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

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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

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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. 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.

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. 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.”

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. The date has since been pushed back into the late Middle Ages for parts of northwestern Europe. This resonates with the status quaestionis in the

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field of migration history, which shows that, at least in western Europe, the early modern period was bustling with movement, both temporary and definitive. A high level of early modern mobility resulted largely from ubiquitous local and regional moves from parish to parish, both temporary and permanent. 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. 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. 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.

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. His reconstruction of

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11 Hochstadt, *Mobility and modernity*.


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

Figure 1: Emigration Stock rates of North Sea countries 1500-1900

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. 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.

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

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


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

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times. These highly skilled and specialised migrants were recruited in an international market, and often changed their residence.\textsuperscript{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.\textsuperscript{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 histories is analysed, to determine how much research subjects have migrated.\textsuperscript{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. \( M_i^{\text{perm}} \), \( M_i^{\text{mult}} \) and \( M_i^{\text{seas}} \) denote permanent, multi-annual and seasonal cross-community, often long-distance, movements inside unit \( i \), respectively. \( M_i^{\text{imm}} \) is the number of immigrants to unit \( i \) from outside and \( M_i^{\text{emi}} \) 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.


\textsuperscript{24} Van Lottum, *Across the North Sea.*

\textsuperscript{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.\(^\text{26}\) 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 1500-1800\(^\text{27}\)

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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. The total picture for the period 1500-1800 looks as follows:

In the second half of the nineteenth century emigration became a mass phenomenon, especially to the Americas. 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. 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

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29 McKeown, ‘Global Migration 1846-1940’.
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.\textsuperscript{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.

\textbf{Figure 4: Emigration from Europe 1500-1900}\textsuperscript{32}

\begin{center}
\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline
\textbf{Year} & 1500-1550 & 1550-1600 & 1600-1650 & 1650-1700 & 1700-1750 & 1750-1800 & 1800-1850 & 1850-1900 \\
\hline
\textbf{Total Emigration} & 0 & 5000000 & 10000000 & 15000000 & 20000000 & 25000000 & 30000000 & 35000000 \\
\hline
\end{tabular}
\end{center}

\textbf{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{35} The numbers of Muslim slaves taken to other parts of


\textsuperscript{34} Hellie, ‘Migration in early modern Russia,’ p. 308.

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.\textsuperscript{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.\textsuperscript{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).

\textsuperscript{36} António Almeida Mendes, ‘Les réseaux de la traite ibérique dans l'Atlantique nord (1440-1640)’, \textit{Annales HSS}, 63, 4, 2008, pp. 741-742.
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. As figure 6 shows, this type of migration became very important from 1600 onwards and can be nicely contrasted to well-studied refugee migrations.

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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.\textsuperscript{41}

\textsuperscript{40} See figure 5; Bade et al., \textit{Enzyklopädie}; and Hoerder, \textit{Cultures in contact}.

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. 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. Most scholars agree that cities with over 10,000 inhabitants generally could not reproduce

42 See figure 5 and Ibid., p. 347.
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.\textsuperscript{45} After 1800, urban mortality declined, but migration still added considerably to population growth, most probably around 50\%.\textsuperscript{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.\textsuperscript{47} Sharlin hypothesised that migrants had much higher chances of dying from disease, and consequentially much lower marriage rates.\textsuperscript{48} More recently, scholars have pointed to unbalanced sex ratios, major differences in environmental conditions, and great variations in levels of nuptiality and fertility.\textsuperscript{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.\textsuperscript{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.\textsuperscript{51} This method is much too crude, and does not cover

\begin{footnotesize}
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our entire period. We therefore gathered as many data as possible from the available historical demographical literature for the provisional reconstruction in Table 1. 

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

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>1501-50</td>
<td>1067</td>
<td>4</td>
<td>284</td>
<td>1355</td>
<td>5043</td>
<td>-10</td>
<td>+2521</td>
</tr>
<tr>
<td>1551-00</td>
<td>1662</td>
<td>4</td>
<td>284</td>
<td>1950</td>
<td>6565</td>
<td>-10</td>
<td>+3282</td>
</tr>
<tr>
<td>1601-50</td>
<td>1052</td>
<td>49</td>
<td>76</td>
<td>1177</td>
<td>7614</td>
<td>-10</td>
<td>+1903</td>
</tr>
<tr>
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<td>49</td>
<td>76</td>
<td>1407</td>
<td>8435</td>
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<td>+2108</td>
</tr>
<tr>
<td>1701-50</td>
<td>1584</td>
<td>126</td>
<td>249</td>
<td>1959</td>
<td>9982</td>
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<td>752</td>
<td>556</td>
<td>4528</td>
<td>13077</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1801-50</td>
<td>15971</td>
<td>2161</td>
<td>1137</td>
<td>19269</td>
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<td>3059</td>
<td>79503</td>
<td>73677</td>
<td>+10</td>
<td>-36838</td>
</tr>
</tbody>
</table>

**Notes:** E1 = Europe without Russia, Poland, Balkans and Istanbul. N.B. De Vries (*European urbanization*) included Kaliningrad, Szczecin, Wroclaw, 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.

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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. 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. 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

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54 Including the European part of the Ottoman Empire with its capital Istanbul.
55 See also De Vries, *European urbanization*, p. 205.
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)

<table>
<thead>
<tr>
<th>Period</th>
<th>Average number of seasonal labourers</th>
<th>Total number of migrants (annual mean x 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500-1550</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1550-1600</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1600-1650</td>
<td>117.5</td>
<td>470</td>
</tr>
<tr>
<td>1650-1700</td>
<td>250</td>
<td>1000</td>
</tr>
<tr>
<td>1700-1750</td>
<td>480</td>
<td>1920</td>
</tr>
<tr>
<td>1750-1800</td>
<td>610</td>
<td>2440</td>
</tr>
<tr>
<td>1800-1850</td>
<td>1400</td>
<td>5600</td>
</tr>
<tr>
<td>1850-1900</td>
<td>5800</td>
<td>23200</td>
</tr>
</tbody>
</table>

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

rarely away from home for more than a week at a time.\textsuperscript{58} We include crews of galleys, dwindling after 1660, under the rubric of sailors.\textsuperscript{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.\textsuperscript{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.\textsuperscript{61} It is possible to make estimates of the European maritime market, even if the data are a “statistical minefield.”\textsuperscript{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.\textsuperscript{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.


\textsuperscript{60} Van Lottum, and Lucassen, ‘Six cross-sections’, pp. 28-30; Matthias van Rossum, \textit{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.

\textsuperscript{61} T.J.A. le Goff, ‘The labour market for sailors in France’, in Van Royen et al., eds., \textit{“Those emblems of hell”?}, pp. 300-311, and 316 for France.

\textsuperscript{62} Starkey, ‘Quantifying’, p. 83.

<table>
<thead>
<tr>
<th>Year of source</th>
<th>Europe total according to historiography</th>
<th>Europe total: our annual mean per half century</th>
<th>European individuals with high-seas experience (annual mean x [times] 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tonnage x 1000</td>
<td>Men x 1000</td>
<td>Men x 1000</td>
</tr>
<tr>
<td>1500-1550</td>
<td>1,000</td>
<td>145</td>
<td>580,000</td>
</tr>
<tr>
<td>1550-1600</td>
<td>Recovery after decline</td>
<td>180</td>
<td>720,000</td>
</tr>
<tr>
<td>1600-1650</td>
<td>1,000</td>
<td>170</td>
<td>680,000</td>
</tr>
<tr>
<td>1650-1700</td>
<td>1,500</td>
<td>300-400</td>
<td>820,000</td>
</tr>
<tr>
<td>1700-1750</td>
<td></td>
<td>260</td>
<td>1,030,000</td>
</tr>
<tr>
<td>1750-1800</td>
<td>3,500</td>
<td>348</td>
<td>1,392,000</td>
</tr>
<tr>
<td>1800-1850</td>
<td></td>
<td>472</td>
<td>1,888,000</td>
</tr>
<tr>
<td>1850-1900</td>
<td></td>
<td>565</td>
<td>2,260,000</td>
</tr>
</tbody>
</table>

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.’ 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. This was not true of most militiamen, however, and we do not include them in this study.

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Moreover, all mercenaries did not leave their villages or home towns forever. 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.

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. 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.’ 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. Ancien Régime France also relied partially on foreigners, as did Spain, Britain, Sweden and Prussia. 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.’ Professional soldiers dominated the European


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

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

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. By 1710, he gives an estimate of 1.3 million for the 'total number of troops simultaneously on foot in Europe'. 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. 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)

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

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. 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,

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84 Ibid., p. 172, note 4.
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.\textsuperscript{88}

\textit{Figure 9: Migration of soldiers and sailors in Europe 1500-1900}

\textbf{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).

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). The rise in internal European colonisation appears quite insignificant when compared to the scale of migration to cities and emigration.

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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

<table>
<thead>
<tr>
<th>Period</th>
<th>Estimated total population (millions)</th>
<th>Total migrations (million)</th>
<th>Migration rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500-1550</td>
<td>76</td>
<td>8.7</td>
<td>11.4</td>
</tr>
<tr>
<td>1550-1600</td>
<td>89</td>
<td>11.1</td>
<td>12.5</td>
</tr>
<tr>
<td>1600-1650</td>
<td>95</td>
<td>13.5</td>
<td>14.2</td>
</tr>
<tr>
<td>1650-1700</td>
<td>101</td>
<td>15.8</td>
<td>15.7</td>
</tr>
<tr>
<td>1700-1750</td>
<td>116</td>
<td>20.6</td>
<td>17.7</td>
</tr>
<tr>
<td>1750-1800</td>
<td>151</td>
<td>23.5</td>
<td>15.6</td>
</tr>
<tr>
<td>1800-1850</td>
<td>212</td>
<td>44.5</td>
<td>21</td>
</tr>
<tr>
<td>1850-1900</td>
<td>334</td>
<td>118.8</td>
<td>35.3</td>
</tr>
</tbody>
</table>

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

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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)

<table>
<thead>
<tr>
<th>Year</th>
<th>To cities</th>
<th>Emigration</th>
<th>Seasonal</th>
<th>Soldiers and sailors</th>
<th>Total Migration</th>
<th>Total population</th>
<th>Migration rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500-1550</td>
<td>345</td>
<td>15</td>
<td>360</td>
<td>1100</td>
<td>32.7</td>
<td>1100</td>
<td>32.7</td>
</tr>
<tr>
<td>1550-1600</td>
<td>718</td>
<td>140</td>
<td>868</td>
<td>1400</td>
<td>62</td>
<td>1400</td>
<td>62</td>
</tr>
<tr>
<td>1600-1650</td>
<td>685</td>
<td>40</td>
<td>500</td>
<td>1225</td>
<td>70</td>
<td>1750</td>
<td>70</td>
</tr>
<tr>
<td>1650-1700</td>
<td>292</td>
<td>80</td>
<td>570</td>
<td>942</td>
<td>51</td>
<td>1850</td>
<td>51</td>
</tr>
<tr>
<td>1700-1750</td>
<td>238</td>
<td>107</td>
<td>760</td>
<td>1105</td>
<td>58.2</td>
<td>1900</td>
<td>58.2</td>
</tr>
<tr>
<td>1750-1800</td>
<td>1593</td>
<td>93</td>
<td>450</td>
<td>558</td>
<td>28.6</td>
<td>1950</td>
<td>28.6</td>
</tr>
<tr>
<td>1800-1850</td>
<td>94</td>
<td>93</td>
<td>80</td>
<td>125</td>
<td>15.7</td>
<td>2500</td>
<td>15.7</td>
</tr>
<tr>
<td>1850-1900</td>
<td>806</td>
<td>363</td>
<td>53</td>
<td>125</td>
<td>36.4</td>
<td>3700</td>
<td>36.4</td>
</tr>
</tbody>
</table>

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. 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,  

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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. 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)

<table>
<thead>
<tr>
<th>Period</th>
<th>To cities</th>
<th>Emigration</th>
<th>Seasonal</th>
<th>Soldiers and sailors</th>
<th>Colonisation</th>
<th>Immigration</th>
<th>Total Migration</th>
<th>Total population</th>
<th>Migration rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1500-1550</td>
<td>167</td>
<td>500</td>
<td></td>
<td>500</td>
<td>30</td>
<td>1697</td>
<td>6000</td>
<td>667</td>
<td>11.1</td>
</tr>
<tr>
<td>1550-1600</td>
<td>167</td>
<td>500</td>
<td></td>
<td>1000</td>
<td>30</td>
<td>1697</td>
<td>7000</td>
<td>24.2</td>
<td></td>
</tr>
<tr>
<td>1600-1650</td>
<td>150</td>
<td>150</td>
<td></td>
<td>500</td>
<td>100</td>
<td>270</td>
<td>8500</td>
<td>13.8</td>
<td></td>
</tr>
<tr>
<td>1650-1700</td>
<td>150</td>
<td>50</td>
<td>200</td>
<td>1000</td>
<td>350</td>
<td>1750</td>
<td>13000</td>
<td>13.5</td>
<td></td>
</tr>
<tr>
<td>1700-1750</td>
<td>235</td>
<td>250</td>
<td>200</td>
<td>1010</td>
<td>710</td>
<td>2405</td>
<td>15000</td>
<td>16.0</td>
<td></td>
</tr>
<tr>
<td>1750-1800</td>
<td>690</td>
<td>250</td>
<td>400</td>
<td>1265</td>
<td>1100</td>
<td>3705</td>
<td>26000</td>
<td>14.2</td>
<td></td>
</tr>
<tr>
<td>1800-1850</td>
<td>1494</td>
<td>375</td>
<td>2400</td>
<td>4060</td>
<td>2250</td>
<td>10579</td>
<td>49000</td>
<td>21.6</td>
<td></td>
</tr>
<tr>
<td>1850-1900</td>
<td>4676</td>
<td>4000</td>
<td>16000</td>
<td>5065</td>
<td>5400</td>
<td>35141</td>
<td>75000</td>
<td>46.8</td>
<td></td>
</tr>
</tbody>
</table>

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 Unites 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.
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

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

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

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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

¹⁰² Manning, Migration in world history, pp. 6-14.
¹⁰⁴ Ibid., p. 85.
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.