroad. Moreover, there was no way single people who emigrated and then returned could be identified and this group could have been quite large.

Although return emigrants were noted from enumeration books in each census year (1861-91), it was only in 1891 that sufficient return emigrants were recorded to create a small sample. This was because the enumeration books for that year were used more extensively. This sample will enable the length of time abroad, and pattern of settlement on returning to Scotland to be examined.

First, the length of time that emigrants had left Scotland will be considered. It has already been argued that the samples from the enumeration books were unlikely to identify return emigrants who had been away a long time. The length of absence of short term return emigrants also presented problems if the eldest or only child was born outside Scotland. It was impossible to be

sure that the parents had not themselves been child emigrants. In the 1891 samples, there were sixteen families where the maximum length of absence from Scotland could be measured, and this ranged from two to eleven years, but many stayed away less than five years.<sup>229</sup> Clearly, this sample is very small, but it shows how mobile people had become in the short term. (It has already been argued that we cannot identify long term return emigration).

The 1891 samples showed that many emigrant families returned to their county-of-birth.<sup>230</sup> Their emigration from Scotland was not therefore a stage in a series of movements after leaving the county-of-birth. Moreover, this was true both of movement abroad and south to the rest of Britain. Thus in 1891 there were many examples of emigrants returning to the county-of-birth of the head of the household (normally the male). For example in the north of Scotland, a family from Shetland (the head was a cooper) returned from New Zealand,<sup>231</sup> three families from Caithness (hotel keeper, pedlar and mason) returned from England,<sup>232</sup> America<sup>233</sup> and Canada,<sup>234</sup> two families from Ross and Cromarty (builder and

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229. Maximum length of absence of sixteen return emigrant families:- 2-4 years (eight), 5-7 years (five) and 8 years and over (3).

230. In 1891, fifteen out of a total of twenty one families had emigrated and then returned to the county-of-birth of the head of the household and a further four to an adjoining county.

231. Lerwick, Shetland, 1891, RD.5, ED.5, sch.208, p.35.

232. Wick, Caithness, 1891, RD.43, ED.2, sch.2, p.1.

233. Wick, Caithness, 1891, RD.43, ED.6, sch.188, p.37.

234. Wick, Caithness, 1891, RD.43, ED.7, sch.74, p.19.

grocer) returned from England<sup>235</sup> and Australia.<sup>236</sup> and finally two families from Aberdeen (a tramway conductor and a retired fleet surgeon) returned from England.<sup>237</sup> In the Central Lowlands and south the same pattern for some returning emigrants was apparent; for example in Lanark two miners families returned from the U.S.A.,<sup>238</sup> while in Berwick two families (joiner and farmer) returned from Canada<sup>239</sup> and New Zealand.<sup>240</sup> Clearly, this returning to the county-of-birth can only be identified in family parties and it is possible that this is a phenomenon was restricted to family parties, which were possibly more likely to have strong extended family connections than a single emigrant. However, it also appears to be the case that social class and emigrant destination were not important determinants in this pattern of movement.

The sample from 1861 was very small and evidence from this enumeration was not so clear. It was possibly the case, as Baines has suggested, that "the rate of return rose sharply in the 1870s" as a result of the introduction of steamships.<sup>241</sup> However, this would not have prevented emigrants to England and Wales returning

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235. Dingwall, Ross and Cromarty, 1891, RD.62, ED.2, sch.28, p.5.  
 236. Stornoway, Ross and Cromarty, 1891, RD.86, ED.4, sch.19, p.4.  
 237. Aberdeen, Aberdeen, 1891, RD.162, ED.8, sch.176, p.41.  
 Aberdeen, Aberdeen, 1891, RD.166-2, ED.36, sch.240, p.54.  
 238. Larkhall, Lanark, 1891, RD.638-1, ED.4, sch.14, p.6.  
 Larkhall, Lanark, 1891, RD.638-1, ED.4, sch.54, p.15.  
 239. Eyemouth, Berwick, 1891, RD.739, ED.1, sch.199, pp.41-2.  
 240. Cockburnspath, Berwick, 1891, RD.731, ED.1, sch.119, p.25.  
 241. Baines. *Migration in a Mature Economy*. p.279.



to their county-of-birth in 1861 and these return emigrants were not in evidence either.

The evidence from the 1891 enumeration suggests that for many emigration was not regarded as an alternative to current out-migration, as many families if they chose to return, did so to their county-of-birth.

Erickson has discussed the mobility of certain tradesmen in the 1880s, citing both the building-trades workers and miners as being over-represented as emigrants in relation to the total employed in those trades in Scotland.<sup>242</sup> The samples from the enumeration books however provided some evidence of return emigrants in both occupations from North America and indeed in 1891 nearly a quarter of the return emigrants were miners. This was the most numerous occupation recorded.<sup>243</sup>

The returning flow of emigrants would have had important repercussions in Scotland. Although there has been very little research, Baines has argued that the evidence does not suggest that returning emigrants were necessarily less prosperous than those that remained abroad.<sup>244</sup> Indeed many may have left Scotland with the specific intention of returning. Return emigrants were an important source of information to potential emigrants, widening

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242. Erickson. "Who were." p.365.

243. Of the 22 return emigrant families recorded in 1891, the heads of household in five families were miners and three were in the building trade (two joiners and a builder). The joiners had been in Canada and all the other families in the U.S.A.

244. Baines. *Migration in a Mature Economy*. p.29.

the horizons of those left behind. Such people, by their mere presence, could be an encouragement to others to leave.

This concludes the general discussion on the estimated Scottish emigrant population. It should perhaps be noted that Scotland was fortunate throughout this period (as was England and Wales), in that there were no bars to emigration. These limitations could take the form of restrictions in the receiving countries,<sup>245</sup> whether colonial or foreign, social barriers such as language, race or religion, or restrictions in the parent country such as male liability for military service, which could delay the departure of males. Emigration abroad for both sexes was therefore totally unimpeded except by cost.

#### SUMMARY OF MAIN CONCLUSIONS ON SCOTTISH EMIGRATION

1. The highest proportion of emigrants came from urban counties, which was where the majority of the Scottish population lived in the second half of the nineteenth century. The residents of these highly populous counties were emigrating because there were no better opportunities within Scotland, whereas those born in rural counties were more likely to migrate to urban counties than to emigrate.<sup>246</sup> However, individual counties did not necessarily

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245. In the second half of the nineteenth century, Tranter has noted increasing restrictions imposed by the receiving countries on "undesirables." They were unwilling to take paupers, the destitute, lunatics, the deaf and dumb and certain types of criminal. However, this selectivity did not affect the majority of emigrants. Tranter, *Population and Society*, p.134.

246. Erickson has shown that in the 1880s "farm labourers and pre-industrial tertiary workers were least well represented amongst the emigrants to the U.S.A." Nevertheless, it is probably also the case that some farm workers were buried in passenger lists under the description "general labourer". Erickson, "Who were." p.368.

conform to patterns of movement in their population category in every decade.

2. The current migrant and emigrant populations were not the same populations and had some distinctive elements within them. Females showed a greater propensity to migrate than males, whereas males were more likely to emigrate. Males appeared more willing than females to change their direction of movement, to emigrate to England and Wales rather than overseas, or to migrate within Scotland in decades of low emigration. Furthermore, analysis of the county-of-birth and county-of-residence of return emigrants suggests that for many families migration was not an alternative to emigration.

3. In many counties males emigrated markedly earlier than females, but in the larger urban counties peak adult emigration of both sexes either coincided throughout or became closer over the period. Although it is probably quite correct to state that the "largest proportion of out-migration and emigration took place between the ages of 15 and 25 years,"<sup>247</sup> the majority of current migrants and a sizeable proportion of emigrants were considerably younger.

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247. Anderson and Morse. "The People" p.22.

## CHAPTER IX

### EMIGRATION: A COMPARATIVE APPROACH

#### INTRODUCTION

We have already considered Bisset-Smith's description of the Scots as "notoriously migratory"<sup>1</sup> vis-a-vis current migration and found that although there was plenty of evidence of movement, there was very little to justify the conclusion that the Scots were exceptionally mobile, although there were interesting differences and similarities with the English and Welsh experience. Now this description will be tested with regard to emigration.

The first part of this chapter will analyse other research into emigration from Scotland, to see whether this study period was unique or part of a longer traditional pattern of emigration from Scotland. The second part will compare emigration from Scotland with that from England and Wales. A similar format will be adopted to chapter VII.<sup>2</sup>

#### 1. SCOTLAND - EMIGRATION IN THE EARLY NINETEENTH CENTURY

Baines has calculated that there was an overall increase in overseas emigration from Scotland (despite fluctuations) in the period 1825-53.<sup>3</sup> However, measurement was on the basis of numbers

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1. See chapter VII, pp.245-80.

2. See fn.1.

3. It is assumed, because he does not state, that Baines calculated this using Carrier and Jeffrey, *External Migration*. and Mitchell. *Abstract of British Historical Statistics*. Baines. *Migration in a Mature Economy*. appendix 3, p.300.

leaving Scottish ports and one cannot be certain that they were all Scots, while on the other hand Scots emigrating from English ports would have been missed.<sup>4</sup> Nevertheless, the scale of overseas emigration undoubtedly did increase markedly after 1853 although there were some fluctuations. This means that we are considering emigration on a scale never previously experienced in Scotland, and indeed Anderson and Morse consider that between 1831-1911 Scotland's gross overseas emigration rate was one and half times that of England and Wales and second in the European league for the proportion of the population lost.<sup>5</sup> Emigration overseas was therefore on an unprecedented scale.

However, emigration in the present study does not just comprise overseas emigration; movement to other parts of Britain is also included. Unfortunately there is no quantitative research on Scottish out-migration to England and Wales before 1841, but the evidence thereafter suggests that this movement was ~~also~~ increasing in volume.<sup>6</sup>

The decade 1851-61 probably had very high emigration from Scotland, the volume of which can only be interpreted from various sources as the methods of recording movement changed.<sup>7</sup> The estimate

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4. Harper found emigrants from the northeast Scotland leaving from Liverpool and London as well as Scottish ports. Harper. *Emigration from North-East*. vol.1, pp.21-2.

5. Anderson and Morse. "The People" p.15.

6. Flinn. *Scottish Population History*. table 6.1.2. p.442.

7. Total emigration out of Scotland in the decade 1851-61 can be estimated by using data from both Baines and Flinn. It is estimated that approximately 231,000 people left Scotland. Baines. *Migration*

suggests that the volume of emigration leaving Scotland in the decade 1851-61 was not exceeded again until 1881-91,<sup>9</sup> although the two calculations are not directly comparable.<sup>9</sup>

The age profile of emigrants has generally not been considered in detail, and table 9.1. tabulates such information as is available from previous research on Scottish emigrants. This study has estimated various age-bands so that the proportions in each age-band can be compared. Several age-bands have therefore been used more than once.

#### THE AGE-STRUCTURE AND GENDER OF SCOTTISH EMIGRANTS

Bailyn has analysed overseas emigration from the Scotland in 1773-6.<sup>10</sup> The ratio of male to female emigrants was high but, as table 9.1. shows, no higher than that found in this study for overseas emigrants. The proportion of emigrant children in the eighteenth century study was compared with the national average, which showed that there were relatively few children emigrating.<sup>11</sup>

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in a *Mature Economy*. appendices 3 & 5, pp.300 and 304 respectively and Flinn. *Scottish Population History*. table 6.1.2. p.442.

8. See chapter VIII, table 8.1. p.283.

9. The 1851-61 estimation is gross and the 1881-91 is net of returns.

10. These emigrants came primarily from the Highland counties of Argyll, Inverness, Perth and Ross and Cromarty, but also from Renfrew. There was a secondary out-movement from Berwick, Dumfries, Kirkcudbright and Wigtown. Bailyn. *Voyagers to the West*. pp.108-12. Flinn has also considered emigration in 1774-5, Flinn. *Scottish Population History*. pp.443-52.

11. Bailyn has only made estimates of the national proportions in each age-band by combining the data for both sexes. It was clear in the present study that the male and female proportions in each age-band differed markedly, see table 9.2. Bailyn. *Voyagers to the West*. pp.127-8.

TABLE 9.1.

## THE AGE PROFILE AND SEX RATIO OF SCOTTISH OVERSEAS EMIGRANTS

YEARS STUDIED	1773-6 <sup>1</sup>		1861-1911 <sup>2</sup>		1912-3 <sup>3</sup>	1984-6 <sup>4</sup>	
SOURCE	Bailyn		This study		Flinn	Findlay & Garrick	
	MALE	FEMALE	MALE	FEMALE	BOTH SEXES	MALE	FEMALE
SEX RATIO	6.3	3.7	5.7-6.2 6.0-7.0	3.8-4.3 3.0-4.0 <sup>5</sup>		5.7	4.3
AGE IN YEARS							
0-14	20.1%	29.9%	28-36%	36-45%		12.4%	16.6%
<18			*	*	26.0%		
15-25	38.1%	32.6%	36-46%	14-25%		15.7%	34.3%
25-44	35.7%	33.5%	27-34%	36-53%		44.7%	43.4%
>29	25.7%	23.5%	1-12%	20-28%			
>45	6.0%	4.1%	*	*		27.2%	5.7%

## KEY

<sup>1</sup> Calculated from Bailyn. *Voyagers to the West*. Table 5.5, p.152.

<sup>2</sup> This study includes emigration to the United Kingdom as well as overseas, the other studies only consider overseas emigration. This is the only study where estimates were net of returns. Estimations have been made for all age-bands to provide comparisons, both the highest and lowest proportions found in the study are shown. It was not possible to estimate those under 18 years, because our estimates were in five year age-bands. Return migration meant that those over 45 years could be positive or negative. This was because of the high proportions of return migrants in the older age-bands. Age-bands that cannot be estimated have been shown thus \*.

<sup>3</sup> Gender not stated for age-band. Flinn. *Scottish Population History*. p.452.

<sup>4</sup> Calculated from Findlay, A.M. and Garrick, L. "A Migration Channels Approach to the Study of Skilled International Migration: the case of Scottish emigration in the 1980s", unpublished "ARPU Discussion Paper 89/1", University of Glasgow, Department of Geography, 1989, table 4: Scottish Emigration, 1984-6 (UK citizens only) by Age and Gender, p.16.

<sup>5</sup> The ratio of male to female Scots emigrant losses abroad are shown in italics, both the highest and lowest proportions found in the study are shown. See table 8.3. p.307.

When the contemporary national average was compared with the present study (see table 9.2.),<sup>12</sup> it was found that males conformed very well with the national age-structure. Female emigrants however failed to conform, being well below the national average in the decade 1861-71 and thereafter, the proportions were above, increasing steadily until 1901. However, it should be noted that Bailyn was measuring purely outward movement, whereas the present study was net of returns. Although this study cannot distinguish the age-structures of UK and overseas emigrants, there probably was a difference, because as table 8.3.<sup>13</sup> showed, the sex ratios of UK and overseas emigrants differed significantly. It is possible that more child emigrants moved within Britain than overseas, as the male female ratios were so unbalanced overseas.<sup>14</sup>

The proportion of male emigrants over 29 years was considerably higher in the eighteenth century study, than in the present one. There was moreover relatively little difference in the proportions lost by two sexes in the earlier work. However, it cannot be argued that this evidence reflected changes in emigration patterns, although this may be the case, because the present study is net of returns and there could have been a considerable movement amongst older males.

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12. It should be remembered that Bailyn was considering overseas emigration, whereas this study considers all emigration both within Britain and abroad. Moreover, Bailyn was counting those leaving Scotland whereas, the present study was estimating net of returns.

13. See chapter VIII, table 8.3. p.307.

14. See fn.13.



TABLE 9.2.

## THE PROPORTION OF EMIGRANTS UNDER 20 YEARS COMPARED WITH THE SCOTTISH POPULATION

CENSUS YEAR OR DECADE ENDING	PROPORTION OF THE TOTAL SCOTTISH POPULATION <20 YEARS <sup>1</sup>		PROPORTION OF THE SCOTTISH EMIGRANT POPULATION <20 YEARS <sup>2</sup>	
	MALE	FEMALE	MALE	FEMALE
1871	49.4	44.1	45.1	38.5
1881	49.0	44.5	49.8	48.7
1891	48.2	43.9	45.5	50.9
1901	48.4	42.0	49.0	55.8
1911	43.6	40.5	43.6	47.4

<sup>1</sup> Taken from Appendices, appendix XXXI [p], p.307-10.

<sup>2</sup> Calculated from table 8.5. p.314.

Bailyn concluded that many of the emigrant males were unmarried.<sup>15</sup> The work by Erickson on nineteenth century emigration has already been considered and showed that single male emigrants predominated in the 1850s and that this pattern became even more pronounced over time.<sup>16</sup> Bailyn's eighteenth century analysis and its confirmation in subsequent research suggests that the pattern of predominantly male overseas emigration from Scotland was long

15. Bailyn. *Voyagers to the West*. p.131.

16. Erickson. "Who were." p.371.

standing. We have therefore some evidence of consistency over time in the sex ratios and age-structure of Scottish emigrants prior to 1900.

We will now move to consider more recent emigration. Flinn provides some information on emigration in 1912-3,<sup>17</sup> which were two years of high emigration, but not as exceptional as the previous years.<sup>18</sup> Flinn considered that the proportion of child emigrants had fallen and this decline may be true of overseas emigration which the present study (1861-1911) cannot measure. Indeed table 8.5.<sup>19</sup> shows that the proportion of young emigrants varied according to whether the decade was one of high or low emigration, the proportion of children was lower in decades of high emigration, and Flinn's work was on years with high emigration. Bailyn's work on 1773-6 and Flinn's on 1912-3 are difficult to compare, because the age-bands are different,<sup>20</sup> but it appears that the volumes of child and teenage movement were surprisingly similar. It was the present study (1861-1911) that may have had higher proportions of young emigrants.<sup>21</sup>

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17. Flinn. *Scottish Population History*. pp.452-3.

18. *Ibid.* table 6.1.4. p.447.

19. See chapter VIII, table 8.5. p.314.

20. See table 9.1. p.363.

21. This statement must be treated with caution, as estimates in the present study (1861-1911) are net, which would exaggerate the proportion of young emigrants in the population.

## TWENTIETH CENTURY SCOTTISH EMIGRATION

There are only two studies of more recent Scottish emigration. these being those of Hollingsworth for 1960-1,<sup>22</sup> and Findlay and Garrick for 1984-6.<sup>23</sup>

The work of Hollingsworth used the 1961 published census, external data and the international port survey.<sup>24</sup> Unfortunately the results were not presented in such a way that they could be incorporated in table 9.1. Nevertheless, as with current migration,<sup>25</sup> there were marked similarities and some differences between his findings and those in this study.

Male emigrants still predominated and the proportions of male to female emigrants going to England and Wales were remarkably similar to those estimated in the present study.<sup>26</sup> Males were particularly dominant in the age-band 25-44 years.<sup>27</sup> Nevertheless, single emigrants were still in evidence.

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22. Hollingsworth. *A study based on Scottish*. pp.103-44.

23. Findlay, A.M. and Garrick, L. "A Migration Channels Approach to the Study of Skilled International Migration: the case of Scottish emigration in the 1980s", unpublished "ARPU Discussion Paper 89/1", University of Glasgow, Department of Geography, 1989.

24. Hollingsworth. *A study based on Scottish*. pp.104-5.

25. See chapter VII, pp.247-51.

26. Calculated from Hollingsworth. The proportions of male to female emigrants were 52.4% to 47.6% respectively. Hollingsworth. *A study based on Scottish*. p.123. This is remarkably close to the estimates in this study see chapter VIII, table 8.3. p.307.

27. Calculated from Hollingsworth. The proportions of male to female emigrants aged 25-44 years were 57.2% to 42.8% respectively. Hollingsworth. *A study based on Scottish*. p.123.

However, the direction of Scottish emigration had changed. Using the National Register<sup>28</sup> Hollingsworth found 74% of Scots emigrated to the rest of Britain and Northern Ireland and only 26% went abroad. This was a most remarkable turnabout in population movement, as in the present study over half of emigrants went overseas.<sup>29</sup>

One can only speculate on possible reasons for this change in the direction of movement. Scotland's economic growth was poor, regional income per head was lower and unemployment much higher than in other parts of Britain.<sup>30</sup> Furthermore, the demography of Britain had altered, fertility had declined, the population was ageing and the labour market was no longer expanding.<sup>31</sup> Jobs were available for Scots in other parts of Britain, especially the south-east, where an improved lifestyle was possible. A huge increase in Scottish emigration to England and Wales had occurred in the 1920s,<sup>32</sup> and the post war movement was therefore a continuation of that trend. Moreover, movement abroad was becoming less easy, as some overseas countries were beginning to specify the skills they required from potential emigrants.<sup>33</sup> The U.S.A. applied a quota system but this was not a restriction for Scots,<sup>34</sup>

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28. See fn.25.

29. See chapter VIII, table 8.3. p.307.

30. Lee. *The British Economy*. pp.257-8.

31. Jones, H.R. *A Population Geography*, (Harper and Row, London, 1981) p.268.

32. See pp.247-8 and Lee. *The British Economy*. pp.256.

33. Jones. *A Population Geography*, p.261.

who preferred Canada.<sup>35</sup> Nevertheless, emigration to Canada fluctuated. It showed a marked inverse relationship with unemployment in that country.<sup>36</sup> Potential emigrants were clearly aware of economic advantages both within Britain and abroad.<sup>37</sup>

The research on late twentieth century Scottish emigration by Findlay and Garrick is still in progress<sup>38</sup> and concentrates on skilled technical, professional and managerial emigration using the unpublished International Passenger Survey as a data source. Skilled transient emigration made up the majority of all late twentieth century British emigration moves,<sup>39</sup> although some settler emigration still continued.<sup>40</sup> Erickson found that the relationship between skilled and unskilled emigrants to the United States depended on the state of the American economy,<sup>41</sup> and Thomas has calculated that 62.5% of Scottish male adult emigrants to the United States were classified as skilled in 1910.<sup>42</sup> Flinn

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34. *Ibid.* pp.259-60.

35. Some emigrants to Canada may have moved on to the United States subsequently.

36. Jones, *A Population Geography*, pp.262-3.

37. Fluctuations in the volume of emigrants were also found in the present study. Mobility varied according to the economic prospects on both sides of the Atlantic. This will be considered subsequently in chapter X, pp.381-2.

38. I am very grateful to Dr.A.Findlay for drawing my attention to this discussion paper.

39. Scottish professional and managerial emigrants comprised 52.7% of all employed Scottish emigrants in 1980-85 and 62.3% in 1986. Findlay. and Garrick. "A Migration Channels Approach." table 5, p.18.

40. Findlay. and Garrick. "A Migration Channels Approach." p.3.

41. Erickson. "Who were." p.367.

considered that the proportion of skilled emigrants was directly related to the country of destination.<sup>43</sup> Flinn estimated that only 29% of all Scottish overseas emigrants were unskilled in 1912-3.<sup>44</sup> It therefore appears that the majority of emigrants going abroad in our study probably had some skills. The emigration of skilled workers was therefore certainly not a new trend in emigration, although the level of skill found in most recent studies may be higher.

Transient emigration, which the late twentieth century study has identified as a characteristic of recent emigration, was also an unquantifiable but nevertheless important element of the present study.<sup>45</sup> For England and Wales Baines has estimated that approximately 40% of emigrants returned.<sup>46</sup> Late twentieth century emigration appears therefore to be an extension of an historically important trend.

The age profile of emigrants in this late twentieth century study has been tabulated in table 9.1.<sup>47</sup> where it can be compared with the present study. There was still a predominance of males, but less than in previous studies.<sup>48</sup> The age profile was generally

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42. Thomas used unpublished data made available by the Bureau of the Census, Washington. Thomas. *Migration and Economic Growth*. table 43, p.149.

43. Flinn. *Scottish Population History*. p.453.

44. See fn.36.

45. See chapter VIII, pp.352-8.

46. Baines. *Migration in a Mature Economy*. p.279.

47. See table 9.1. p.363.

older, but an interesting age reversal had occurred in the age-bands 15-25 years. This meant that whereas in the present study male emigrants formed a much higher proportion of this age-band, in the 1980's it was the females that exceeded males. The majority of emigrants in the recent study were concentrated in the age-band 25-44 years, a far higher proportion than was found in our study. This probably reflects the longer training period necessary today to acquire professional skills. Over a quarter of late twentieth century male emigrants were over 45 years, but only 6% of females. These estimations are not net of return emigrants and so permit considerably more precision than is possible in the present study. It is possible that a similar gender imbalance between older emigrants occurred in the present study (1861-1911) and that this has not been possible to identify.

The volume of emigration between 1861 and 1911 was in certain decades (1881-91 and 1901-11) probably on a previously unprecedented scale. This included a high volume of overseas emigration which continued up to the First World War and resumed again thereafter,<sup>49</sup> only to decline in the later 1920's.<sup>50</sup> This meant that whereas in the present study emigration accounted for between 10.6% and 46.8% of natural increase, in the decade 1921-31 emigration exceeded natural increase.<sup>51</sup> Emigration declined in the

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48. Flinn claimed that "by 1914 equality between the sexes emigrating had almost been achieved." This appears to conflict with evidence in the present study, see fn.40. Flinn. *Scottish Population History*. p.452.

49. See pp.247-8.

50. *Ibid.* table 6.1.4. p.447.

51. Baines. *Migration in a Mature Economy*. table 3.2. p.61.

1930s and it was not until the 1970's that again Scotland's out-migration was in excess of natural increase.<sup>52</sup>

The present study was preceded by a decade of exceptionally high emigration. This research (1861-1911) has therefore examined a time-span which included four decades<sup>53</sup> with very high proportions of emigrants, and together this period (whilst not including the greatest losses) was one in which Scotland experienced sustained high population losses through emigration. There was a marked increase in overseas emigration from earlier estimates,<sup>54</sup> but not the peak in emigration losses from Scotland.

This comparison of Scottish emigration, both before and after the present study, suggests that the emigrant age-structure has changed over time, though possibly no more than the national age-structure. Nevertheless, many other elements in emigration have remained remarkably consistent, in particular male emigrants always exceeded females in volume.

## II. EMIGRATION IN THIS STUDY COMPARED WITH CONTEMPORARY EMIGRATION IN ENGLAND AND WALES

Chapter VII compared current migration patterns in the different parts of Britain, and examined the validity of such comparisons.<sup>55</sup> This section does not intend to repeat the

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52. Lee. *The British Economy*. p.256.

53. The decades with high proportions of emigrants were 1861-71, 1871-81, 1881-91 and 1901-11. See chapter VIII, table 8.1. p.283.

54. See fn.42.

55. See chapter VII, pp.251-80.



discussion on validity, but instead to proceed directly to a comparison of emigration.

It has already been established that Scottish emigration was proportionally higher than that in the rest of Britain.<sup>56</sup> Unfortunately Baines' work does not include an emigrant age profile and so we can only compare aggregate emigration at the level of the county-of-birth.

As with current migration the counties of Edinburgh and Lanark and Renfrew will be compared with those of London and Middlesex and Lancashire.<sup>57</sup> Chapter VII showed that in terms of the proportions of current migrants there were two types of counties, and the groupings related to the industrial or commercial character of the county rather than the country-of-birth. Thus Lancashire and Lanarkshire and Renfrew formed one group and Edinburgh and London and Middlesex the other. This division was not appropriate for emigration (table 9.3.) in that the two groupings for the proportion of emigrants was based on national and not economic criteria. Scotland had at least twice the proportion of emigrants of the English counties. The criteria of type of county had relatively little obvious effect. Indeed, if the predominantly industrial counties of Lancashire, Lanark and Renfrew are compared,<sup>58</sup> then the latter had a slightly lower proportion of

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56. See p.361.

57. See fn.47.

58. See tables 7.3 (chapter VII, p.275) and 9.3.

TABLE 9.3.

A COMPARISON OF THE PROPORTION OF EMIGRANTS IN THE POPULATION OF SELECTED COUNTIES IN ENGLAND AND WALES\* WITH THOSE IN SCOTLAND\*\*.

Decade	Edinburgh (Midlothian)		Lanark & Renfrew		Lancashire		London & Middlesex	
	M	F	M	F	M	F	M	F
1861-1871	10.1	8.1	10.7	7.5	3.0	2.3	3.9	3.6
1871-1881	9.8	7.5	10.2	7.3	1.9	1.2	4.0	3.2
1881-1891	10.9	4.2	11.1	8.0	4.2	2.5	4.7	2.9
1891-1901	7.2	6.0	6.2	3.2	1.8	0.4	3.1	1.1
1901-1911	8.5	5.4	9.7	7.2				

## KEY

\* Estimates for English and Welsh counties derived from Baines. *Migration in a Mature Economy*, pp.283-98. Appendix I "Net migration of natives into other counties....(% of mean decade population)".

\*\* Estimates derived from Appendices, appendix XXVI, pp.293-9.

current migrants, but generally more than three times the percentage of emigrants.<sup>59</sup>

Scottish emigration, in the counties examined, was therefore on a completely different scale to that in England and Wales, but

59. There was slightly less than three times the proportion of male emigrants in the decade 1881-1891. Table 9.3. p.373.

it is still necessary to consider whether or not the two countries shared common emigration characteristics.

Baines noted that about 35% of permanent emigrants from England and Wales had been born in London, the West Midlands or Lancashire, and another 25% had been born in other urbanised counties. He therefore argued that the majority of emigrants were people "born and brought up in an urban environment".<sup>60</sup> In Scotland this pattern of mainly urban-born emigrants also prevailed. If the counties which comprise the boom population category were defined as urban counties<sup>61</sup> (and this excludes counties such as Ayr, Clackmannan and Forfar (Angus) which also have large urban populations), then, as shown in table 9.4. between 48% and 53% of total net emigration was of people born in urban counties. Indeed less than a quarter of all emigration in any decade was from the predominantly rural counties, that is those that were losing population and comprise the two declining population categories.

Baines found that people born in the rural counties of England and Wales were "only marginally more likely to emigrate than natives of urban counties".<sup>62</sup> In Scotland emigration from the urban counties of the boom population category was always well

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60. Baines. *Migration in a Mature Economy*. p.279.

61. The boom population category comprised counties with at least 50% population growth during this study. The counties in this category were:- Dunbarton, Edinburgh (Midlothian), Fife, Lanark, Linlithgow (West Lothian), Selkirk, Stirling and Renfrew.

62. This statement does not contradict with the previous paragraph if one assumes the unstated fact that the majority of the English and Welsh population lived in an urbanising county. Baines. *Migration in a Mature Economy*. p.279.

TABLE 9.4.

THE PROPORTION IN EACH POPULATION CATEGORY OF THE TOTAL SCOTTISH EMIGRANT LOSSES

DECADE	POPULATION CATEGORY			
	DECLINE NORTH	DECLINE SOUTH	GROWTH	BOOM
1861-1871	15.7	11.5	25.2	47.6
1871-1881	13.7	10.5	24.4	51.4
1881-1891	12.4	7.6	28.8	51.2
1891-1901	13.3	11.0	24.1	51.6
1901-1911	11.7	5.4	29.7	53.2

above the national average, but this was also true of the rural counties of the southern decline category, whereas emigration from the growth and decline north categories was generally below average.<sup>63</sup> It was undoubtedly due to the unusual situation of the decline south category, which comprised mainly counties bordering England, and that partly created high levels of emigration.<sup>64</sup> However, the fact that it was also an area with high current migration cannot be ignored,<sup>65</sup> because this means that this category was experiencing very high levels of total population

63. See Chapter VIII, pp.287-94 and especially table 8.2. p.288.

64. See chapter VIII, pp.291-4, 320-4 and 349-50.

65. See chapter VI, pp.211-2 and 229-30.

movement. However, the fact that the Decline South category was a border region converted some relatively local movement from migration into emigration, and without this anomaly the proportion of emigrants would undoubtedly have been much lower. It can therefore be argued that in contrast to England and Wales, it was the urban population category (boom) in Scotland that generally had the highest proportions of emigrants, except in the final decade (1901-11).<sup>66</sup> Nevertheless, emigration from some rural counties, for example Elgin, did sometimes exceed the national average.<sup>67</sup>

The volume of emigration fluctuated in both countries according to decade, and except in 1861-71 the losses always moved in the same direction in the identical decade.<sup>68</sup> This was because the United States was the most popular overseas destination for emigrants of both countries and as Thomas has argued, the "British and American development was complementary and characterised by alternating decades of investment and migration".<sup>69</sup>

In the decade 1891-1901 emigration was generally low. In England and Wales Baines attributes this in part to a high level of return emigration.<sup>70</sup> Although the rate of return emigration to Scotland has not been studied, the samples from the enumeration

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66. See Chapter VIII, tables 8.1. and 8.2. pp.283 and 288 respectively.

67. See Appendices, appendix XVII, pp.150-4.

68. Baines. *Migration in a Mature Economy*. table 2.1. p.10 and chapter VIII, table 8.1. p.283.

69. Baines. "The labour supply". p.160.

70. Baines. *Migration in a Mature Economy*. p.280.

books for the years up to and including 1891 provided plenty of evidence of transient movement.<sup>71</sup> There was a marked fall in the proportion of emigrants going abroad in the decade 1891-1901, but the volume of males moving to England and Wales increased.<sup>72</sup> This could be evidence of males moving south when the prospects overseas were less good. Alternatively, this could also reflect Scottish-born males returning from abroad, but going to England and Wales rather than returning to Scotland.

Baines concluded that rural-urban stage emigration was relatively rare in England and Wales.<sup>73</sup> This may well also be true in Scotland, but it was very difficult to prove, although in this study it has been argued that the low volume of adults both migrating and emigrating from the boom population category may in part be a reflection of the parents being born in different counties.<sup>74</sup> It has also been shown that current migration within Scotland involved a high proportion of young children, and this it has been proposed that this may have led to considerable secondary migration, particularly as the counties with most industrial expansion were contiguous.<sup>75</sup> These same young migrants may have emigrated as adults and led to a higher proportion of rural-urban or urban-urban stage emigration than was found by Baines, especially as the proportion of emigrants was so much higher in

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71. See chapter VIII, pp.336-7 and 352-8.

72. See Chapter VIII, table 8.3. p.307.

73. Baines. *Migration in a Mature Economy*. p.281.

74. See chapter VIII, pp.329-31.

75. See chapter VII, p.280.

Scotland. Nevertheless, most of the remote rural northern counties<sup>76</sup> had high proportions of current migrants which were well above the national average, but relatively low and below average proportions of emigrants. This suggests that the mobile rural population in the north preferred out-migration to emigration. It was only in the final decade (1901-11) that the proportion of male emigrants from counties such as Argyll, Caithness, Orkney, Ross and Cromarty and Sutherland equalled the national average.<sup>77</sup>

The county of Shetland may however, provide some evidence of rural-urban stage migration. This county had a high proportion of emigrants in several decades and generally low levels of current out-migration.<sup>78</sup> It was therefore behaving like a boom population category county and this may be a reflection of its close links with Leith, Midlothian.<sup>79</sup> Nevertheless, it is also the case that many Shetland-born males served in fishing fleets and the merchant navy,<sup>80</sup> and as the high proportion of emigrants was restricted to males, it is also possible that these high figures may reflect some transient emigration.

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76. This discussion relates to the decline north population category. The decline south category could not be included in this analysis, because as has already been argued, some emigration in the category was localised movement more similar to current migration.

77. See Chapter VIII, table 8.1. p.283 and Appendices, appendix XVII, pp.150-4.

78. See Appendices, appendix XIV, p.141.

79. See chapter VI, fn.92, p.237.

80. Smith. *Shetland Life and Trade*, pp.157-9.

It is a pity that Baines does not provide more information on the age of emigrants from England and Wales, as it is possible that it differed considerably from that found in Scotland. Certainly the earlier study by Bailyn (1773-6) found marked differences in the age-structure and gender of emigrants from the two countries, with far less family emigration from England.<sup>81</sup>

In concluding this comparison of English and Welsh and Scottish emigration, it is clear that male female ratios in the both countries were similar. By far the most important contrast was in the scale of emigration, the proportion of Scottish emigration vastly exceeding that south of the border.

Indeed the evidence in this chapter supports Bisset-Smith's description of the Scots as being a "notoriously migratory" population.<sup>82</sup> They exceeded all, except the Irish, in the proportion of the population that went overseas<sup>83</sup> and large numbers of Scots also moved into England and Wales:<sup>84</sup> but it should be remembered that although this period had fairly sustained high levels of emigration, the decades of greatest population loss from Scotland were outwith the period 1861-1911.

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81. Bailyn. *Voyagers to the West*. pp.126-203.

82. See p.360.

83. Anderson and Morse. "The People." p.15.

84. See chapter VIII, table 8.3. p.307.



## CHAPTER X

### SCOTTISH POPULATION MOVEMENT : 1861-1911

#### INTRODUCTION

Up to now this study has examined separately estimates of current migration within<sup>1</sup> and emigration from Scotland.<sup>2</sup> This chapter will consider the two forms of mobility together, looking first at the relationship between emigration and migration, and then secondly at the impact of population movement on the county-of-birth.

#### I. THE RELATIONSHIP BETWEEN CURRENT EMIGRATION AND MIGRATION

Scottish emigration losses created a pattern of peaks and troughs in movement. These phases corresponded with similar ones in England and Wales.<sup>3</sup> The links between fluctuating rates of emigration and business cycles in Britain and the United States and Thomas's explanation of the relationship between current migration and emigration have already been considered.<sup>4</sup> It is the work of Thomas<sup>5</sup> that will be used in this study to provide a basis to explore Scottish mobility, although it is recognised that aspects

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1. See chapters V-VII, pp.179-280.
  2. See chapters VIII-IX, pp.281-380.
  3. See chapter IX, pp.376-7.
  4. See chapter I, pp.36-7.
  5. Thomas. *Migration and Economic Growth*.

of Thomas's thesis with regard to population movement in England and Wales have been questioned by Baines.<sup>6</sup>

Thomas identified an inverse relationship between emigration and migration. He considered that in certain decades British urban expansion could absorb rural migration, while in others the same rural-born population emigrated overseas.<sup>7</sup> His theory therefore assumed a mobile rural-born population that moved either within Britain or abroad according to the economic climate. Inter-urban migration, which has been identified in this study,<sup>8</sup> was not considered by Thomas. This section will therefore consider the links between emigration and migration, and attempt to determine whether it was one mobile population.

It has already been shown that nationally the proportion of both current migrants<sup>7</sup> and emigrants<sup>9</sup> varied according to decade and there appeared to be an inverse relationship between the two sets of data.<sup>11</sup> If this was indeed the situation then combining the two sets of calculations should provide estimates that lack the obvious peaks and troughs apparent in both separate population movements (tables 10.1. and 10.2.).

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6. Baines. *Migration in a Mature Economy*. pp.213-78.

7. Thomas. *Migration and Economic Growth*. pp.124-6.

8. See chapter V, pp.197-8 and chapter VI, p.219.

9. See chapter VI, table 6.1. p.203.

10. See chapter VIII, table 8.1. p.283.

11. See chapter VIII, pp.283-4.

TABLE 10.1.

PROPORTION OF THE POPULATION IN EACH AGE-BAND AND  
 DECADE THAT WERE EITHER CURRENT EMIGRANTS OR MIGRANTS  
 IN THE NATIONAL POPULATION AND BY POPULATION CATEGORY\*

\* The proportion is calculated as (current emigrants and migrants) over (the total population born in Scotland in the subsequent census plus current emigrants). That is the total population at the end of the decade if nobody had moved out.

## NATIONAL POPULATION

% LOST IN YEARS	Total	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75
1861-1871																	
Male	13.49	14.77	19.08	3.60	9.86	30.61	32.17	14.19	9.15	3.87	6.34	6.84	8.95	2.49	-9.10	-2.92	-104.84
Female	11.01	14.25	17.69	5.45	8.61	17.02	25.46	16.19	7.30	2.43	3.14	4.42	7.99	1.27	-5.37	9.25	-67.14
1871-1881																	
Male	12.94	13.89	19.82	7.40	10.05	26.26	27.26	11.27	8.88	.75	4.84	6.17	7.56	1.46	-6.16	2.32	-67.47
Female	11.20	13.36	18.26	9.17	11.33	17.95	23.15	14.15	4.14	.77	5.03	3.38	7.98	1.02	-.44	9.67	-39.51
1881-1891																	
Male	13.65	13.36	20.56	9.83	10.55	26.60	31.12	14.58	8.85	3.39	2.71	4.83	2.67	-4.63	-11.01	-2.44	-51.23
Female	10.87	12.93	18.92	11.53	12.90	19.16	20.22	12.28	1.84	.90	3.16	1.93	4.55	1.39	-3.57	6.82	-38.07
1891-1901																	
Male	10.83	11.42	17.73	6.67	9.96	24.19	23.84	7.07	2.74	1.78	5.54	3.19	2.94	-6.27	-9.35	5.64	-40.36
Female	8.76	10.70	15.40	8.53	12.65	16.70	14.28	5.40	-.89	1.16	6.53	1.26	3.22	3.02	-.42	11.23	-30.23
1901-1911																	
Male	12.33	11.50	19.61	9.55	12.30	32.30	31.47	10.81	3.76	1.95	2.46	2.68	-5.41	-8.44	-18.82	-7.22	-44.74
Female	10.29	10.97	16.67	11.87	15.86	25.23	19.65	6.57	.71	3.71	7.72	1.10	-3.53	6.03	-5.10	-6.36	-37.95

## DECLINE NORTH

% LOST IN YEARS	Total	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75
1861-1871																	
Male	13.68	9.95	13.44	4.72	15.46	37.24	40.77	19.30	9.67	6.83	4.92	-1.62	4.14	2.91	.67	15.24	-90.47
Female	11.14	10.68	12.98	6.67	12.88	22.18	28.74	19.87	8.86	8.27	8.90	2.82	4.98	1.55	-1.53	18.92	-73.24
1871-1881																	
Male	12.16	8.61	13.83	9.99	15.35	28.91	31.16	15.03	5.22	2.18	5.77	2.58	4.70	3.08	3.89	18.06	-57.88
Female	10.59	8.68	12.56	10.36	14.24	21.13	25.44	17.09	6.71	4.50	10.79	1.88	6.50	1.86	1.68	17.46	-50.17
1881-1891																	
Male	13.39	11.19	15.14	10.81	14.83	33.81	34.06	21.00	9.97	.34	2.79	3.42	2.51	-1.14	1.19	11.83	-48.80
Female	10.09	11.11	14.54	11.95	13.25	20.77	23.96	16.42	4.91	2.82	6.97	1.80	4.74	2.38	-1.61	12.37	-35.42
1891-1901																	
Male	11.68	8.90	13.21	11.76	17.02	32.85	29.40	13.78	3.52	-6.13	2.09	5.48	2.90	-1.28	3.88	13.84	-34.35
Female	9.63	9.08	14.27	11.63	16.45	20.88	20.50	13.89	4.21	-1.11	7.81	2.27	3.82	4.51	-1.73	11.03	-25.55
1901-1911																	
Male	11.91	8.79	14.66	17.11	15.51	27.50	29.08	16.77	5.91	-6.45	4.63	11.92	2.17	3.23	.95	.88	-33.79
Female	9.29	8.78	14.41	14.39	17.62	22.46	21.93	14.23	5.01	-1.73	6.86	4.49	.53	9.70	-5.75	-11.54	-23.61

## DECLINE SOUTH

% LOST IN YEARS	Total	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75
1861-1871																	
Male	16.74	15.83	18.84	9.47	20.93	37.88	44.44	28.86	2.42	1.55	3.29	4.82	8.37	-7.81	-24.71	5.77	-113.11
Female	13.79	13.58	20.32	11.09	18.26	26.65	24.03	19.19	12.34	5.25	3.68	6.04	10.24	1.11	-1.74	6.97	-60.38
1871-1881																	
Male	16.13	12.67	17.82	15.98	22.67	32.70	34.27	20.30	5.64	.24	6.63	4.42	8.26	.13	-1.52	11.14	-82.77
Female	14.97	10.34	20.97	16.84	22.85	24.35	20.34	18.37	11.71	7.09	7.82	8.88	13.56	7.55	5.25	12.78	-44.25
1881-1891																	
Male	16.48	15.23	20.75	15.58	19.95	35.14	35.35	23.30	10.62	2.97	.34	3.72	-3.68	-1.80	-.45	1.17	-45.15
Female	13.80	15.07	23.05	16.15	17.17	22.50	16.45	18.37	13.04	4.96	5.49	6.31	8.48	5.57	3.67	5.10	-37.65
1891-1901																	
Male	16.08	15.26	23.60	15.55	22.09	34.56	31.07	17.12	9.96	4.11	1.54	5.15	-9.73	.21	8.69	3.45	-40.01
Female	13.87	12.90	26.01	15.62	17.53	24.24	16.85	17.52	11.75	4.74	7.40	6.10	5.45	7.54	8.47	5.50	-38.70
1901-1911																	
Male	12.90	10.96	22.99	15.15	17.08	31.42	26.73	14.02	10.98	1.25	-1.18	5.33	-14.15	.76	12.37	-4.99	-41.14
Female	12.02	10.52	26.49	15.27	13.07	24.25	18.22	15.33	8.99	2.63	9.13	6.30	2.91	10.15	7.18	-11.37	-41.54

## GROWTH

% LOST IN YEARS	Total	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75
1861-1871																	
Male	13.48	13.15	17.99	4.56	10.97	36.02	34.13	14.54	8.96	1.54	6.85	.74	1.61	.60	-5.77	-.38	-99.33
Female	10.55	11.67	14.88	8.99	11.26	12.69	21.38	19.29	11.73	1.93	1.25	2.32	4.08	8.45	5.65	3.54	-56.35
1871-1881																	
Male	12.80	12.19	17.36	7.52	11.36	29.56	29.93	11.91	8.97	-1.06	3.30	2.50	1.98	3.61	-1.28	7.07	-53.62
Female	10.78	10.34	14.85	10.34	15.12	16.55	19.11	16.78	8.54	.84	1.48	3.63	7.30	5.78	11.37	-.01	-36.48
1881-1891																	
Male	14.45	12.77	19.17	10.10	10.96	31.82	34.02	19.01	11.76	1.76	-.18	2.60	2.05	1.66	-2.79	2.37	-35.51
Female	11.15	12.80	17.34	11.15	15.70	19.26	18.05	15.80	6.62	.56	.34	4.97	7.34	5.28	5.68	-2.92	-44.59
1891-1901																	
Male	12.16	11.93	17.39	7.14	10.74	25.49	29.05	13.43	8.81	-2.27	-1.98	1.31	4.78	2.58	.26	7.05	-18.06
Female	9.30	11.12	14.36	5.71	16.18	18.68	15.06	10.76	3.72	-2.96	1.94	5.39	7.63	5.71	8.53	-.36	-36.91
1901-1911																	
Male	14.01	12.53	19.74	10.20	11.65	27.86	34.98	20.37	12.38	.08	-4.79	3.72	2.40	3.87	-2.95	-1.17	-12.15
Female	11.00	12.58	16.82	7.81	19.58	26.54	19.36	12.21	4.13	-.47	3.98	7.81	6.29	7.52	2.27	-10.88	-45.91

## BOOM

% LOST IN YEARS	Total	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75
1861-1871																	
Male	12.79	16.67	21.40	1.46	4.63	22.22	24.71	7.74	10.41	4.35	7.58	17.31	19.01	7.38	-18.51	-38.00	-140.68
Female	10.70	16.56	20.24	1.57	3.14	15.66	27.01	16.22	1.26	-1.61	.65	6.68	12.73	-5.61	-23.27	5.49	-76.76
1871-1881																	
Male	12.79	15.86	22.67	5.22	5.18	21.99	22.94	7.42	11.00	1.40	5.12	11.75	14.41	-1.70	-23.78	-29.12	-101.38
Female	11.05	16.03	20.90	6.89	5.96	16.56	25.40	9.72	-2.50	-2.66	3.62	2.84	8.09	-5.44	-16.34	10.28	-30.40
1881-1891																	
Male	12.86	13.83	22.28	8.75	7.91	24.22	27.89	7.50	6.16	5.75	5.16	7.42	4.93	-14.06	-34.32	-24.14	-79.55
Female	10.53	13.10	20.09	11.16	10.69	18.15	20.90	6.88	-5.82	-.54	2.86	-1.16	1.20	-3.51	-15.50	11.11	-34.06
1891-1901																	
Male	9.26	11.32	18.14	4.51	6.51	20.20	18.69	-.54	-2.58	6.49	12.40	3.15	4.18	-18.10	-34.89	-1.81	-74.58
Female	7.58	10.61	15.14	8.31	9.51	13.69	11.99	-3.22	-8.30	3.69	8.98	-3.07	-.84	-.60	-9.20	22.65	-25.77
1901-1911																	
Male	11.55	11.49	20.00	7.63	11.57	35.41	30.68	3.41	-2.68	5.32	6.52	-1.96	-13.17	-24.74	-52.45	-17.75	-94.43
Female	9.99	10.70	16.30	12.32	14.12	25.23	19.47	-.14	-3.79	7.54	10.07	-5.69	-14.00	2.66	-12.62	.95	-41.480

TABLE 10.2.

THE TOTAL VOLUME OF MOVEMENT (BOTH CURRENT MIGRATION AND EMIGRATION) BY DECADE, POPULATION CATEGORY AND SEX<sup>1 2</sup>

	Male	Female
DECLINE NORTH		
1861-1871	-39,832	-36,376
1871-1881	-34,940	-34,083
1881-1891	-38,476	-32,111
1891-1901	-32,361	-29,575
1901-1911	-32,442	-27,834
DECLINE SOUTH		
1861-1871	-22,107	-19,968
1871-1881	-21,451	-21,835
1881-1891	-21,835	-22,224
1891-1901	-21,087	-19,436
1901-1911	-16,391	-16,305
GROWTH		
1861-1871	-62,255	-52,667
1871-1881	-65,005	-58,805
1881-1891	-80,064	-65,501
1891-1901	-69,989	-56,987
1901-1911	-86,118	-71,738
BOOM		
1861-1871	-86,859	-77,508
1871-1881	-103,182	-93,750
1881-1891	-121,953	-103,749
1891-1901	-99,903	-85,213
1901-1911	-146,181	-131,889

12. This table has used estimates from chapter VI, table 6.2. p.206 and chapter VIII, table 8.2. p.288.

Table 10.1 shows the proportion of the population lost when all population movement (current migration and emigration) was combined.<sup>13</sup> There were fluctuations in both forms of population movement, but the proportion of emigrants in the population increased over time,<sup>14</sup> while in contrast current migration fell<sup>15</sup> and the proportion of total mobility also declined. Clearly over time there was considerably less movement within Scotland, which was not compensated for by increased emigration. The highest proportions of total movement in every population category were in or before the decade 1881-91. The lower levels of movement thereafter suggest that within Scotland a "modern" population distribution had already been achieved.

If emigration and current migration were inversely related and part of the same mobile population, the proportions moving from each category should remain fairly consistent regardless of whether the decade had high or low emigration and migration. This is not apparent in the proportions lost from the national estimates and indeed inspection shows that for males the fluctuations relate closely to those apparent in estimates of emigration.<sup>16</sup> This means

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13. The proportion is calculated as (current emigrants plus migrants) divided by (the total population born in Scotland in the subsequent census plus current emigrants), that is the total population at the end of the decade if nobody had moved out.

14. See chapter VIII, table 8.1. p.283.

15. See chapter VI, table 6.1. p.203.

16. In table 10.1. the proportion of males lost was highest in decades of high emigration loss. See chapter VIII, table 8.1. p.283.

that increased current migration in decades of lower emigration did not compensate for the lower proportion emigrating. This was particularly true in the decade 1891-1901, which experienced higher than normal proportions of migrants and lower proportions of emigrants, but nevertheless remained a decade of low overall net mobility.<sup>17</sup> The pattern for females was different, as in the first three decades overall movement tended to resemble current migration,<sup>18</sup> but thereafter the pattern fitted emigration.<sup>19</sup> These differing patterns between the sexes are not entirely surprising as males predominated in emigration, which is therefore likely to be the more significant form of movement, while for females current migration was more important.<sup>20</sup>

Having considered the main trends in movement at the national level, the analysis will now consider the individual population categories. However, it should be born in mind that in order to measure this mobility, a new degree of artificiality has had to be created. Whereas emigration has previously been assumed to be from anywhere in Scotland, it is now being considered as originating from a particular population category, which was clearly not always necessarily the situation. This is in order that the overall losses

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17. It has been argued by Baines that this decade experienced high return emigration in England and Wales. This may also have been true in Scotland. See chapter IX, p.377.

18. In table 10.1. the proportion of females lost was highest in decades of high current migration loss. See chapter VI, table 6.1. p.203.

19. See chapter VIII, table 8.1. p.283.

20. See Appendices, appendix XXVI, p.294.