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ABSTRACT

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The international labour market has not been 'globalised' to the same degree over the last 40 years as have international markets for goods and capital. Immigration policies in developed economies clearly hinder the mobility of labour. But how much difference does it actually make? This paper compares emigration from Britain to four principal destinations in the era of free migration before 1914 with emigration to the same places since the 1960s. As the doors were kept open to British emigrants for longer than most, the 'deglobalisation' of British labour only dates from the 1960s. Since that time there has been a secular fall in British emigration, and this has been a major component in the transformation of the UK from a country of net emigration to one of net immigration. Before 1914 the economic and demographic forces that drove British emigration can be clearly identified. The same effects, applied to the later period, suggest that mass emigration from Britain should have continued until the early 1990s. But from the mid 1960s these influences became less powerful as they were increasingly inhibited by immigration policies in the principal destination countries. The decline in emigration is largely accounted for by shifts in policy, especially those that curtailed or abolished the preferences previously extended to settlers from the UK.

JEL Classification: F2, J6, N3

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Introduction

It has become a commonplace to compare the depth and scope of globalisation since the 1970s with the earlier era of open international markets from the middle of the nineteenth century to 1913. Globalisation means that goods and factors of production are internationally mobile and that, as a result, there is at least some degree of integration across countries in these markets. A number of recent studies have suggested that rising globalisation since the Second World War in goods and capital markets has brought the developed world back to where it was a century ago (see the studies in Bordo et. al. (2002)). By contrast (and despite much rhetoric in the press) international migration has remained highly constrained (Chiswick and Hatton 2002). While many observers have commented on the scale of international migration and the policies, that constrain it, there have been few attempts to directly compare the determinants of international migration in these two economic eras. With that as the broad agenda, this paper attempts to compare, as directly as possible, the factors that drove emigration from Britain to the New World before the First World War and after the Second World War.

British emigrants were among the pioneers of mass migration during the nineteenth century. The chief destinations for British migrants were the United States, Canada, Australia, New Zealand and what is now South Africa. After declining sharply during the interwar period, mass emigration to the same destinations re-emerged in the 1950s and 1960s. Since that time British emigration has shrunk back to levels reminiscent of the interwar period. This paper seeks to shed light on the following questions:

- Did the same economic variables drive British emigration in the two eras, and if so, how did the magnitude of their effects differ?
- What was the role of immigration policy in the receiving countries and can its effects on the numbers of migrants be identified?
- What combination of economic, demographic and policy variables accounts for the striking de-globalisation of British labour since the 1960s?

The paper deals with these issues in four sections. The next section looks at the overall magnitudes and trends in British emigration. This is followed by a discussion of the evolution of immigration policies in the main receiving countries. The next section examines econometric estimates of the determinants of emigration in the pre-1914 period. Those

estimates are then used to predict what might have happened from the 1960s to the 1990s in the absence of policy intervention in the receiving countries. Emigration for this period is then estimated directly to assess the effects of policy. The main conclusion is that most of the fall in British emigration (and indeed much of the turnaround in net UK migration as a whole) was due to immigration policy. In the absence of such policies, emigration of British citizens would have been substantially higher, especially between 1971 and 1991.

Two Eras of Mass Migration

In the 60 years between 1853 and 1913 the passenger statistics record that a total of nearly 13 million British citizens left the UK bound for extra-European ports, 10 million of whom departed after 1870. These were passengers, chiefly travelling steerage, rather than emigrants as such, and there was also a large return flow.[1] Cumulative net passenger movement after 1870 was nearly 6 million, equivalent to 13 percent of the population 1913. About two three fifths of these emigrants were male, about three fifths were single, and among the adults, more than four fifths were aged between 18 and 45.

The annual flow plotted in Figure 1 shows an upward trend in the total numbers, and characteristic long swings with highs in the decade from 1865, in the 1880s, and in the decade immediately before the First World War. The figure also shows net passenger movements, possibly a better measure of emigration since it nets out return migrants and non-migrant travellers. The absolute numbers are lower but the profile of net migration is very similar to that of gross migration, indicating that fluctuations in the net numbers are driven chiefly by the gross flows rather than by return migration. Although there is an upward trend in the overall number of UK emigrants, there is no obvious long run trend in emigration per thousand of the population. This ranged from lows of less than four per thousand in the late 1870s and the late 1890s per thousand in to highs of around 8 per thousand in the early 1880s and in1910-12. In the 1850s and 1960s a large share of emigrants came from Ireland, then part of the UK, but Irish emigration declined both absolutely and as a share of

[1] British citizens (as distinct from aliens) in principle included those from anywhere in the British Empire although in practice the vast bulk were from Britain and Ireland. The figures were originally recorded by the Board of Trade. In 1912 migrants were distinguished from passengers for those travelling to the

the Irish population. This declining Irish contribution is evident in the diminishing gap between emigration from the UK and emigration from Great Britain (England, Scotland and Wales).

Most of the British emigrants travelled to one of four main destinations: the United States, Canada, Australia and New Zealand. Together these account for 88 percent of the gross outflow of UK citizens between 1871 and 1913 and for 93 percent of the net outflow. As Figure 2 shows, the dominant destination among these was the United States, accounting for 62 percent of the four-country gross outflow and for 55 percent of the overall total. Not surprisingly, emigration to the US accounts for much of the year-to-year fluctuations in total emigration observed in Figure 1. Emigration to Canada was much smaller and followed a pattern of fluctuations somewhat similar to the US up to the turn of the century. There followed a spectacular surge, that saw the numbers heading for Canada surpass those bound for the US in the five years before 1914. For Australia and New Zealand (which are combined in the Board of Trade's statistics) the pattern of fluctuations was somewhat different with a notable increase in 1910-13.

After a period of very low emigration in the troubled interwar years British emigration revived in the 1950s and 1960s. For the years up to 1963 the UK statistics record the flows of Commonwealth citizens travelling by long sea routes to ports outside Europe and the Mediterranean, after which the statistics derive from the International Passenger Survey, which also include travel by air. Both sets of statistics define migrants as those travelling for an intended stay of at least a year, having spent at least a year at the origin. In Figure 3 the gross outflow of Commonwealth citizens up to 1963 has been adjusted upwards to allow for the increasing frequency of air travel, although no adjustment has been made to the net figures.[2] These suggest a total gross outflow from 1951 to 1998 of 7.3 million to non-European destinations, or 12.2 percent of the UK population in 1998, but a much smaller net outflow of 1.7 million or just under 3 percent of the 1998 population. In part this reflects growing in-migration of non-UK Commonwealth citizens.

USA, Canada and Australia/New Zealand in the last three quarters of 1912, emigrants amounted to 97 percent of total passengers (see Carrier and Jeffrey, 1953, p. 96)

[2] The number travelling by air is assumed to increase linearly from 3,000 in 1949 to 50,000 in 1963. The adjustment for 1963 is based on the difference between emigration by long sea routes and an estimate for total emigration based on the pilot for the International Passenger Survey undertaken in 1963 (reported in the *Board of Trade Journal*, 1964).

From 1964 when UK citizens can be separately identified the pattern of fluctuations is very similar to that for Commonwealth citizens. Both series show very strong downward trends in gross and net migration from the mid-1960s. Between 1966-70 and 1994-98 gross emigration of UK citizens fell from an average of 199 thousand per annum to 76 thousand and the net figure fell from 124 thousand per annum to a mere 10 thousand. Most of the gross emigration of UK citizens continued to be directed to the four traditional destinations. From 1966 onwards they account for 62 percent of gross emigration and 86 percent of net emigration to non-European destinations. They also account for most of the decline in the emigration of UK citizens between 1966-70 and 1994-98. Across these years gross emigration fell by 123 thousand per annum while the four-country total fell by 100 thousand per annum, and the net figures fell by 114 and 92 thousand respectively. These figures can also be compared with the overall net migration balance that includes foreign citizens and also includes migration to and from Europe. The overall balance shifted from an average net outward flow of 75 thousand per annum in 1966-70 to an average net inward flow of 73 thousand in 1994-8. Thus the decline in the emigration of UK citizens to the four traditional destinations accounts for nearly two thirds of the change in the balance that has transformed the UK from a country of net emigration to a country of net immigration over the last forty years.

Figure 4 shows the profiles of annual gross and net emigration to the four principal destinations. Whereas in the period before 1914 the United States was the leading destination, in the early postwar period it was Australia, which from 1966, accounted for 53 percent of the four-country gross emigration total. The steep decline in gross emigration to Australia in the mid-1970s was followed by much lower average levels, with peaks in the early 1980s and in the late 1980s and early 1990s. The profile for Canada shows a sharp rise and decline in the 1960s followed by a series of fluctuations on a downward trend. Emigration to the United States exhibits milder fluctuations in the 1960s and it is the only country for which the total numbers of emigrants (either net or gross) increased between the early 1970s and the late 1990s. By contrast the pattern of emigration to New Zealand shows an upturn in the early 1970s followed by a gradual decline that resulted in net immigration of UK citizens in the early 1990s. These patterns are closely replicated in the immigration data of the receiving countries. Many observers would argue that these profiles

owe much to the changing immigration policy stance in the respective countries, a review of which follows.

Immigration Policy in Two Eras.

Before the First World War there was essentially free migration for British citizens to the main New World destinations. In the British Dominions there was effectively no distinction between the native-born and those born in Britain and there was positive encouragement for immigrants from Britain and Ireland. In Australia and New Zealand this took the form of assisted passages that were allocated to prospective emigrants by emigration agents operating in Britain. By contrast, Canadian recruitment schemes were modest (and specifically targeted at prospective farmers) and there were no subsidies for emigration to the United States.

In Australia, subsidies for free migrants to New South Wales began in 1832. Similar schemes were adopted by other Australian colonies but they were gradually abandoned between the early 1870s and the late 1880s. Subsidies were revived again from 1907 and reached new peaks in 1910-1913.[3] In New Zealand an energetic recruitment drive was initiated in 1871 following the Immigration and Public Works Act of 1870. This scheme was wound down at the end of the 1880s but revived again from 1906 and between 1908 and 1914 almost half of immigrants travelled on assisted passages (see Borrie, 1991). This assistance covered only about half of the cost, which meant that a passage to the antipodes was, for most of the period, still significantly more expensive than a passage across the Atlantic.[4]

The pre-1914 regime was revived in the early post-1945 years. Although restrictions on immigration had been imposed in the interim, policies that discriminated in favour of British and Irish emigrants meant that there was still essentially free migration to the

[3] Assisted emigration ceased in Victoria in 1873, in South Australia in 1886 in New South Wales in 1887 and in Tasmania in 1891. Such schemes were continued on a modest scale in Queensland and Western Australia.

[4] In 1907 assisted male immigrants travelling third class to New Zealand paid £12 (2 berth cabin) or £10 (4 berth cabin) as compared with the total cost of £21 and £19 respectively. Rates charged to female domestic servants were £6.16s and £4.16s respectively. Similar rates prevailed in Australia until 1912 when minimum rates of £6 were agreed for farmers, farm hands, skilled artisans and nominated, assisted or indented male immigrants, and £3 for adult women. That compares with fares across the Atlantic that averaged £5.7s in 1910-1913 but that were mainly in the range of £2.10s-£4.10s during the previous 25 years (see Keeling , 1999).

three Dominions. In the United States the country-of-origin quotas, first introduced in 1921 and revised under the McCarran-Walter Act of 1952, made such generous visa allocations to British emigrants that the quota was never filled. But from the 1960s restrictions grew with a series of shifts in immigration policy. These policy changes can be characterised as four types: (a) the removal or reduction of subsidies to British emigrants, (b) the introduction of non-discriminatory policies that no longer favoured the British, (c) changes in global immigration targets or quotas, and (d) the introduction of points schemes or other mechanisms that shifted the balance of the selection criteria towards skills.

In the United States, the 1965 Amendments to the Immigration Act (effective June 1st 1968) abolished the country-of-origin quotas in favour of an overall quota for Eastern Hemisphere immigrants and a preference system that allocated the majority of visas to family-sponsored immigrants, although close relatives were exempted from the quota. Immigration from the Eastern and Western hemispheres were merged into a global quota from 1978. Under the 1990 Immigration Act (effective 1992) non-immediate relatives were brought under the quota and a larger number of visas were allocated to skills-based immigration under a revised preference system.[5]

In Canada, the preference given to immigrants from the UK, France and the USA was abolished in 1962 and replaced with a scheme that allocated visas chiefly to sponsored dependants, nominated relatives and independent migrants. The second and third of these categories became subject to the points test that was established in 1967 (effective 1st October). In addition to having relatives in Canada, points were awarded for age, education, occupation and English or French language skills. From 1976 targets for total immigration were set administratively, depending on economic conditions—a mechanism that was used to effect a sharp reduction in immigration in 1982-5. The basic system was modified in 1988 and 1993 further increasing the degree of skill selectivity such that, by 1994, nearly half of all immigrants were admitted principally on labour market characteristics.[6]

[5] There is a large literature on US immigration policy. Among those that report the details of this evolution, see Tomasi and Keely (1975), Briggs (1984) and DeLaet (2000).

[6] For detailed discussions of the evolution and impact of Canadian immigration policy, see Hawkins (1989), Green (1994) and Green and Green (1999).

With a firmly established preference for British immigrants, Australia introduced the UK Assisted Passage Scheme in 1947 offering passages to Australia for £10 per adult and £5 for those aged 14-18. This was followed in 1957 by the 'bring out a Briton' campaign with the result that between 1961/2 and 1971/2 only 10 percent of UK immigrants were unassisted (Appleyard, 1988, p. 43). These schemes were reigned back in the 1970s in parallel with the winding down of the white Australia policy that began in 1966. The final abolition of discriminatory immigration policy took place under the Whitlam government in 1973 and became fully effective from 1975 (Hawkins, 1989; Jupp, 1991). At the same time, administratively set immigration targets were reduced and new methods of selection were sought. The first points system, somewhat similar to the Canadian System, was launched in 1979 but was replaced by a new Migrant Assessment System from 1983.[7] Over the following 15 years changes to this system involved introducing a business skills stream and increasing the proportion of immigration subject to the points test (DIMA, 2000).

New Zealand was the last country to repeat the cycle in immigration policy followed by Canada and Australia. As in Australia an Assisted Passage Scheme that offered £10 passages (but for key workers only) was introduced in 1947 and continued until 1975. The preference for British and European immigrants was weakened from 1974 and abolished in 1987. The points system adopted in 1991 resembles those of Canada and Australia but gives more weight to general skills rather than occupations in demand (Winkelmann, 1999). As a result 65 percent of immigrants to New Zealand in the 1990s were points tested. Like Australia the minimum threshold points score is adjusted depending on conditions in the labour market.

[7] The Numerically Weighted Multi-Factor Assessment System (NUMAS) that was introduced in 1979 has been characterised as a 'halfway house" between the Canadian points system and the Structured Selection Assessment System (SAAS), largely based on interviews, that had existed since 1975. NUMAS came under severe criticism for giving too much weight to English language proficiency and thus undermining the shift towards non-discriminatory immigration policy (Hawkins, 1989, p. 142). The down-weighting of proficiency in English under the Migrant Assessment System in 1983 aroused even more controversy from those who still favoured a white Australia—see Blainey (1984).

Explaining UK Emigration 1872-1913

There is a large literature that concentrates on estimating the determinants of migration flows from Europe to the New World in the late nineteenth century. Those studies typically focus on bilateral flows from one origin to one destination or on aggregate emigration from a particular source country or to a particular destination. They typically specify emigration as depending on real wage rates and employment rates at the source and the destination, sometimes including a limited number of other variables.[8] The most recent time series estimates for aggregate emigration from the UK Ireland and a number of other countries follow this basic economic specification (Hatton and Williamson, 1998). This model is derived for utility maximising individuals who are risk averse and who time their migration in order to maximise the net present value of the move (see Hatton, 1995). A version of that model is adopted here with the difference that migration streams to each of the major destinations are combined in a pooled regression (rather than being combined in a single aggregate series). The dependent variable is the Board of Trade's gross or net outflow of UK citizens per thousand of the UK population for the three destinations, the United States, Canada and Australia and New Zealand combined. Details of the sources for the explanatory variables can be found in the Appendix.

The result for gross emigration of UK citizens appears in Table 1. Two lags of the dependent variable were found to be significant but lags of other variables, apart from those included in the table, were not found to be important. The stock of previous migrants from the UK at the destination concerned reflects the so called friends and relatives effect that features so prominently in accounts that stress the cost-reducing and uncertainty-reducing effects that migrant networks provide. Here, an addition of one thousand to the migrant stock raises the annual flow of emigrants to that destination by 48 per annum in the short run and by 94 per annum in the long run—a powerful effect consistent with those estimated for aggregate emigration. The share of the UK population aged 20-34 is a proxy for the size of the emigration intensive cohort—those for whom the net present value of migration is largest. This effect must be multiplied by three to obtain the aggregate effect over the three emigration streams. The coefficient implies that the emigration for this age group would be

[8] For a survey of the earlier literature, see Gould (1979). Some of the more recent studies in this vein appear in Hatton and Williamson (eds.) (1994).

higher than that for other age groups by 13 per thousand in the short run and by 25 per thousand in the long run.

The log of employment rates overseas and in the UK (lagged one year) have powerful effects with signs that are opposite but have similar magnitudes. These results strongly support the traditions in the literature that emphasises business cycle effects on the timing of migration. In the long run across the three migration streams a one percent increase in the destination employment rate increases the emigration rate by 0.9 per thousand in the long run while a one percent increase in the UK employment rate reduces it by 0.7 per thousand. The real wage ratio has an effect that is proportionately much smaller so that a ten- percent rise in the destination to source wage ratio raises the combined gross emigration rate by 0.9 per thousand.

A number of experiments were undertaken to capture the effects of subsidies for emigrants to Australia and New Zealand in the 1870s and 1880s and again in the years before 1914 by including dummy variables. The only one that was close to significance is for the period 19010-13, reflecting the height of assisted passages to Australia. This is consistent with Pope (1981) who finds a negative effect of passage costs on immigration to Australia after the turn of the century. That effect is somewhat more significant in the second column of the table, which is for emigration from Great Britain (excluding Ireland), a result that makes sense since subsidies were targeted mainly to Britain. In other respects the estimate for Great Britain is similar to that for the UK as a whole, suggesting that British and Irish migration streams were guided by the same forces.[9] The final column is for net UK migration and again the pattern of coefficients is similar. Thus net emigration was driven by very much the same forces as gross emigration.

The effects of the individual variables on the course of emigration can be assessed by decomposing changes over time into the effects of different variables. Table 1 offers a decomposition (for the three streams combined) using the long run coefficients to explain the fall in the emigration rate between 1879-83 and 1894-8 and its subsequent rise between 1994-8 and 1909-13. For total UK emigration the effects of the migrant stock are negative throughout as domestic population outstripped that of the stock. In the first period this was

[9] Separate estimates for emigration from Ireland, in aggregate and to the USA, are presented in Hatton and Williamson (1998), Ch. 5.

offset by the growth in the share of the population most at risk. But more important than these are the effects of destination country unemployment rates that reduced the overall emigration rate by around three per thousand over the first period and then raised it by about the same amount in the second period. Because these periods fall across the cycles of unemployment in Britain, the domestic unemployment effects are much smaller. The wage effects are more trended and these indicate that wage convergence reduced the emigration rate by a little less than one per thousand in the first period. But from the mid 1890s to 1909-13 lagging domestic wage growth boosted gross emigration by more than one per thousand of the population. The dummy for Australia/New Zealand also adds to the upsurge in emigration in the years before 1914.

Predicting 1966-98 from the pre-1914 experience

Given the pre 1914 experience, what should we predict for the postwar period? As we have seen, gross and net emigration to the four principal destinations fell secularly from the mid-1960s. Is that what would have been predicted on the basis of the model estimated for the pre-war period? Figure 5 shows, from 1966 onwards, total emigration of UK citizens to the four destinations per thousand of the UK population. Gross emigration declines from more than three per thousand in the late 1960s to around one per thousand in the 1990s. This compares with an average for the pre-1914 period of 5.3 per thousand.

The dotted lines show what would be predicted for gross and net emigration using the estimated coefficients from the pre 1914 period. These counterfactuals are obtained by applying the coefficients in Table 1 (cols 1 and 3) to comparable annual time series (detailed in the Appendix) for four destinations for 1966-98.[10] The counterfactuals are adjusted to be equal to the actuals in 1966. From that point, the predicted emigration rates fall slightly before rising strongly in the 1980s. Then there is a sharp collapse in the early 1990s such that the predicted emigration rates dip below the actuals from 1990. It is worth noting, however, that the counterfactual predictions do not allow for the endogeneity of the migrant

[10] The coefficients estimated for the late nineteenth century are all multiplied by 0.75, except for those on the lagged dependent variables. This allows for the fact that the pre-1914 coefficients are estimated over three emigration streams rather than four. The coefficients were then applied to the annual data for the four countries for 1966-98. These predictions were then summed over the four destinations and adjusted by an additive constant to be equal to the total in 1966.

stock. With higher levels of net emigration in the 1980s the stock would have fallen by less and this would have attenuated the fall in emigration in the 1990s.

The long run coefficients estimated for the pre-1914 period are used to explain the decline in predicted emigration in terms of the individual variables. As Table 3 shows, between 1966-70 and 1980-4 the share of population aged 20-34 should have been increasing the level of emigration, especially gross emigration. The emigrant stock and the wage ratio had small negative effects while home and foreign employment rates had effects that were almost exactly offsetting. Overall, gross emigration to the four countries is predicted to rise by 2.3 per thousand whereas, in fact, it fell by 1.6 per thousand.

In the period from 1980-4 to 1994-8 both the migrant stock and the share of the UK population aged 20-34 contributed to a predicted fall in gross and net emigration. Employment rates had a small positive effect because the UK employment rate fell by slightly more than did the average for the destination countries. But the most important factor that reduced predicted emigration was the wage ratio, largely as a result of the sharp and sustained rise in UK real hourly earnings in the early 1990s. Overall between 1966-70 and 1994-8 the prewar coefficients predict most of the decline in emigration but not its timing. As Figure 5 showed, between 1971 and 1991 both gross and net emigration are massively over predicted. This suggests that immigration policies in the receiving countries were particularly important during those two decades.

Explaining Emigration 1966-98

The model used to explain emigration rates between 1966 and 1998 is similar in spirit to that used for the pre-1914 period. The main difference is the inclusion of a range of dummy variables that are intended to capture the shifts in immigration policies outlined above. In the data for 1964-98 (see Appendix) Australia and New Zealand are separately identified so that the model is estimated over four migration streams for the years 1996-98. The model is estimated for UK citizens and for the total flow of UK and Commonwealth citizens. The more inclusive definition is arguably closer to that for the pre-1914 period when British and Dominion citizenship s were not distinct. But since the estimates that include Commonwealth citizens are very similar to those for UK citizens alone, only the latter are discussed.

The results in the first two columns of Table 4 bear some similarities with those estimates for the late nineteenth century reported in Table 1. The first and second lags of the dependent variable, though somewhat smaller than those estimated earlier, suggest a similar pattern of dynamics. The effect of the stock of previous emigrants on gross emigration gives a long-run coefficient such that increasing the emigrant stock by a thousand adds a further 33 per year to gross emigration. In the presence of family reunification policies, the stock effect still matters, but the size of this effect is only one third as large as it was in the late nineteenth century. The effect of the share aged 20-34 is also much smaller than it was in the earlier era and the coefficients are much less significant. Overall an increase in the share aged 20-34 increases emigration in the long run by less than a tenth as much as it did before 1914.[11]

The effects of economic incentives as reflected in the coefficients on the employment rates and the wage ratio are also very much smaller than those in the pre-war estimates. In the long-run a rise in the employment rate across all destinations of one percentage point raises gross emigration by a total of 0.15 per thousand. Although this reflects the fact that immigration targets have often been responsive to employment conditions, the effect is still only about one sixth of the size of that for the late nineteenth century. For the UK employment rate no negative effect could be found in levels, but the change in the UK employment rate does have a modest negative effect on both gross and net emigration. Finally, the log of the wage ratio produces small and insignificant effects that are negative for gross emigration and positive for net emigration. Thus, in the presence of destination country immigration policies for most of the period, it comes as no surprise to find that the short- and long run effects of economic variables are severely attenuated as compared to a free-migration counterfactual.

Not surprisingly the dummies that represent country-specific policy shifts have important effects particularly those occurring in the decade after 1966. The dummy for Australia 1966-70 reflects the peak of activity in assisted emigration, and the effect of winding down this policy was a sharp reduction in gross and net emigration to Australia. The effect of the final abolition of the White Australia Policy in 1975 had an effect that further

[11] This small effect is all the more surprising since age selectivity should be reinforced by points systems that give more weight to youth. For example the Australian system gives maximum age points

reduced emigration from the UK by a similar order of magnitude. But surprisingly, the initial introduction of the Australian points system in 1979 had a positive effect that probably reflects the easing of the immigration quota following the clampdown of the Whitlam years.

The effect of the introduction of the points system in Canada seems to have had a large negative effect that probably reflects the tightening of immigration targets following the unusually large immigration in the two years before 1968. By contrast, the effects of the 1965 Amendments to the US Immigration Act seem to have been only a very modest reduction in emigration to the US. Changes in immigration policy in New Zealand and in the United States in the late 1980s had positive but largely insignificant effects. This probably reflects two things. First, as Figure 5 and Table 3 showed, pressure for emigration from Britain had largely subsided by the early 1990s. And second, the shift towards skills-based immigration policies probably favoured British immigrants on balance over those from other potential source countries.[12]

In Table 5 the trends in the emigration of UK citizens are decomposed using the long-run coefficients from equations 1 and 2 in Table 4. In the period from 1966-70 to 1980-4 the negative effects of falling employment rates overseas and the declining migrant stock were partly offset by the falling employment rate in Britain and the rising population share aged 20-34. But the key effects that reduced emigration were the tightening immigration policies, especially in Canada and Australia. These shifts in immigration policy account for 68 percent of the observed fall in gross emigration and for nearly all of the fall in net emigration. In the period from the early 1980s to 1994-8 the fall in the emigrant stock and the increasing UK employment rate added to the downward trend in emigration while the policy variables evidently had small positive effects.

Over the whole period from 1966-70 to 1994-98 policy changes accounted for two thirds of the fall in the four-country emigration rate of UK citizens, either gross or net. These policy effects also account for about two fifths of the change in the overall balance of net UK emigration across all citizenships and between all countries from 1.36 to –1.24 per

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to those in the age range 18-29 and does not admit those over the age of 45.

[12] Under the New Zealand points system English language proficiency is mandatory condition for skill-based immigration and it does not therefore contribute to the points score. For non-native speakers, minimum proficiency is measured as a score of 5 in each component of the IELTS test (Winklemann, 1999, p. 26).

thousand of the UK population. Allowing for the indirect effects of policy on the migrant stock would make the contribution of immigration policy larger still.

Conclusion

Economic variables are uppermost in explaining fluctuations and trends in UK emigration before the First World War. After the 1945 there was another emigration boom, to the same destinations but on a slightly smaller scale. The evidence suggests that, had the postwar flows been conditioned in exactly the same way as they were before 1914, the surge of emigration would have continued until the early 1990s. Instead, net and gross emigration of UK citizens declined secularly from the late 1960s, and it made a major contribution to the shift in the overall UK balance of net migration. Shifts in immigration policy in the principal destination countries had large negative effects on British emigration in the 1970s and 1980s and, in the presence of these, the impact of economic variables on the flows was much reduced. While policy was largely responsible for falling British emigration in the 1970s and 1980s, the evidence suggests that by the 1990s the latent demand for emigration had largely evaporated.

References

Appleyard, R. T. (1988), *Ten Pound Immigrants,* London: Boxtree.

Blainey, G. (1984), *All for Australia,* Sydney: Methuen Haynes.

Bordo, M., Taylor, A. M. and Williamson, J. G. (eds.) (2002), *Globalization and History,* NBER (forthcoming).

Borrie, W. D. (1991), *Immigration to New Zealand, 1854-1938,* Canberra: Highland Press.

Briggs, V. M. (1984), *Immigration Policy and the American Labor Force,* Baltimore: Johns Hopkins University Press.

Chiswick, B. R. and Hatton, T. J. (2002) "International Migration and the Integration of Labor Markets," in M. Bordo (et. al.).

DeLaet. D. L. (2000), *U.S. Immigration in an Age of Rights:* Westport, Conn: Praeger.

Department of Immigration and Multicultural Affairs (Australia) (2001), *Immigration: Federation to Century's End,* Canberra: Commonwealth of Australia.

Green, A. G. (1994), "A Comparison of Canadian and US Immigration Policy in the Twentieth Century," in D. J. DeVoretz (ed.), *Diminishing Returns: the Economics of Canada's Recent Immigration Policy,* Toronto: C. D. Howe Institute.

Green, A. G. and Green D. A. (1999), "The Economic Goals of Canada's Immigration Policy: Past and Present," *Canadian Public Policy—Analyse de Politiques,* 25, pp. 425-451.

Gould, J. D. (1979), "European Intercontinental Emigration, 1815-1914: Patterns and Causes," *Journal of European Economic History* 9: pp. 41-112.

Hatton, T. J. (1995), "A Model of UK Emigration, 1870-1913," *Review of Economics and Statistics,* 77, pp. 407-415.

Hatton, T. J. and Williamson, J. G. (eds.) (1994), *Migration and the International Labor Market, 1850-1939,* London: Routledge.

Hatton. T. J. and Williamson, J. G. (1998), *The Age of Mass Migration: Causes and Economic Impact,* New York: Oxford University Press.

Hawkins, F. (1989), *Critical years in Immigration: Canada and Australia Compared,* Sydney: McGill-Queen's University Press.

Jupp, J. (1991), *Australian Retrospectives: Immigration,* Sydney: Sydney University Press.

Keeling, D. (1999), " The Transport Revolution and Transatlantic Migration, 1850-1914," *Research in Economic History* 19, pp. 39-74.

Pope, D. H. (1981), "Modelling the Peopling of Australia, 1900-1930," *Australian Economic Papers* 20, pp. 258-281.

Tomasi, S. M. and Keely C. B. (1975), *Whom Have We Welcomed?* New York: Centre for Migration Studies.

Winkelmann, R. (1999), "Immigration Policies and their Impact: The Case of Australia and New Zealand," Bonn: IZA Discussion Paper No. 169.

Appendix: Data Sources

A: 1870-1913

Emigration: Gross and net passenger movements from N.H. Carrier and J. R. Jeffrey, *External Migration: A Study of the Available Statistics, 1815-1950* (General Register Office, London: HMSO, 1953), Table D/F/G (1). Inward movement for 1870-76 from I. Ferenczi and W. F. Willcox *International Migrations, Vol. I* (New York: NBER, 1929), Table XII, p. 640. Migrant stock: Benchmarks for the population born in the UK and in Great Britain, residing in the United States and Canada in census years from Carrier and Jeffrey (1953), Table 3. Australia from D. Lucas, "United Kingdom Born People in Australia," in *1996 Census Community Profiles,* (Canberra: Department of Immigration and Multicultural Affairs, 1996) p. 3. New Zealand from *Census of Population* (Wellington: Government Printer, various dates). Annual migrant stock series were calculated by interpolating between census benchmarks using the relationship $S_t = NM + dS_{t-1}$, where S is the stock, NM is net passenger movement detailed above, and d is a parameter calculated for each interval between censuses. Total population and share aged 20-34: For UK and Great Britain from B. R. Mitchell and P. Deane, *Abstract of British Historical Statistics* (Cambridge: Cambridge University Press, 1962), pp. 10-14. Share aged 20-34 linearly interpolated between census years. Unemployment rates: UK from G. R. Boyer and T. J. Hatton "A New Index of British Unemployment, 1970-1913," *Journal of Economic History* 62 (2002) Appendix 1. United States from J. R. Vernon, "Unemployment Rates in Post-Bellum America, 1869-1899," *Journal of Macroeconomics* 16 (1994), p. 710. For Canada an unemployment rate was constructed by regressing a non-linear transformation of the employment rate on the deviation of per capita real income from its logarithmic trend 1916-1926 and then extrapolating backwards. The employment rate was taken from W. Galenson and A. Zellner, "International Comparison of Unemployment Rates," in National Bureau of Economic Research, *The Measurement and Behaviour of Unemployment* (Princeton: Princeton University Press, 1957), pp. 439-480, and real GNP per capita from M. C. Urquhart, "New Estimates of Gross National Product: Canada, 1870-1926," in S. L. Engerman and L. E. Gallman (eds.), *Long Term Factors in American Economic Growth* (Chicago: National Bureau of Economic Research, 1986), pp. 9-94. Australia from N. G. Butlin, "An Index of Engineering Unemployment, 1852-1943," *Economic Record* 22 (1946), pp. 241-260. This index was transformed using the relationship between unemployment in production industries and total unemployment estimated in Boyer and Hatton (2002). Real wage rates: Purchasing power parity adjusted unskilled wage rates for Great Britain, Ireland, USA, Canada and Australia from J. G. Williamson, "The Evolution of Global Labor Markets since 1830: Background Evidence and Hypotheses," *Explorations in Economic History* 32, (1995), pp. 141-196. An index for the UK is calculated by giving a weight of 0.3 to Ireland and 0.7 to Great Britain.

B: 1964-1998

Emigration: International Passenger Survey for gross and net migration; 1964-1973 from *Board of Trade Journal* (London: HMSO, various issues); 1974-1998 from *International Migration* (London: Office for National Statistics, various issues). Figures for UK citizens and Commonwealth citizens by destination for 1964-65 obtained by adjusting total migration by the shares of UK or Commonwealth citizens in total inward and outward flows for each destination country in 1966. Migrant stock: Decennial census benchmarks for the population born in the UK residing in the United States from *Statistical Abstract of the United States* (Washington: GPO, 1997). Canada (quinquennially from 1981) from *Canada Yearbook* (Ottawa: Statistics Canada, various years). Australia (quinquennially) from Lucas (2000), op.cit. New Zealand (quinquennially) from *Census of Population* (Wellington: Government Printer, various dates). The annual migrant stock was calculated, as for the pre-1914 period by using the net migrant flow to interpolate between census dates. Total population and share aged 20-34: Annual estimates of UK population, total and by age groups, *Annual Abstract of Statistics,* (London: HMSO, various issues). Unemployment rates: OECD *Main Economic Indicators: Historical Statistics* (Paris: OECD 1993) and subsequent annual issues of *Main Economic Indicators.* Real wage rates: 1975-98 hourly direct pay of production workers in manufacturing in national currency from US Bureau of Labor Statistics, "International Comparisons of Hourly Compensation Costs for Production Workers in Manufacturing, 1975-2000," ftp://bls/gov/pub/ForeignLabor/supptabitxl. 1964-75 hourly earnings in manufacturing for UK, USA and Canada and consumer price index for UK, USA, Canada, Australia and New Zealand, 1964-98 from OECD (1993) op cit. and subsequent annual issues of *Main Economic Indicators.* Australia 1964-75 average minimum wage rates in manufacturing from *Yearbook of the Commonwealth of Australia* (Canberra: Australian Bureau of Statistics, various dates). New Zealand 1964-75 nominal

weekly wage rates from *New Zealand Official Yearbook*, (Wellington: Department of Statistics, 1982), p. 912.

Table 1: Explaining British Emigration, 1872-1913

(Pooled OLS regression with country fixed effects. Dependent variable: emigration per thousand of the UK population to the USA, Canada and Australia/New Zealand)

Independent variable	UK Gross	GB Net	UK Net
Emigration rate, t-1	0.78	0.81	0.78
	(10.0)	(9.9)	(9.7)
Emigration rate, t-2	-0.29	-0.21	-0.32
	(3.7)	(2.6)	(4.0)
Emigrant stock/home population	0.048	0.031	0.035
	(5.2)	(4.2)	(3.7)
Share of population aged 20-34	12.62	9.61	4.50
	(2.8)	(2.2)	(1.0)
Log destination employment rate	14.72	11.46	14.62
	(6.9)	(6.1)	(6.1)
Log UK employment rate, t-1	-11.01	-9.87	-11.00
	(5.0)	(5.1)	(4.5)
Log wage ratio (destination/home)	1.50	1.45	1.30
	(3.6)	(3.9)	(3.0)
Dummy Australia and NZ, 1910-13	0.47	0.49	0.41
	(1.8)	(2.1)	(1.5)
Canada	1.50	1.15	1.26
	(3.3)	(2.9)	(2.4)
Australia and New Zealand	1.08	0.89	1.00
	(2.9)	(2.8)	(2.4)
Constant	-6.62	-5.32	-3.64
	(1.9)	(2.8)	(1.8)
Adj. R^2	0.93	0.90	0.84
D.W.	1.69	1.91	1.99
No. Obs.	126	126	126

Table 2: Decomposition of Trends in Emigration, 1879-83 to 1909-13

	1879-83 to 1894-98		1894-98 to 1909-13	
Effect of:	Gross	Net	Gross	Net
Immigrant stock/UK population	-1.13	-0.78	-1.57	-1.08
Share of UK population 20-34	1.65	0.53	-0.14	-0.04
Foreign employment rate	-3.46	-2.76	3.17	2.98
UK employment rate	0.02	0.02	0.21	0.21
Wage ratio (UK/foreign)	-0.85	-0.70	1.06	0.86
Australia dummy	0	0	0.92	0.76
Explained total	-3.77	-3.69	3.65	3.69
Actual	-3.39	-4.26	4.20	4.29

Table 3: Predicted Emigration Trends, 1966-70 to 1994-8
(Calculated using long-run coefficients in from Table 1)

	1966-70 to 1980-4		1980-4 to 1994-8	
Effect of:	Gross	Net	Gross	Net
Immigrant stock/UK population	-0.08	-0.05	-0.50	-0.35
Share of UK population 20-34	2.39	0.78	-1.30	-0.40
Foreign employment rate	-4.46	-4.19	-0.11	-0.10
UK employment rate	4.44	4.19	0.41	0.38
Wage ratio (UK/foreign)	-0.02	-0.01	-2.24	-1.84
Predicted total	2.27	0.72	-3.74	-2.34
Actual	-1.60	-1.28	-0.27	-0.41

Table 4: Explaining British and Commonwealth Emigration, 1966-98

(Pooled OLS regression with country fixed effects. Dependent variable: emigration per thousand of the population to the USA, Canada, Australia and New Zealand)

	UK Citizens		UK and CW Citizens	
Independent variable	Gross	Net	Gross	Net
Emigration rate, t-1	0.48	0.39	0.45	0.35
	(6.5)	(5.0)	(6.2)	(4.5)
Emigration rate, t-2	-0.23	-0.20	-0.24	-0.19
	(3.4)	(2.9)	(3.6)	(2.7)
Emigrant stock/home population	0.025	0.013	0.031	0.013
	(2.9)	(1.4)	(1.4)	(1.2)
Share of population aged 20-34	0.89	1.89	1.07	3.40
	(1.2)	(2.2)	(1.4)	(3.4)
Log destination employment rate	2.90	3.18	3.20	3.98
	(5.4)	(5.0)	(5.6)	(5.5)
Δlog UK employment rate	-1.53	-1.76	-1.50	-2.47
	(2.3)	(2.3)	(2.2)	(2.8)
Log wage ratio (destination/home)	-0.14	0.06	-0.15	0.19
	(1.4)	(0.6)	(1.5)	(1.6)
Australia 1964-70	0.39	0.40	0.39	0.42
	(6.4)	(5.6)	(6.1)	(5.1)
Canada 1968-98	-0.37	-0.43	-0.41	-0.48
	(6.4)	(6.0)	(6.2)	(5.8)
USA 1969-98	-0.04	-0.04	-0.04	-0.03
	(0.7)	(0.1)	(0.8)	(0.5)
Australia 1975-98	-0.35	-0.34	-0.39	-0.38
	(5.7)	(4.8)	(6.1)	(5.1)
Australia 1979-98	0.11	0.19	0.11	-0.48
	(2.5)	(3.7)	(2.2)	(4.6)
New Zealand, 1988-98	0.08	0.09	0.09	0.20
	(1.5)	(1.6)	(1.8)	(3.5)
New Zealand, 1992-98	0.05	0.10	0.06	0.11
	(1.1)	(1.6)	(1.2)	(1.6)
USA, 1992-98	0.01	0.004	0.01	0.05
	(0.02)	(0.1)	(0.3)	(0.8)
USA	-0.18	-0.23	-0.26	-0.25
	(1.9)	(2.0)	(2.6)	(1.9)
Canada	0.14	0.25	0.11	0.30
	(1.9)	(2.7)	(1.4)	(2.8)
New Zealand	-0.29	-0.29	0.32	0.30
	(2.7)	(2.2)	(2.8)	(2.8)
Adj. R^2	0.95	0.89	0.95	0.86
D.W.	2.04	2.00	2.34	1.88
No. Obs	132	132	132	132

Table 5: Decomposition of Trends in UK Emigration, 1966-70 to 1994-8
(For UK citizens using long run coefficients from Table 4)

	1966-70 to 1980-4		1980-4 to 1994-8	
Effect of:	Gross	Net	Gross	Net
Immigrant stock/UK population	-0.04	-0.02	-0.24	-0.12
Share of UK population 20-34	0.15	0.29	-0.08	-0.16
Foreign employment rate	-0.80	-0.81	-0.02	-0.02
ΔUK employment rate	0.10	0.10	-0.19	-0.20
Wage ratio (UK/foreign)	0.00	0.00	0.19	-0.08
Australia dummies	-0.84	-0.68	0.0	0.0
Canada dummy	-0.49	-0.53	0.0	0.0
USA dummies	-0.05	-0.05	0.01	0.01
New Zealand dummies	0.0	0.0	0.17	0.23
Policy effects	-1.38	-1.26	0.18	0.24
Predicted total	-1.97	-1.70	-0.16	-0.34
Actual	-1.60	-1.28	-0.27	-0.41

Figure 1: Gross and Net Passenger Movement, UK citizens 1853-1913

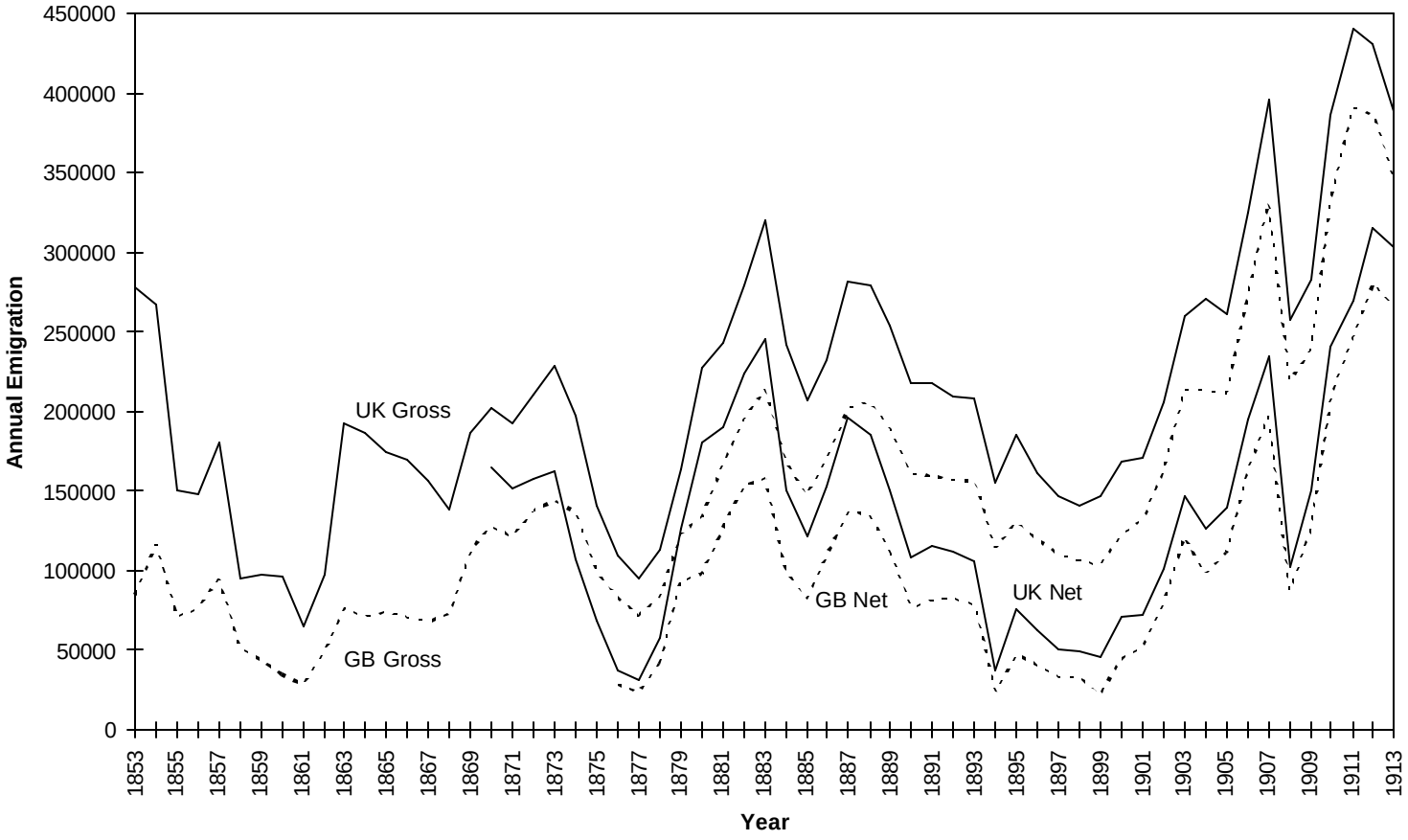


Figure 2a: Gross UK Migration to United States, Canada, Australia and New Zealand, 1870-1913

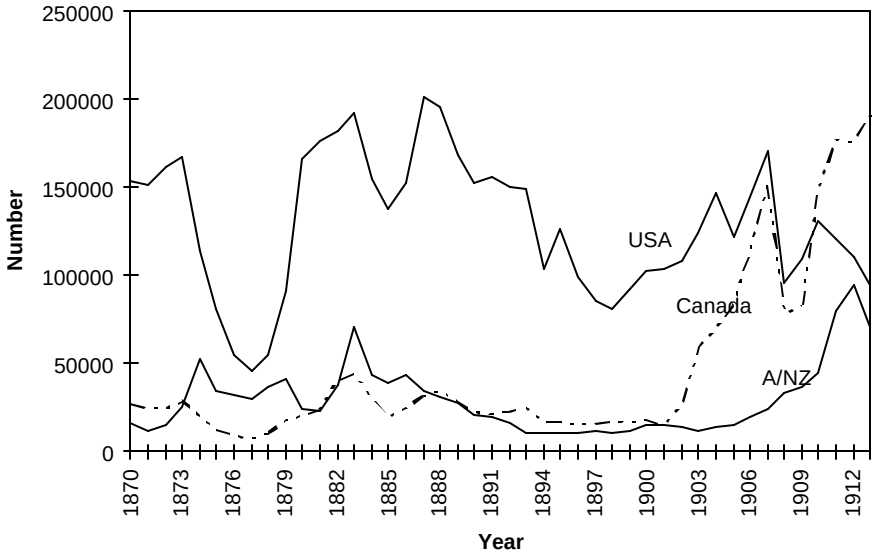


Figure 2b: Net UK Migration to United States, Canada, Australia and New Zealand, 1871-1913

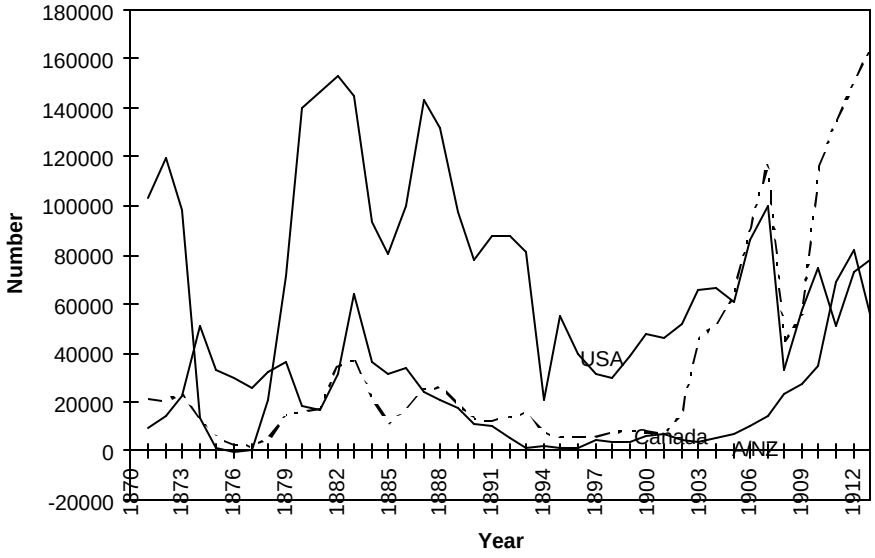


Figure 3: Gross and Net Emigration, UK and Commonwealth citizens 1950-1998

Figure 4a: Gross Migration to United States, Canada, Australia and New Zealand, UK Citizens 1963-98

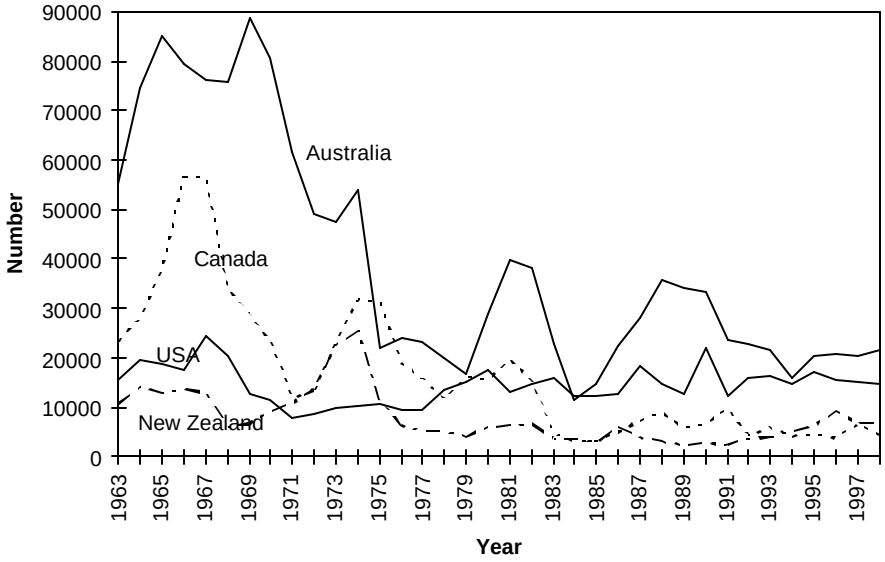


Figure 4b: Net Emigration to United States, Canada, Australia and New Zealand, UK Citizens 1963-1998

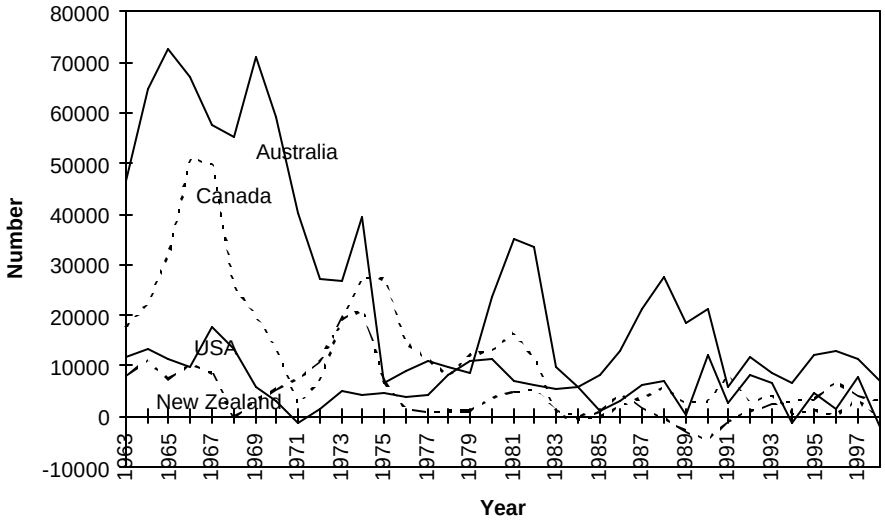
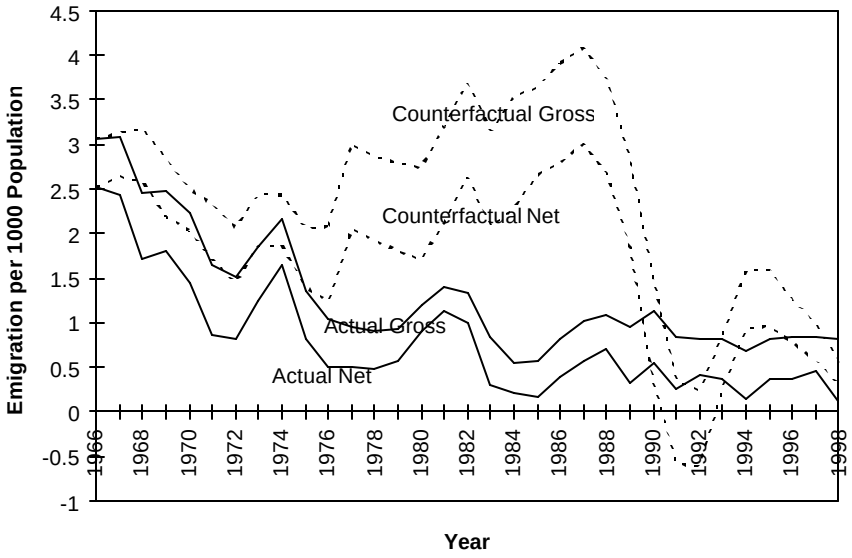


Fig 5: Counterfactual UK Emigration to US Canada Australia and New Zealand, 1966-98



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