

The mobility transition revisited, 1500-1900: what the case of Europe can offer to global history¹

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Abstract

Historians of migration have increasingly criticised the idea of a ‘mobility transition,’ which assumed that pre-modern societies in Europe were geographically fairly immobile, and that people only started to move in unprecedented ways with the onset of modernisation in the nineteenth century. In line with this critique, this article attempts to apply thorough quantitative tests to the available data. The focus is on ‘cross community migration,’ following Patrick Manning’s argument that migrants moving over a cultural border are most likely to accelerate the rate of innovation. Six forms of migration are considered: emigration out of Europe, immigration from other continents, rural colonisation of ‘empty spaces,’ movements to large cities, seasonal migration, and the movement of sailors and soldiers. To illustrate regional variations, the examples of the Netherlands and Russia are contrasted. The reconstruction presented here is partial and preliminary, but it unequivocally shows that early modern Europe was much more mobile than modernisation scholars allowed for. There was indeed a sharp increase in the level of migration after 1850, but it was due to improvements in transport, rather than to modernisation in a more general sense. This model has been elaborated for Europe, but it can be applied also to other parts of the world and can hopefully contribute to the debate on the ‘Great Divergence’ between Europe and Asia.

Introduction

In 1944 the Austro-Hungarian political economist Karl Polanyi published a famous book, *The great transformation*. Polanyi argued that the rise of the modern state went hand-in-hand with the development of a modern market economy and that these two changes

¹ For our preliminary ideas for the period 1500-1800, see our ‘Mobilität,’ in Friedrich Jaeger, ed., *Enzyklopädie der Neuzeit*, Stuttgart: J.B. Metzler, 2008, pp. 624-644. We thank Jelle van Lottum, Gijs Kessler, Leslie Page Moch, Adam McKeown and Jan Luiten van Zanden, the editors of this journal, and the referees, for their comments, and especially Mathies Lucassen (University of Utrecht) for help with the mathematical formula. A more elaborate discussion of sources and methods will appear online as an IISH research paper from October 2009, at www.iisg.nl.

were inexorably linked. Highly critical of the liberal economy and self-regulating free markets, Polanyi views the Industrial Revolution as one of the milestones in human history, and, in contrast, pictures the early modern world as harmonious, romantic, and stable.² The breakthrough to ‘modernity’ was assumed by him, and by many others, to have caused fundamental changes in virtually all dimensions of human life: commercialisation, mass consumption, the family, civil society and democracy, as well as leading to a free labour market, new demographic patterns, globalisation etc. In what Jan de Vries has called ‘the revolt of the early modernists,’ historians since the 1970s have questioned this portrayal of the early modern period, rejecting the simplistic modernisation paradigm, and stressing the dynamic nature of the period before 1800.³

As part of this revolt, historians of migration have severely criticised the idea of a ‘mobility transition,’ developed by geographers such as Wilbur Zelinsky, who described pre-modern societies as stable and self-sufficient, hindering geographical mobility. Only with modernisation in the nineteenth century, they claimed, were the chains loosened. People then started to move in unprecedented ways, dramatically increasing migration rates.⁴ In the ‘pre-modern traditional society’ the overwhelming majority stayed put:

“[...] the life patterns of all but a few privileged or exceptional persons are, or were, preordained by circumstances of birth. Options of activities were rigidly constrained by gender and by inherited class, caste, occupation, religion, and location. Barring disaster, the orbit of physical movement was severely circumscribed, and the feasible range of information and ideas was narrow and stagnant, changing almost imperceptibly from generation to generation.”⁵

Only when people were left no choice, during wars, ecological disasters or repressive regimes, were they prepared to move. This explains why refugees, such as Huguenots or Iberian Jews, have always attracted attention, in contrast to more mundane movements by itinerant traders, workers and soldiers.

Not long after Zelinsky published his seminal article, however, social and economic historians began stressing that the early modern period was much less static than many had assumed. Charles Tilly made an important contribution, arguing that, especially in North Western Europe, a process of proletarianisation had already started in the sixteenth century. As a result, capitalist societies emerged with a free labour market and geographical mobility.⁶ The date has since been pushed back into the late Middle Ages for parts of northwestern Europe.⁷ This resonates with the *status quaestionis* in the

² Karl Polanyi, *The great transformation: the political and economic origins of our time*, New York: Farrar & Rinehart Inc., 1944.

³ Jan de Vries, ‘The Industrial Revolution and the Industrious Revolution’, *The Journal of Economic history* 54, 2, 1994, pp. 249-270; Jan de Vries, *The industrious revolution. Consumer behavior and the household economy, 1650 to the present*, Cambridge: Cambridge University Press, 2008.

⁴ Wilbur Zelinsky, ‘The hypothesis of the mobility transition’, *The Geographical Review*, 61, 1971, p. 222. For a critical discussion, Steven Hochstadt, *Mobility and modernity: migration in Germany, 1820-1989*, Ann Arbor: University of Michigan Press, 1999, pp. 24-25.

⁵ Zelinsky, ‘The hypothesis of the mobility transition’, pp. 224 and 230.

⁶ Charles Tilly, ‘Migration in modern European history’, in William H. McNeill, and B. Adams, eds., *Human migration. Patterns and policies*, Bloomington: University of Indiana Press, 1978, pp. 48-71.

⁷ Bas van Bavel, and Jan Luiten van Zanden, ‘The jump-start of the Holland economy during the late-medieval crisis, c.1350-c.1500’, *Economic History Review*, 57, 3, 2004, p. 504.

field of migration history, which shows that, at least in western Europe, the early modern period was bustling with movement, both temporary and definitive.⁸ A high level of early modern mobility resulted largely from ubiquitous local and regional moves from parish to parish, both temporary and permanent.⁹ There was also the demand for large numbers of seasonal migrants over longer distances, and the development of an international labour market for soldiers and sailors.¹⁰ Finally, there was the constant draw of cities, which needed many migrants. In other words, the unruly phenomenon of migration has now been placed centre stage.

To date, however, few scholars have tried to quantify this mobility, and compare migration rates for the early modern period with those of the nineteenth century. It therefore remains unclear to what extent the modern era, with its mass local and international migrations, witnessed a clear break with the preceding period. Zelinsky may have been proven wrong with respect to his assumption that early modern societies in Europe, and by extension in the rest of the world, were static, but his idea that migration patterns and rates increased spectacularly in the nineteenth century has not convincingly been refuted.

Few scholars have applied thorough quantitative tests to Zelinsky's ideas. One is Steven Hochstadt, in his study of migration in Germany between 1820 and 1989.¹¹ By using a wealth of data on micro-mobility, to and from German municipalities, he convincingly shows that mobility levels at the end of the nineteenth century were indeed very high, but that the link with modernity is very problematic. Not only were mobility levels already quite high before industrialisation took off in the mid-nineteenth century, but they also decreased considerably after World War I. Another important systematic study is that by Pooley and Turnbull, who used 16,000 life histories to map internal mobility in Britain between 1750 and 1950. Like Hochstadt's study, their data show that the intensity of mobility was already high long before 1850, and they therefore argue that it cannot explain the modernisation process.¹²

A more recent study by Jelle van Lottum, on migration in the North Sea region between 1550 and 1850, employs another approach. He focuses especially on two major poles of attraction, the Greater London area and the western Netherlands. Van Lottum introduces the concept of Emigrant Stock Rates, calculated by measuring the number of people abroad (the migrant stock) per 1,000 home population.¹³ His reconstruction of

⁸ Jan Lucassen, *Migrant Labour in Europe. The Drift to the North Sea*, London: Croom Helm, 1987; Leslie Page Moch, *Moving Europeans: migration in western Europe since 1650*, Bloomington: Indiana University Press, 1992; Nicholas Canny, ed., *Europeans on the move: studies on European migration, 1500-1800*, Oxford: Clarendon Press, 1994; Dirk Hoerder, *Cultures in contact: world migrations in the second millennium*, Durham and London: Duke University Press, 2002; Klaus J. Bade, *Migration in European history*, Oxford: Blackwell Publishing, 2003.

⁹ Paul-André Rosental, *Les sentiers invisibles: espace, familles et migrations dans la France du 19e siècle*, Paris: ESSHS, 1999.

¹⁰ Jan Lucassen, 'A multinational and its labor force: the Dutch East India Company, 1595-1795', *International Labor and Working-Class History*, 66, Fall, 2004, pp. 12-39.

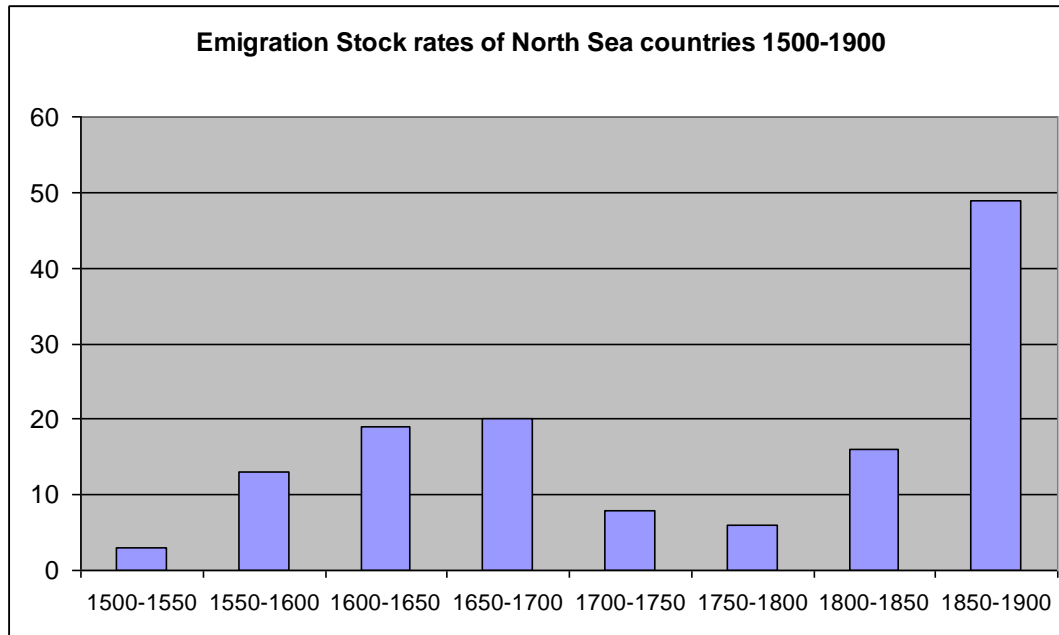
¹¹ Hochstadt, *Mobility and modernity*.

¹² Colin G. Pooley, and Jean Turnbull, *Migration and mobility in Britain since the eighteenth century*, London: UCL Press, 1998, pp. 322-323.

¹³ Jelle van Lottum, *Across the North Sea: the impact of the Dutch Republic on international labour migration, c. 1550-1850*, Amsterdam: Aksant, 2007, p. 45.

international migrations in the North Sea region shows a relatively high level in the seventeenth century, and a dramatic increase after 1850 (Figure 1).¹⁴

Figure 1: Emigration Stock rates of North Sea countries 1500-1900¹⁵



For other parts of the world, quantitative long-term analyses are rare. Dirk Hoerder’s magnum opus notes that migration has been important outside the Atlantic basin for centuries, but his information is more qualitative than quantitative.¹⁶ Adding to Hoerder’s Indian indentured labourers, McKeown has important figures for migrations from China between 1846 and 1940. Bosma provides supplementary information for European colonial soldiers in the nineteenth century, while Vink calculates the numbers of slaves transported in the Indian Ocean in the seventeenth century.¹⁷

In order to put Zelinsky properly to the test, we first seek to reconstruct, as systematically as possible, migration ratios for Western Europe before 1840. We also discuss migration in Europe as a whole in the *longue durée* (1500-1900), including European Russia and the Ottoman Balkans. Our ambition is not only to test Zelinsky’s mobility transition hypothesis, but also to propose a formal method, applicable to other parts of the world, and serving as a tool for much needed systematic global comparisons. In addressing social and economic developments in Europe since the Middle Ages, we

¹⁴ Lottum, *Across the North Sea*, p. 166. He covers Belgium, the Netherlands, Germany, Denmark, Norway, Sweden, England, and Scotland.

¹⁵ Lottum, *Across the North Sea*, p. 163 (our adaptation of his figures: his cross section 1550 is here the half century 1500-1550, etc.).

¹⁶ Hoerder, *Cultures in contact*.

¹⁷ Adam McKeown, ‘Global Migration 1846-1940’, *Journal of World History*, 15, 2, 2004, pp. 155-189; Markus Vink, ‘“The World’s Oldest Trade”: Dutch Slavery and Slave Trade in the Indian Ocean in the Seventeenth Century’, *Journal of World History*, 14, 2, 2003, pp.131-177; Ulbe Bosma, ‘European colonial soldiers in the nineteenth century: their role in white global migration and patterns of colonial settlement’, *Journal of Global History*, 4, 2, 2009, pp. 317-336.

focus on proletarianisation, free and unfree labour, and the ‘first round’ of globalisation.¹⁸ We thereby hope to contribute to key debates in global history, such as that concerning the ‘Great Divergence’.¹⁹

Defining migration

One problem with migration is that it covers both micro-moves (e.g. from one village to another) and macro-moves (e.g. intercontinental), and therefore can easily become a rather blunt analytical tool. For our reconstruction of migration rates in Europe, we have thus decided to limit ourselves to what Patrick Manning, in a recent new migration typology, labels ‘cross community migration.’²⁰ This is not so much a matter of distance, but rather of the cultural impact of migration. Manning argues that migrants moving over a cultural, often linguistic, border tend to gain new insights, and that this type of migration is thus likely to speed up the spread of innovation. This is less likely with Manning’s ‘home community’ migration, where migrants remain within their language community. Our migration rates can thus be used to probe divergent economic and cultural developments between different parts of the world, especially relating to the ‘Great Divergence’ between Asia and Europe.

These considerations have led us to measure the following six forms of migration: 1) migration from Europe to non-European destinations, including colonial migration (‘emigration’); 2) migration from other continents to Europe (‘immigration’); 3) settlement in ‘empty’ or sparsely populated spaces within Europe (‘colonisation’); 4) movements to cities of over 10,000 inhabitants, predominantly from the countryside (‘migration to cities’); 5) seasonal migration (‘migratory labour’); and 6) migration of sailors and soldiers (‘labour migration’).

Certain flows have been excluded. Rural migrations of servants and artisans have not been measured separately, but are provisionally subsumed under ‘migration to cities’. We also exclude return migration, especially important for free economically motivated migrants, because we lack consistent data. Migration from cities to the countryside fits better in the ‘cross community’ than in the ‘home community’ category, but it was quantitatively negligible.

We realise that a uniform definition of cultural borders over a span of 400 years may seem somewhat ahistorical, but we believe that the level of aggregation for our six forms of migration justifies this choice. Moreover, our method allows us to attribute different weight to these six forms, varying from period to period, and depending on specific research questions. For example, applying this model to answer the question of the extent of crossing cultural borders in the twentieth century, the weight attached to movement to cities would be reduced considerably, at least for those moving within nation states. However, if the question was the extent to which labour was efficiently

¹⁸ Dennis O. Flynn, and Arturo Giráldez, ‘Path dependence, time lags and the birth of globalisation: a critique of O’Rourke and Williamson’, *European Review of Economic History*, 8, 1, 2004, pp. 81-108; Kevin H. O’Rourke, and Jeffrey G. Williamson, ‘When did globalisation begin?’, *European Review of Economic History*, 6, 1, 2002, pp. 23-50; Stephen Broadberry, and Bishnupriya Gupta, ‘The early modern great divergence: wages, prices and economic development in Europe and Asia, 1500-1800’, *Economic History Review*, 59, 1, 2006, pp. 2-31.

¹⁹ Jan Luiten van Zanden, ‘The road to the Industrial Revolution: hypotheses and conjectures about the medieval origins of the “European Miracle”’, *Journal of Global History*, 3, 3, 2008, pp. 337-359.

²⁰ Patrick Manning, *Migration in world history*, London: Routledge, 2005, p. 7.

allocated through migration, the problem of cultural borders would be barely relevant, and the weight of migration to cities would not differ fundamentally between early modern and modern times.

As this article is primarily a test of the ‘mobility transition,’ it is little concerned with the relative weight of various forms of cross-cultural migration, but an advantage of our model is that it can be used to ask different questions, such as the impact of migration on receiving societies. We would thus like to state that we are not arguing that all cross-cultural migration is equal and has a similar impact, especially in Manning’s developmental or innovative sense. For example, ‘colonisation’ often had little influence on receiving societies, although migrants crossed cultural boundaries, because such migrants settled in remote rural areas, and remained isolated from the surrounding environment. In contrast, small groups of merchants, scholars or technicians may have had a large and lasting influence on receiving societies.

As for periodisation, 1500 seems to be a sensible starting point. To be sure, movements out of Europe began in the high middle ages, for example with crusading settlement in the Middle East, or the peopling of Portugal’s Atlantic islands. However, the ‘discoveries’ were the catalyst for the real take-off, with colonists leaving for white settler colonies, both overseas and in Siberia, and migrants going to trade posts and strongholds in Africa and Asia. Moreover, emigration, often forced, started roughly at this time from Eastern Europe to the Middle East.²¹

In contrast to ‘emigration’ and ‘immigration,’ ‘colonisation’ and ‘city-bound migration’ have attracted little attention from scholars. Compared with movement in and out of Europe, however, the numbers involved in intra-European migrations were considerable. This is well illustrated by the colonisation of ‘empty spaces,’ notably east of the Elbe, in Prussia, Poland, and the Russian, Habsburg and Ottoman empires. The most common form of settlement occurred in cities, especially in parts of Europe where freedom of movement and urbanisation flourished. This started in southern Europe, and then moved via southern Germany to the Dutch Republic and England. Given the natural decrease of population in cities until the nineteenth century, this form of migration affected millions of people, especially those moving to large cities such as Madrid, Paris, London or Amsterdam.²²

A small number of influential migrants also moved as part of their career, particularly clerics, university professors and high-ranking state officials in early modern

²¹ Alan Fisher, ‘Muscovy and the Black Sea trade’, *Canadian-American Slavic Studies*, 6, 4, 1972, pp. 582-593.

²² E.A. Wrigley, ‘A simple model of London’s importance in changing English society and economy 1650-1750’, in Philip Abrams and E.A. Wrigley, eds., *Towns in societies: essays in economic history and historical sociology*, Cambridge: Cambridge University Press, 1978, p. 217; Jan de Vries, *European urbanization 1500-1800*, London: Methuen, 1984, pp. 179-200; Paul M. Hohenberg, and Lynn Hollen Lees, *The making of urban Europe 1000-1950*, Cambridge, MA, Harvard University Press, 1985, pp. 111 and 127; R. Lawton and R. Lee, ‘Introduction: the framework of comparative urban population studies in Western Europe, c. 1750-1850’, in R. Lawton and R. Lee, eds. *Urban population development in Western Europe from the late-eighteenth to the early-twentieth century*, Liverpool: Liverpool University Press, 1989, p. 14; Robert Woods, ‘What would one need to know to solve the ‘natural population decrease problem’ in early-modern cities’, in R. Lawton, ed., *The rise and fall of great cities: aspects of urbanization in the Western world*, London: Bellhaven Press, 1989, p. 87; Katherine A. Lynch, *Individuals, families, and communities in Europe, 1200-1800: the urban foundations of Western society*, Cambridge: Cambridge University Press, 2003, pp. 42-4.

times. These highly skilled and specialised migrants were recruited in an international market, and often changed their residence.²³

Quantifying migration 1500-1900

To link up with data on the nineteenth century, the main aim of this article is to quantify migrants for the whole period 1500 to 1900. Two methods are available. The modern one is based on national censuses and the registration of international migration movements. Van Lottum has inventively applied a modification of this approach for his reconstruction of Emigrant Stock Rates in the North Sea area.²⁴ However, this is not feasible for Europe as a whole, as many political and social structures were less permanent than those around the North Sea. Pooley and Turnbull propose a second method, also known from historical life cycle projects. Here, a sample of life experiences is analysed, to determine how much research subjects have migrated.²⁵ While this method might appear even less feasible for Europe as a whole between 1500 and 1900, we propose to borrow migration experiences in a human's lifespan, as a concept linked to Patrick Manning's 'cross-community' category.

To understand whether a particular society is more or less mobile at a given moment, we have to determine the share of inhabitants with an important (cross-community) migration experience at that moment, or during a lifetime. As we do not have samples of life histories, we add up all long-distance migrants into and out of Europe, or parts of it, per 50 year period, and we divide the result by the total population present in the middle of a period. In more formal terms:

$$P_i(p) = \frac{\sum_p \left(M_i^{\text{perm}} + M_i^{\text{mult}} + M_i^{\text{seas}} + M_i^{\text{imm}} + M_i^{\text{emi}} \right)}{N_i(p)} \times \frac{E_i(p)}{L_p}$$

Notes: The probability $P_i(p)$ for a person living in period p and geographical unit i to migrate in a lifetime. M_i^{perm} , M_i^{mult} and M_i^{seas} denote permanent, multi annual and seasonal cross-community, often long-distance, movements inside unit i , respectively. M_i^{imm} is the number of immigrants to unit i from outside and M_i^{emi} the number of emigrants from unit i to elsewhere. The notation \sum_p indicates that these migration numbers are summed over period p . $N_i(p)$ is the total population in geographical unit i in the middle of period p . To compensate for over counting in the migration numbers, the expression needs to be corrected by the second factor, in which $E_i(p)$ denotes the average life expectancy in period p and L_p is the length of the period. In this article, we ignore the second term, since we estimate $L_p = 50 \text{ years} \approx E_i(p)$.

We have chosen a 50 year period because it is the smallest possible breakdown for imprecise migration figures, which tend to cover much longer periods. Moreover, it represents the life expectancy for Europeans who survived early childhood. While being well aware of the crudeness of such a migration rate, we think it the best available.

²³ Mathis Leibetseder, 'Grand Tour im Europa der Frühen Neuzeit', in Klaus J. Bade, Pieter C. Emmer, Leo Lucassen and Jochen Oltmer, eds., *Enzyklopädie Migration in Europa vom 17. Jahrhundert bis zur Gegenwart*, Paderborn: Wilhelm Fink Verlag, 2007, pp. 601-604.

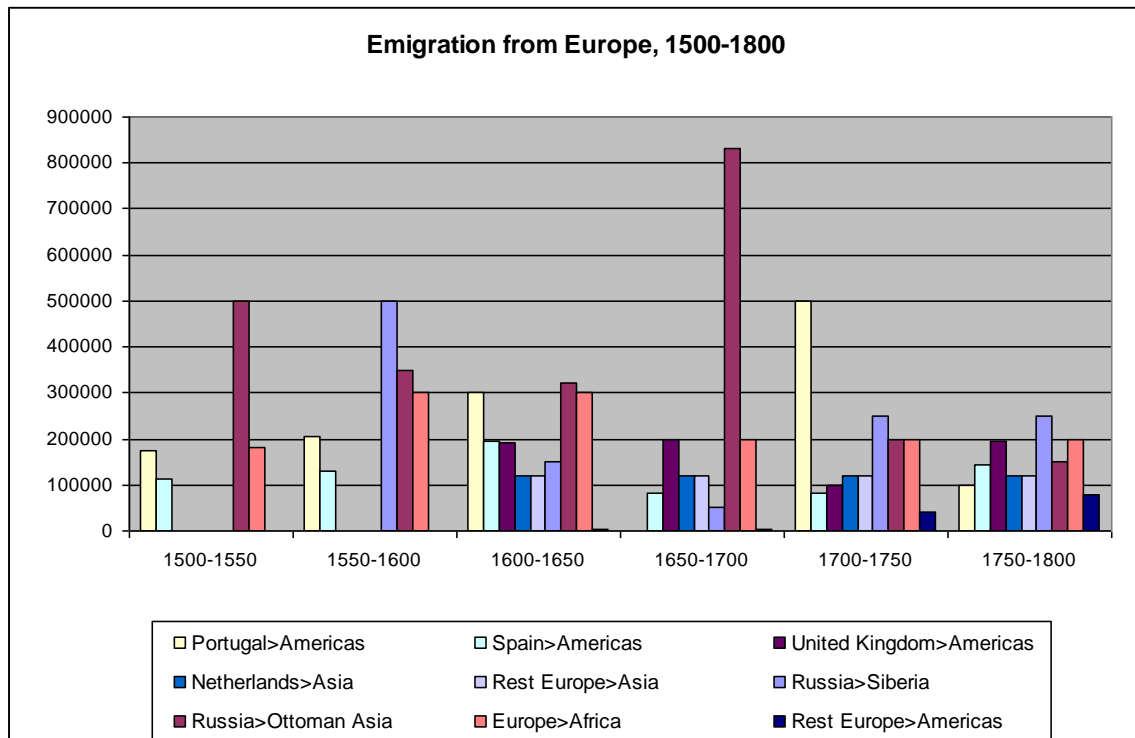
²⁴ Lottum, *Across the North Sea*.

²⁵ Pooley and Turnbull, *Migration and mobility*.

Emigration

Although European emigration is mostly associated with crossing the Atlantic in the nineteenth and early twentieth centuries, these were by no means the first migrants to move beyond Europe's borders. From the early sixteenth century, Tatar raiders took slaves from Russia, the Baltic, Poland and the Ukraine, mostly destined for the Asian part of the Ottoman Empire, while other 'white slaves' went south across the Mediterranean.²⁶ Russian serfs fled to Siberia, and free and indentured migrants went to the Americas, Asia and Africa. Figure 2 shows the various types of emigration documented in the literature.

Figure 2: Emigrations from Europe 1500-1800²⁷

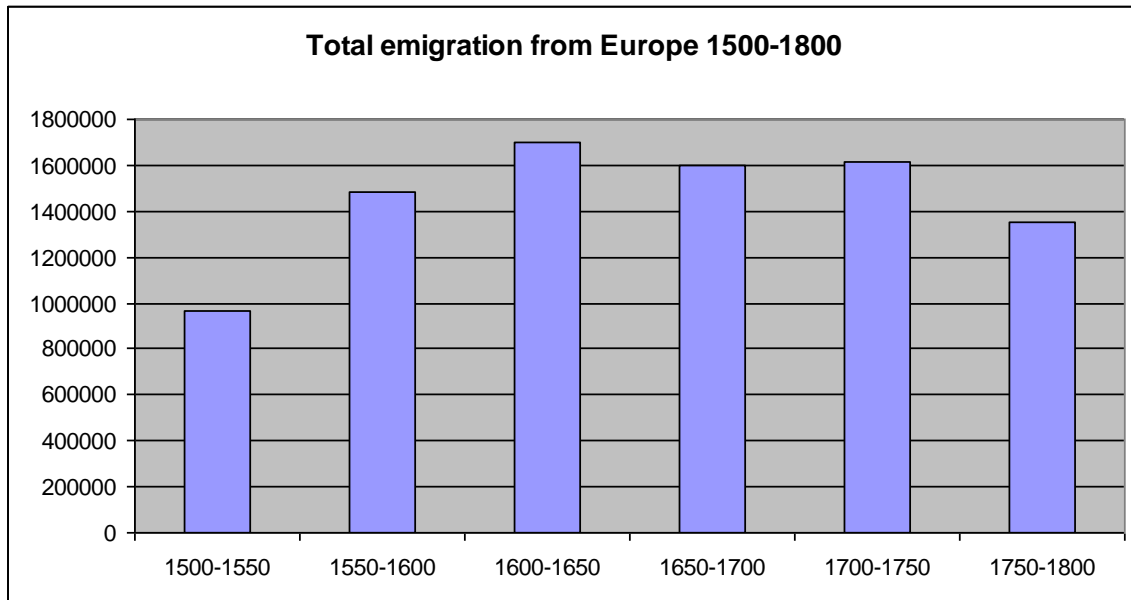


²⁶ Fisher, 'Muscovy and the Black Sea trade'; Richard Hellie, 'Migration in early modern Russia, 1480s-1780s', in David Eltis, ed., *Coerced and free migration: global perspectives*, Stanford: Stanford University Press, 2002, p. 298; William G. Clarence-Smith, *Islam and the abolition of slavery*, London: Hurst, 2006; Robert Davis, *Christian Slaves, Muslim Masters: White Slavery in the Mediterranean, the Barbary Coast, and Italy, 1500-1800*, New York: Palgrave Macmillan, 2003.

²⁷ Klaus J. Bade et al., eds., *Enzyklopädie Migration in Europa vom 17. Jahrhundert bis zur Gegenwart*, Paderborn: Wilhelm Fink Verlag, 2007; Canny, *Europeans on the move*; Clarence-Smith, *Islam and the abolition of slavery*, p. 13; Davis, *Christian Slaves*; Fisher, 'Muscovy and the Black Sea trade'; Hoerder, *Cultures in contact*; Alessandro Stanziani, 'Serfs, slaves, or wage earners? The legal status of labour in Russia from a comparative perspective, from the sixteenth to the nineteenth century', *Journal of Global History*, 3, 2008, p. 187; John Baptist Wolf, *The Barbary Coast: Algiers under the Turks, 1500 to 1830*. New York: Norton, 1979, p. 13; Halil Inalcik, and Donald Quataert, eds., *An economic and social history of the Ottoman Empire, 1300-1914*, Cambridge: Cambridge University Press, 1994; Donald Quataert, *The Ottoman empire 1700-1922*, Cambridge: Cambridge University Press, 2000, p. 650.

The best known movement to other continents is transatlantic migration to the Americas, following the discovery of the New World. The largest ‘donors’ were the British Isles, followed by tiny Portugal, which saw huge numbers of people leave, especially in the first half of the seventeenth century. These numbers included both free and indentured migrants, the latter going to North America and the Caribbean. However, hundreds of thousands of sailors and soldiers also left Europe for Asia, in the service of the Dutch and English East India companies, and on Spanish, French and Portuguese ships. Many of these men never returned, not least because of high mortality in the tropics.²⁸ The total picture for the period 1500-1800 looks as follows:

Figure 3: Total emigration from Europe 1500-1800



In the second half of the nineteenth century emigration became a mass phenomenon, especially to the Americas.²⁹ This was greatly stimulated by the transport revolution, which lowered costs. In particular, the construction of railroads, from the 1830s, cheapened internal transport and trips to ports. Furthermore, the price of transatlantic tickets on sailing boats went down considerably between 1832 and 1843, mirroring the increasing efficiency of liner traffic. With the shift to steamers, transportation costs declined, and the time taken to cross the Atlantic to the USA decreased from six to seven weeks to only two weeks, and later ten days.³⁰ In the 1860s, low fares for steamships were in the same range as sailboats, but without food, which made the long sailboat journey more expensive, and new shipping lines competed so

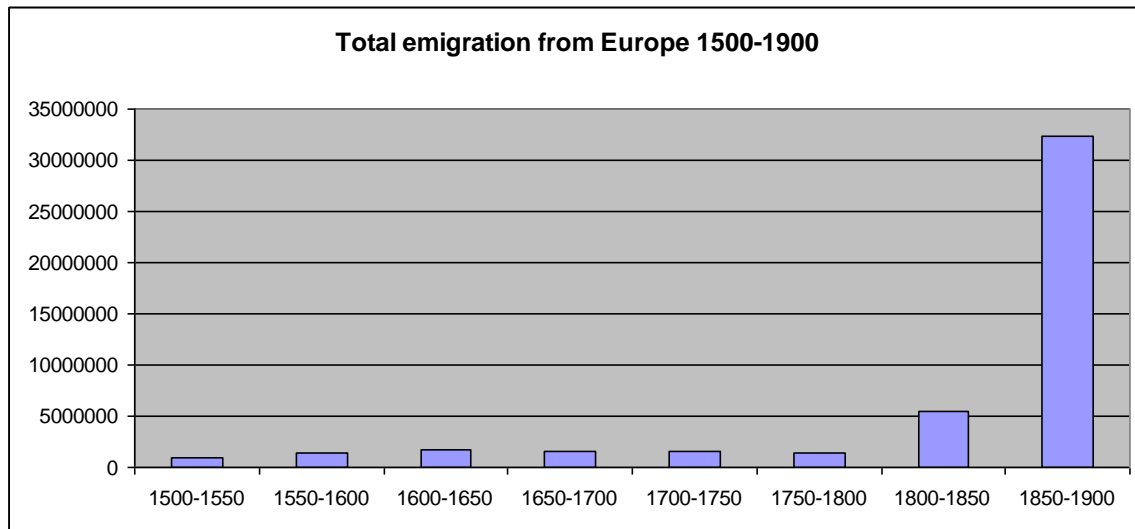
²⁸ Lucassen, ‘A multinational and its labor force’; Raymond L. Cohn, *Mass migration under sail: European immigration to the antebellum United States*. Cambridge: Cambridge University Press, 2009.

²⁹ McKeown, ‘Global Migration 1846-1940’.

³⁰ Franz Josef Pitsch, *Die wirtschaftliche Beziehungen Bremens zu den vereinigten Staaten von Amerika bis zur Mitte des 19. Jahrhunderts*, Bremen: Staatsarchiv, 1974, pp. 194 and 119. See also Moch, *Moving Europeans*, p. 152; Klaus J. Bade, *Europa in Bewegung. Migration vom späten 18. Jahrhundert bis zur Gegenwart*, Munich: Beck, 2000, pp. 134-5; Manning, *Migration in world history*, pp. 146-7; Cohn, *Mass migration under sail*, pp. 223-5.

vigorously that ticket prices dipped again in the last two decades of the nineteenth century. Italian seasonal workers, already used to migrating to other parts of the peninsula or to France, could travel to Argentina for half a year, and then return to their home villages.³¹ As the Figure 4 shows, this all led to a drastic increase in mobility. These are the figures that inspired Zelinsky, and many others, to present their influential interpretation of Europe's migration history.

Figure 4: Emigration from Europe 1500-1900³²



Immigration

Large-scale immigration from other continents was rare, in contrast to the twentieth century, but considerable numbers were involved in some periods, with four major movements identified to date. Firstly, around 50,000 migrants from the Asiatic part of the Ottoman Empire colonised the Balkans at the beginning of the sixteenth century, mostly nomadic Turkish tribes, as well as Tatars who settled in Bulgaria.³³ Istanbul also received thousands of migrants from Asia, but these have been included in numbers of migrants to cities, considered later. Secondly, in the early seventeenth century, some 270,000 Kalmyks moved from Western Mongolia to the borders of the Caspian Sea in European Russia.³⁴ Thirdly, about half a million Muslims, predominantly from Northern Africa, were taken as slaves to Italy in the sixteenth and seventeenth centuries, where they were often put to work on the galleys.³⁵ The numbers of Muslim slaves taken to other parts of

³¹ Mark Wyman, *Round-trip America: the immigrants return to Europe, 1880-1930*, Ithaca: Cornell University Press, 1993, p. 23.

³² See figures 2 and 3. Pieter Emmer and Magnus Mörner, eds., *European expansion and migration: essays on the intercontinental migration from Africa, Asia, and Europe*, New York: Berg, 1992; Walter F. Willcox, *International migrations. Volume II Interpretations*, New York: NBER, 1931; Jeffrey G. Williamson, and Timothy J. Hatton, eds., *International migration 1850-1939: an economic survey*, Milan: Università Bocconi, 1994.

³³ Nikolai Todorov, *The Balkan city 1400-1900*, Seattle: University of Washington Press, 1983, pp. 49-50.

³⁴ Hellie, 'Migration in early modern Russia,' p. 308.

³⁵ Salvatore Bono, *Schiavi musulmani nell'Italia moderna: galeotti, vu' cumpra', domestici*, Naples: Edizioni Scientifiche Italiane, 1999, p. 35; Robert Davis, 'The geography of slaving in the early modern Mediterranean, 1500-1800', *Journal of Medieval and Early Modern Studies*, 37, 1, 2007, pp. 57-74.

southern Europe are not yet known. Finally, hundreds of thousands of West African slaves were brought by the Portuguese to Iberia and Italy between the 1440s and the 1640s. In some cities they made quite a demographic impact. For example, in Lisbon in 1550, 10,000 people, or some 10% of the population, consisted of black slaves.³⁶ Overall estimates of immigration range from 100,000 to one million, but we have used a more conservative educated guess of 300,000, half of whom came in the sixteenth century.³⁷

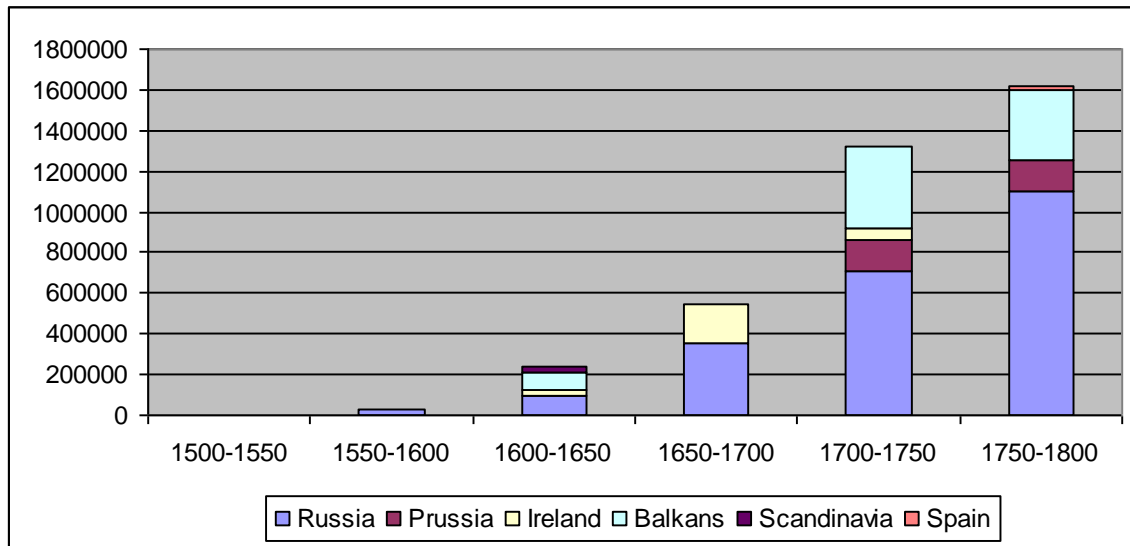
Colonisation

Migration to develop and cultivate sparsely populated territories started in the Middle Ages, when rulers invited newcomers to settle, often by offering favourable conditions. Well-known destinations were the East Elbian territories (ninth to thirteenth centuries) and the peat bogs along the Dutch North Sea coast (eleventh to thirteenth centuries). Many serfs were able to free themselves from feudal obligations and become independent agriculturalists, especially in the regions east of the Elbe. With the demographic catastrophe of the Black Death in the mid-fourteenth century, these forms of colonisation stopped, but they resumed in the sixteenth and seventeenth centuries (Figure 5).

³⁶ António Almeida Mendes, 'Les réseaux de la traite ibérique dans l'Atlantique nord (1440-1640)', *Annales HSS*, 63, 4, 2008, pp. 741-742.

³⁷ A.J.R. Russell-Wood, 'Iberian expansion and the issue of black slavery: changing Portuguese attitudes, 1440-1770', *The American Historical Review*, 83, 1, 1978, pp. 20-22; A.C. de C.M. Saunders, *A social history of black slaves and freedmen in Portugal, 1441-1555*, Cambridge: Cambridge University Press, 1982; José Ramos Tinhorão, *Os negros em Portugal*, Lisboa: Editorial Caminho, 1988, p. 86; Ivana Eberl, 'The volume of the early Atlantic slave trade, 1450-1521', *The Journal of African History*, 38, 1, 1997, pp. 42-43; Aurelio Martín Casares, *La esclavitud en la Granada del siglo XVI: género, raza y religión*, Granada: Universidad de Granada, 2000.

Figure 5: colonisation migration in Europe 1500-1800³⁸

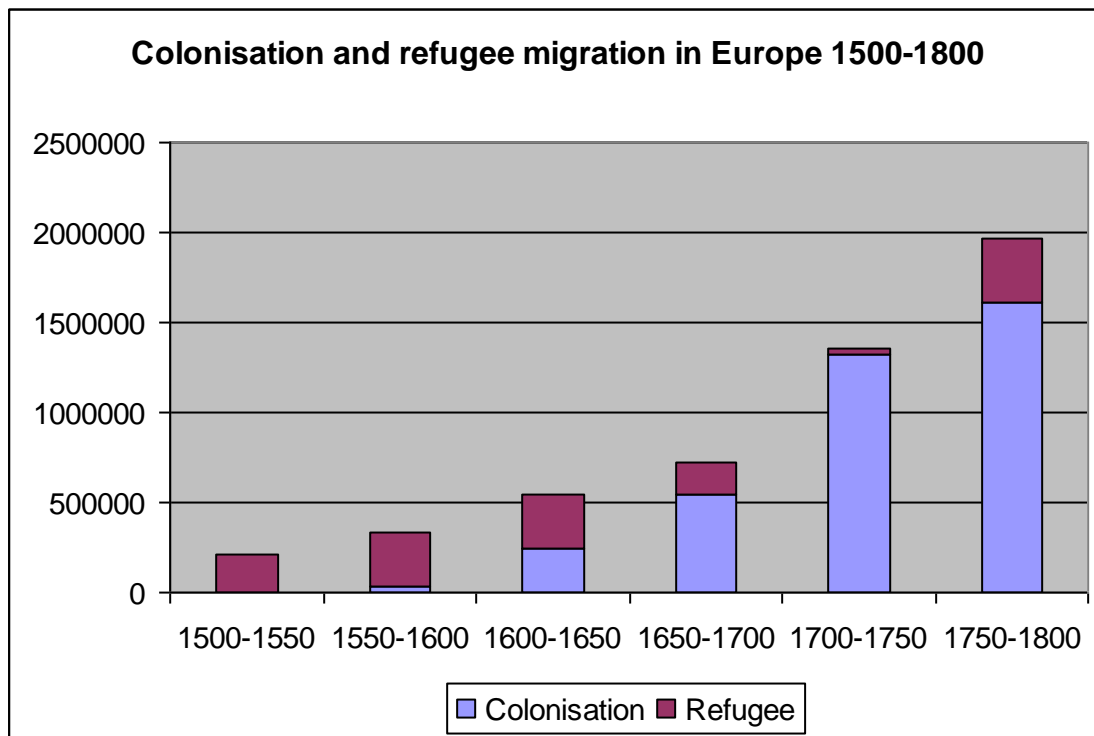


The early modern period produced almost four million migrants of this type. They were strictly regulated by states like Russia, the Habsburg and Ottoman Empires, and Prussia, but also by other German rulers, who tried to repopulate their territories after the devastations of the Thirty Years War (1618-48). Among these settlers were religious minorities, who were granted freedom of religion, especially Jews and Protestant dissenters (Mennonites and Hutterites). The bulk of them, however, were Russian peasants, following Russian expansion in the direction of the Caucasus, which added the central black earth and steppe regions near the Lower Volga and Don rivers to the empire. These movements of colonisation left western Europe with virtually no empty spaces, except for land reclamation in the Netherlands in the modern period. This type of migration also occurred in densely populated regions. In Ireland, some 250,000 English and Scots were settled in the seventeenth century.³⁹ As figure 6 shows, this type of migration became very important from 1600 onwards and can be nicely contrasted to well-studied refugee migrations.

³⁸ T.C. Smout, N.C. Landsman, and T.M. Devine, 'Scottish emigration in the seventeenth and eighteenth centuries', in Canny, *Europeans on the move*, p. 85; David Moon, 'Peasant migration and the settlement of Russia's frontiers 1550-1897', *The Historical Journal*, 40, 4, 1997, pp. 859-893; Hoerder, *Cultures in contact*, pp. 284-287 and 311-312; Hellie, 'Migration in early modern Russia', pp. 295-298, and 317-321; Nicholas Canny, 'Englische und schottische Siedler in Irland seit der frühen Neuzeit' in Bade et al., *Enzyklopädie*, p. 549; Holm Sundhussen, 'Südosteuropa', in Bade et al., *Enzyklopädie*, p. 295.

³⁹ Nicholas Canny, *Making Ireland British 1580-1650*, Oxford: Oxford University Press, 2001.

Figure 6: Colonisation and refugee migration compared, Europe 1500-1800⁴⁰

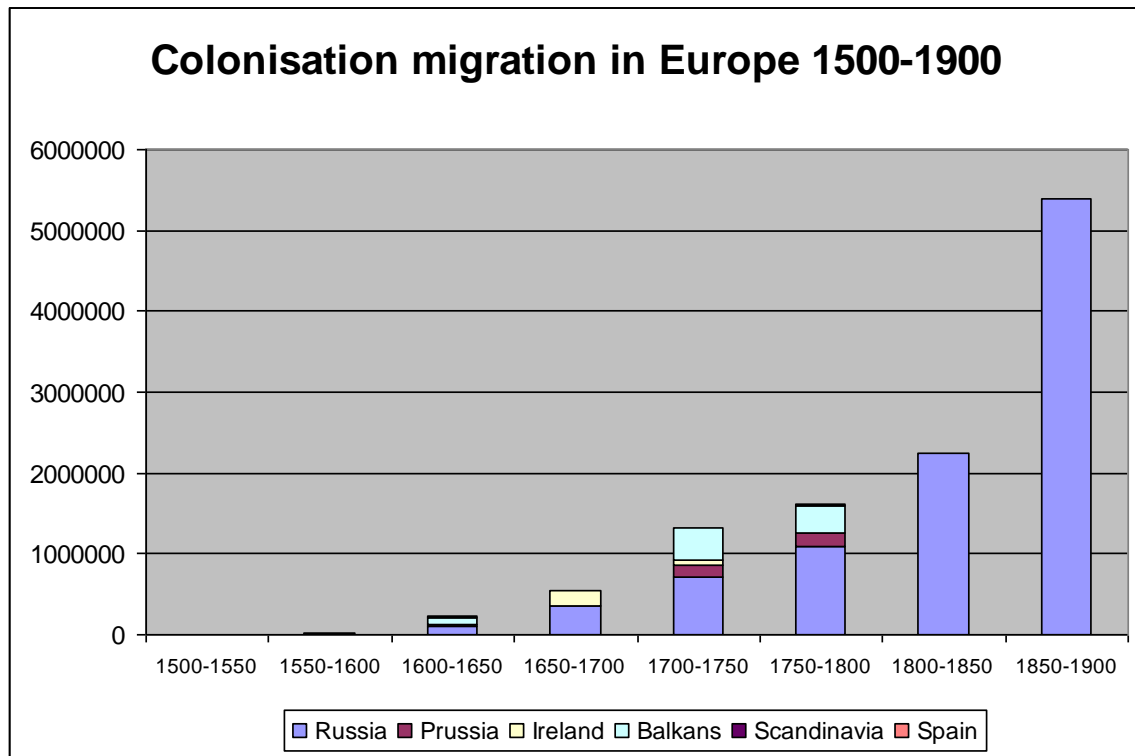


From the mid-nineteenth century, there was a clear increase in colonisation, with numbers jumping from under 2.2 to 5.4 million, almost entirely caused by the rural settlement of the Russian forest and steppe zones. Most migrants came from agricultural areas such as the Ukraine, and were looking for land in less densely populated zones to carry on farming. Particularly in the arid steppes of the southeast, migrants had to adapt and change their agricultural practices, and many encountered and interacted with ethnic groups with different cultures and ways of life.⁴¹

⁴⁰ See figure 5; Bade et al., *Enzyklopädie*; and Hoerder, *Cultures in contact*.

⁴¹ David Moon, 'Peasant migration, the abolition of serfdom, and the internal passport system in the Russian empire, c. 1800-1914', in Eltis, *Coerced and free migration*, pp. 346-7.

Figure 7: Colonisation migration in Europe 1500-1900⁴²



Migration to cities

Whereas refugee migration was concentrated in the period 1550 to 1700, and colonisation migration in the seventeenth and early eighteenth centuries, the movement from countryside to cities was continuous, influenced by the economic cycle and the shifting economic centre of Europe. In the fifteenth and sixteenth centuries, Italian and Spanish cities attracted many migrants. Later, the balance shifted to the Dutch Republic (the most urbanised region of the world at the time), Antwerp, London and Hamburg.⁴³ In the seventeenth century, the Northern Netherlands blocked access to the sea for Antwerp and other Flemish cities in the Spanish Netherlands, but the other cities, along with Lisbon, experienced a spectacular population growth, caused by massive immigrations from the Iberian, German, Scandinavian and English hinterlands. Even in smaller towns at the end of the seventeenth century, more than half the inhabitants had been born elsewhere. As most refugees settled in towns and cities, they are subsumed under this category, and not under the separate heading usually applied in migration history.

Migration to cities was a lynchpin of the urban economy, and a key regulator of city populations, being much more significant than urban deaths and births.⁴⁴ Most scholars agree that cities with over 10,000 inhabitants generally could not reproduce

⁴² See figure 5 and *Ibid.*, p. 347.

⁴³ Karel Davids, and Jan Lucassen, eds., *A miracle mirrored: the Dutch Republic in European perspective*, Cambridge: Cambridge University Press, 1995.

⁴⁴ Vries, *European urbanization*, p. 199.

themselves until the nineteenth century. At the same time, many smaller towns depended on rural to urban migration to make up for population losses and stagnation, for example those in southern Germany after the Thirty Years War.⁴⁵ After 1800, urban mortality declined, but migration still added considerably to population growth, most probably around 50%.⁴⁶

High urban mortality, also known as ‘the urban graveyard effect’ or the demographic sink, is much debated. An influential idea is that high population density and poor hygienic conditions made early modern cities much less healthy than small cities or the countryside.⁴⁷ Sharlin hypothesised that migrants had much higher chances of dying from disease, and consequentially much lower marriage rates.⁴⁸ More recently, scholars have pointed to unbalanced sex ratios, major differences in environmental conditions, and great variations in levels of nuptiality and fertility.⁴⁹ For our argument, however, the causes matter much less than the necessity to overcome the population deficit through migration.

Virtually all urban growth in the early modern period should thus be considered as migration, but we even have to include negative natural increase.⁵⁰ For the sixteen countries listed by De Vries, we have recalculated total net growth per 50 year period for each country separately, but it is difficult to reconstruct the urban graveyard effect. So far, no one has systematically mapped the many estimates in the period 1500-1800 for Europe. Historians often rely on information for one or two cities, which is then extrapolated to Europe as a whole.⁵¹ This method is much too crude, and does not cover

⁴⁵ Terence McIntosh, ‘Urban stagnation in early modern Germany: a simulation’, *Journal of Interdisciplinary History*, 31, 4, 2001, pp. 581-612; Mary J. Dobson, *Contours of death and disease in early modern England*, Cambridge: Cambridge University Press, 1997.

⁴⁶ Paul M. Hohenberg and Lynn Hollen Lees, *The making of urban Europe 1000-1950*, Cambridge, MA, Harvard University Press, 1995, p. 252; Paul Bairoch, *Cities and economic development: from the dawn of history to the present*, Chicago: Chicago University Press, 1988, p. 290; Jeffrey G. Williamson, *Coping with city growth during the British industrial revolution*, Cambridge: Cambridge University Press, pp. 24-5.

⁴⁷ Wrigley, ‘A simple model’, p. 217; De Vries, *European urbanization*, pp. 179-200; Dupâquier, *De la Renaissance à 1789*, p. 421; Hohenberg and Lees, *The making of Urban Europe*, pp. 111 and 127; Lawton and Lee, ‘Introduction’, p. 14; Woods, ‘What would one need to know’, p. 87; Lynch, *Individuals, families*, pp. 42-44.

⁴⁸ A. Sharlin, ‘Natural decrease in early modern cities: a reconsideration’, *Past and Present*, 79, 1978, pp. 126-38.

⁴⁹ J. Landers, *Death and the metropolis: studies in the demographic history of London, 1670-1830*, Cambridge: Cambridge University Press, 1993; Dobson, *Contours of death*, pp. 126-7; Galley, *The demography*, pp. 11-14.

⁵⁰ Wrigley, ‘A simple model’; J. Dupâquier, ed., *De la Renaissance à 1789* (Vol. 2 of *Histoire de la population française*), Paris: Presses Universitaires de France, 1988, p. 421. For an elaborate discussion see De Vries, *European urbanization*, pp. 177-208. A useful overview is offered by: Robert Woods, ‘Urban-rural mortality differentials: an unresolved debate’, *Population and Development Review*, 29, 1, 2003, pp. 29-46; See also Dobson, *Contours of death*, pp. 126-7; Chris Galley, *The demography of early modern towns: York in the sixteenth and seventeenth centuries*, Liverpool: Liverpool University Press, 1998, pp. 11-14; and Lynch, *Individuals, families*, pp. 42-4.

⁵¹ De Vries, *European urbanization*, uses Amsterdam; Wrigley, ‘A simple model’, p. 217, only London; Bairoch, *Cities*, relies exclusively on Stockholm. See also Jan de Vries and Ad van der Woude, *Nederland 1500-1815: de eerste ronde van moderne economische groei*, Amsterdam: Balans, 1995, p. 98.

our entire period. We therefore gathered as many data as possible from the available historical demographical literature for the provisional reconstruction in Table 1.⁵²

⁵² Jean-Pierre Bardet, *Rouen aux XVIIe et XVIIIe siècle.: les mutations d'un espace social*, Paris: SEDES, 1983, p. 27, and documents, pp. 17-19; Jean-Pierre Bardet, 'Skizze einer städtischen Bevölkerungsbilanz: der Fall Rouen', in Neithard Bulst, Jochen Hooek, and Franz Irsigler, eds., *Bevölkerung, Wirtschaft und Gesellschaft: Stadt- land- Beziehungen in Deutschland und Frankreich 14. bis 19. Jahrhundert*, Trier: Auenthal Verlag, 1983, p. 72; Marina Cattaruzza, 'Population dynamic and economic change in Trieste and its hinterland, 1850-1914', in Richard Lawton, and Robert Lee, eds., *Population and society in Western European port-cities c. 1650-1939*, Liverpool: Liverpool University Press, 2002, pp. 176-211; Louis Chevalier, *La formation de la population parisienne au XIXe siècle*, Paris: Presses Universitaires de France, 1949, pp. 48-52; M. J. Daunton, 'Towns and economic growth in eighteenth century England', in Philip Abrams and E.A. Wrigley, eds., *Towns in societies: essays in economic history and historical sociology*, Cambridge: Cambridge University Press, 1978, p. 256; C. Desama, 'La croissance démographique à Verviers pendant la révolution industrielle (1759-1850)', *Annales de Démographie Historique*, 1982, p. 201; De Vries, *European urbanization*, pp. 235-237; A. Eisenbach, and B. Grochulska, 'Population en Pologne (fin XVIIe, début XIXe siècle)', *Annales de Démographie Historique*, 1965, p. 118; E. Esmonin, 'Statistiques du mouvement de la population en France de 1770 à 1789', *Études et Chronique de Démographie Historique*, 1964, pp. 27-130; Etienne François, 'Mortalité urbaine en Allemagne au XVIIIe siècle', *Annales de Démographie Historique*, 1978, pp. 152-3; Marco H.D. van Leeuwen, and James .E. Oepen, 'Reconstructing the demographic regime of Amsterdam 1681-1920', *Economic and Social History in the Netherlands*, 1993, pp. 70-71; E. Levasseur, *La population française: histoire de la population avant 1789 et démographie de la France, comparée à celle des autres nations au XIXe siècle, précédée d'une introduction sur la statistique* Paris: Rousseau, 1891, vol. II, pp. 395-396, 408; R. Mols, *Introduction à la démographie historique des villes d'Europe du XIVe au XVIIIe siècles*, Louvain: Bibliothèque de l'Université de Louvain, 1956, vol. III, pp. 207-211; M. Natale, 'Les bilans démographiques des villes Italiennes de l'unité d'Italie à la première guerre mondiale', *Annales de Démographie Historique*, 1982, p. 221; Hubert Nusteling, 'De bevolking: van raadsels naar oplossingen', in Willem Frijhoff et al., eds. *Geschiedenis van Dordrecht van 1572 tot 1813*, Hilversum: Verloren, 1998, pp. 91-93 and 98-101; Sigismund Peller, 'Zur Kenntnis der städtischen Mortalität im 18. Jahrhundert mit besonderer Berücksichtigung der Säuglings- und Tuberkulosesterblichkeit (Wien zur Zeit der ersten Volkszählung)', *Zeitschrift für Hygiene und Infektionskrankheiten*, 90, 1920, pp. 227-262, p. 230; Jean-Claude Perrot, *Genèse d'une ville moderne. Caen au XVIIIe siècle*, Paris: Mouton, 1975, p. 152; A. Schiaffino, 'Un aspect mal connue de la démographie urbaine: l'émigration', *Annales de Démographie Historique*, 1982, pp. 231-41; J.H. Schnitzler, *Statistique générale méthodique et complète de la France, comparée aux autres grandes puissances de l'Europe*, Paris: H. Lebrun, 1846, vol. I, pp. 389-402 and 450-463; William H. Sewell, *Structure and mobility. The men and women of Marseille, 1820-1870*, Cambridge: Cambridge University Press, 1985, p. 149; A. Soboul, *La France à la veille de la Révolution*, Paris: Société d'Édition d'Enseignement Supérieur, 1974, p. 58; Wrigley, 'A simple model', p. 217.

Table 1: Migration to cities over 10,000 in Europe, 1500-1900 (000s)⁵³

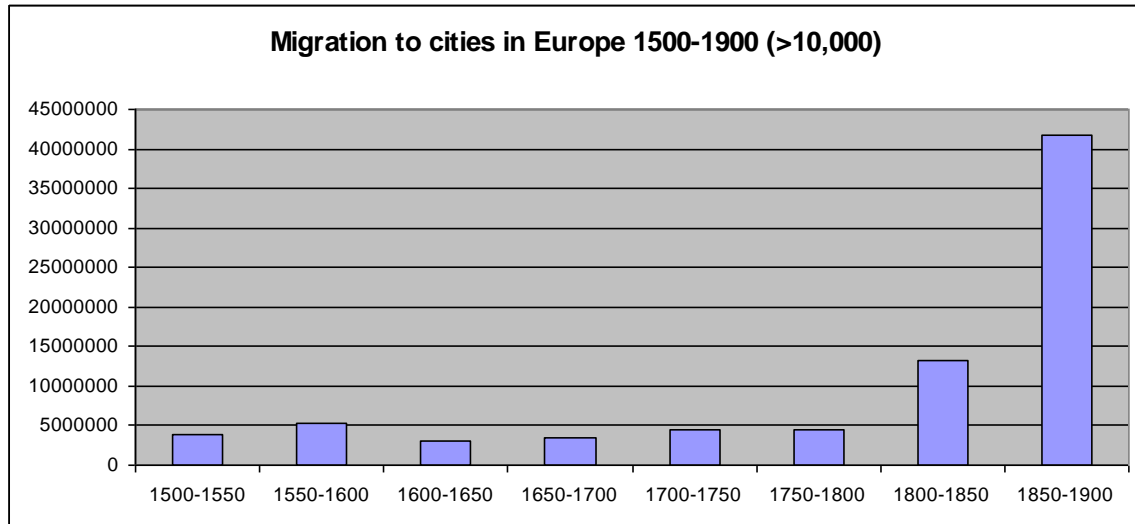
	A	B	C	D	E	F	G	H
	E1	R&P	B&I	Total increase	Average urban population	Annual increase/decrease per 1000	+/- natural de/increase	Total number of migrants
1501-50	1067	4	284	1355	5043	- 10	+ 2521	3876
1551-00	1662	4	284	1950	6565	- 10	+ 3282	5232
1601-50	1052	49	76	1177	7614	- 10	+ 1903	3080
1651-00	1282	49	76	1407	8435	- 5	+ 2108	3515
1701-50	1584	126	249	1959	9982	- 5	+ 2495	4454
1751-00	3220	752	556	4528	13077	0	0	4528
1801-50	15971	2161	1137	19269	24847	+ 5	- 6211	13058
1851-00	66804	9640	3059	79503	73677	+ 10	- 36838	42665

Notes: **E1**= Europe without Russia, Poland, Balkans and Istanbul. N.B. De Vries (*European urbanization*) included Kaliningrad, Szczecin, Wrocław, Gdansk and Elblag in his numbers for Germany. **R&P**= European Russia and Poland (without the cities mentioned under E1); **B&I**= Balkans (incl. Hungary) and Istanbul.

Using the data on city growth provided by Jan de Vries and Paul Bairoch we first calculated the net growth of cities within a 50 year period, for three parts of Europe (A-C), resulting in the total urban growth (D). We then calculated the average urban population in each period (E) to which we applied the average decrease or increase of population due to excess urban mortality (1500-1750) or natality (1800-1750) (F), resulting in natural increase or decrease of the urban growth figures in column G. The end result is to be found in column H (D +/- G). These calculations are the basis for Figure 8.

⁵³ De Vries, *European urbanization*, pp. 30, 50 and 67. Bairoch, *Cities*, pp. 175 and 216; Paul Bairoch, Jean Batou, and Pierre Chèvre, *La population des villes Européennes: banque de données et analyse sommaire des résultats, 800-1850*, Genève: Université de Genève, 1988; Cem Behar, *Osmanlı İmparatorluğu'nun ve Türkiye'nin nüfusu, 1500-1927*, Ankara: T.C. Başbakanlık Devlet İstatistik Enstitüsü, 1996; Bernard Hourcade, 'The demography of cities and the expansion of urban space', in Peter Sluglett, ed., *The urban social history of the Middle East, 1750-1950*, Syracuse: Syracuse University Press, 2008; Thomas Stanley Fedor, *Patterns of urban growth in the Russian empire during the 19th century*, Chicago: University of Chicago, Department of Geography, 1975.

Figure 8: Migration to cities (> 10,000) in Europe, 1500-1900⁵⁴



We realise that these numbers on migration to cities constitute an absolute minimum, and that they exclude movements of people moving to centres with less than 10,000 inhabitants. This is not a problem, however, because the latter moves generally took place over short distances, overcoming minor cultural barriers, and therefore do not fit our cross-community definition. Moreover, small urban communities had a much stronger chance of natural growth, and their net population figures therefore tell us little about migration movements.

We also realise that the net increase in aggregate urban population per half century is only the tip of the iceberg, because the growth of one city might be annulled by the decrease of another.⁵⁵ Ideally we would like to have had numbers at the individual city level for all the periods under study, but these are mostly lacking, at least for the area and time period we cover. Although we seriously underestimate city-bound migrations, and thus migration rates (especially for the early modern period), this does not influence the general trend. Finally, we were unable to trace the manifold temporary residents in Europe's cities, and the many vagrants moving between the countryside and cities.⁵⁶ This too is compensated for, to some extent, by our attempt to come up with temporary migration figures independently.

Migratory labour of a seasonal nature

Seasonal labour was widespread throughout Europe, especially in the western and southern parts. Large numbers of peasants left their small farms to work for higher wages

⁵⁴ Including the European part of the Ottoman Empire with its capital Istanbul.

⁵⁵ See also De Vries, *European urbanization*, p. 205.

⁵⁶ Peter Clark, and David Souden, eds., *Migration and society in early modern England*, London: Hutchinson, 1987.

in areas where labour was in great demand, especially during harvest times. Thanks to a systematic attempt to quantify this form of migration during the Napoleonic period the numbers around 1811 are well known. One may project these figures back in time on the basis of general economic trends, as there are very few quantitative sources that provide direct evidence. For the nineteenth century, there are some good additional data. As the average period of seasonal work supposedly was about 12.5 years, we have multiplied the average number of seasonal migrants in a given 50 years period by four. This leads to the following Table, which suggests a huge increase in the nineteenth century, in particular in Russia.

Table 2: Estimated development of seasonal labour in Europe 1600-1900 (000s)⁵⁷

	Average number of seasonal labourers	Total number of migrants (annual mean x [=times] 4)
1500-1550	-	-
1550-1600	-	-
1600-1650	117,5	470
1650-1700	250	1000
1700-1750	480	1920
1750-1800	610	2440
1800-1850	1400	5600
1850-1900	5800	23200

Labour migration

As a rule, labour migrants leaving for periods of several years were young, and many of them were unmarried. They were trying to build up savings to settle as independent producers, or to become economically attractive marriage partners. Seamen, soldiers, domestics and ‘tramping artisans’ were the most important occupational sub-groups in this category, but we only have sufficient statistical data for seamen and soldiers. The lack of good figures for the numerically important domestics and artisans is less serious than it seems, because they fell, for the most part, under our category of urbanisation. This is not the full migration story, for some domestics returned to the countryside or to the small towns where they came from, and therefore may not be totally covered by the urbanisation figures. The same goes for the mainly urban artisans. Some of the migrants we may miss in this way are compensated for by our double-counting of seamen who settled permanently in cities.

Not all seamen were migrants. For our purposes, and according to our cross-community definition, we exclude coastal fishermen and men employed in inland navigation on rivers, canals, lakes or sea arms intruding into the continent, who were

⁵⁷ Lucassen, *Migrant Labour*, pp. 133-71 (1600-1800) and pp. 172-206 (1800-1900); Peter Kolchin, *Unfree labor: American slavery and Russian serfdom*, Cambridge, MA: Harvard University Press, 1987, pp. 334-8; Jeffrey Burds, ‘The social control of peasant labor in Russia: the response of village communities to labor migration in the central industrial region, 1861-1905’, in Esther Kingston-Mann, and Timothy Mixer, eds., *Peasant economy, culture and politics of European Russia, 1800-1921*, Princeton: Princeton University Press, 1991, p. 57.

rarely away from home for more than a week at a time.⁵⁸ We include crews of galleys, dwindling after 1660, under the rubric of sailors.⁵⁹ All seamen working on ocean-going merchant vessels and on naval ships are included, because of their destinations, and, especially, because the majority of sailors on European ships were not born where they embarked, as the Dutch case shows most clearly.⁶⁰ In the case of other countries, between a quarter and a half of their sailors may have originated from places other than their port of embarkation, especially in wartime.⁶¹ It is possible to make estimates of the European maritime market, even if the data are a 'statistical minefield.'⁶² Men in the navy may seem under-represented, but most fleets for war were not kept on a permanent basis until the late nineteenth century. Their sailors had to be 'borrowed' from merchant ships, which might be prevented from sailing if the navy had insufficient men.

The well-known Dutch maritime historian, Jaap R. Bruijn, concluded that the average European seaman in the period 1570-1870 was under 30 years of age, and that it was not uncommon for boys of 12 to 15 years to work at sea.⁶³ Our point of departure is the supposition that an average seaman's career lasted 12.5 years. For 50 year migration figures (Table 3), we multiply our figures of average maritime employment by four, to estimate the number of men with experience of the high-sea, and the migrations involved in recruitment, voyages, and discharge inherent to this type of occupation.

⁵⁸ Jelle van Lottum and Jan Lucassen, 'Six cross-sections of the Dutch maritime labour market: a preliminary reconstruction and its implications (1610-1850)', in Richard Gorski, ed., *Maritime labour: contributions to the history of work at sea 1500-2000*, Amsterdam: Aksant, 2007, p. 19; D. Starkey, 'Quantifying British seafarers, 1789-1828', in Gorski, *Maritime labour*, pp. 83-103. For the marriage of sailors, Sarah Palmer and David M. Williams, 'British sailors, 1775-1870', in Paul C. van Royen et al., eds., *"Those emblems of hell"? European sailors and the maritime labour market, 1570-1870*, St. Johns, Newfoundland, 1997, pp 107-10.

⁵⁹ Bernard Doumerc, 'L'Adriatique du XIIIe au XVIIe siècle', in Piere Cabanes et al., eds., *Histoire de l'Adriatique*, Paris: Seuil, 2001, p. 367; Davis, 'The geography of slaving'.

⁶⁰ Van Lottum, and Lucassen, 'Six cross-sections', pp. 28-30; Matthias van Rossum, *Hand aan Hand (Blank en Bruin). Solidariteit en de werking van globalisering, etniciteit en klasse onder zeelieden op de Nederlandse koopvaardij, 1900-1945*, Amsterdam: Aksant, 2009, esp. table 2.8.

⁶¹ T.J.A. le Goff, 'The labour market for sailors in France', in Van Royen et al., eds., *"Those emblems of hell"?*, pp. 300-311, and 316 for France.

⁶² Starkey, 'Quantifying', p. 83.

⁶³ Jaap R. Bruijn, 'Career Patterns', in Van Royen et al., eds., *"Those emblems of hell"?*, pp. 27-8; Le Goff, 'The labour market for sailors in France', p. 321.

Table 3: Average annual and total maritime work force Europe, except the Balkans 1500-1900⁶⁴

Period	Year of source	Europe total according to historiography		Europe total: our annual mean per half century	European individuals with high-seas experience (annual mean x [times] 4)
		Tonnage x 1000	Men x 1000	Men x 1000	
1500-1550	Late Middle ages	1,000		145	580,000
1550-1600		Recovery after decline		180	720,000
1600-1650	1600	1,000		170	680,000
1650-1700	1670s	1,500	300-400	230	820,000
1700-1750				260	1,030,000
1750-1800	Late C18th	3,500		348	1,392,000
1800-1850				472	1,888,000
1850-1900				565	2,260,000

In chapter 20 of *Candide*, published in 1759, Voltaire provides a clear-cut answer to the vexed question of soldiers as migrants: ‘a million assassins organized into regiments, rushing from one end of Europe to the other inflicting murder and pillage because they have to earn their living and they do not know an honest trade.’⁶⁵ Prior to the introduction of general military conscription, many, if not most, soldiers in Europe were long-distance migrants. This was certainly the case for mercenary and professional work, the prevailing recruitment system in late medieval and early modern times.⁶⁶ This was not true of most militiamen, however, and we do not include them in this study.⁶⁷

⁶⁴ The columns ‘Europe total according to historiography’: Richard W. Unger, ‘The tonnage of Europe's merchant fleets 1300-1800’, *American Neptune*, 52, 1992, pp. 247-261, partially revised in Jan Lucassen and Richard Unger, ‘Labour productivity in ocean shipping’, *International Journal of Maritime History*, 12 2000, pp. 127-141, with the following additions: total number of sailors late seventeenth century (including fishermen and coastal mariners): Jean Meyer, ‘Forces navales et puissances économiques’, in Paul Adam, ed., *Seamen in society*, Bucharest, 1980, vol. II, p. 79.

⁶⁵ Alan Forrest, *Soldiers of the French Revolution*, Durham, NC: Duke University Press, 1990, p. 30.

⁶⁶ M.E. Mallet, and J.R. Hale, *The military organization of a Renaissance state: Venice, c. 1400 to 1617*. Cambridge: Cambridge University Press, 1984, pp. 1-2; Christian Pfister, *Bevölkerungsgeschichte und historische Demographie 1500-1800*, München: Oldenbourg, 1994, pp. 53-4; Matthias Asche, ‘Krieg, Militär und Migration in der Frühen Neuzeit. Einleitende Beobachtungen zum Verhältnis von horizontaler und vertikaler Mobilität in der kriegsgeprägten Gesellschaft Alteuropas im 17. Jahrhundert’, in Mathias Asche et al., eds. *Krieg, Militär und Migration in der Frühen Neuzeit*, Münster: LIT Verlag, 2008, pp. 15-25. For military recruitment systems see Jan Lucassen and Erik Jan Zürcher, ‘Introduction: conscription and resistance. The historical context’, in E.J. Zürcher, ed., *Arming the state. Military conscription in the Middle East and Central Asia 1775-1925*, London and New York: I.B. Tauris, 1999.

⁶⁷ John Brewer, *The sinews of power: war, money and the English state, 1688-1783*. London: Unwin Hyman, 1989, pp. 32-3.

Moreover, all mercenaries did not leave their villages or home towns forever.⁶⁸ Redlich distinguishes in particular between the Swiss mercenaries, whom he calls ‘sedentary’, because a substantial number returned home after the war was over, and the ‘uprooted,’ who made war their profession, the so-called *lansquenets*.⁶⁹

The ‘military revolution’ from the early sixteenth century onwards, characterised by a new use of fire power and fortifications, increased the size of armies substantially, and changed their nature.⁷⁰ Childs distinguished between the domination of mercenaries before the mid-seventeenth century, and standing armies thereafter. Instead of an outlay confined to periods of war or disturbances, the standing army was ‘a military mouth which needed to be fed at all times.’⁷¹ Consequently, many more professional soldiers in Europe left their homes. The ‘fiscal-military state,’ a famous expression coined by John Brewer and borrowed by Charles Tilly, converted tax-payers’ money into mercenaries’ salaries, thereby contributing to the mobilisation of wage labour and its spatial mobility. In this context, we can talk of a fiscal labour-migrants’ state.

Mercenaries, available for hire to the best paymaster, moved frequently from one army commander to another. Moreover, sites of war and battle shifted continuously, and fortresses were often far from population centres. Half of the infantry of the Dutch Republic, which had one of the most international armies, were foreigners.⁷² Ancien Regime France also relied partially on foreigners, as did Spain, Britain, Sweden and Prussia.⁷³ Employing foreign troops in wartime was considered highly advantageous: ‘the troops native to the country where the war is disband very rapidly and *there is no surer strength than that of foreign soldiers*.’⁷⁴ Professional soldiers dominated the European

⁶⁸ Geoffrey Parker, *The military revolution: military innovation and the rise of the West, 1500-1800*, Cambridge: Cambridge University Press, 1988, pp. 47, 172 footnote 7.

⁶⁹ Fritz Redlich, *The German military enterpriser and his work force: a study in European economic and social history*, Wiesbaden: Steiner, 1964-65, vol. 1, pp. 114-17.

⁷⁰ Parker, *The military revolution*, p. 43; Jürgen Luh, *Ancien régime warfare and the military revolution: a study*. Groningen: INOS, 2000, pp. 4-5.

⁷¹ John Childs, *Armies and warfare in Europe 1648-1789*, Manchester: Manchester University Press, 1982, pp. 16-17. See also John A. Lynn, ‘The evolution of army style in the modern West, 800-2000’, *International History Review*, 18, 3, 1996, pp. 505-545.

⁷² H.L. Zwitzer, *‘De militie van den staat’: het leger van de Republiek der Verenigde Nederlanden*, Amsterdam: Van Soeren, 1991, chapter 3; Olaf van Nimwegen, ‘De Republiek der Verenigde Nederlanden in oorlog met Frankrijk (1650-1750)’, in Jaap R. Bruijn and Cees B. Wels, eds., *Met man en macht. De militaire geschiedenis van Nederland 1550-2000*, Amsterdam: Balans, 2003, pp. 83-6.

⁷³ Redlich, *The German military enterpriser* (1965), pp. 200-1; Geoffrey Parker, *The Army of Flanders and the Spanish Road 1567-1659: the logistics of Spanish victory and defeat in the Low Countries’ wars*, Cambridge: Cambridge University Press, 1972, pp. 27-35, 271-2; Childs, *Armies and warfare*, pp. 46-9; Parker, *The military revolution*, pp. 47-52; André Corvisier, *Armées et sociétés en Europe de 1494 à 1789*, Paris: Presses Universitaires de France, 1976, pp. 125-7; Asche, ‘Krieg’, pp. 23-25; J.H. Amersfoort, *Koning en kanton. De Nederlandse staat en het einde van de Zwitserse krijgsdienst hier te lande, 1814-1829*, 's-Gravenhage: Sectie Militaire Geschiedenis, 1988, pp. 14 and 42; Charles J. Esdaile, ‘Conscription in Spain in the Napoleonic era’, in Donald Stoker, Frederick C. Schneid, and Harold D. Blanton, eds., *Conscription in the Napoleonic era: a revolution in military affairs?*, London: Routledge, 2009, pp. 104, 110.

⁷⁴ Parker, *The Army of Flanders*, p. 30, quoting from a letter by the marquis of Aytona to the Spanish king (*italics in original*).

military scene until the end of the eighteenth century, despite experiments with conscription.⁷⁵

After the advent of the French Revolution, conscription became the rule in Europe. Only a few European countries stuck to a professional army, in particular Britain. As a result, military mobility diminished considerably, at least in peace time, as conscripts had to report for training in the nearest barracks for limited periods.⁷⁶ However, this was not the case in Austria-Hungary around 1850, where most regiments seem to have camped in crown lands other than those they originated from, or in Italy after 1870.⁷⁷ In the second half of the nineteenth century, the time that conscripts spent in arms away from home varied between a few months and one and a half years.⁷⁸ They can thus be regarded as short-distance internal migrants, although the recruitment system only gradually became truly universal through a reduction of the term of duty and the concomitant abolition of substitution possibilities.⁷⁹ Indeed, nineteenth-century conscription often lasted for long periods, converting those drafted into more or less permanent migrants.⁸⁰ Even when short terms of duty dominated, of three years and less, war often had an adverse effect, moving recruits to borders or battlefields, and at times abroad, as during the Napoleonic wars that raged during the first 20 years of the conscription system. Thus, our mobility rates include all soldiers, both paid and conscripted, as an integral component of migrating Europe, with the important exception of conscripts who were called up for three years or less, served in their own region, and were not mobilised for war.

The last step is to convert average military strength into individual men on the move. Sometimes this is easy, because we have figures for the numbers of soldiers recruited, for example for France and Russia from about 1700 onwards. In most cases however, we need to take an extra step by estimating the average service time. A good indicator is the pace at which soldiers were replaced.⁸¹ Between 1500 and 1850, armies lost between 10 and 15% of their troops annually in peace time, and between 15 and 40% in war time. Because of the frequency of wars in Europe until 1815, we may safely surmise an overall wastage rate of at least 20%. Consequently we have to multiply the average strength of a given army in all 50 year periods before 1850 by ten, to reach the number of individual men under the colours. A major reason for these high figures is

⁷⁵ Esdaile, 'Conscription in Spain'; Fredrik Thisner, 'Manning the armed forces: the Swedish solution', in Stoker et al., *Conscription in the Napoleonic Era*, pp. 162-174.

⁷⁶ Eugen Weber, *Peasants into Frenchmen: the modernization of rural France, 1870-1914*, Stanford: Stanford University Press, 1976, p. 299; David Woodward, *Armies of the world 1854-1914*, London: Sidgwick & Jackson, 1978, pp. 30 (Germany), 46 (France), 58 (Austria-Hungary), 89 (Turkey); Amersfoort, *Koning en kanton*, p. 79.

⁷⁷ Antonio Schmidt-Brentano, *Die Armee in Österreich. Militär, Staat und Gesellschaft 1848-1867*, Boppard am Rhein: Harald Boldt, 1975, p. 69; Woodward, *Armies of the world*, pp. 95-6.

⁷⁸ Woodward, *Armies of the world*, pp. 78-79.

⁷⁹ Weber, *Peasants into Frenchmen*, p. 301.

⁸⁰ John Shelton Curtiss, *The Russian Army under Nicholas I, 1825-1855*, Durham, NC: Duke University Press, 1965, pp. 234, 237, 253; Bruce W. Menning, *Bayonets before bullets: the imperial Russian army, 1861-1914*, Bloomington: Indiana University Press, 1992, pp. 222-5 (travelling); Parker, *The military revolution*, pp. 53-4 (enlistment as 'a sentence of death').

⁸¹ Parker, *The military revolution*, pp. 46, 53-58. For additional data see our forthcoming paper on www.iisg.nl.

mortality from disease and war, although there was a substantial drop in military death rates in the second half of the nineteenth century.⁸²

Well-founded estimates of the total strength of armies in Europe are rare. Geoffrey Parker estimates that the armed forces maintained by each of the leading European states had perhaps reached 150,000 men by the 1630s.⁸³ This might add up to one million soldiers for the continent, many more than in the late Middle Ages.⁸⁴ By 1710, he gives an estimate of 1.3 million for the ‘total number of troops simultaneously on foot in Europe.’⁸⁵ While Parker suggests that there was no growth over the eighteenth century, Jürgen Luh provides a higher estimate for the continent on the eve of the French Revolution: two million men in military service, or 5% of the male population between the ages of 20 and 60.⁸⁶ Our data allow for more detailed estimates, which are consistent with the rough figures of military historians (Table 4).

Table 4: The development of labour migration in Europe, except the Balkans 1500-1900 (000s)

Sub-period	Individuals with high-seas experience	Migrant soldiers	Maritime and army migrant labour
1500-1550	580	3000	3580
1550-1600	720	4350	5070
1600-1650	680	7130	7810
1650-1700	820	8270	9090
1700-1750	1030	10280	11310
1750-1800	1392	12290	13682
1800-1850	1888	16170	18058
1850-1900	2260	12340	14600

Migratory labourers are thus a category to be reckoned with in migration history. We counted more than 80 million sailors and soldiers over these four centuries, omitting the Ottoman Balkans. We have collected many data for the Ottoman empire, but we cannot be sure how many men originated from European parts of the empire.⁸⁷ Data on domestics and tramping artisans would push this total to over 100 million (Figure 9). These figures, without any doubt, represent a minimum of migrant labour, especially before 1800, if only because we are unable to estimate the numbers of camp followers,

⁸² Philip D. Curtin, *Death by migration: Europe's encounter with the tropical world in the nineteenth century*, Cambridge: Cambridge University Press, 1989.

⁸³ Parker, *The military revolution*, p. 24.

⁸⁴ *Ibid.*, p. 172, note 4.

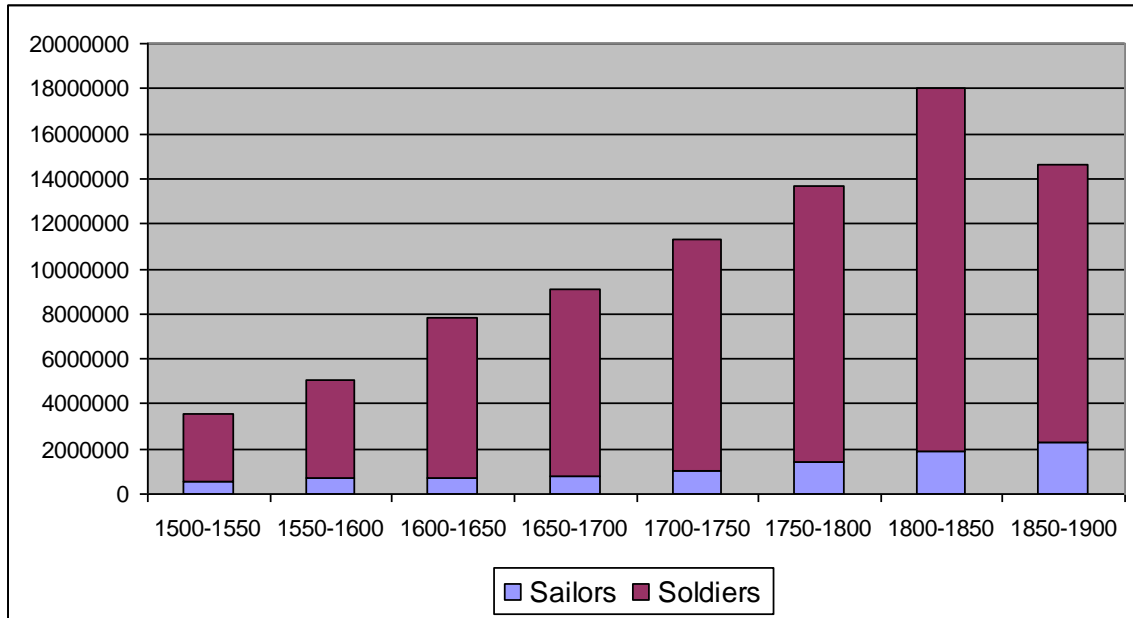
⁸⁵ *Ibid.*, p. 46; Geoffrey Parker, *Spain and the Netherlands, 1559-1569: ten studies*, London: Collins, 1979, p. 102.

⁸⁶ Parker, *Spain and the Netherlands*, p. 102; Luh, *Ancien Régime Warfare*, p.13.

⁸⁷ See our forthcoming research paper, on www.iisg.nl.

consisting of servants, wives, children, prostitutes, victuallers and others. Some experts put this ‘train’ at between 50 and 150% of the size of armies at war.⁸⁸

Figure 9: Migration of soldiers and sailors in Europe 1500-1900

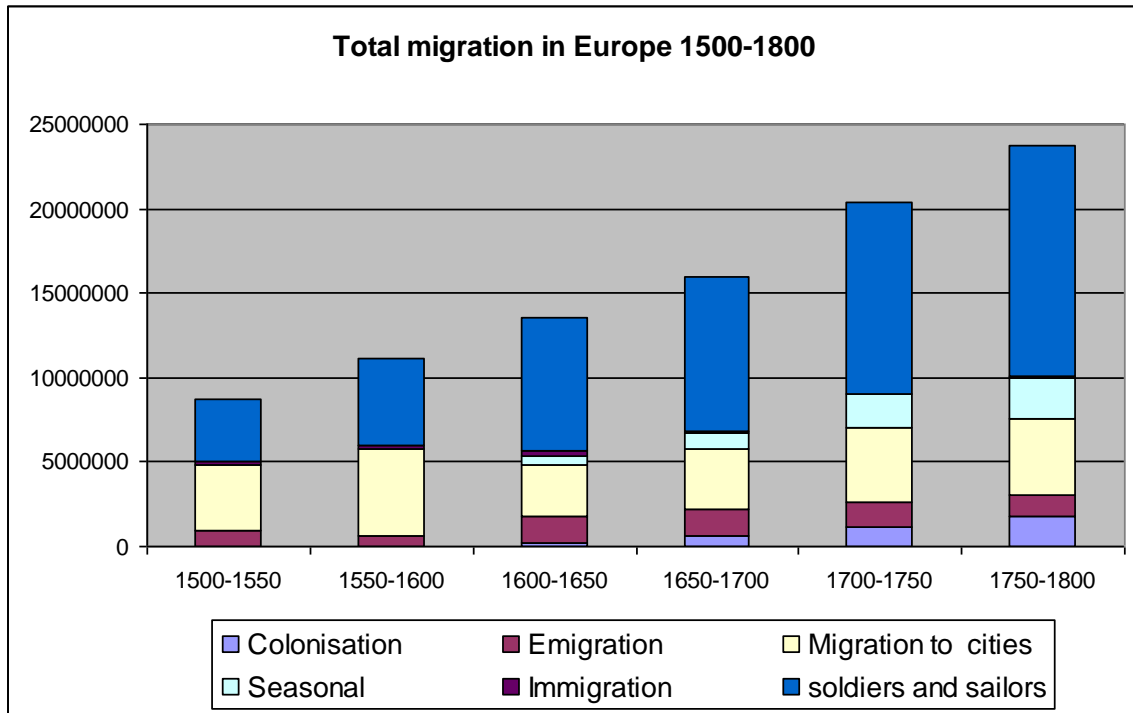


Total migration 1500-1900

Although much remains unknown when it comes to geographical mobility in early modern Europe, the contours of a trend are visible in the following graph (figure 10).

⁸⁸ Martin van Creveld, *Supplying war: logistics from Wallenstein to Patton*, Cambridge: Cambridge University Press, 1977, p. 6; Luh, *Ancien Régime warfare*, pp. 13, 24-47; Parker, *The Army of Flanders*, pp. 175-177, 288-289; Parker, *The military revolution*, pp. 77-8; Woodward, *Armies of the world*, p. 39.

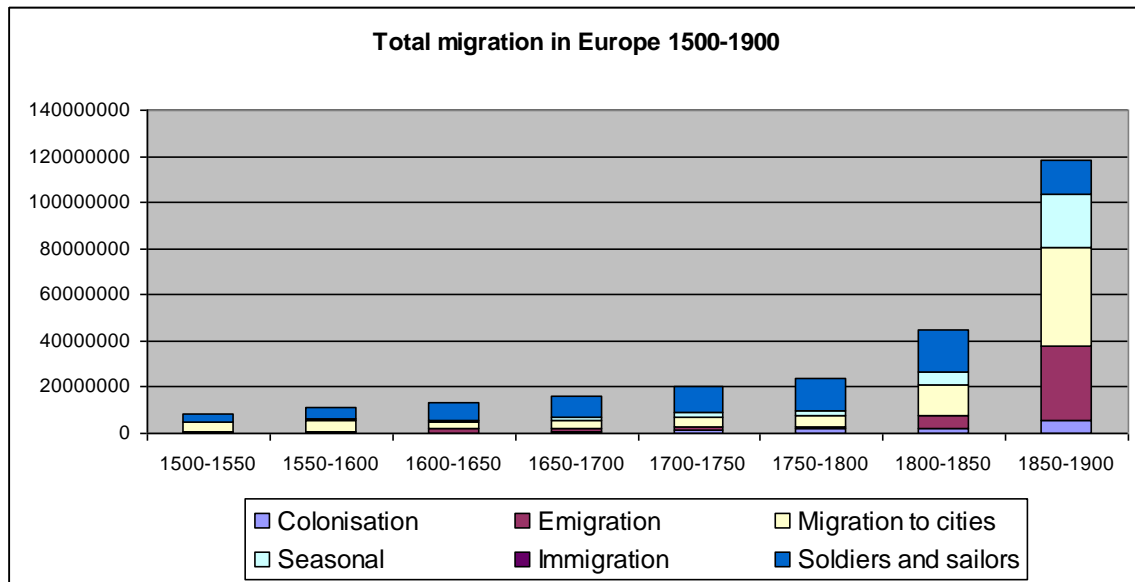
Figure 10: Total migration in Europe 1500-1800



Absolute numbers grew dramatically in the nineteenth century, especially after 1850, as a result of widespread urbanisation and the expansion of seasonal migration and emigration to the Americas, Siberia, and elsewhere (Figure 11).⁸⁹ The rise in internal European colonisation appears quite insignificant when compared to the scale of migration to cities and emigration.

⁸⁹ Donald W. Treadgold, *The great Siberian migration: government and peasant in resettlement from emancipation to the First World War*, Princeton: Princeton University Press, 1957.

Figure 11: Total migration in Europe 1500-1900



When we then link these absolute numbers to the population of Europe, we get the position shown in Table 5.

Table 5: Total migration rates in Europe 1500-1900

	Total population (millions) ⁹⁰	Total migrations (million)	Migration rate
1500-1550	76	8,7	11,4
1550-1600	89	11,1	12,5
1600-1650	95	13,5	14,2
1650-1700	101	15,8	15,7
1700-1750	116	20,6	17,7
1750-1800	151	23,5	15,6
1800-1850	212	44,5	21
1850-1900	334	118,8	35,3

Disaggregating Europe: The Dutch Republic and Russia compared

Aggregated estimates for Europe as a whole conceal important regional differences, so that the data should be broken down to understand the development of migration rates. We chose two countries to represent two extremes of social and economic development: the Dutch Republic with early commercialisation, urbanisation and a wage economy, and

⁹⁰ Estimated total population in the middle of the half century, defined as the average of the total population at the beginning and the end of the period. Based on De Vries, *European urbanization*, with additions from Bairoch et al., *La population*; Behar, *Osmanli*; Fedor, *Patterns*; Hourcade, *The demography of cities*; and Gilbert Rozman, *Urban networks in Russia, 1750-1800, and premodern periodization*, Princeton: Princeton University Press, 1976. For 1900 (except Russia) we used Maddison: www.ggdc.net/maddison/.

Russia, with few cities and the bulk of the population living as serfs in the countryside. When we apply the same criteria and urbanisation data to the Dutch Republic as a whole, it becomes clear that mobility levels during the first half of the seventeenth century, when the Republic reached the zenith of its economic and political power, were twice as high as the European average in age of mass migrations after 1850 (Table 6).

Table 6: Total migration (000s) and migration rates for the Netherlands (1500-1900)⁹¹

	To cities	Emigration ⁹²	Seasonal	Soldiers and sailors	Total Migration	Total population	Migration rate
1500-1550	345			15	360	1100	32,7
1550-1600	718			140	868	1400	62
1600-1650	685		40	500	1225	1750	70
1650-1700	292		80	570	942	1850	51
1700-1750	238		107	760	1105	1900	58,2
1750-1800	15 ⁹³		93	450	558	1950	28,6
1800-1850	94	93	80	125	392	2500	15,7
1850-1900	806	363	53	125	1347	3700	36,4

Note: Immigrants from abroad are not listed separately because the great majority (including refugees) settled in cities, and are subsumed in the urban numbers.

This island of extremely high mobility in the period 1550-1750, was part of a wider North Sea system, which contrasted sharply with the rest of Europe.⁹⁴ High mobility rates in the Dutch Republic, the core of the North Sea system, show the emergence of an international labour market with high wages, which exerted a large demand for labour, both seasonal and permanent. Thus we may consider the situation in the Dutch Republic as an early precursor of more general European mobility patterns that emerged more than one century later, characterised by a large percentage of proletarians,

⁹¹ Bairoch et al., *Cities*, pp. 53-54; Martin Bossenbroek, *Volk voor Indië: de werving van Europese militairen voor de Nederlandse koloniale dienst 1814-1909*, Amsterdam: Van Soeren, 1992, p. 278; De Vries, *European urbanization*, pp. 30 and 203; De Vries and Van der Woude, *Nederland 1500-1815*, p. 71; Jan Lucassen, 'The Netherlands, the Dutch, and long-distance migration in the late sixteenth to early nineteenth centuries', in Canny, ed., *Europeans on the move*, p. 181; Jan Lucassen, 'Immigranten in Holland 1600-1800. Een kwantitatieve benadering', Amsterdam: CGM Working Papers, 2002; Ulbe Bosma, 'Sailing through Suez from the South: the emergence of an Indies-Dutch migration circuit, 1815-1940', *International Migration Review*, 41, 2007, pp. 511-536; Dutch Census of 1899.

⁹² For the period 1500-1800, subsumed under sailors and soldiers. The numbers for the nineteenth century are composed of emigrants to the colonies (Bossenbroek, *Volk voor indië*, p. 278; Bosma, 'Sailing through Suez'), to the Americas (C.A. Oomens, 'Emigratie in de negentiende eeuw', in *De loop der bevolking van Nederland in de negentiende eeuw*. Den Haag: CBS, 1989), and to Germany (Jan Lucassen, 'Dutch long distance migration. A concise history 1600-1900', IISG Research Papers, Amsterdam: IISG, 1993).

⁹³ To compare Dutch with European figures, we have used the method by which the growth of one city can be annulled by the decrease of another.

⁹⁴ Van Lottum, *Across the North Sea*, p. 38.

a free labour market, high levels of urbanisation, and excellent transportation networks.⁹⁵ In other words, this was a situation that would extend over the industrialised parts of Europe in the second half of the nineteenth century, at a time when the Netherlands had sunk below the European average.

The extraordinary nature of the early modern Dutch situation is highlighted by comparison with Russia. In the latter case, migration rates were somewhat below those in northwestern Europe, and only clearly surpassed the European average after 1850, when all forms of migration boomed.

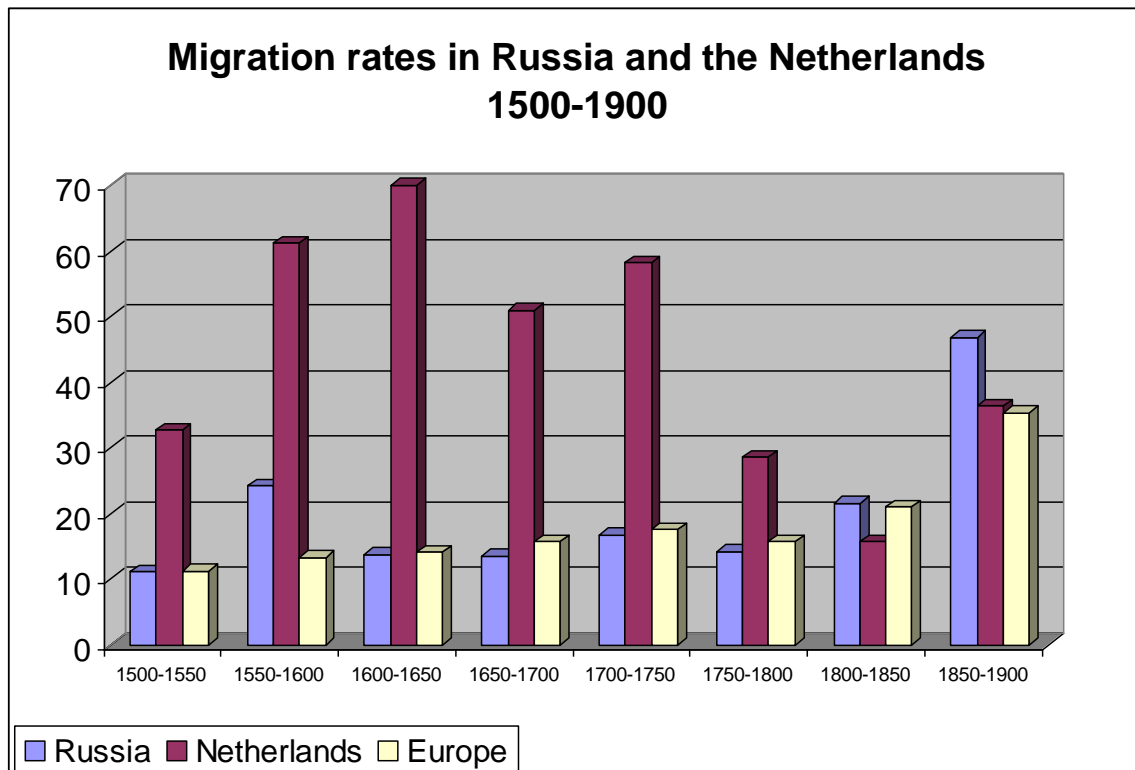
Table 7: Total migration (000s) and migration rates for European Russia (1500-1900)⁹⁶

	To cities	Emi- gration	Season- al	Soldiers and sailors	Colon- isation	Immi- gration	Total Migra- tion	Total population	Migra- tion rate
1500- 1550	167			500			667	6000	11,1
1550- 1600	167	500		1000	30		1697	7000	24,2
1600- 1650	150	150		500	100	270	1170	8500	13,8
1650- 1700	150	50	200	1000	350		1750	13000	13,5
1700- 1750	235	250	200	1010	710		2405	15000	16,0
1750- 1800	690	250	400	1265	1100		3705	26000	14,2
1800- 1850	1494	375	2400	4060	2250		10579	49000	21,6
1850- 1900	4676	4000	16000	5065	5400		35141	75000	46,8

⁹⁵ Jan de Vries, *Barges and capitalism: passenger transportation in the Dutch economy, 1632-1839*, Wageningen: AAG Bijdragen, 1978.

⁹⁶ Source: Bairoch et al., *Cities*, pp. 60-5; De Vries, *European urbanization*, pp. 30 and 203; Richard Hellie, 'Russland und Weissrussland', in Bade et al., *Enzyklopädie*, p. 315; R. Cameron, *Concise economic history of the world*, New York: Oxford University Press, 1993, p. 193; Willcox, *International migrations*; Hoerder, *Cultures in contact*, pp. 311-312; Hellie, 'Migration in early modern Russia', p. 317; Moon, 'Peasant migration', pp. 863 and 867; Moon, 'Peasant migration, the abolition of serfdom', p. 347; Fedor, *Patterns*, pp. 183-214 and 126.

Figure 12: Migration rates in Russia and the Netherlands 1500-1900



At the same time, the Russian case shows that Eastern Europe, with its ‘feudal’ regime, was much less static than one might think. Migration rates may be in another league than the most dynamic part of Europe, but they are not far below the European average. Moreover, the Russian case demonstrates that migration patterns were not only caused by proletarianisation, wage labour and commercialisation, but also by factors independent of economic developments. Russian state formation led to colonisation and military migration, while the weaknesses of the Russian state allowed for Kalmyk immigration and slave raids. Only with the abolition of serfdom in 1861 did seasonal migration, long-distance emigration to the United States and Siberia, and city-bound migrations expand dramatically, surpassing the European average by more than 10%.⁹⁷

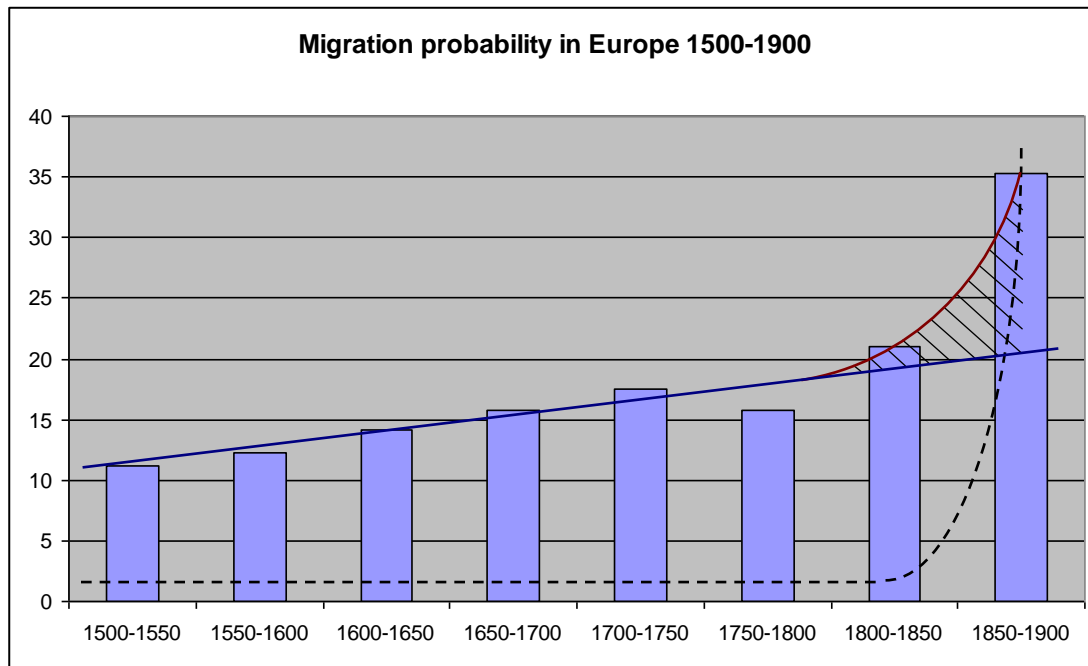
Conclusion

The outcome of our attempt to reconstruct migration rates for Europe in the period 1500-1900 sheds new light on the discussion surrounding Zelinsky’s ‘mobility transition.’ By assuming a causal relationship between the Industrial Revolution and mobility, Zelinsky believed that early modern Europe was a fairly static and sedentary society. Historians working on the early modern period, as well as those who study the nineteenth century, have convincingly dismissed his static picture of the period before 1800, pointing out that Europeans were highly mobile long before the modern era. However, because of their concentration on relatively short periods and small parts of Europe, their figures differ

⁹⁷ For emigration, see Willcox, *International migrations*, pp. 528 and 556, and Hoerder 2002: 319.

from ours.⁹⁸ Our reconstruction, partial and preliminary as it may be, is unequivocal about the fact that Europe was indeed much more mobile than modernisation scholars have realised. At the same time, one might be tempted to deduce that Zelinsky deserves more merit than most migration historians (ourselves included) have granted him. As Figure 13 shows, there was indeed a sharp jump in the level of migration after 1850.

Figure 13: migration rates 1500-1900



Note: this figure is based table 5. The straight blue line indicates the trend one would naïvely expect from the data for 1500-1850. The red line shows a clear deviation from this trend, denoted by the shaded area. The dotted line is our interpretation of the classical mobility transition idea. All lines are merely a guide to the eye.

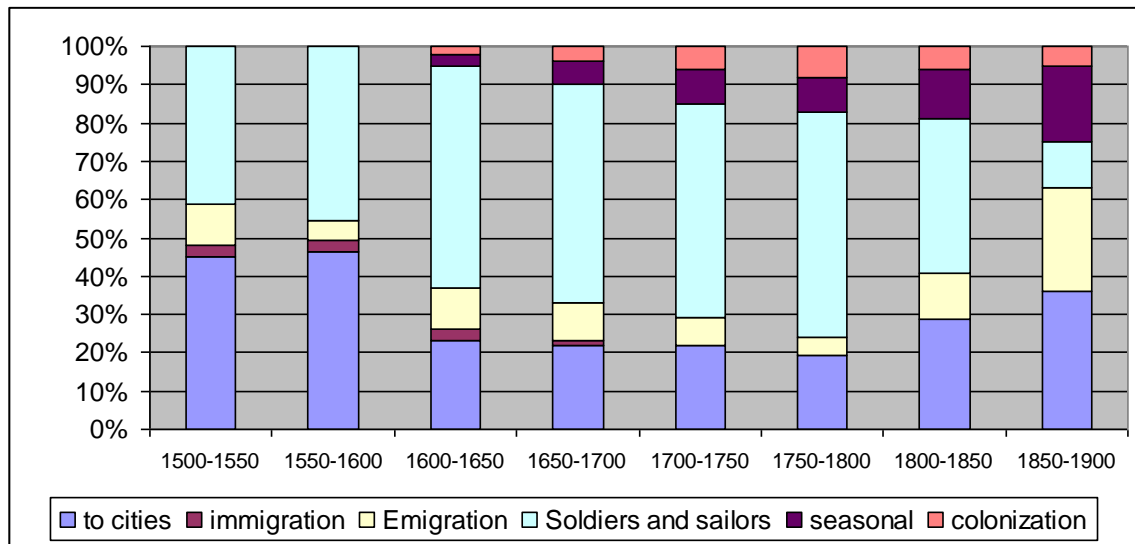
This increase in migration rates, however, was not so much caused by the ‘modernisation process’, a paradigm dominant since the birth of the social sciences at the end of the nineteenth century. At most, the jump after 1850 should be considered primarily as an acceleration of cross-community migration. This was facilitated by cheaper and faster transport, which dramatically increased possibilities for people to find permanent and temporary jobs farther away from home, notably in an Atlantic space. We conclude that it was not the underlying structural causes of migration that changed, but rather its scale. This scale effect is visualised in the shaded triangle in Figure 13.

The fatal attraction of the mobility transition idea is quite understandable. The period 1850-1900 was indeed spectacular. In order to understand why migration in the second half of the nineteenth century is regarded as extraordinary and unprecedented, it is useful to differentiate between its various expressions. As Figure 14 shows, there was a major shift from migration dominated by the movement of soldiers and sailors, up to

⁹⁸ See especially Hochstadt, *Mobility and modernity*; Pooley and Turnbull, *Migration and mobility*.

1850, to migration dictated by movements to cities and to other continents, which caught the eye of both contemporaries and later scholars.

Figure 14: The share of migration types in the total migration rate 1500-1900 (%)



In particular, the share of migration to cities, at a high point in the sixteenth century, surged again from 1750, with only 23 European towns of over 100,000 inhabitants in 1800, compared to 135 a century later. Moreover, the share of mass emigration tripled in comparison with the preceding period, the bulk going to the Americas. It was these two manifestations of migration, in particular, which led to a peak in the second half of the nineteenth century which Zelinsky and others interpreted as the ‘mobility transition,’ unaware of a significant iceberg below the surface.

Another way of understanding the impact of migration on European societies is to break down the data we have presented into smaller geographical entities. As the comparison between the Netherlands and Russia demonstrated, levels of migration differed greatly within Europe, and seemed to follow the pattern of a ‘little divergence,’ which set northwestern Europe apart from the rest in terms of economic development. The high level of migration in the Netherlands until 1800 fits well with the broader economic picture of advanced urbanisation, commercialisation, proletarianisation and more smoothly functioning institutions.⁹⁹ Together with southern England, especially London, the Dutch Republic, notably its coastal strip, experienced a consistently high migration rate during the seventeenth and eighteenth centuries.

At the other end of the ‘little divergence’ spectrum, we chose Russia, with its low migration rates, low urbanisation, serfdom until 1861, and very slow economic development. Surprisingly, our analysis shows that migration was not only determined by economic performance. Until the nineteenth century, Russian migration rates were much lower than in the Netherlands, but not much below the European average. Nor did unfree

⁹⁹ Davids and Lucassen, eds., *A miracle mirrored*; Jan Luiten van Zanden, and Maarten Prak, ‘Towards an economic interpretation of citizenship: the Dutch Republic between medieval communes and modern nation states’, *European Review of Economic History*, 10, 2006, pp. 111-145; Bas van Bavel, ‘The transition in the Low Countries: wage labour as an indicator of the rise of capitalism in the countryside, 1300-1700’, *Past and Present*, 2007, 2, 286-303.

labour systems automatically curb migration. Many people were mobilised as soldiers or slaves, and large numbers of serfs migrated with special permits over long distances to work in the cities, or in colonised parts of the expanding Russian empire.

Our data also underline the importance of state formation and the mobilising role of armies. Even in the Dutch Republic, migration of soldiers was an important factor and weighed heavily in overall rates of migration (Table 6). More detailed comparative studies of migrations are necessary between regions characterised by ‘high coercion and low capital,’ and those with ‘high capital and low coercion’, to use Tilly’s analytical framework.¹⁰⁰ This would show the relationship between migration, state formation, war, and economic development. Our analysis shows that the fiscal-military state had significant consequences for mobilising part of Europe’s male population, which led us to speak of a fiscal labour-migrants’ state.

Although we realise that this article is only a first and preliminary step on the road to a full understanding and mapping of migration patterns in Europe, we think that it is also relevant for understanding other parts of the world.¹⁰¹ In Patrick Manning’s conception, cross-community migrations are an engine of human development.¹⁰² Consequently, migration rates might explain different development patterns in various parts of the world. How evidence on migration ratios might add to important debates on such patterns in the global history field can be illustrated by the ‘Great Divergence’ discussion, that has had world history in its grip since Pomeranz’ ground-breaking book was published in 2000. Pomeranz’ book is a useful starting point, because he explicitly deals with migration, arguing that early modern Europe did not perform significantly better than China in terms of the mobility of labour. The Chinese state was much more successful than its European counterparts in facilitating mass migration to areas where the land-to-labour ratio was high, with over ten million Chinese settling as colonists over long distances in the seventeenth and eighteenth centuries.¹⁰³ In terms of this specific indicator Pomeranz is right. Ten million colonists between 1600 and 1800 produces a migration rate of almost 1.8 %, against only 1% for Europe (Figure 14).

We expect, however, that Chinese performance will be considerably lower than that of Europe for other indicators. Pomeranz, for example, admits that ‘proletarian migration’ was much more difficult in China, and that very few women could migrate by themselves.¹⁰⁴ This is in tune with Bin Wong’s conclusion that semi-proletarianised Chinese peasants often retained their ties to the land, limiting migration patterns and the spatial dimensions of labour markets.¹⁰⁵ These important observations connect to recent debates on the nature of migration in China, and deserve more and rigorous attention.¹⁰⁶

¹⁰⁰ Charles Tilly, *Coercion, capital and European states, AD 990-1992*. Cambridge: Cambridge University Press, 1990.

¹⁰¹ McKeown, ‘Global migration’. See also Giovanni Gozzini, ‘The global system of international migrations, 1900 and 2000: a comparative approach’, *Journal of Global History*, 1, 1, 2006, pp. 321-341.

¹⁰² Manning, *Migration in world history*, pp. 6-14.

¹⁰³ Kenneth Pomeranz, *The Great Divergence China, Europe, and the making of the modern world economy*. Princeton: Princeton University Press, 2000, pp. 83-84.

¹⁰⁴ *Ibid.*, p. 85.

¹⁰⁵ R. Bin Wong, *China transformed: historical change and the limits of European experience*, Ithaca: Cornell University Press 2000, pp. 43, 47 and 66.

¹⁰⁶ McKeown, ‘Global migration’. See also Leo Lucassen, ‘Migration and world history: reaching a new frontier’, *International Review of Social History*, 52, 1, 2007, pp. 89-96 and idem, ‘Where to go from here? New perspectives on global migration history’, *International Review of Social History*, 49, 3, 2004, pp.

Finally, we think that our formal method for measuring cross-community migration, developed on the basis of the European case, can function as a universal method for making global comparisons, which go beyond the specific contrast between economic growth in England and China. We hope that this method will provoke new questions and more detailed research with respect to a wide range of economic, social and cultural topics that are of interest to global historians.

505-10; Leslie Page Moch, 'Connecting migration and world history: demographic patterns, family systems and gender', *International Review of Social History*, 52, 1, 2007, pp. 97-104.