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DISCUSSION PAPER SERIES

IZA DP No. 16298

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JULY 2023

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ABSTRACT

The Political Economy of Assisted Immigration: Australia 1860-1913

From 1860 to 1913 the six colonies that became states of Australia strove to attract migrants from the UK with a variety of assisted passages. The colonies/states shared a common culture and sought migrants from a common source, the UK, but set policy independently of each other. This experience provides a unique opportunity to examine the formation of assisted immigration policies. Using a panel of colonies/states over the years 1862 to 1913 I investigate the association between measures of policy activism and a range of economic and political variables. Assisted migration policies were positively linked with government budget surpluses and local economic prosperity. They were also associated with political participation including the widening of the franchise and remuneration of members of parliament. While the reduction in travel time to Australia reduced the need for assisted migration, slumps in the UK increased the take-up of assisted passages.

JEL Classification: F22, N37, N47

Keywords: colonial Australia, assisted passages, international migration

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Introduction

Over the six decades from 1853 to 1913 1.91 million people emigrated from the British Isles to Australia and New Zealand. This pales in comparison with the 7.47 million who went to the United States and is more comparable with the 2.3 million who headed for Canada. While Canada suffered from competition with the United States as a destination, Australia and New Zealand suffered from their remoteness—what Geoffrey Blainey (1966) memorably called ‘the tyranny of distance’. The cost of a voyage to the antipodes was three times the cost of crossing the Atlantic. Added to that, the voyage to Australia took around three times as long, so that the extra cost of earnings foregone made it even more expensive. The tyranny of distance also limited the prospect of an easy return if things did not turn out well. While there were attractions for adventurers, prospectors and speculators there was also the legacy of convict transportation, which had continued until the middle of the nineteenth century.¹ And despite Australia’s mid-century rise to prosperity, for ordinary workers, real wages in Australia were no higher than in Canada and the United States (Allen 1994; Williamson 1995). So what is remarkable is not how few British migrants travelled to the other side of the world but, rather, how many did.

What induced so many migrants to head for Australia or New Zealand? Not surprisingly, historians have focused on efforts to attract British emigrants with subsidised passages and grants of land (Madgwick, 1966; Woolcock, 1986, Ch. 1; Haines, 1997; Hudson, 2001). Over the years from 1853 to 1913 nearly half of all UK emigrants came on assisted passages. From mid-century these assisted passages were provided and financed by the individual colonies. In addition to New Zealand, there were six Australian colonies, each with separate legislatures and finances, which were federated in 1901 but continued, as states of the Commonwealth of Australia, to maintain separate migration policies until the 1920s. Packages for assisted migration varied across colonies/states and over time. Yet there has been little attempt to study this remarkable and unique system of subsidised immigration in a comparative context that takes account of both economic and political influences.² In this paper I exploit a panel of annual data for the six Australian colonies/states from 1862 to 1913 to study two main questions. One is what key factors are associated with the scale and timing of assisted migration policies. The other is how many migrants such policies attracted.

The main findings confirm some of the observations of the qualitative literature as well as providing some new and original results, focusing first on an index of policy activism. As the existing literature suggests, an index of assisted migration policies is positively related to the colony/state financial surpluses and positively also to the prosperity of the local economy. A new finding is that policy activism declined as voyage times fell, which eased the disincentive

¹ As Richards (1995 p. 398) notes, “Australia, even apart from the problem of distance, faced an uphill task since, in the minds of possible migrants, it was stained with convictism. See also Smith (2009).

² The closest comparison is with the policies adopted in Brazil, which from the early 1870s provided free passages to migrants from Italy and Spain to work as contract labourers on the coffee plantations (Sánchez-Alonso 2019).

for unassisted migrants and thus reduced the need for assisted passages. With regard to political leadership, the personal characteristics of the colonial/state Premier have no significant association with the incidence of assisted migration policy. However, wider political participation was an important feature of these developing democracies. The abolition of a property qualification for voting and the introduction of remuneration of members of parliament, both of which increased working class representation, are negatively associated with assisted immigration policies. On the other hand, extending the franchise to women and, after federation, increased pressure from the federal government are both positively associated with assisted migration policy. The fluctuating number of assisted migrant arrivals is related to the same set of variables although less strongly, partly because of the diversity of policy and partly because the take-up of assisted passages was influenced by economic conditions in the UK and in other colonies/states.

The results presented here enrich three strands of the existing literature, much of which links decisions on immigration policy to sectional interests, explicitly or implicitly via political processes. One strand focuses on the long-run determinants of the transition of immigration policies in western countries from open to restrictive. In their analysis of five settler countries from 1870 to 1930, Timmer and Williamson (1998) found that an 11-point index of policy restrictiveness depended positively on destination inequality and negatively on immigrant skills. Other influences such as economic growth, unemployment and the share of foreign-born differed widely between countries. Peters (2015) examined the determinants of a 12-point policy index over the 19th and 20th centuries. For 14 countries in the nineteenth century she finds a negative relationship between restrictive immigration policy and restrictive trade policy.³ Studies of country-level panel data post-1950 also find that restrictive immigration policy depends on factors such as economic growth, labour market conditions and political polarisation (Peters 2015; De Haas and Natter 2015). These papers focus on countries that differ widely in their cultural, economic and political systems, as well as their geographic locations and sources of immigrants. Here, I examine the policies of colonies/states that share a common culture and legal framework, and draw immigrants from a single source country.

Another strand of the literature examines the political economy of immigration policy formation at the sub-national level, mostly for the United States. Goldin (1994) explained votes in the US Congress on immigration bills by state, focusing on the level and change in the foreign-born population, also highlighting shifting regional and sectional interests. The links between local interests and individual votes are analysed also by Tabellini (2020) who finds that votes for restriction in 1924 depended negatively on past growth of immigration and by Facchini et al. (2024) who find that votes for liberalisation in 1965 were associated with civil rights-inspired public opinion. While these studies exploit the richness of linking legislator votes to constituency interests, they rely on cross-sectional analysis. Panel data has been

³ Both Timmer and Williamson (1998) and Peters (2015) treat Australia in the nineteenth century as one entity rather than six.

exploited only for the years since 1970, for example by Facchini and Steinhardt (2011), who find that representatives with higher skills supported unskilled immigration. Few studies have considered changing political participation, something that likely affected the linkage between sectional interests and policy formation in the nineteenth century. One exception is Biavaschi and Facchini (2021) who find that differential enfranchisement of the foreign-born across US states influenced congressional votes on immigration policies. In what follows, I explore the links between both economic conditions and political participation, including enfranchisement, in a panel data setting.

Finally, immigration looms large in the historical literature on Australia, which sees assisted migration as a key ingredient of population growth and economic development in the nineteenth century (Jackson 1977, Ch. 2; McLean 2012, Ch.5; Johnson et al. 2021, Ch. 4). But it has lacked quantitative analysis of immigration policy. Qualitative histories of Australian immigration dwell lightly on the political economy of assisted migration policy with only side-glances at diversity across colonies (e.g. Richards 2004). Studies of one particular colony/state, such as Hayden (1971) for New South Wales, Woolcock (1886) for Queensland, and Vanden Dreisen (1986) for Western Australia, provide deeper accounts of the economic and political context but not in a comparative setting. Much of the literature, particularly for the decades up to 1870, has focused on the outcomes of the processes and mechanisms through which migrants were selected or self-selected rather than on the genesis of the underlying policies (for example, Haines 1997; Doust 2004). Above all, no previous study has analysed both the economic and the political underpinnings of assisted migration policy in a comparative and quantitative framework. Because of the lack of a comparative focus, some of the key features of the political economy story, particularly on the political side, have been obscured.

Dimensions of assisted migration

The number of assisted migrant arrivals by decade and colony/state from 1854 to 1913 is shown in Table 1. These data are based on counts of arrivals of assisted migrants from the UK the sources of which are detailed in Appendix 1. For the six Australian colonies/states the total number over the six decades amounts to almost three quarters of a million. The largest number went to Queensland followed by New South Wales and Victoria. There are also large differences across decades, with larger numbers arriving in 1854-63, 1874-83 and 1904-1913 while relatively few arrived in 1894-1903. Table 1 also shows that the profile differed widely across the different colonies/states. While those arriving in Victoria were concentrated in the first two and the last decade, those arriving in South Australia were concentrated in the first three decades and those for Western Australia in the last decade. For completeness the penultimate row also reports the number of assisted migrants to New Zealand, which were concentrated mainly in 1874-83 and 1904-1913.

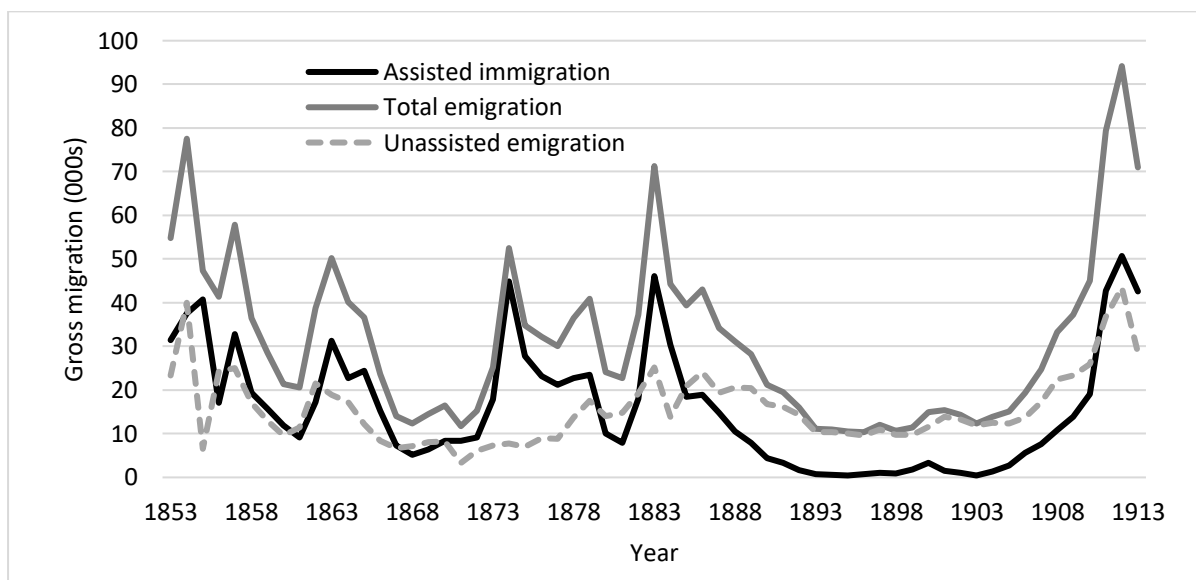
Table 1: Assisted emigration to Australia and New Zealand by decade, 1854-1913

	1854-1863	1864-1873	1874-1883	1884-1893	1894-1903	1904-1913	1854-1913
New South Wales	54780	10233	36834	20389	170	50528	172934
Victoria	71389	35730	379	0	0	36859	144357
South Australia	37504	11825	28596	1099	0	6636	85660
Queensland	15207	31443	86640	75402	10209	38517	257418
Tasmania	16128	495	993	1724	0	428	19768
Western Australia	2631	802	1981	4747	1410	32082	43653
Total Australia	197639	90528	155423	103361	11789	165050	723790
New Zealand	35283	34463	89949	7927	0	32013	199635
Grand Total	232922	124991	245372	111288	11789	197063	923425

Sources: See Appendix 1.

How did assisted migration compare with total migration? Unfortunately, the figures for total gross immigration to Australia are incomplete. But it is possible to compare assisted immigration for the aggregate of Australia and New Zealand with figures for total gross emigration to these destinations based on departures reported from the UK.⁴ As Figure 1 shows, much of the year-to-year variation in total migration is accounted for by assisted migration, with a correlation of 0.93. This is hardly surprising as, on this measure, the share of assisted in total migration was 47 percent overall. The share of assisted peaked at over 80

Figure 1: Total UK emigration and assisted immigration to Australia and New Zealand, 1953-1913



Sources: See Appendix 1.

⁴ Because of the differences between year of departure and of arrival these figures are not exactly matched by year. Also, emigration and immigration figures differ by birth and deaths during the voyage, but deaths were relatively low and partially offset by births (Haines 2005). Among emigrants on 323 ships arriving at Adelaide from 1848 to 1885 births and deaths were 1.4 and 1.8 percent respectively.

percent in 1855 and 1874-5, falling below 30 percent between 1889 and 1906, before increasing again in the years before 1914. Unassisted emigration (the dashed line), measured as the difference between total emigration and assisted immigration, is less volatile than assisted immigration. The share of unassisted increased from 46 percent in the three decades up to 1883 to 62 percent in the following three decades and it held up remarkably well in the deep depression of the 1890s.

How and why were assisted migration policies developed? As the historian of New South Wales immigration policies put it: “It was realized that the difference in cost and the length of time required for a passage from the United Kingdom to Australia as compared with one to the United States or to Canada required the colony to underwrite all or a portion of this difference if New South Wales was to compete with North America for the surplus population of the homeland” (Hayden, 1971, p. 3).⁵ Early schemes inspired by Edward Gibbon Wakefield, notably in New Zealand and South Australia, aimed to entice migrants possessing capital with tracts of land, the revenues of which would be subsequently used to assist the migration of carefully selected mechanics and labourers (Lee, 1986; Harris and La Croix, 2021). These met with mixed success and by 1850 had been largely transformed into a variety of different schemes financed by the different colonies and facilitated and overseen by the UK Emigration Commission based in London (Hitchens, 1931). In the 1850s, responsible government was conferred on the colonies (with the exception of the nascent colony of Western Australia). With the separation of Queensland from New South Wales in 1859, the six semi-independent colonies were each separately striving to develop and expand.⁶ Initially, the Emigration Commission used its agents, spread across the UK, to recruit suitable migrants in response to requests from individual colonies.⁷ But from the 1860s the colonies employed their own agents and ran their schemes independently of London and of each other (Hitchens 1931, pp. 214-226).

From mid-century three main types of scheme were used to attract immigrants. Prospective migrants recruited and selected by UK-based agents were sometimes given free passages (which usually meant paying a small fee) or more often offered assisted passages where the migrant contributed to the cost of passage. These ‘selected’ immigrants were typically transported on chartered ships and on arrival were usually free to find employment in the colony or to move on to another colony. ‘Remittance’ or ‘nominated’ passages were usually initiated by individuals within the colony in order to sponsor relatives or friends. Under the remittance system, those recommending a friend applied to the colonial authority and provided a deposit. ‘Nominated’ passages were available to land purchasers who could make

⁵ On the effects of wealth constraints on migration see Abramitsky et al. (2013).

⁶ Immigration policy was only one element in a government-led developmental regime that has become known as ‘colonial socialism’ (Butlin 1959; Ergas and Pincus 2016).

⁷ The Colonial Land and Emigration Commission was established in 1840 with functions that included supervision of the UK Passenger Acts. From 1856 it was known simply as the Emigration Commission and in 1872 its remaining functions were absorbed into the Board of Trade.

a nomination. The distinction between remittance and nominated passages faded over time as nominated passages were less often tied to the ownership or purchase of land (Haines 1995, p. 10). A third type of scheme involved 'land orders', which entitled migrants to select certain categories of land to a specified value.⁸ These were allocated to approved migrants who either paid the full fare or redeemed the land order on arrival to repay the cost of passage and were sometimes available to selected and to nominated migrants or their nominators. Other schemes such as employer-sponsorship of apprentices or indentured servants were also used but account for a very small proportions of assisted migrants.

Within these different schemes there were wide variations, principally in two respects. The first is the types of migrants at whom the schemes were aimed. Selection often targeted young men who were experienced agricultural workers or mechanics and of good character or, notably in Victoria, young women for domestic service. In New South Wales, selection targeted rural workers such as agricultural labourers and shepherds and female domestic and farm servants as well as mechanics, masons, carpenters and miners. As in South Australia and Queensland, colonial/state agents exercised considerable discretion in selecting potential migrants. Remittance/nomination streams were also prescriptive over nominees by age, sex and occupation. Although there were some attempts to lure those with capital, the schemes were overwhelmingly aimed at manual workers. But as Richards (1993, p. 276) notes, "though there was a distinct proletarian bias in the selection of Australia's assisted immigrants, the actual procedures adopted clearly favoured those levels of working people well up from the bottom, even among the agricultural labourers and domestic servants."⁹

Secondly, policy preferences were reflected in the amount of subsidy, which also varied widely between colonies/states and over time.¹⁰ For example, in Queensland in 1872-5, selected males paid £2 if aged under 12, £4 if 12-39 and £6 if over 40; for females £1, £2, and £6 respectively. For those nominated by UK residents the rates were similar: £1, £2, and £5 respectively for males and £1, £1, and £4 respectively for females. If and when the remainder of the passage money was repaid the migrants could claim a land order.¹¹ Migrants normally purchased their own bedding, utensils and a prescribed minimum of clothing at a cost of £3

⁸ Land order policy was particularly important in Queensland where it was first introduced in 1861 (Woolcock 1886, pp. 9-21; Haines 1995, pp. 25-31; Morgan 2021).

⁹ This proletarian bias is in comparison with the occupational composition of the UK, as illustrated from samples of migrants between the 1830s and 1860 by Haines (1997, Ch. 2) and Doust (2004, Ch. 6). Occupational skill levels of British migrants to Australia compared favourably with those of British migrants to the USA—see Doust (2004, pp. 212-216) for 1837-60, Haines (1997, pp. 53-68) for 1857 and 1867, and Hatton (2021), for 1877-1913.

¹⁰ In some cases, all or a proportion of the subsidy was to be repaid within a specified period. For example, in Western Australia in 1873 nominated migrants were required to promise to repay a quarter of the cost of their passages (Vanden Driesen 1986, p. 96). However, such repayments were very difficult to enforce (Coghlan 1918, v. 2, p. 942).

¹¹ Under changed regulations of 1875 selected migrants to Queensland aged 12-39 paid £4 but agricultural labourers and domestics were granted free passages while nominated migrants were expected to repay the balance on arrival (Haines, 1995, p 28-9).

to £5 for an individual and £20 or more for a family (Haines, 1995, p. 3).¹² The Queensland schemes were more generous on average than the other colonies/states. For example, in the years 1911-13 selected migrants to New South Wales and Victoria and Western Australia typically paid £12 with lower rates for farmers, agricultural labourers and domestics, while for nominated migrants the deposit was around £8 compared with £4 for Queensland (Pope, 1976, pp 208-244). Because of the wide diversity in the degree of support, eligibility regulations and attached conditions, which varied across colonies/states and over time, it is not possible to calculate an index of average subsidies but, on average, it would probably have amounted to about half of the fare.¹³

The political economy of assisted migration

Following the seminal work of Coghlan (1918), policy on assisted migration has been discussed colony-by-colony, often in conjunction with other policy issues and in the context of the turbulent politics of the day. However, several common themes emerge, both economic and political. Among the economic imperatives were the perceived demand for immigrant labour relative to the supply of arrivals and the available resources with which to finance assisted migration. The appropriations voted by the legislative assemblies for assisted migration, usually for one or just a few years at a time, often depended on the health of colonial budgets. For example, in Western Australia selected and free passages were reintroduced in 1883 as “revenue surpluses began to accumulate with improved economic conditions” (Vanden Driesen, 1986, p. 111).¹⁴ Colonial governments raised revenue from a variety of sources, among the most important of which were land sales, taxes and tariffs.¹⁵ The disposal of crown lands was often driven by the desire to establish farms and smallholdings for crop production as part of the movement for ‘closer settlement’. Thus land reform was often linked with support for the immigration, but more indirectly than in the Wakefield system.

When the local labour market was slack, political support for assisted migration waned. Indeed, the deep depression of the 1890s is sometimes seen as sounding the death knell of assistance programmes in the eastern states although they continued in Western Australia, which was less affected (Langfield 1971, p. 52; Vanden Driesen 1986, p. 128-9). However, as

¹² For a list of items required for selected migrants, which would be inspected on boarding, see UK Emigration Commission (1863, p. 214).

¹³ Haines (1997, p. 24-5) suggests that the cost to migrants in 1850 was roughly equal to a passage across the Atlantic. Many assisted migrants received additional support from charitable societies in the UK and a few from local poor law authorities (Richards 1993). Crowley (1954, p. 72) estimated that the average cost, including advertising, lecturing etc., to the governments for each selected, nominated or land order immigrant from 1860 to 1919 ranged from just £8 for Victoria to more than £19 for Queensland and South Australia. As he notes, selection schemes generally cost more than nomination or land orders.

¹⁴ Similarly, Coghlan (1918, vol. 3 p. 1317) noted that “There was a marked improvement in the finances of [Western Australia] in 1874 and the [Legislative] Council decided to expend £10,000 on immigration.”

¹⁵ In some cases, notably Queensland, finance for assisted immigration was provided from loans raised in London, although that often depended on the colony’s finances.

will be illustrated below, assisted migration policies tailed off in the 1880s, well before the severe slump of the 1890s. One neglected factor is the cost of migration, which for the migrant, included not just the price of a ticket but also the cost of foregone wages during the passage. In the 1860s it still took three months but voyage times decreased sharply in the early 1880s as emigrant ships switched from sail to steam (Hatton 2023). It seems likely that this reduction in the time cost of unassisted emigration made assisted emigration less necessary.¹⁶ Indeed, as illustrated in Figure 1, unassisted migration held up remarkably well even during the depression of the 1890s. The ability to attract migrants, unassisted or assisted, partly depended on economic conditions in the UK, and sometimes also on the attractions of other Australian colonies/states.

Local politics was important. According to Crowley (1954, p. 58), “Immigration policies were affected by the economic and other conditions of the periods in which they were adopted and by the fluctuations in general prosperity. But they were also influenced by political issues and by considerations which often had no direct bearing on immediate social needs.”¹⁷ Assisted migration policy depended on the willingness of the colony/state Premier and ministers to prioritise migration and to gain majority support for it in the legislative assembly. Legislative assemblies were notoriously fractious, ever shifting, coalitions of largely independent representatives and factions, at least until the 1890s when they gradually coalesced into more stable party allegiances (Bongiorno, 2022, Chs. 2 & 3). Up to the 1870s these assemblies were dominated by squatters, who were pastoralists, whose rights over the large tracts of land that they occupied were contested, and those with substantial business interests such as in manufacturing, banking and finance, and transport and shipping. While the former tended to resist free selection and closer settlement linked with immigration, they often favoured the colonial development and typically came to an accommodation with large business interests to support subsidised immigration.¹⁸ Indeed, wealthy legislators often had both pastoral and business interests.

A key element was democratic reforms, which increased the influence of urban interests and of the less wealthy.¹⁹ One step was the abolition of a property qualification for the right to

¹⁶ Coghlan (1918 vol. 3, p. 1295) commented that, as a result of the boom in immigrant numbers to Queensland shortly after the establishment of a passenger service travelling via Suez, in 1883 “The Agent General thought it expedient to suspend the granting of free passages until the persons paying their own fares were accommodated.”

¹⁷ Similarly, Hayden (1971, p. 5) remarks that in New South Wales “economic conditions in the colony did play a large role in determining whether or not the government would grant assistance to persons to come to the colony, but the particular immigration policy that emerged was more a result of political priorities and political forces than it was of economic forces.”

¹⁸ Free selection before survey was adopted in New South Wales (under the landmark Robertson land acts) and Victoria in the early 1860s and in Queensland and South Australia in the late 1860s. It meant that small parcels (typically 320 acres) of crown land (some previously held by squatters under pastoral leases) could be purchased on deposit and later repayment, on condition that it would be occupied within a specified time, in order to encourage closer settlement (Coghlan 1918, vol. 2 pp. 644-672, 971-1017; vol 3, pp 1346-1404).

¹⁹ The introduction of the secret ballot in elections might also have made a difference but this had been adopted in all colonies by 1860 except for Western Australia where it was introduced (for the legislative council) in 1877.

vote for members of legislative assemblies, which previously favoured landed and business interests. Another step was payment of members of legislative assemblies which made it possible for those without wealth to become parliamentarians. As (Hayden 1971, p. 52) notes for New South Wales, "A few laboring men might make their way to Macquarie Street but labor could not really become a political force until legislators were paid for their services and that did not come until 1889."²⁰ Both the abolition of the property qualification for voting and subsequently payment of members might have been expected to increase the influence of the anti-immigration voices of workers fearing competition from immigrants, which by the 1870s were becoming louder.²¹ While there were also changes in electoral systems and the apportionment of rural and urban constituencies, perhaps the most important subsequent development was the enfranchisement of women. First enacted in South Australia in 1894 it and had spread to all the states by 1908.²² While it is generally agreed that women were more likely than men to support progressive social reform, the effect of their enfranchisement on immigration policy is much less clear.

For two decades from the mid-1880s assisted migration schemes gradually fell into 'disuetude' only to be revived after 1906 (Richards 2008, p. 33). The federation of the six colonies to become states of the Commonwealth of Australia in 1901 was a political watershed. Apart from affirming women's right to vote in federal elections in 1902, one of the federal government's first pieces of legislation was the Immigration Restriction Act of 1901 (the White Australia Policy), which effectively limited immigration to Europeans and which, as in the past, meant almost entirely from the UK. As economic conditions improved, concerns grew about population growth for security reasons leading to the encouragement of immigrants to fill sparsely populated areas (Richards 2008, p. 41; Langfield, 1999, p. 10-11). Although immigration policy had ostensibly passed to the federal government, it did not take financial control of assisted immigration until the 1920s (Pope, 1982). As implementation remained with the states, Prime Minister Alfred Deakin urged them to reintroduce assisted immigration backed by advertising by the federal government, which given the white Australia policy, focused on the UK (Richards 2008, pp 42-48). From a modest start, this policy was intensified from 1910 when former Prime Minister George Reid became the first

²⁰ As in the UK, the few labouring men who did make it into parliament before remuneration came into effect were sponsored by trade unions and often sat as 'liberals'. In New South Wales, following the introduction of parliamentary pay in 1889, 35 members of the newly formed Labor Electoral League were elected, holding the balance of power in the 141 seat legislative assembly (Bongiorno 2022, p. 97).

²¹ Coghlan (1918) notes popular opposition and protests against assisted immigration in Victoria in the 1860s (vol. 2, pp. 919, 921, 924, 950) and in New South Wales and South Australia in the 1870s (vol.3, pp. 1285, 1287, 1290, 1309, 1313).

²² Pressure by women's associations for extending the franchise had been building for years. But the timing owed much to political expediency. In South Australia. Premier Kingston "realised that women's suffrage combined with an electoral redistribution on a population basis would reduce the number of rural seats, weaken the conservative Country Party, and facilitate reform or abolition of the Legislative Council." See: <https://quadrant.org.au/magazine/2011/12/part-ii-why-women-really-got-the-vote/>.

Australian High Commissioner to the UK and, with an enhanced budget, aggressively promoted emigration to Australia.²³

Econometric model and data

In order to examine the variables associated with assisted immigration, the following equations are to be estimated:

$$x_{it} = \alpha_0 + \alpha_1 EV_{it-1} + \alpha_2 PV_{it-1} + \alpha_3 d_i + \varepsilon_{it} \quad (1)$$

Where the dependent variable, x_{it} , is an index of assisted immigration policy stance in colony/state i in year t . EV_{it-1} represents economic variables underlying policy and PV_{it-1} is political variables that could be linked with policy. d_i is a colony/state fixed effect and ε_{it} is the error term.

The number of assisted migrant arrivals is linked to the policy index as follows:

$$y_{it} = \beta_0 + \beta_1 x_{it} + \beta_2 FV_{it-1} + \beta_3 d_i + \mu_{it} \quad (2)$$

Where y_{it} is the number of assisted migrants arriving in colony/state i in year t and FV_{it-1} is a set of variables (some of which are common to all colonies/states) that represent the demand for assisted passages by prospective migrants. This relationship can alternatively be represented in reduced form by substituting (1) into (2) to give:

$$y_{it} = \gamma_0 + \gamma_1 EV_{it-1} + \gamma_2 PV_{it-1} + \gamma_3 FV_{it-1} + \gamma_4 d_i + \epsilon_{it} \quad (3)$$

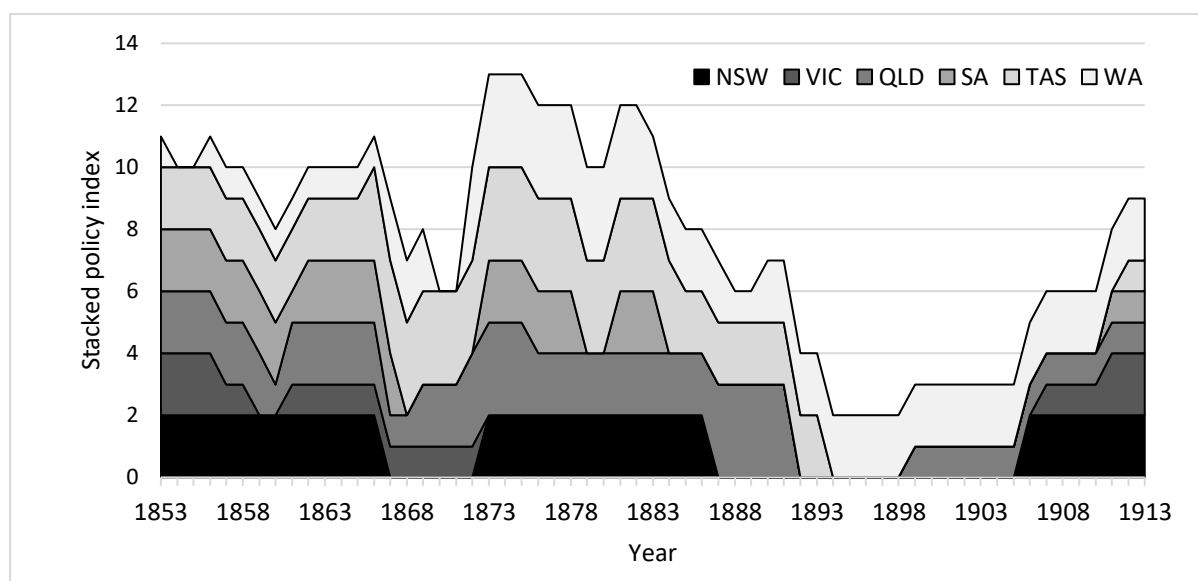
In this representation the number of assisted migrants is related directly to the factors underlying policy on assisted migration as well as to the willingness of potential migrants to take up the available assisted passages.

Assisted migration policy is characterised as dummy variables representing the presence (=1) or absence (=0) of one of the three types of policy: assisted, nominated and land orders. Adding these three provides a measure of the intensity or effort devoted to attracting UK immigrants. So for any colony/state and year the value ranges from zero to three. As described in Appendix 1, these dummy variables were derived mainly from Haines (1995) and Pope (1976). Figure 2 shows this index of policy for the six colonies/states, stacked in order to illustrate the policy stance for Australia as a whole. Not surprisingly, the overall profile of the graph closely resembles the total of assisted migration in Figure 1. It highlights the dip in the late 1860s, the high point of policy activism in the early 1870s, and its gradual erosion

²³ Reid was a highly influential politician who was appointed High Commissioner in late 1909 and arrived in London in March 1910 with the intent to pursue a 'very vigorous policy' of attracting immigrants to Australia (Melbourne Argus, 4th April 1910, p. 5: <https://trove.nla.gov.au/newspaper/article/10846412>).

from the early 1880s to the mid-1890s. It also emphasises the diversity in timing of active periods across the different colonies/states.

Figure 2: Stacked assisted immigration policy indices, 1853-1913



Source: See Appendix 1

Some of the main economic influences on assisted migration policies cited in the literature are the state of colonial/state budgets, local economic conditions, local politics and possibly also the cost of migration. Data for colony/state budget surpluses as a share of total government revenue come from public accounts of the colonies/states assembled by Barnard (1985-6). Economic conditions are characterised by using the annual series of real GDP by colony/state from 1861 constructed by Sinclair (2009) taken as deviations of log real GDP from the composite trend.

Decisions to provide assisted passages were always political and often contested. As stable political parties only emerged at the end of the period, there is no straightforward way to characterise the succession of colonial parliaments along lines such as left-right or on other dimensions which might be associated with commitments for or against assisted immigration. Nevertheless, an attempt has been made to characterise the political stance of legislative assemblies by using some of the characteristics of the person who gained sufficient support to become the Premier.²⁴ This was something of a revolving door with administrations lasting on average less than three years. Principal components analysis was used to create a summary statistic from five characteristics: substantial business interests, substantial landholding, foreign-born and migrating to Australia after the age of 14, university educated

²⁴ Legislative assemblies are the lower houses, of which the Premier and ministers were normally members, as distinct from the upper houses or legislative councils, which had the power to review proposed legislation. Western Australia was not granted responsible government until 1890 and so the characteristics use prior to that date are those of the governor, in whom legislative responsibility was vested.

and being a Catholic. As shown in Appendix 1, business interests and foreign-born load positively on the first principal component while university educated loads negatively. This is used as a potential indicator of possible pro-immigration stance of the colonial/state administration.

In addition to personal characteristics of the incumbent Premier, his policy preferences (as distinct from actual legislation) were also derived from biographical sources—see Appendix 1. One index is land reform, where in favour = 2, neutral = 1, and opposed = 0. Land reform is characterised as favouring free selection, closer settlement or taxes on land—policies that were often associated with assisted immigration. Another is protectionist/free trader, where protectionist = 2, neutral = 1, and free trader = 0. Protection was sometimes linked with safeguarding the interests of urban labour in the face of immigrant competition. Finally, the Premier may be characterised as conservative = 2, liberal = 1, or radical = 0, although this is somewhat more tentative.

Other political variables reflect changes in three key features of the electoral/parliamentary system (see Appendix 1 for sources). As noted above, these are the abolition of a property qualification for voting, the introduction of payment for members of the legislative assembly and the extension of the franchise to women aged 21 and over. The years in which reforms were enacted and the year in which the first subsequent election took place are listed in Table 2 below. The variables to be used in the analysis are dummy variables switching from zero to one a year after the first subsequent election.²⁵

Table 2: Timing of reforms in the electoral/parliamentary system.

Colony/state	Property qualification for voting abolished		Payment of members of the legislative assembly		Voting franchise extended to women	
	Year enacted	Next election	Year enacted	Next election	Year enacted	Next election
New South Wales	1858	1859	1889	1891	1902	1904
Victoria	1857	1859	1870	1871	1908	1911
South Australia	1856	1857	1888	1890	1894	1896
Queensland	1872	1873	1886	1888	1905	1907
Tasmania	1896	1897	1891	1893	1903	1906
Western Australia	1893	1894	1900	1901	1899	1901

Sources: see Appendix 1.

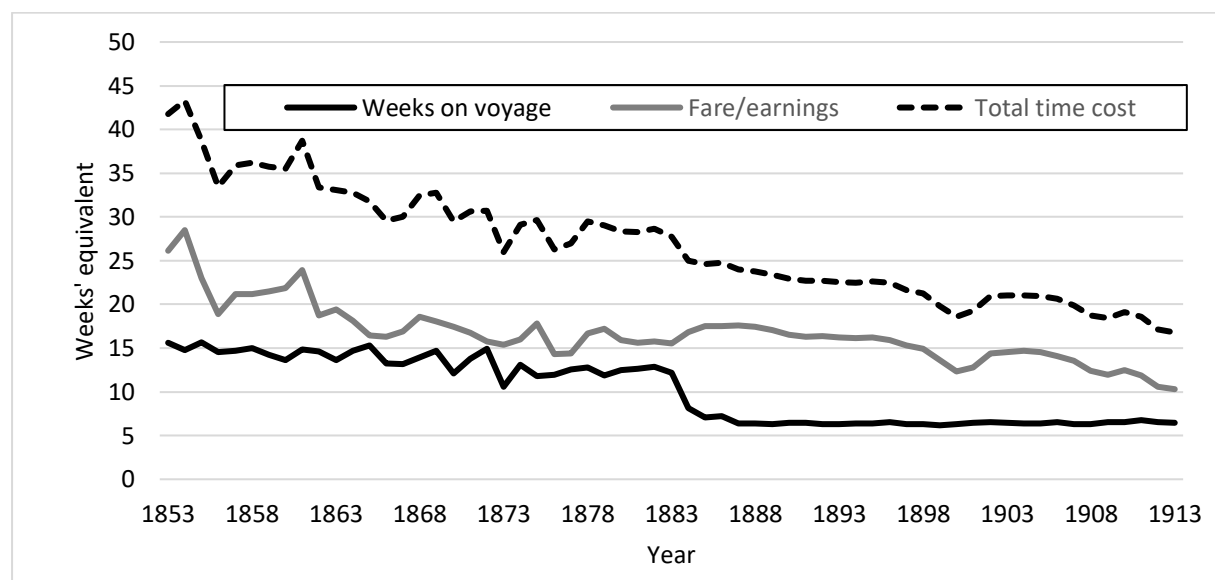
Variables external to the colony/state could have influenced the take-up of assisted passages. The potential gain from migration is represented by the log of the unskilled wage ratio between Australia and the UK (not differentiated by colony/state) from Williamson (1995). Economic conditions in the UK, often cited as an influence on the take-up of assisted passages, are represented as the deviation from trend of log GDP, which is taken from Maddison (2020).

²⁵ While the introduction of the secret ballot is a potential influence, it had been introduced by all the colonies by 1860 except for Western Australia where it was introduced (for the legislative council) in 1877.

The attraction of destinations elsewhere in Australia is represented by the average of the deviation from trend GDP in the other five colonies/states.

The cost of migration is of particular interest. An increase in the cost could induce greater take-up of assisted (as compared with unassisted) passages. It could also influence policy: higher costs could increase the imperative to offer assisted passages but at the same time make the policy more expensive. The costs of travel to Australia includes two elements: the (full) price of a ticket from the UK to Australia and the foregone earnings cost while on the voyage. As assisted passages were aimed at increasing the affordability of migration from the UK, it is appropriate to divide the costs by average UK average weekly earnings so that the cost is expressed in terms of weeks of work at the average wage. The two components of the cost are therefore the ticket price divided by average earnings and the average number of weeks on the voyage. These series are not differentiated between the different colonies/states and voyage times are for the UK to Sydney. The two components of cost are plotted in Figure 3. The number of weeks on the voyage decreases gradually until the early 1880s when it falls sharply with the transition from sail to steam, which cut the voyage time from 88 days in 1881 to 45 days in 1887 (see Hatton 2023). The number of weeks' work to cover a full fare drops gradually, but with a slight increase in the 1880s consistent with slightly higher steamship costs. Adding these together the 'total' cost in terms of weeks' work falls by half, from around 35 weeks work in the late 1850s to just 17 in 1913.

Figure 3: Ticket price and total cost of voyage in terms of weeks' work



Source: See Appendix 1 and Hatton (2023).

Assisted immigration policy estimates

Equation (1) is estimated using the variables described above on the panel of annual data for the six Australian colonies/states. The estimates cover the years 1862 to 1913 due to lack of

GDP data before 1861 (also because Queensland was not carved out of New South Wales until 1859). While caution is necessary for inferring causal links, all of the explanatory variables are lagged one year. Estimation is by Poisson pseudo maximum likelihood (PPML), which is appropriate for count data and is also suitable for continuous variables, such as assisted migration, with non-negative values that include zeros (see Santos Silva and Tenreiro 2006; Correia et al. 2020). The model is estimated with colony/state fixed effects and standard errors clustered by year to account for cross-sectional dependence. The reported coefficients are marginal effects.

As column (1) of Table 3 shows, the supply of finance as represented by the colony/state budget surplus and demand for labour, as represented by the deviation from trend in real colonial/state GDP both give strong positive coefficients, much as the historical literature suggests. However, the time trend is strongly negative, indicating that these variables alone do not capture the overall downward trend in assisted migration policies. The second column adds the total cost of the voyage divided by the UK weekly wage (Figure 3), which is not significant. As mentioned earlier, voyage costs could work both ways; a fall in the cost would make it cheaper to finance assisted passages but at the same time make assistance less necessary. From the point of view colony/state government, however, this would apply only to the cost of the ticket and not to the foregone earnings, the cost of which would fall entirely on the migrant.

Table 3: Assisted migration policy and economic variables

	(1)	(2)	(3)	(4)
Budget surplus/revenue (t-1)	1.428*** (0.39)	1.427*** (0.39)	0.942** (0.38)	0.975*** (0.35)
Deviation of real GDP from trend (t-1)	0.500*** (0.10)	0.501*** (0.10)	0.497*** (0.09)	0.500*** (0.09)
Total voyage cost/UK wage (t-1)		0.030 (0.03)		
Ticket price/UK wage (t-1)			-0.045 (0.03)	
Voyage weeks (t-1)			0.106*** (0.04)	
Dummy for transition to from sail to steam (t-1)				-0.837*** (0.21)
Time trend	-0.027*** (0.01)	-0.017 (0.01)	-0.008 (0.01)	-0.002 (0.01)
Observations	312	312	312	312
Wald χ^2 (3, 4, 5, 4)	40.8	48.1	82.3	67.2
Pseudo-R ²	0.165	0.166	0.179	0.181

Notes: PPML estimation with colony/state fixed effects for the years 1862 to 1913; dependent variable is the (log) assisted migration policy index ranging from zero to 3. Standard errors clustered by year; significance levels *** 1%; ** 5%, * 10%.

In column (3) the voyage cost is separated into its two parts as illustrated in Figure 3. These are the price of the ticket relative to average earnings and the cost of earnings foregone, which when divided by average earnings, is simply the number of weeks on the voyage. In this case the wage cost of a ticket is insignificant, perhaps because of the ambiguity noted above. But the number of weeks on the voyage is strongly positive, lending some support to the view that the transition from sail to steam, by making the voyage more bearable and reducing the time that it took, increased the willingness of migrants to travel to Australia and made assisted migration policy less necessary. It has often been believed that the cessation of, or failure to renew, assisted migration policies was largely due to the deep depression of the early 1890s. But as illustrated in Figure 2, assistance schemes tailed off well before that time. Column (3) also shows that the coefficient on the deviation from trend GDP remains strongly significant and does not diminish in magnitude. Finally, in column (4) the ticket price is dropped and weeks on the voyage is replaced by a dummy variable representing the sharp transition from sail to steam lagged one year so that it switches from zero to one between

Table 4: Assisted migration policy: adding political variables

	(1)	(2)	(3)	(4)
Budget surplus/revenue (t-1)	0.949*** (0.34)	0.939*** (0.33)	1.052*** (0.34)	1.043*** (0.35)
Deviation of real GDP from trend (t-1)	0.486*** (0.08)	0.424*** (0.09)	0.480*** (0.10)	0.548*** (0.09)
Transition to from sail to steam (=1) (t-1)	-0.874*** (0.12)	-0.864*** (0.12)	-0.339*** (0.09)	-0.351*** (0.09)
Premier, 1st principal component (t-1)	0.018 (0.04)	0.042 (0.04)	0.015 (0.03)	-0.006 (0.04)
Premier pro-land reform (=1) (t-1)		0.164* (0.09)	0.105 (0.09)	0.071 (0.09)
Property qualification abolished (=1) (t-1)			-0.398*** (0.13)	-0.435*** (0.13)
Members of assembly paid (=1) (t-1)			-1.332*** (0.30)	-1.307*** (0.29)
Women enfranchised (=1) (t-1)			1.188*** (0.30)	0.900*** (0.28)
Federal intervention dummy (1911-13 = 1)				0.654*** (0.09)
Observations	312	312	312	312
Wald χ^2 (4, 5, 8, 9)	68.3	71.8	252.6	307.0
Pseudo-R ²	0.181	0.183	0.231	0.237

Notes: PPML estimation with colony state fixed effects for the years 1862 to 1913; dependent variable is the (log) assisted migration policy index ranging from zero to 3. Standard errors clustered by year; significance levels *** 1%; ** 5%, * 10%.

1884 and 1885. The strong negative coefficient, suggests that greater willingness of migrants to undertake the now shorter voyages could have diminished the need for assisted passages. It is worth noting also that in columns (2) to (4) the time trend becomes increasingly small

and insignificant, suggesting that the negative trend observed in column (1) is only eliminated in the presence of this element of costs.

In Table 4 the significant economic variables are retained and political variables are added. Column (1) includes the first principal component extracted from Premiers' characteristics, which is insignificant, as also was the second principal component (see Appendix 2, Table A3). Column (2) adds the Premier's preference for land reform which, although giving a positive coefficient as would be expected, is only marginally significant. Column (3) adds the landmarks in political participation. The dummy variable for the abolition of the property qualification for voting is negatively associated with assisted migration policy. This is as would be expected if it amplified the voices of blue-collar interests, which often saw assisted migration both as diverting government revenue from other uses and as increasing labour market competition. Similarly, payment of members of the legislative assembly meant that these voices were now heard inside the chamber as well as outside, providing a further restraint on assisted migration. In contrast, the enfranchisement of women takes a strong positive coefficient. While the suffrage movement often focused on social reform it is not clear that this would have extended to assisted migration. As female enfranchisement occurred late in the period, the variable might simply capture the federal government-backed revival of assisted migration policy. Column (4) includes a dummy for federal intervention in assisted immigration policy in 1911-13, which enters with a strong positive coefficient. While this marginally reduces the size of the coefficient on women's enfranchisement, the latter remains strongly significant.

These results are robust to alternative specifications, as reported in Appendix 2. Estimating the regressions in Tables 3 and 4 with ordered logit provides qualitatively similar results (Tables A1 and A2). Although the Premier being in favour of land reform was marginally significant in column (2) of Table 4, other variables including the second principal component of Premiers' characteristics, preference for tariff protection and degree of conservatism were never jointly or separately significant (Table A3). Linear probability estimates of the specification in column (4) of Table 4 for each component of policy (selection, nomination, land orders) reveal some differences perhaps because to some degree they are substitutes (Table A4). But if the ordinal policy index is collapsed to a dummy for any policy versus no policy the signs and significance of the coefficients are similar to those in Table 4.

The number of assisted migrants

How did assisted migration policies translate into the actual arrivals of assisted migrants? The number often varied widely from year to year, partly as the scope and generosity of assistance varied within and between policies, and partly also due to variations in the take-up of assisted passages, as represented in equations (2) and (3) above. The dependent variable is the number of assisted immigrant arrivals in the colony/state. The estimation is again using PPML, with colony/state fixed effects and standard errors clustered by year to account for cross-

sectional dependence. However, linear specifications estimated by OLS give qualitatively similar results (Appendix 2, Tables A6 and A7).

Table 5: Assisted migrant arrivals and assisted migration policy

	(1)	(2)	(3)	(4)
Assisted migration policy (t-1)	0.917*** (0.09)	0.823*** (0.12)	0.905*** (0.08)	0.927*** (0.08)
Assisted migration policy (t-2)		0.114 (0.11)		
Total voyage cost/UK wage (t-1)			-0.069* (0.04)	-0.097*** (0.03)
Log wage gap (Aus/UK) (t-1)			1.886* (1.06)	2.689*** (1.04)
Deviation of UK real GDP from trend (t-1)			-12.104*** (3.08)	-7.270** (3.36)
GDP deviation of other colonies from trend (t-1)				-4.140*** (0.60)
Observations	312	312	312	312
Wald χ^2 (1, 2, 4, 5)	107.4	106.1	182.0	196.1
Pseudo-R ²	0.548	0.549	0.614	0.667

Notes: PPML estimation with colony/state fixed effects for the years 1862 to 1913; dependent variable is (log) assisted migrant arrivals in each colony/state. Standard errors clustered by year; significance levels *** 1%; ** 5%, * 10%.

Column (1) of Table 5 shows, not surprisingly, that there is a very strong correlation between the number of assisted arrivals and the policy index. As column (2) shows, the policy index lagged two years is highly insignificant and so it is dropped in columns (3) and (4). In column (3) the deviation from trend of UK GDP is strongly negative, suggesting that booms in the UK made it harder to attract immigrants. The total voyage cost and the log wage gap are marginally significant with the expected signs but they become more significant in column (4) when the deviation from trend of GDP in other colonies/states is added. The latter too is strongly negative implying that competition from other colonies may have been important.

Table 6 provides estimates of equation (3) where the policy index is replaced its underlying determinants. As column (1) of Table 6 shows, the colony/state budget surplus and deviation from trend GDP prove to be positively and significantly associated with the number of assisted immigrants as would be expected from Tables 3 and 4. The dummy for the transition from sail to steam is also gives the expected sign but is insignificant. While faster voyages by steamship reduced the need for assisted passages, they may also have increased the take-up of those that were offered. The political variables that were featured in Table 4 are added in column (2). While the coefficient on the abolition of the property qualification for voting becomes positive, the other three political participation variables remain highly significant with the same sign pattern as in Table 4. The most important of these are the advent of remuneration of members of the legislative assembly and the federal initiative of 1911-13.

Table 6: Assisted migrant arrivals and underlying factors

	(1)	(2)	(3)	(4)
Budget surplus/revenue (t-1)	2.197* (1.14)	2.086*** (0.78)	2.011** (0.87)	2.043** (0.87)
Deviation of real GDP from trend (t-1)	0.373*** (0.04)	0.592** (0.24)	0.674*** (0.25)	0.755*** (0.26)
Transition to from sail to steam (=1) (t-1)	-0.400 (0.29)	-0.184 (0.21)	-0.378 (0.24)	-0.375 (0.24)
Property qualification abolished (=1) (t-1)		0.638*** (0.23)	0.528* (0.28)	0.514* (0.28)
Members of assembly paid (=1) (t-1)		-2.101*** (0.34)	-1.955*** (0.36)	-1.930*** (0.35)
Women enfranchised (=1) (t-1)		1.359*** (0.43)	1.231*** (0.40)	1.292*** (0.44)
Federal intervention dummy (1911-13 = 1)		1.767*** (0.36)	1.569*** (0.33)	1.583*** (0.33)
Total voyage cost/UK wage (t-1)			-0.028 (0.03)	-0.020 (0.03)
Log wage gap (Aus/UK) (t-1)			0.637 (0.55)	0.568 (0.52)
Deviation of UK real GDP from trend (t-1)			-7.464*** (2.45)	-7.930*** (2.78)
GDP deviation of other colonies from trend (t-1)				0.469 (1.02)
Observations	312	312	312	312
Wald χ^2 (3, 7, 10, 11)	139.0	402.0	483.8	534.8
Pseudo-R ²	0.108	0.705	0.718	0.718

Notes: PPML estimation with colony/state fixed effects for the years 1862 to 1913; dependent variable is (log) assisted migrant arrivals in each colony/state. Standard errors clustered by year; significance levels *** 1%; ** 5%, * 10%.

Variables that could have influenced the take-up of assisted passages are included in column (3) where, as in Table 5, the deviation of trend of UK real GDP takes a strong negative coefficient but total voyage cost and the real wage gap, while giving the expected signs, are not significant. Finally, in column (4) the deviation from trend GDP of other colonies/states turns out to be insignificant, largely because it is strongly correlated with own-colony/state deviation from GDP. This is a demanding specification and so it is hardly surprising that some of the variables lose significance. Nevertheless, there is considerable support for the view that the variables that are associated with assisted migration policy are also reflected in the flow of migrants who took up those passages.

Conclusion

As a result of the tyranny of distance, the colonies of Australia (and New Zealand) developed systems of assisted migration which were unique and were of major importance in populating

these colonies/states with migrants from the UK. From 1851 to 1913 Australia's population increased from just 0.65 million to 4.82 million, to which the assisted migration of 0.72 million made a major contribution. Although some assisted migrants would have returned, the contribution of those who stayed would be multiplied through their descendants.²⁶ In 1911 those with UK ancestry probably accounted for upwards of 90 percent of the population, even though by that time only 13 percent were UK-born.²⁷ While the importance of assisted migration is widely acknowledged there has been little formal analysis of the genesis of assisted migration policies and how these translated into migrant numbers. This paper makes a first attempt to quantify the economic and political imperatives that lay at the heart of assisted migration policies by analysing a panel data for the six Australian colonies/states over the years from 1862 to 1913.

Assisted immigration policies were associated with both economic and political variables. As the existing literature suggests, the adoption and retention of assisted migration programmes were associated positively with colonial/state budget surpluses and with booms in the local economy. But policy activism faded from the mid-1880s, before the deep depression of the 1890s glutted local labour markets. The results presented here suggest an important reason for this: the transition from sail to steam increased the willingness of migrants to travel unassisted, thus reducing the need for assisted passages. This was yet another outcome of the diminishing tyranny of distance.

While assisted migration has been portrayed as one among many policies that were contested in the fractious colonial/state politics that prevailed before 1914, the key underlying features have not been analysed. The link between land reforms and assisted immigration has long been a staple of the literature but the positive association between land reforming colonial/state premiers is weak. Although it is widely understood that labour interests opposed assisted migration on the grounds that it subsidised labour market competition, and also that electoral reforms increased the influence of blue collar interests in colonial/state parliaments, these developments have not been explicitly linked. Quantitative analysis suggests that both abolishing the property qualification for voting and payment of members of parliament are negatively linked to assisted migration policy. Perhaps more surprising, the enfranchisement of women and intervention of the federal government in the decade before 1914 are positively associated with the revival of assisted migration policy.

The link between active policy and the arrivals of assisted immigrants is confirmed, although this is hardly surprising. The underlying variables that are linked with policy are also associated with the number of arrivals, as might be expected, but more weakly. This reflects the diversity in the generosity, targeting and regulations attached to policies, which varied

²⁶ Ward (2021) suggests a return rate among all migrants to Australia before 1914 of about 20 percent. It seems likely to have been lower in the age of sail and lower for assisted than for unassisted migrants.

²⁷ Price (1989, p. 62) estimated that those of Anglo-Celtic ethnicity still accounted for 89.8 percent of the Australian population in 1947.

across colonies/states and over time. The number of assisted arrivals depended not only on assisted migration policy but also on the willingness of potential migrants to take them up. This is reflected in the negative association between cyclical conditions in the UK and the number of assisted arrivals, and less clearly between arrivals and conditions in other colonies/states. Thus some of the variables associated with assisted migration are those that appear in standard push/pull models of international migration but in this case mediated through assisted migration policy. While estimated push/pull models have sometimes been augmented with measures of immigration policy, they have typically not drilled down to the forces underlying those policies. Thus the Australian experience from 1860 to 1913 provides an interesting laboratory to analyse both the genesis of policy and its implications for the flow of migrants.

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Appendix 1: Data sources

Assisted migration policy: As noted in the text, the presence of assisted migration policies from the 1850s to 1900 is taken from the policy timelines provided by Haines (1995), pp. 13-34, supplemented by reference to Coghlan (1918) on which Haines largely relied. From 1901 to 1913 the source is Pope (1976, vol. 1) pp. 203-244, supplemented by state yearbooks (NSW 1916; Victoria, 1908-13; South Australia 1913; Queensland 1901) from the Australian Bureau of Statistics website at: <https://www.abs.gov.au/ausstats/abs@.nsf/ViewContent?readform&view=productsbyCatalogue&Action=Expand&Num=1.4>.

Number of assisted migrants. For 1860 to 1900 I use the series for five colonies reported by Haines (1997, pp. 264-5). The series for Queensland is based on the count from passenger lists at: <https://www.data.qld.gov.au/dataset/assisted-immigration-1848-to-1912>. These data were filtered by hand to exclude captains, masters, surgeons and to eliminate exact and non-exact duplicates arising from differences in the spelling of names. For 1901 to 1913 assisted emigrant totals are taken from Pope (1976, vol. 1), p. 157. (Assisted migration to New Zealand, reported in Table 1, was kindly provided by Les Oxley).

Budget surplus ratio by colony/state. From Barnard (1985-6), "Colonial and State Government Finances," ANU Source Papers in Economic History Nos. 8, 9, 10, 14, 15 and 16, at: <https://rse.anu.edu.au/research/centre-economic-history/source-papers-economic-history>. The ratio is the current account surplus divided by total revenue.

Real GDP by colony/state. Series compiled by Sinclair (2009) at: https://bridges.monash.edu/articles/dataset/Annual_estimates_of_gross_domestic_product_Australian_colonies_states_1861-1976_77/5616214.

Voyage time and cost. Average duration of emigrant voyages from the UK to New South Wales and the average ticket cost for voyages from the UK to Australia are from the Appendix to Hatton (2023).

Total UK emigration to Australasia. Emigration from the UK to Australia and New Zealand (used in Figure 1) from Carrier and Jeffrey (1953), Table D/F/G (1).

UK-Australia real wage ratio. From Williamson (1995) where the UK is a weighted average of the series for Great Britain and Ireland.

UK real GDP. From: Bolt, Jutta and Jan Luiten van Zanden (2020), "Maddison style estimates of the evolution of the world economy. A new 2020 update" at: <https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2020?lang=en>.

Characteristics of colonial/state Premiers. These were compiled principally from the Australian Dictionary of Biography at: <https://adb.anu.edu.au/>. The personal characteristics are dummy variables for: whether the person was foreign-born and migrated to Australia after the age of 14; university educated; catholic; had substantial business interests; had substantial landed interests—the last two prior to becoming Premier. These variables were used in a principal components analysis. To produce an annual series, the first principal component was then allocated across years according to the fraction of each year that the individual was in office. The loadings (eigenvectors) of the first three components are as follows:

Variable	Component 1	Component 2	Component 3
Substantial business interests	0.6576	0.0557	0.1334
Substantial landed property	-0.0001	0.6476	-0.5756
University educated	-0.5007	0.0420	0.5633
Catholic	-0.2203	0.7086	0.2913
Foreign born, arrived aged >14	0.5181	0.2714	0.4987

Three other variables were created from the same sources. These are whether the individual could be classified as: favouring land reform (=2), neutral (=1), opposed to land reform (=0); protectionist (=2), neutral (=1), free trader (=0); and 'conservative' (=2), 'liberal' (=1) or 'radical' (=0). The last of these is inevitably somewhat subjective. On land reform and protectionism, the middle category (=1) is where the individual is either identified as neutral or where there is no clear indication of his political stance on the issue. The classification relates to the Premier's preference or attitude and not to the enactment of policy during his premiership. Note that Western Australia was granted responsible government only from 1890 and thus had no Premier or legislative assembly until then. Prior to that the characteristics recorded are those of the colonial governor, in whom legislative responsibility was vested.

Electoral/parliamentary reform. The dates of the franchise extensions were taken from the following: <https://australianpolitics.com/voting/features/history-of-the-voting-franchise>. Payment to assembly members was taken from state websites such as the one for New South Wales at: <https://www.parliament.nsw.gov.au/la/roleandhistory/Pages/The-history-of-the-Legislative-Assembly.aspx> and one for South Australia at: <file:///C:/Users/u4119095/Downloads/Community%20access%20to%20the%20electoral%20process%20since%201850.pdf>. Dummy variables were created switching from zero to one at the next election after enactment of the reform. Dates of elections were taken from: https://en.wikipedia.org/wiki/Timeline_of_Australian_elections. The years when reforms were passed and the next election year are listed as Table 2 in the main text. Note that these dates refer to legislative assemblies (the lower houses) and not to legislative councils (the upper houses).

Source references other than websites

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Appendix 2: Supplementary regressions

Tables 3 and 4 in the main paper are estimated using PPML where the dependent variable takes discrete values from 0 to 3, representing the intensity of assisted migration policy. Tables A1 and A2 below present the results of the same specifications using ordered logit including dummy variables by colony/state. Although the scaling differs, the relative orders of magnitude and the significance levels of the coefficients are broadly in line with those Tables 3 and 4 in the main paper, the main exceptions being the borderline significance of the ticket price in Table A1 and the insignificance of Premier pro-land reform in Table A2.

Table A1: Table 3 specifications estimated with ordered logit

	(1)	(2)	(3)	(4)
Budget surplus/revenue (t-1)	4.134*** (1.11)	4.062*** (1.12)	2.707** (1.17)	3.103*** (1.03)
Deviation of real GDP from trend (t-1)	0.993*** (0.32)	0.998*** (0.32)	1.014*** (0.30)	1.001*** (0.31)
Total voyage cost.UK wage (t-1)		0.091 (0.11)		
Ticket price/UK wage (t-1)			-0.185* (0.10)	
Voyage weeks (t-1)			0.349*** (0.12)	
Dummy for transition to steam (t-1)				-2.960*** (0.63)
Time trend	-0.064*** (0.01)	-0.035 (0.04)	-0.017 (0.03)	0.016 (0.02)
Observations	312	312	312	312
Wald χ^2 (9, 10, 10, 9)	167.7	155.9	190.5	233.2
Pseudo-R ²	0.208	0.210	0.250	0.255

Note: Dependent variable is the policy index of assisted migration. Ordered logit regressions with colony/state dummy variables and standard errors clustered by year.

Table A2: Table 4 specifications estimated with ordered logit

	(1)	(2)	(3)	(4)
Budget surplus/revenue (t-1)	3.324*** (1.04)	3.367*** (1.02)	4.103*** (1.14)	4.211*** (1.19)
Deviation of real GDP from trend (t-1)	1.082*** (0.27)	0.913*** (0.29)	1.527*** (0.30)	1.772*** (0.30)
Transition from sail to steam (=1) (t-1)	-2.565*** (0.35)	-2.550*** (0.35)	-1.415*** (0.37)	-1.480*** (0.37)
Premier, 1st principal component (t-1)	-0.091 (0.12)	-0.022 (0.13)	-0.132 (0.13)	-0.174 (0.14)
Premier pro-land reform (=1) (t-1)		0.452 (0.28)	0.542* (0.33)	0.505 (0.33)
Property qualification abolished (=1) (t-1)			-1.986*** (0.45)	-2.152*** (0.46)
Members of assembly paid (=1) (t-1)			-2.331*** (0.49)	-2.267*** (0.49)
Women enfranchised (=1) (t-1)			2.217*** (0.50)	1.468*** (0.39)
Federal intervention dummy (1911-13 = 1)				1.892*** (0.20)
Observations	312	312	312	312
Wald X ² (9, 10, 13, 14)	141.5	140.4	235.7	270.8
Pseudo-R ²	0.254	0.256.5	0.335	0.348

Note: Dependent variable is the policy index of assisted migration. Ordered logit regressions with colony/state dummy variables and standard errors clustered by year.

As noted in the main paper and detailed in Appendix 1, several variables were derived from the biographical details of the Premier of each colony/state. Table A3 includes additional variables not included in Table 4. Column (1) of Table A3 includes the second principal component of Premier characteristics (see Appendix 1), which is not significant. In column (2) variables representing three policy preferences are included. The index for pro-land reform is marginally significant (as in Table 4), but protectionist and conservative are not significant. Columns (3) and (4) show that the latter two variables remain insignificant even when the Premiers' characteristics and other preferences are omitted.

Table A3: Further results for colony/state Premiers' characteristics and policy preferences

	(1)	(2)	(3)	(4)
Budget surplus/revenue (t-1)	0.952*** (0.35)	0.941*** (0.33)	0.948*** (0.34)	0.932*** (0.34)
Deviation of real GDP from trend (t-1)	0.486*** (0.08)	0.401*** (0.09)	0.493*** (0.08)	0.468*** (0.09)
Transition from sail to steam (=1) (t-1)	-0.878*** (0.13)	-0.878*** (0.12)	-0.883*** (0.13)	-0.893*** (0.13)
Premier, 1st principal component (t-1)	0.018 (0.04)	0.045 (0.04)		
Premier, 2nd principal component (t-1)	-0.004 (0.04)			
Premier pro-land reform (=1) (t-1)		0.157* (0.09)		
Premier protectionist (=1) (t-1)		0.028 (0.07)	0.011 (0.07)	
Premier conservative (=1) (t-1)		-0.080 (0.09)		-0.108 (0.09)
Observations	312	312	312	312
Wald X ² (5, 7, 4, 4)	68.9	72.3	65.6	65.6
R ² within	0.181	0.183	0.181	0.182

Notes: PPML estimation with colony/state fixed effects for the years 1862 to 1913; dependent variable is (log) of arrivals per thousand of the UK-born population resident in each colony/state. Standard errors clustered by year; significance levels *** 1%; ** 5%, * 10%.

Table A4 below investigates whether each of the three elements of assisted migration are associated with the same variables that appear in the specifications which combine all three into one index. It is important to note however, that although the different policies were often used simultaneously, they represent alternative methods of attracting immigrants. So to some degree they are alternatives, which means that they would not necessarily be linked in the same way to each of the explanatory variables. Table A4 presents linear probability estimates of the specification of Col. (4) in Table 4 of the main paper, where the dependent variable is a dummy = 1 for the presence of each individual type of policy. The coefficients for selection in column (1) are highly significant and those for nomination in column (2) are broadly consistent but somewhat weaker. The coefficients on land orders are weaker for economic variables and for the political participation variables perhaps because they occur in only 57 observations and these are mainly for Queensland. The final column combines the three policy measures into a single dummy for any policy (=1) or no policy (=0). Here the pattern of signs and significance is similar to that in column (4) of Table 4.

Table A4: Table 4 Col. (4) specification estimated for individual policies and for any policy

	(1)	(2)	(3)	(4)
	Selection = 1	Nomination = 1	Land orders = 1	Any policy = 1
Budget surplus/revenue (t-1)	0.465** (0.23)	0.914*** (0.21)	0.160 (0.16)	0.771*** (0.19)
Deviation of real GDP from trend (t-1)	0.287*** (0.06)	0.290*** (0.05)	0.068 (0.05)	0.235*** (0.04)
Transition from sail to steam (=1) (t-1)	-0.168*** (0.06)	-0.011 (0.05)	-0.207*** (0.05)	-0.084 (0.05)
Premier, 1st principal component (t-1)	-0.043** (0.02)	0.024 (0.02)	-0.047*** (0.02)	-0.002 (0.02)
Premier pro-land reform (=1) (t-1)	0.112** (0.05)	-0.011 (0.05)	0.016 (0.04)	-0.049 (0.05)
Property qualification abolished (=1)	-0.270*** (0.08)	0.034 (0.09)	-0.541*** (0.07)	-0.204*** (0.06)
Members of assembly paid (=1)	-0.380*** (0.07)	-0.549*** (0.07)	0.035 (0.06)	-0.538*** (0.07)
Women enfranchised (=1)	0.263*** (0.07)	0.290*** (0.05)	0.005 (0.04)	0.342*** (0.05)
Federal intervention dummy (1910-13 = 1)	0.174*** (0.04)	0.468*** (0.04)	0.011 (0.02)	0.462*** (0.04)
Observations	312	312	312	312
F (14, 51)	198.2	98.6	98.6	150.1
R ² within	0.348	0.470	0.283	0.318

Notes: OLS linear probability estimation where the dependent variable is a dummy variable for one component of assisted migration policy or any policy (col. 4). Estimation for the years 1862 to 1913 with colony/state fixed effects estimation and standard errors clustered by year; significance levels *** 1%; ** 5%, * 10%.

Table A5 explores the extent to which the estimated coefficients for the six colonies together depend on the inclusion of each colony by leaving out each colony/state in turn. This is a demanding test both because each colony/state accounts for a substantial chunk of the data and because the specification is that of column (4) of Table 4, which includes the most variables. The PPML estimates in Table A5 below show that, although there is some variation, the coefficients and significance levels are broadly consistent across the columns. Coefficients that become insignificant include the enfranchisement of women when New South Wales is omitted and the deviation from trend of real GDP and the abolition of the property qualification when Tasmania is omitted. The latter probably reflects the fact that Tasmania was one of only three colonies that abolished the property qualification within the range of the data (Table 2).

Table A5: Table 4 Col. (4) specification leaving out each colony/state in turn.

	(1)	(2)	(3)	(4)	(3)	(4)
Excluded colony/state	NSW	VIC	QLD	SA	TAS	WA
Budget surplus/revenue (t-1)	0.726** (0.33)	1.027*** (0.36)	1.429*** (0.41)	0.643** (0.30)	1.228*** (0.39)	1.147*** (0.43)
Deviation of real GDP from trend (t-1)	0.640*** (0.12)	0.649*** (0.10)	0.602*** (0.11)	0.460*** (0.09)	0.208 (0.13)	0.760*** (0.26)
Transition from sail to steam (=1) (t-1)	-0.317*** (0.08)	-0.439*** (0.09)	-0.438*** (0.11)	-0.220*** (0.08)	-0.383*** (0.12)	-0.339*** (0.10)
Premier, 1st principal component (t-1)	0.010 (0.04)	0.019 (0.04)	0.062 (0.05)	-0.037 (0.03)	-0.013 (0.05)	-0.047 (0.04)
Premier pro-land reform (=1) (t-1)	-0.010 (0.10)	0.043 (0.10)	0.192* (0.11)	0.119 (0.08)	0.105 (0.10)	0.096 (0.13)
Property qualification abolished (=1)	-0.399*** (0.11)	-0.467*** (0.13)	-0.991*** (0.23)	-0.488*** (0.13)	0.036 (0.10)	-0.426*** (0.14)
Members of assembly paid (=1)	-1.154*** (0.27)	-1.165*** (0.35)	-2.155*** (0.42)	-1.340*** (0.29)	-1.149*** (0.29)	-1.306*** (0.31)
Women enfranchised (=1)	0.358 (0.30)	0.849*** (0.31)	2.112*** (0.41)	1.114*** (0.30)	0.842*** (0.28)	0.681** (0.31)
Federal intervention dummy (1910-13 = 1)	0.862*** (0.08)	0.410*** (0.09)	0.757*** (0.11)	0.416*** (0.07)	0.573*** (0.11)	1.058*** (0.22)
Observations	260	260	260	260	260	260
F (14, 51)	381.9	269.3	352.1	328.2	149.1	324.6
R ² within	0.252	0.203	0.299	0.470	0.208	0.262

Notes: PPML estimation with colony state fixed effects for the years 1862 to 1913; dependent variable is the (log) assisted migration policy index ranging from zero to 3. Standard errors clustered by year; significance levels *** 1%; ** 5%, * 10%.

Estimates for the number of assisted migrants in Tables 5 and 6 in the main text are estimated with PPML giving a non-linear specification but accounting for zeros in the data. Tables A6 and A7 below present the results of estimating a linear model using OLS (including the zeros). In terms of the signs and significance of the coefficients, the results closely resemble those of Tables 5 and 6 in the main paper.

Table A6: Table 5 regressions estimated by OLS

	(1)	(2)	(3)	(4)
Assisted migration policy (t-1)	1.320*** (0.16)	1.257*** (0.27)	1.381*** (0.22)	1.324*** (0.21)
Assisted migration policy (t-2)		0.075 (0.22)		
Total voyage cost/UK wage (t-1)			-0.190** (0.09)	-0.224** (0.09)
Log wage gap (Aus/UK) (t-1)			4.495** (1.96)	5.648*** (2.03)
Deviation of UK real GDP from trend (t-1)			-16.787*** (5.99)	-12.562** (5.49)
GDP deviation of other colonies from trend (t-1)				-4.258*** (1.22)
Observations	312	312	312	312
F (k, 51)	68.1	37.8	27.0	23.1
R ²	0.352	0.352	0.402	0.418

Notes: OLS regressions with colony/state fixed effects; dependent variable is the number of assisted migrant arrivals in thousands. Standard errors clustered by year; significance levels *** 1%, ** 5%, * 10%. The F-statistic is for joint significance where k is the number of variables.

Table A7: Table 6 regressions estimated by OLS

	(1)	(2)	(3)	(4)
Budget surplus/revenue (t-1)	5.325*** (1.79)	4.856*** (1.66)	4.885*** (1.64)	4.955*** (1.63)
Deviation of real GDP from trend (t-1)	1.173*** (0.23)	0.456 (0.34)	0.447 (0.36)	0.809** (0.39)
Transition to from sail to steam (=1) (t-1)	-0.878* (0.46)	-0.219 (0.35)	-0.618 (0.46)	-0.592 (0.45)
Property qualification abolished (=1) (t-1)		1.653** (0.80)	1.764** (0.83)	1.832** (0.85)
Members of assembly paid (=1) (t-1)		-3.425*** (0.58)	-3.283*** (0.54)	-3.190*** (0.53)
Women enfranchised (=1) (t-1)		1.957*** (0.35)	1.874*** (0.30)	2.052*** (0.32)
Federal intervention dummy (1911-13 = 1)		5.274*** (0.45)	4.618*** (0.52)	4.749*** (0.47)
Total voyage cost/UK wage (t-1)			-0.086 (0.05)	-0.045 (0.05)
Log wage gap (Aus/UK) (t-1)			1.971* (1.11)	1.412 (1.00)
Deviation of UK real GDP from trend (t-1)			-11.854*** (3.07)	-13.769*** (3.65)
GDP deviation of other colonies from trend (t-1)				2.188 (1.64)
Observations	312	312	312	312
F (k, 51)	139.0	402.0	483.8	534.8
R ²	0.278	0.534	0.546	0.547

Notes: OLS regressions with colony/state fixed effects; dependent variable is the number of assisted migrant arrivals in thousands. Standard errors clustered by year; significance levels *** 1%; ** 5%, * 10%.