

On global economic history A personal view on an agenda for future research

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This essay is an attempt to do different things at the same time – therefore it is almost as chaotic as life itself. One of the most important reasons for writing it was to bring some order into the research I am doing – it is an attempt to convince myself that behind the apparent chaos of projects and papers there is structure and meaning. It also an attempt to start thinking about ‘global economic history’ as the conceptual framework for the research I am doing (I could not find anything bigger). This (perhaps unhappy) combination is clear from its structure: it starts as a ‘real’ academic essay, and later on becomes more ‘personal’, outlining my personal research programme, and concluding with some personal hobbies.

Introduction

In the past 20 years world history and global history have become familiar, if not fashionable concepts. The *Journal of World History*, which set the new trend more than a decade ago, will soon witness the emergence of a competitor – (the *Journal of*) *Global History* – which is a sure sign of the growing impact and commercial vitality of the new wave.¹ This interest in global history is a complex phenomenon, and the number of approaches is perhaps as large as the number of scholars working in the new field. Nevertheless, it is possible to distinguish between a number of broad approaches.

The largest group of world historians consists of specialists of certain non-western regions who study the interaction of their region with the rest of the world, often focusing on the early modern period. Interaction in all spheres of life – from trade and bullion flows to academic exchange or the spreading of microbes – forms the prime interest of these historians (McNeill 1977; Abu-Lughod 1989). Their actual message is that all parts of the world were closely interconnected from a very early stage onwards – and that we cannot understand the events in one region without studying its inter-exchange with other regions. Since the world is one complex, interconnected whole, Europe-centrism is – from this point of view – a rather shallow way to conceptualise the history of the world.

A more focused branch of global history concentrates on internationally-comparative studies, again mainly concerning the early modern period (although this in itself may be considered a too Europe-centred term), and attempts to compare the economic success and failure of different parts of the world – most often Europe versus other (Asian) regions (an early example is Jones 1988). The view emerging from this literature is that before the Industrial Revolution – which is taken as an important break in the economic history of Europe – other parts of the world, in particular parts of China, India and Japan, were quite well developed and experienced similar patterns of Smithian growth as Europe (Pomeranz 2000). In this sense it argues against the old, Europe-centred view of the history of the world which considers that everything of importance since –say- the 14th or the 16th century has happened in (western) Europe (or, in slightly more extreme versions, in England (McFarlane 1978)). More radical

¹ Also the International Institute of Social History has adopted an ambitious research programme on Global Labour History (see <http://www.iisg.nl/research/projects.html>); this attempt to formulate an agenda for global economic history is partly also a response to the call that was implicit in global labour history programme.

versions of the same story argue that until the Industrial Revolution East Asia was in fact the core of the world economy, and Europe was situated in its periphery (Frank 1998).

A quite distinct approach to the history of globalisation focusing in particular on the (second half of the) 19th century and 20th century, is characteristic of the work of Kevin O'Rourke and Jeffrey Williamson (O'Rourke and Williamson 1999). They study the growing interaction between different parts of the world, which, however, before the age of steam did not yet lead to the integration of world markets (in fact, they argue that between 1500 and 1800 the degree of integration was quite weak). Only after about 1870 does a first process of globalisation – of worldwide integration of markets for goods, labour and capital – occur. The Great War of 1914-1918 interrupts this process, and results in a backlash meaning that these processes are to a large extent reversed in the decades after 1914. Only in the final quarter of the 20th century would a similar second wave of globalisation take place.

A phenomenon that is perhaps related – or perhaps not – is the growing number of publications covering global economic history. Since the publication of Rondo Camerons 'Concise economic history of the world' in 1989. Their impact, also outside strictly academic circles, is sometimes quite strong – the best example being David Landes' *The Wealth and Poverty of Nations* (Landes 1998). There is apparently a growing demand for these kind of global visions of the long term development of the world economy; the popularity of Angus Maddisons 'The world economy. A millennium perspective' is another case in point. Supply factors also seem to play a role; those pioneers of the renewal of economic history in the 1960s and 1970s appear to wish to conclude their career by publishing a world history that synthesizes the ideas they have worked on during a lifetime. In many other respects these books are rather traditional however; they stress, for example, European exceptionalism in the centuries before the Industrial Revolution.

It is perhaps a cliché that these trends – the emergence of world history and the growing demand for economic histories of the world - are linked to the process of globalisation. In the past two decades or so we have increasingly become aware that we are living in a global village, and we therefore need (as smaller human communities before us) a history of our common roots, making sense of our common history. Globalisation induces us to start thinking of the economic history of the world as one interconnected process, which is more than and therefore different from the mere addition of the economic histories of individual states and regions. The question this essay sets out to raise is what this implies for the research agenda of economic historians: if the world is one whole, and its history one unified process, what are the big questions we should ask as economic historians.

This holistic approach is somewhat different from those dealt with briefly in this introduction. If the experience of mankind in the very long run is considered to be the central topic of global economic history, one may perhaps move away from the particularly (comparative) development of specific regions as such. One of the differences with the other approaches mentioned here is that this holistic view forces us to consider the very long term. I will argue that – seen in this light – economic historians may want to concentrate on two big issues: the success of mankind in generating economic (and demographic) growth, and its failure to spread economic growth more or less equally over the world and over various social groups.

The first big question: the long run success of mankind, or the story of economic growth

Man is a remarkable species. The population of the world is now growing at a speed which is without precedent, and this growth appears to be almost without constraints. The growth of the output of goods and services by human kind is speeding up even more, in particular since the

most populated parts of the world, East and South Asia, are now also participating successfully in the process of economic growth.

The explanation of this phenomenon of economic growth is a core issue of economic history. Economic growth means in fact that man as a species is increasingly successful in manipulating biological, chemical and physical forces in such a way that (s)he can satisfy his/her needs. Economists and economic historians have developed concepts to measure growth, in particular national accounting resulting in estimates of GDP – to which I will return below - but in order to get the big picture population growth can be used as a first proxy since it shows how successful mankind has been in nourishing increasingly large numbers of its species.²

At the moment of writing (July 2003), the size of the world population is according to the ‘world popclock projection’ of the IPC the incredible number of 6,306,774,306. Historians have spent quite some time reconstructing – and estimating – the long term development of world population.³ The more we move back in time, the weaker the estimates are, obviously, but the long term trends during the past 2000 years are more or less clear, although the exact rate of growth during particular periods is still open to considerable debate (for example: estimates of world population in year 1 differ from 170 to 400 million people, but most estimates converge at about 200 to 300 million).

Figure 1 presents two sets of estimates of the growth of world population which were made more or less independently. It is clear that in the long run differences are quite small. The picture that emerges is a familiar one: it shows a slow growth until the beginning 19th century, and a fast population explosion since. Discontinuity seems to be the most characteristic feature of the process, and the breaking point is somewhere around (or after) 1800.

² Often the distinction between extensive and intensive economic growth has been made (Jones 1988); extensive growth would occur when the increase of the output of goods and services is proportional to the increase of the population; intensive growth when the increase of output is larger than population growth. It is then also argued that sustained intensive growth is a rather recent phenomenon, most often linked to the Industrial Revolution, although some societies may have experienced waves of intensive growth before 1780 (China under the Sung, the Italian city states during the Middle Ages, or Holland in the 16th and 17th centuries). I believe however – and this is argued more in detail below - that these two processes cannot be separated from each other, because their origins and causes are the same.

³ The clock can be found on <http://www.census.gov/cgi-bin/ipc/popclockw>; a comparison of historical estimates on <http://www.census.gov/ipc/www/worldhis.html>

Figure 1 Two sets of estimates of the development of world population, AD 1 to AD 1997 (in millions)

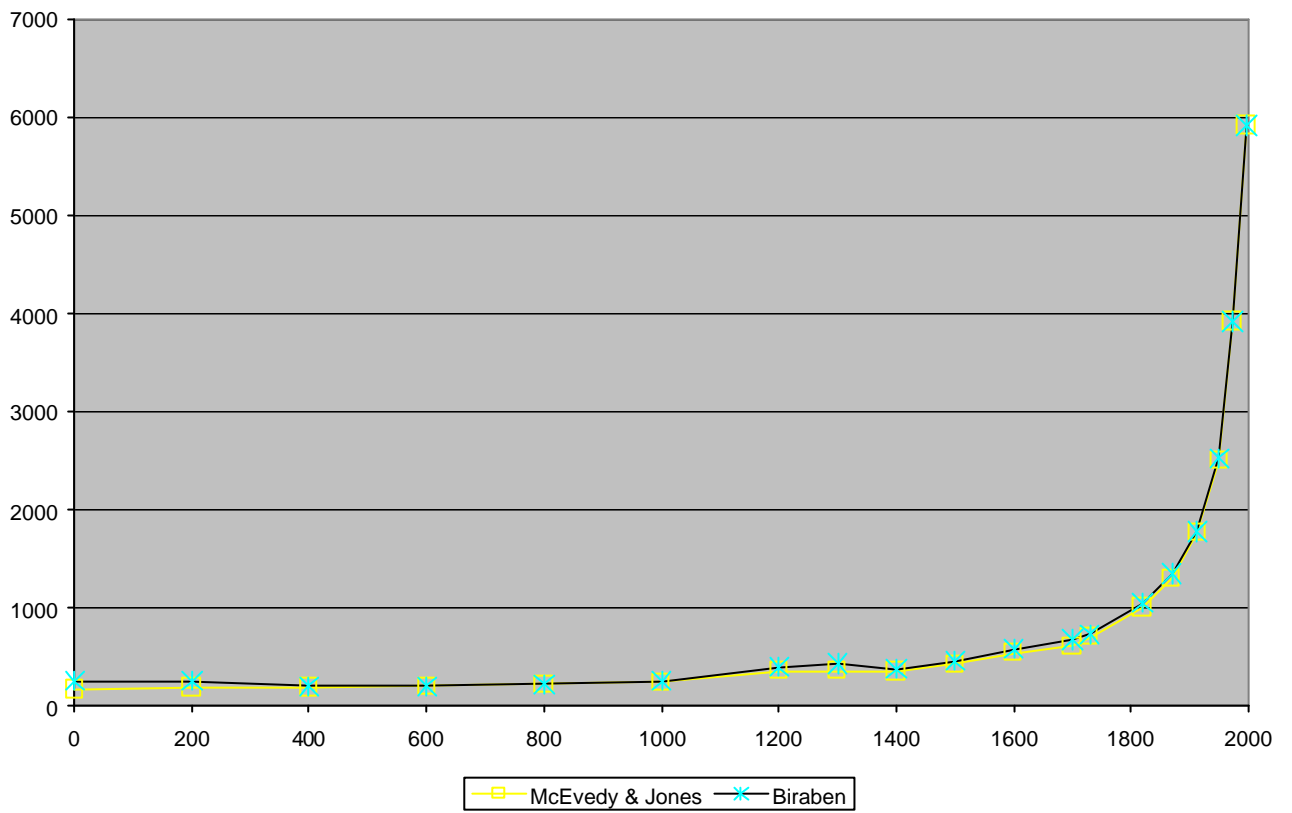


Figure 1 tells the story of a decisive break in human history, occurring somewhere in the 18th or 19th centuries. But one can tell quite a different story by presented the same figures in a radically different way. Every student of statistics knows that a more ‘neutral’ way of presenting those data is by using a logarithmic scale; this will show the changes in the growth of world population before the 18th century much more clearly. I suggest however to go one step further, and also introduce a logarithmic scale on the horizontal (time) axis. Statisticians and economic historians who have been experimenting with this kind of interpretation of world population history have shown that it makes sense to take some year in the near future – say 2020 - as the point zero of such a figure.⁴ The result is presented in Figure 2.

I think this is a magical graph, which shows us one of the mysteries of economic history. The complexity of global population growth can be summarized in an almost perfectly straight line!⁵ The effects of the bubonic plague of the 1340s, arguably the worst epidemic that struck the world in the past 2000 years, are evident in the graph (as are the consequences of similar plagues during the late-Roman period) but it is also clear that in the long run the relationship between population and growth appears to be remarkably stable. The long run insensitivity to the dramatic shock of the 1340s– which in the short term led to a collapse of population numbers of large parts of the world – shows how robust the underlying, long term trends apparently are.

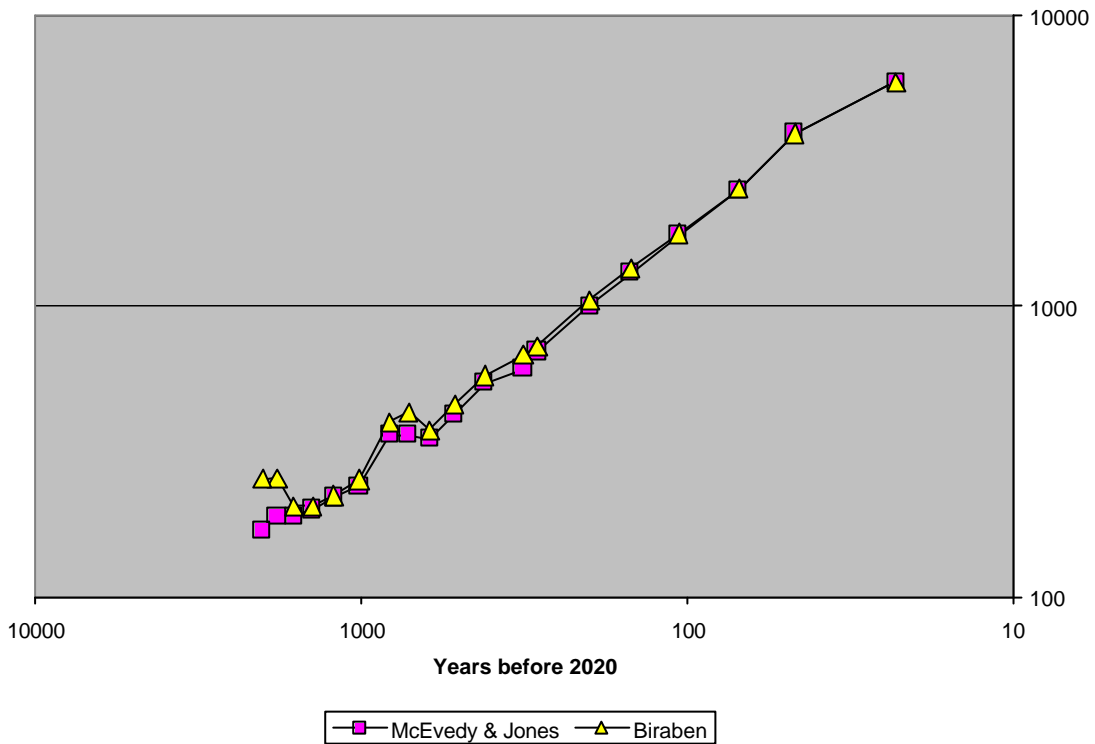
The story of this straight line is that world population has been *accelerating* at a *constant rate* during the past two millennia. This finding, which is not entirely new,⁶ is of monumental importance. It refutes the claim that there was one radical break in population history – i.e. the Industrial Revolution – and shows that the acceleration of population growth after 1750 was instead the result of long term trends which predated the 18th century – and perhaps even predated the 1th century. Economic growth has very old roots, and appears to have been a very stable process in time.

⁴ Cf. Deevey 1960, Livi Bacci 1992, Malanima 1996 and Cohen 1995.

⁵ Perhaps you wonder why somebody can become so enthusiastic about a perfect straight line; but consider figure 1, which is dramatically different (almost no change before 1800).

⁶ As far as I know the first more or less similar graph appeared in 1960 (Deevey 1960), and comparable graphs have been reproduced by Livi Bacci 1992, Malanima 1996 and Cohen 1995.

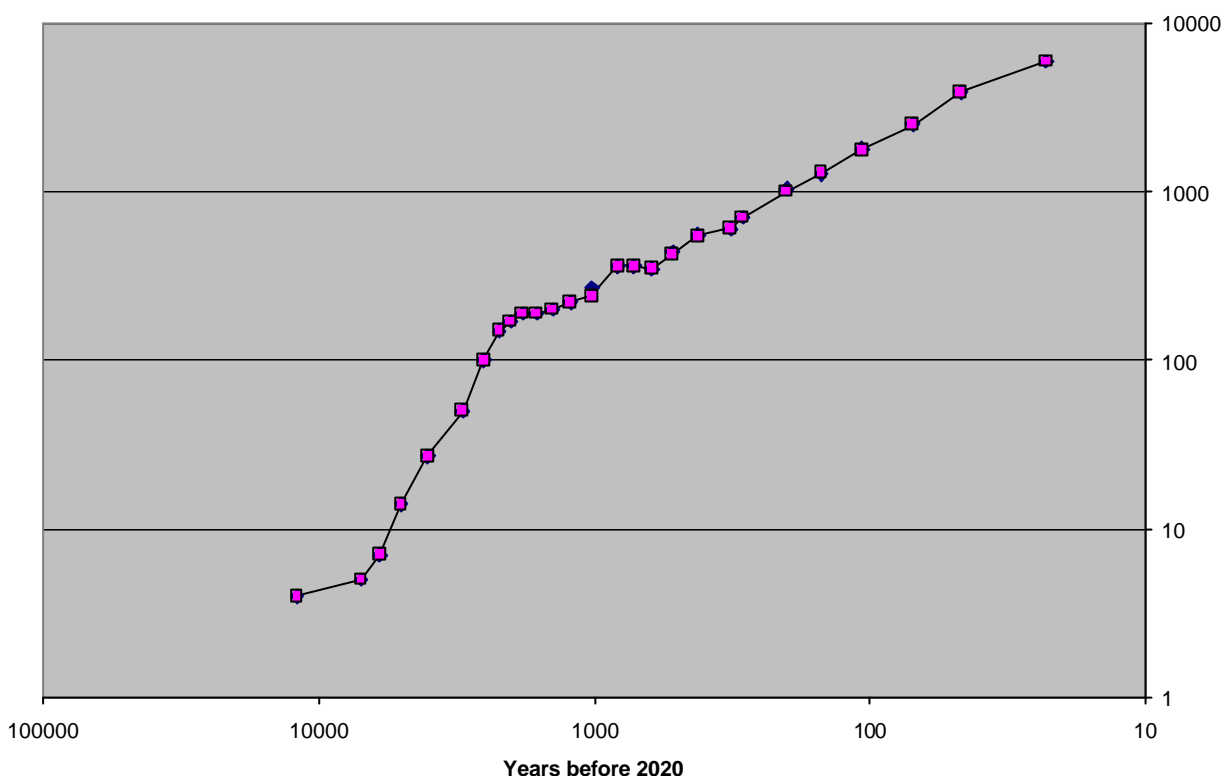
Figure 2 The same two sets of estimates of world population AD 1 to AD 1997 (in millions; logarithmic scale)



If the period is extended to include the – very unreliable – estimates of population numbers before the year zero by McEvedy & Jones (1978), one gets a slightly different picture (Figure 3). The past 2000 years have been relatively stable, but there may have been an acceleration in the rate of acceleration of population growth some 10,000 years ago, coinciding with the Neolithic Revolution, and a decline in the rate of acceleration some 2000 years ago ... but this is all very speculative.⁷ But again, taking the extremely big picture suggests that growth was cumulative and that the rate of economic growth increased at more or less the same pace since the dawn of mankind.

⁷ The scholars who have produced these estimates - Deevey (1960) in particular – had their own theories which may have affected their results; see also McNeill 1967:1.

Figure 3 The McEvedy & Jones estimates of world population in the past 12,000 years (millions; logarithmic scale)



One conclusion may be that man does not seem to obey the rules that have been established for other species. The laws of demographic development of species within a restricted eco-system is that after a period of growth a population reaches a ceiling. Thereafter the activities of predators (big and small, such as viruses) reduce population numbers. After the resulting fall below the ceiling, a new cycle of expansion and decline will set in again. This demographic law, discovered and analysed by Lotka (1925), does not seem to apply to this particular species; instead, accelerating growth is the most distinguishing feature of the past performance of mankind (see Cohen 1995: 79-96). This means one of two things: perhaps we are only witnessing the first phase of the expansion of the *homo erectus*, who is, by evolutionary standards, a pretty young creature (with an age of 3 to perhaps 6 million years) – and most species tend to have a much longer life-span. Perhaps man is different from other species, and has been able to systematically push up its natural ceiling, overruling these biological and evolutionary laws.

This all points to the conclusion that man is a strangely successful creature. How can we then interpret the links between time, population, and growth that are suggested by these data? It is striking that until recently growth theory has concentrated on radically different tendencies, on decreasing return and ‘stationary states’. The classical economists – Adam Smith, Thomas Malthus, David Ricardo – who developed the first theories of long run economic development, predicted that because of diminishing returns growth would at some point cease and the economy would enter a ‘stationary state’. Neo-classical growth theory, developed after 1945, in its turn showed that growth would for similar reasons fade away; when it persists, the reason appears to be that some exogenous force - a manna from heaven – continually pushes the system

forward. Technological change was identified as this exogenous impulse making possible continuous economic growth.

The view that economic growth may be a cumulative process reinforcing itself, is a relatively recent one, which was developed in the 1980s by the 'new growth theory'. Romer (1986), one of its representatives, was perhaps the first to formulate the view that growth *had* to be accelerating over time.⁸ The reason for this was that the new growth theory identified the accumulation of knowledge as the most important force behind growth; it was the cumulative character of knowledge, its natural spill-over effects and the increasing returns to knowledge, which make it possible to simulate the kind of continually accelerating growth found in the population data (Kremer 1993). Whereas other factors of production (land, capital, labour) beyond some point suffer from decreasing returns to scale, in the end resulting in a 'stationary state', these special feature of knowledge make it possible to generate a process of cumulative and ever accelerating growth.

Ergo, the production of knowledge is behind the apparent success of mankind to produce goods and services at a pace which is accelerating constantly over time. The more people there are around on this globe, the more new ideas will be generated to master the forces of nature and increase output and productivity, and the easier the spreading of new ideas will be. This is why there is a positive link between population numbers (and therefore density) and growth.

And what about GDP?

Some colleagues will probably not like this juggling with population numbers. The general view is that economic growth is about output and income, Gross Domestic Product – preferably GDP per capita. So let us look at the development of world GDP.

Angus Maddison (2001), the godfather of the sub-discipline of historical national accounting (i.e. of estimating GDP and its component at some point back in time), has published rough estimates of the development of world GDP since the beginning of the 19th century, and in fact also guestimates of GDP during the 1800 years before the onset of the Industrial Revolution. I am inclined to thrust his estimates for the 19th and 20th centuries, but have strong reservations about the pre-1820 figures. Perhaps there is another way to get some grip on the pre-1820 record. To begin with, it can be assumed that there is some minimum-level of GDP per capita, below which man cannot survive. One way to get an idea of this level is by looking at current estimates of GDP per capita in very poor countries; the Maddison collection suggests that Chad in the early 1980s, with a GDP per capita of about 340 dollars (of 1990), may have been close to the minimum. Chad in the 1980s had a (large) government sector, and a (by historical standards) rather complex economy with many 'unnecessary' activities; it also imported a large part of its food supply. This benchmark is therefore not necessarily related to some kind of absolute historical minimum.

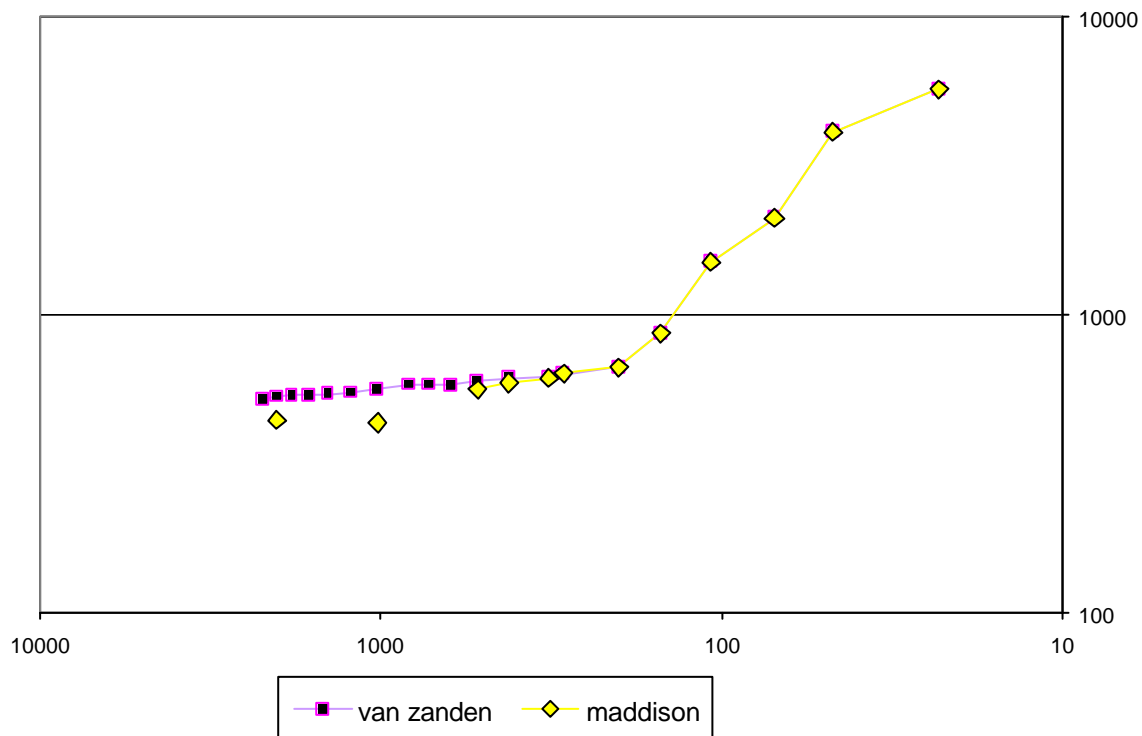
An alternative approach is to go back in time - to look at poor countries before the Industrial Revolution. Indonesia in 1820 had, according to Maddison, a GDP per capita of 612 dollars (of 1990). We also know that on Java – with about two-third of the Indonesian population – the production of foodstuffs (i.e. the most essential commodities) contributed 54% of GDP, which would bring the absolute minimum in the range of 330 (1990) dollars. It remains a wild guess, of course, but let us assume that before the Neolithic Revolution – when humans concentrated on hunting and gathering, i.e. food production – GDP per capita may have been 330 dollars. According to the Maddison estimates average world GDP per capita was 667 dollars in 1820 (growing to 5700 in 1998). So in order to get a set of estimates of global GDP per capita

⁸ He was, however, unable to prove this point satisfactorily, firstly because he limited himself to the period after 1820, and secondly because he concentrated on the growth of GDP per capita (Romer 1986: 1008-11).

we have to find a way to simulate its development between 12000 BC and 1820 AD. Starting from the idea raised in the previous section that the accumulation of knowledge and the growth of world population are closely linked, and that both are cumulative processes showing a constant acceleration in time, it may perhaps also be argued that GDP per capita has developed similarly, i.e. shows a constant acceleration in time between 12000 BC and 1820 AD. This assumption was used to intrapolate between the two dates – resulting in estimates of the development of GDP per capita which are somewhat different from the ones suggested by Maddison for the pre 1820 period. I again present both sets of estimates on a log-log-scale, with 2020 set at zero, but it is not obvious from eyeball-inspection that this is the right way to interpret these estimates (Figure 4).

Estimated and presented in this way, the Industrial Revolution appears to have been a decisive break in the development of the global economy. Before about 1800 growth of per capita GDP was very slow; it increased by less than 50% between the year zero and the Industrial Revolution. During the past two-hundred years it accelerated enormously (we find almost a straight line again between 1820 and 1973) but recently the rate of increase seems not to stabilize. Global per capita GDP probably increased nine-fold in the past 200 years – much more than could be expected on the basis of performance of the global economy between (say) 1000 and 1800.

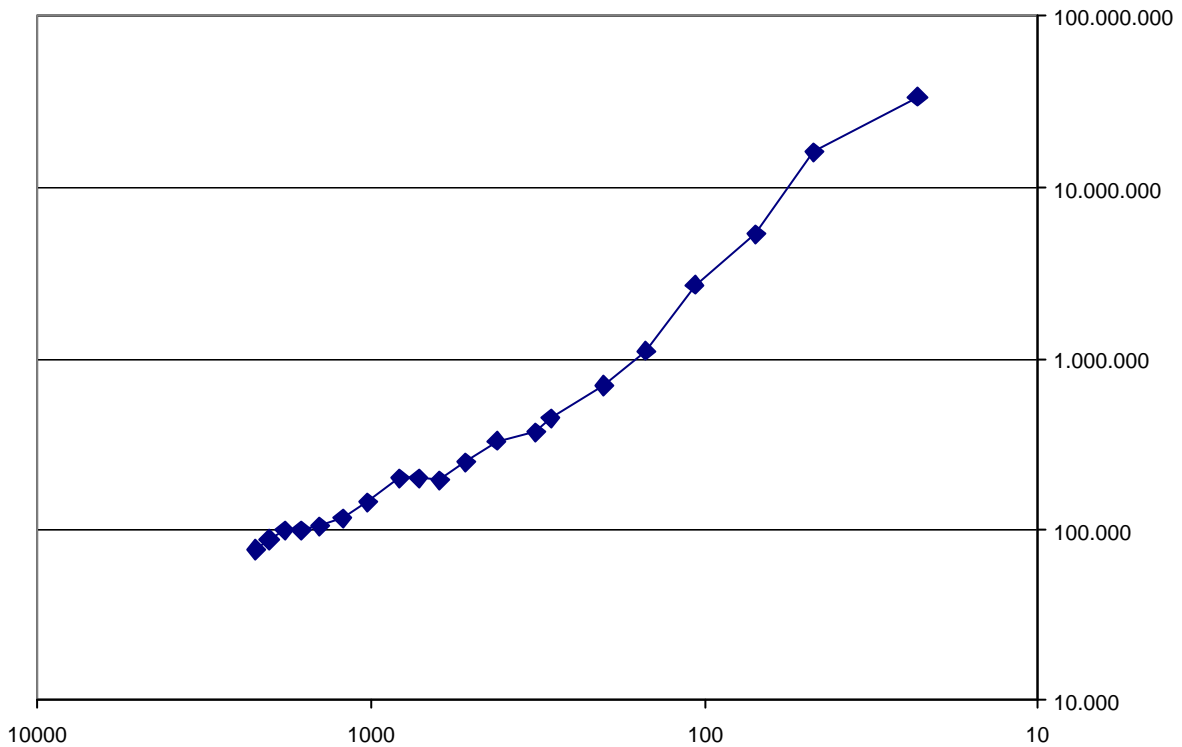
Figure 4 Estimates of GDP per capita of the world population, AD 1 -AD 1998 (log-scale)



World GDP – arguably the best measure of the success of mankind to manipulate its environment to its own purposes – shows almost the same straight line again that we found in world population in the past two millennia (Figure 5). The fact that the break in the series of GDP per capita, evident from Figure 4, disappears when we look at global GDP, again suggests

that there exists a link between the acceleration of intensive economic growth since the Industrial Revolution, and the (long run) deceleration of population growth in the same period.

Figure 5 World GDP between AD 1 and AD 1998 (in billion of dollars of 1990)



Super path-dependency?

The straight line between the logs of population numbers (and of total GDP) and the number of years before 2020 is quite mysterious. If one plays a bit with those population estimates, one can get the best straight-line-fit for a year close to 2020. What does that signify? Technically, that 2020 is the asymptote, which means that at this date the population will become infinitely large.⁹ Since an infinitely large population is impossible, it means that at some point in time before 2020 the relationship between population, economic growth, and time has to change fundamentally. Again this is an important conclusion: whereas the data suggest that for at least 2000 years there has been a stable relationship between these variables, now this stable relationship is suddenly changing, and population growth in the next couple of decades will be much slower than can be predicted on the basis of the historical record.

Why? What are the deeper causes of this shift? If one looks closely to the link between population and time, it appears that in the past century or so it is already changing a bit: in particular in the richest parts of the world the growth of population has declined dramatically after the beginning of the demographic revolution in about 1870 (Kremer 1993). Since the rich parts of the world are relatively small (and for the same reason declining relatively), this gradual

⁹ Three German engineers who already in 1960 established this relationship, therefore predicted (presumably in jest) that this would happen on Friday the 13th November 2026 (Kremer 1993).

slowing down of population growth does however not really show in the global figures. More recently a similar process began outside the rich west, and recent projections of population growth in the 21st century predict that at about 2050 it will stabilize (at 8 to 10 billion).¹⁰ In short, the accelerated rise of GDP per capita since the beginning of the 19th century is causing a slowing down of the rate of population growth, first in the richest parts of the world, now increasingly all over the globe.

One can argue however that this had to happen. The relationships between population, growth and time that already existed in a distant past, had to change at some point in time before the asymptotic year 2020. Therefore a rise of GDP per capita was 'necessary' to disconnect population growth and time, and given the long time-lags involved in these processes, this strong rise of GDP per capita had to happen a few centuries before 2020.¹¹

The second big question: the failure of mankind or the story of inequality.

In the past two decades economic historians have started to consider economic growth as a global process, linked to the accumulation of knowledge and the growth of human capital. The first part of this paper – of the growth of population numbers and of global GDP - is based on some of the ideas developed since. Thinking about inequality on a global scale is even more recent, and we are only beginning to chart its long term development. So this section is even more tentative than the previous one.

It is obvious though that there exists a link between the causes of long term economic growth, i.e. the accumulation of knowledge, and the rise of global inequality. Man obviously has a limited capacity for storing and processing information. Nearly unlimited accumulation of knowledge therefore presupposes that people specialize, that they concentrate on a restricted segment of expertise, and that they cooperate via the exchange of their produce in order to profit from each others knowledge. In other words, economic development presupposes a social organization of labour and of exchange to manage the growing stock of knowledge. Beyond a certain point, therefore, the continuous growth of knowledge is dependent on the development of complex patterns of specialization, on the cooperation between specialists. This coordination process is therefore fundamental for understanding the long term process of economic growth. The more specialists an economy can manage to integrate into one viable framework of cooperation, the more knowledge it will be able to generate and to incorporate into the production system. In the long run, accumulation of knowledge is, therefore, to a large extent dependent on the ability of economies to lower the costs of coordinating different activities (North 1990).

The rise of inequality is directly linked to this process of specialization. It creates different societal roles – those of peasants, priests, kings and merchants for example – with different claims to the overall produce. Moreover, social differentiation is accompanied by spatial differentiation: some regions become hubs in tight networks of exchange, others become or remain marginal, specializing on less remunerative activities. Some regions develop institutions which foster specialization and the accumulation of knowledge, others are less successful in this respect. The development of global inequality therefore has two dimensions: a social (or vertical) one – i.e. inequality within social groups or nations – and a spatial (or horizontal) one – inequality between regions and countries. They add up to a one process of global inequality.

Recent research by Bourguignon and Morrisson (forthcoming) makes it possible to tentatively chart the long term development of global inequality in the past 200 years (Figure 6).

¹⁰ See the discussion at <http://www.un.org/esa/population/unpop.htm>

¹¹ A similar argument for the inevitability of the Industrial Revolution can be found in Jones 2001.

There is no doubt that global inequality has increased sharply in this period, and in particular during the 19th century. There are two stories behind this strong rise in global inequality.

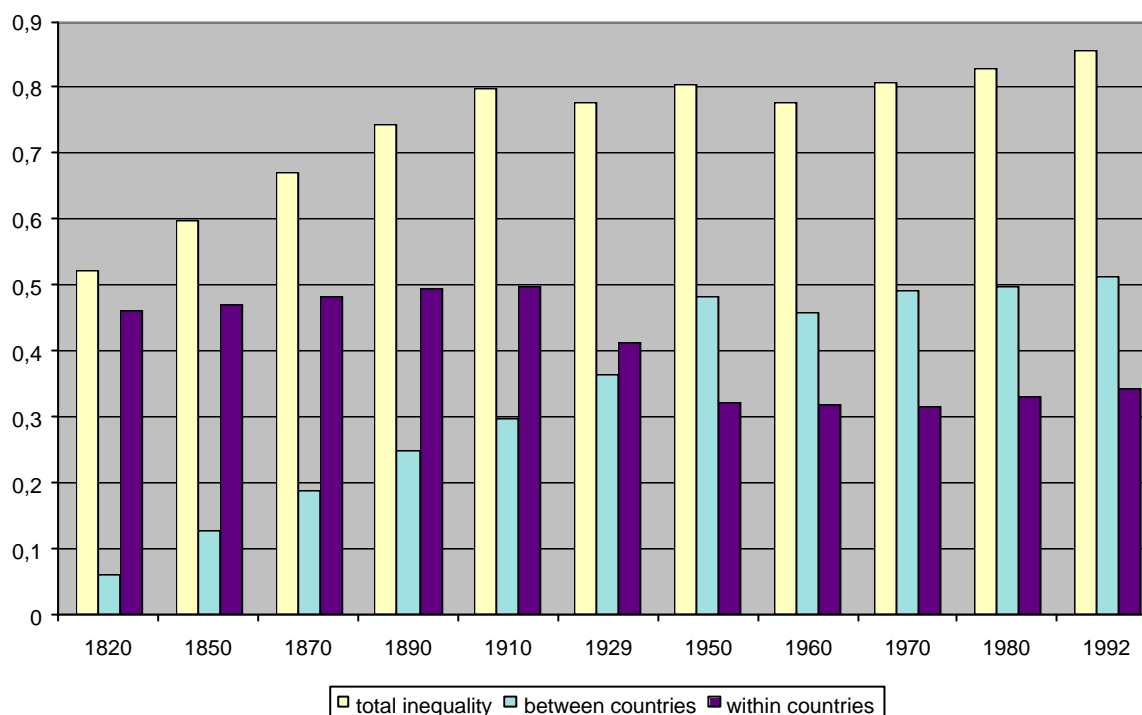
The first story is about the gap between rich and poor countries, which rose continuously between 1820 and the middle of the 20th century. At about 1820 the richest countries in the world had a per capita income of about three times as high as the poorest. At present this gap is much larger: GDP per capita in the US is 33 times that of Bangla Desh – to take two rather extreme cases – and the gap with some of the poorest African countries is even bigger (we already discussed the 340 dollar per capita estimate for Chad, which would be which is slightly more than 1% of the GDP per capita of the US).

One of the big issues in the debate on the development of global inequality is the question whether this trend has come to an end during the second half of the 20th century, and if so, when (for a recent review of this debate see Sutcliffe 2003)? The answer is obviously related to complex measurement issues. How do we, for example, compare the purchasing power of different currencies? The reliability of the data are also at stake here; the decline in global inequality that is documented by some studies is largely caused by the rapid growth of GDP per capita in China after 1980. China has, for obvious reasons, a huge impact on global inequality, but the available estimates of Chinese GDP are all somewhat suspect. Anyway, the long term trend is quite clear: the increase of inter-country inequality has been the main cause of the rise of global inequality during the past 200 years.

The second story is about the development of within-country inequality. For want of reliable data Bourguignon and Morrison often (have to) assume that it remained more or less stable during the 19th century. Admittedly, we do not know much about what happened with income inequality in large parts of the world in this period. We do know that during the first half of the 20th century the rich, industrialized world experienced a strong decline in income inequality, sometimes referred to as the egalitarian revolution of the 20th century (Soltow and Van Zanden 1998). The decline continued until the 1970s, though often at a slower pace than between 1910 and 1950. Only recently, during the final quarter of the 20th century, there is a tendency for within-country inequality to rise again, in particular in the Anglo-Saxon world and in the regions that have gone through a transition from a centrally planned to a market-oriented economy.

Much of the current debate among economists is about the precise development of global inequality in the final decades of the 20th century (Sutcliffe 2003). The argument is that we might, for the first time in (recent) history, witness a stabilization or even a decline in global inequality, thanks in particular to the Asian miracle, the strong performance of Asian economies starting with Japan, Korea, Taiwan and other tigers, more recently spreading to the big countries such as India, Indonesia and China. The Bourguignon and Morrison estimates presented in Figure 6 are perhaps not completely accurate in this respect, as they still show a continuing increase in global inequality during the final decades of the 20th century, whereas other studies (concentrating on this period only, without giving the long term trends) tend to come to a slightly more optimistic conclusions (Sutcliffe 2003).

Figure 6 Global Inequality 1820-1992 (Theil indices)



There are reasons to assume that the rise of global inequality began long before 1820. Thus, the fact that during the final decades of the 20th century this long term trend had probably come to an end (during a period of globalization!) is very significant – perhaps as significant as the changing relationships between population, growth and time discussed in the previous section. One might even argue that both processes are closely related: thanks to the rising welfare of the population of Asia (and other developing regions) the rate of global population growth is now declining, resulting in the stabilization of world population in the middle of the 21st century. So the stabilization of global inequality (due to the rising GDP per capita in China and other parts of Asia) is intimately connected to the stabilization of world population.

Research strategy: charting the long term development of the Netherlands and Indonesia

These are, in my view, the two big issues of global economic history: growth and inequality.¹² In both cases two questions should be asked: **what** happened (how to measure these long term processes more precisely?), and **why** did this happen (which explanations can we offer?).

For practical reasons, one researcher cannot study these issues on a global scale; he or she will have to make choices. A possible choice is to concentrate on more or less representative cases. In my research I focus, for example, on a country that has been a pioneer of modern economic growth (i.e. the Netherlands) and a representative developing country (i.e. Indonesia). Although both countries have their unique features, they are probably more or less representative for the two patterns - European early-industrialization and Asian late-industrialization –

¹² There is a third, related ‘big question’: how did the expansion of world population and world GDP affect the eco-systems in which the economy is embedded, and was and is the process of growth sustainable? Since this leads one beyond the boundaries of economic history into environmental history, I will not develop this third issue in the essay.

dominating global processes of growth and inequality. Bourguignon and Morrison (forthcoming) show, for example, that the long term development of global inequality is basically driven by the income differential between Europe and its offshoots on the one hand and Asia on the other hand. The Netherlands easily represents the success of Europe and Indonesia is a good candidate for representing Asia.

In order to make the comparison even more interesting, the two countries were, as a result of a series of historical accidents, closely interconnected between the 17th century and 1941 (or 1949). Perhaps one can hope to answer the big questions of economic history by analysing these two cases and by trying to understand why the Netherlands became so prosperous at such an early stage (the roots of Dutch modernity go back to the Middle Ages), and why Indonesia remained relatively poor. The strategy I have followed so far is, firstly, to reconstruct the development of GDP and of income inequality of both countries in the long run, and secondly, to attempt to explain these long term trends.

Figure 7 presents the long term records of these two countries in terms of the growth of their GDP per capita; because estimates for Indonesia for the period before 1890 are missing, I also included a set of estimates for Java between 1815 and 1939, which are linked to the Indonesian series in 1930. Two features stand out from this comparison. Firstly, it is clear that already at the start of the 19th century a big gap existed between the Netherlands and Java, increasing slowly during the 19th century (in 1815 GDP per capita on Java was about 30% of the Dutch level, which fell to about 20% in 1900). The existence of this gap in 1815 is confirmed by a detailed study that directly compared levels of GDP per capita using newly constructed PPPs (purchasing power parities) for the 1815-1870 period for the two regions involved (see Van Zanden 2003). It could be concluded, for example, that in 1815 – that is, before the Industrial Revolution began in the Netherlands and its impact was felt in Java - real GDP per capita in Java was only about 30% of the Dutch level. It should be added, though, that the Netherlands were a bit exceptional, being one of the most wealthy countries of Europe at about 1820 (which was still a legacy of its rapid economic development in the centuries before 1700). Income levels in Germany, France, Italy or Belgium were lower, probably about twice the level of Java.

The second striking feature is the similarity of growth patterns during the 19th and 20th centuries, which is, however, also affected by the special nature of Dutch economic development as its growth was relatively slow during the 19th century. Due to the near stagnation of real income levels in Java, the gap with the Netherlands increased until the 1890s. During the first decades of the 20th century economic growth in both regions clearly accelerated, and the gap between them stabilized (in relative terms). Both were doing very well again during the 1920s, and suffered a lot from the depression of the 1930s (when the Netherlands Indies were forced to follow the same misguided monetary policies as the Netherlands), and even more so from occupation during the first half of the 1940s. The recovery after 1945 was much faster in the Netherlands, due to political factors: the independence struggle in Indonesia retarded recovery. In the 20 years after 1945 the gap increased rapidly, and reached a maximum in the second half of the 1960s when Indonesian GDP per capita was less than 10% of that in the Netherlands. In the final third of the 20th century growth in Indonesia was for the first time much faster than in the Netherlands, and its relative level grew to 18% just before the Asian crisis of 1997/8. Since, it has gone down again to about 15 %.

The relatively poor performance of Indonesia is also shown by the comparison with the estimates of world GDP per capita (taken from Maddison 2001 and also included in Figure 7). Javanese/Indonesian GDP as a percentage of world average decreased from 64% in 1820 via 54% in 1913 to 35% in 1950; in 1997, after three decades of fast growth, it was almost back to the relative level of the early 19th century (at 60% of the level of world GDP per capita).

Figure 1 GDP per capita of the Netherlands and Java/Indonesia, 1815-2000 (dollars of 1990)

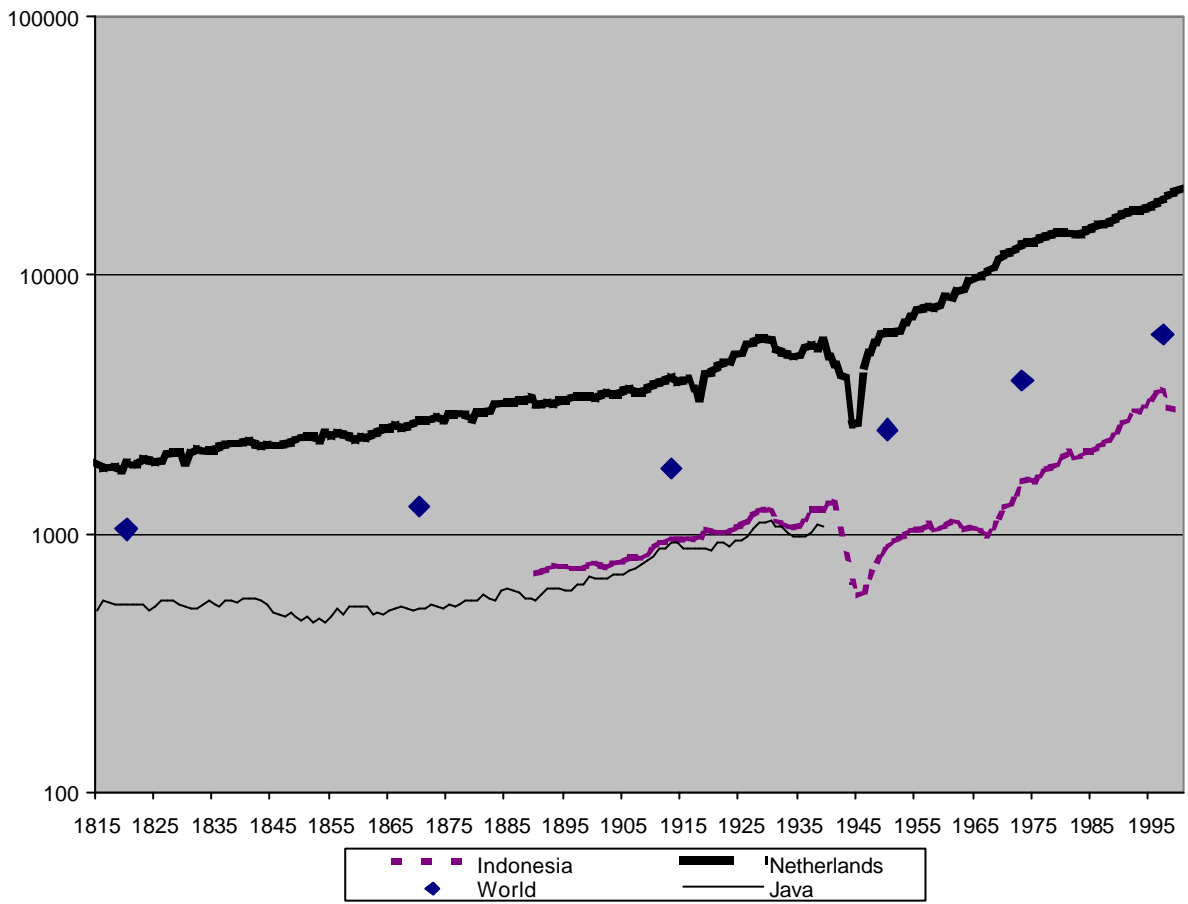
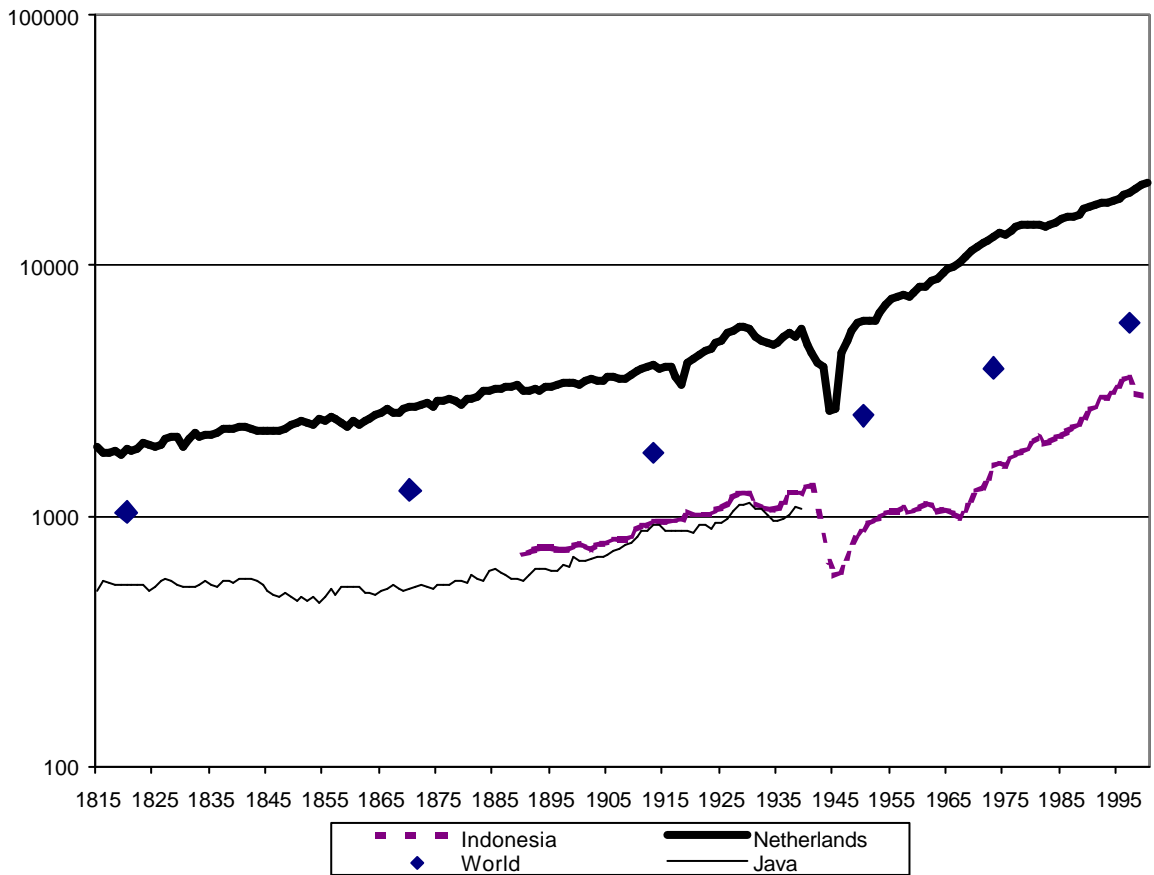
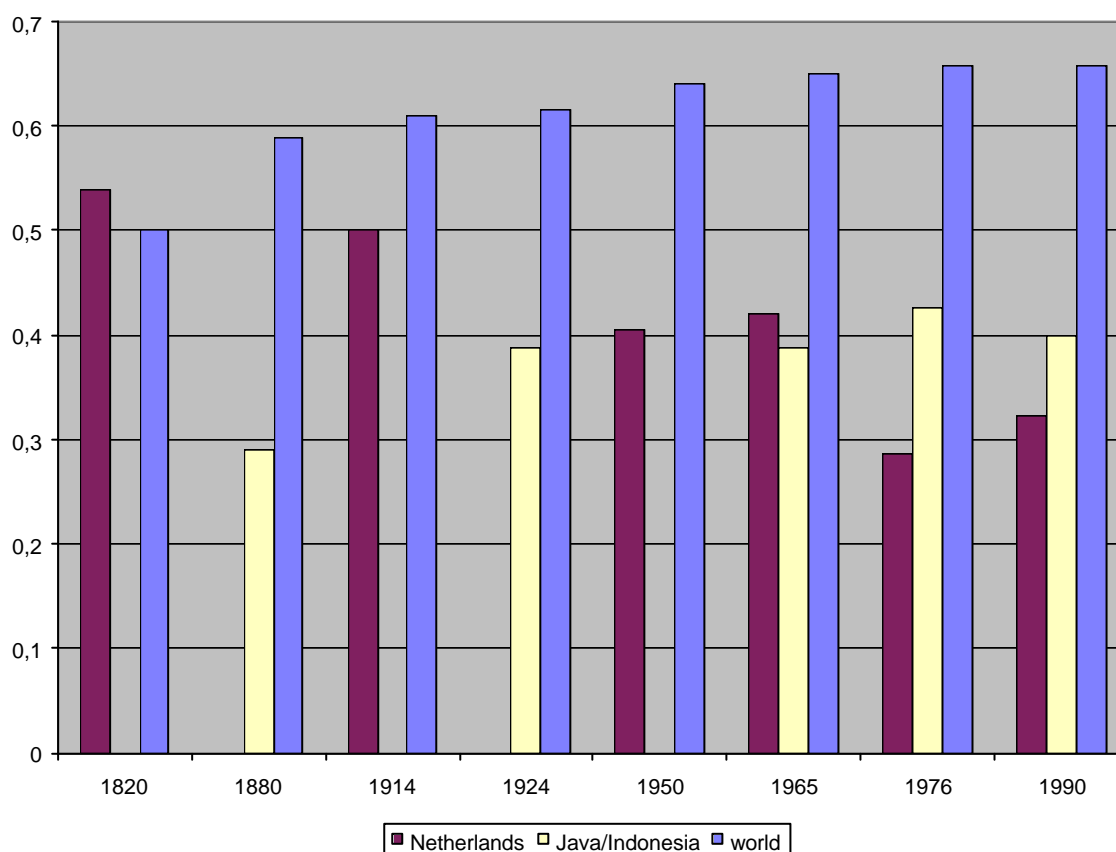


Figure 7 GDP per capita of the Netherlands and Java/Indonesia, 1815-2000 (dollars of 1990)



Trends in GDP per capita in the Netherlands and Indonesia are more or less representative for what happened in the global economy in the past 200 years. The same may be true for within-country inequality, which can also be estimated for some points in time (Figure 8). Perhaps it is surprising that income inequality in the Netherlands was quite high during the 19th century – much higher than on Java. The egalitarian revolution of the 20th century is evident from the Dutch estimates about this period, whereas income distribution in Java/Indonesia became more unequal between 1880 and 1976.¹³ Whereas in terms of GDP per capita the relative position of both countries remained more or less the same, the Netherlands being constantly much richer than Indonesia, in terms of inequality they swapped places – in 1990 inequality in Indonesia was higher than in the Netherlands.

Figure 8 Gini coefficients of income distribution in the Netherlands, Java/Indonesia and the world, 1820-1990



These data perhaps raise more questions than they answer. Figure 7 points at the growing gap between these two parts of the world; it also shows though that already at the start of the 19th century – before the Industrial Revolution – the gap was quite large. The modernization and structural transformation of the economy of the Netherlands began far earlier, in fact already during the (late) Middle Ages. In order to explain this long run process we have to know what the development of GDP (per capita) in the centuries before 1800 was, and why this process of structural change started so early in this part of Europe.

¹³ A reason for distrusting the results of Bourguignon and Morisson is that they do not have reliable 19th century income distribution estimates for non-western countries.

The estimates of income inequality also leave a lot of questions unanswered. In the 19th century egalitarian Java developed at a slower pace than inegalitarian the Netherlands, but one may wonder to what extent income inequality is a good measure of the degree of egalitarianism in the two regions concerned. In socio-political terms the story seems to be quite different; the Dutch political system was, for example, much less repressive than the Indonesian colonial state.

These estimates give us a glimpse of what has happened in the past 200 years. The big question is still, of course, why this has happened – why there was already such a big gap before the Industrial Revolution, why it increased in the following 150 years, and why there seems to be some convergence in the final third or quarter of the 20th century. Obviously, a lot of work remains to be done.

Research programme

First leg: the Netherlands

The starting point: the Netherlands in the 19th century

So far the main object of my research has been the economic history of the Netherlands. Initially I was interested in the typical development path of this tiny nation during the 19th century, when it industrialized relatively late; its precocious participation in the process of ‘modern economic growth’ was to a large extent – until the 1860s or 1870s – based on advances in agriculture and services. The large research project I began in 1987 was to reconstruct the historical national accounts of the Netherlands during the period 1800-1940 in order to analyse the quantitative features of this process of ‘modern economic growth’ without early industrialization, and to dig into its causes. This project has resulted in a number of dissertations, and in the creation of a large dataset with the estimates of the development and structure of GDP during the 19th century (see <http://nationalaccounts.niwi.knaw.nl/>).

The conceptual framework used and developed to explain the particular features of Dutch economic development during the long 19th century was strongly inspired by neo-institutional economics, as developed by Douglass North. It resulted in a theory-inspired interpretation of Dutch economic growth between 1780-1914, which linked the growth process to changes in the state and in the institutional framework of market exchange – the resulting book ‘*Nederland 1780-1914. Staat, instituties en economische ontwikkeling*’ (the Netherlands 1780-1914. State, institutions and economic development) was written together with Arthur van Riel and published in 2000. An English translation will be published by Princeton University Press in 2004 (title: *The Structures of Inheritance. Government, Institutional Change and Economic Development in the Netherlands 1780-1914*).

Branching out: the Netherlands in the 20th century

As explained in *Nederland 1780-1914*, the specific ‘modernization process’ of the Netherlands during the 19th century had important long term consequences: it led to different patterns of economic and socio-political development during the 20th century. This has been the topic of a number of my studies, including the book on *The economic history of the Netherlands in the 20th century* (published in 1997). One of the most important arguments in both books is that one cannot explain the development of the Dutch economy in this period without taking into account the specific socio-political infrastructure of Dutch business in the 20th century – sometimes called corporatistic, more recently the ‘poldermodel’. But these ‘typical’ features of the Dutch business system (Whitley) appear to be changing quite a bit during the final two decades of the 20th century, when adopting institutional features from the Anglo-Saxon ‘model’ was rather fashionable. This specific problem – the changes in the Dutch business system during the 20th century, in relation to business systems in surrounding countries – is the focus of a new research

programme, BINT (Bedrijfsleven in Nederland in de Twintigste Eeuw), that is now being developed by a group of historians from the Universities of Utrecht, Amsterdam (Free University), Eindhoven, Rotterdam and the IISH (see the website). This will result in a synthesis on the development of the Dutch business system during the 20th century in English, to be published in 2008.

Branching out: the Netherlands before 1800

When working on the 19th century transformation of the Dutch economy, it became increasingly clear that its specific development path was to a large extent caused by the legacy of the Dutch Republic, in particular by the institutional and socio-economic structures that were created during its Golden Age, the 17th century. To some extent, the relative decline during the 18th century and the slow industrialization during the 19th century are linked to the splendid performance during the preceding period – as already argued by Jan de Vries (1978), during the 18th and 19th century the Dutch economy was confronted with the ‘penalties of the pioneer’. Thus in order to explain the 19th century, one has to find out what happened in the 17th century. One of the problems of the historiography of the Golden Age is, however, that we are not well informed about the pace, timing and character of the process of economic growth – in spite of the enormous amount of literature that has been written about it. One of the projects I am working on (but, unfortunately, at a slow pace) is to estimate the historical national accounts of Holland in the 1500-1800 period (see Van Zanden 2001 for a brief presentation of this project). A first experimental study into national income and its components in 1510/14 has recently been published (Van Zanden 2002). This first experiment already produced some interesting results: the structure of the economy of Holland at the beginning of the 16th century was incredibly modern, with only about one-quarter of the labour force working in agriculture (and producing less than 20% of GDP), and industry being the most important source of employment (and producing 39% of GDP). Again the conclusion is that we have to go back in time: the roots of Dutch modernity and the explanation of its spectacular flowering during the Golden Age are to be found in the ages preceding 1500. This issue is the starting point of a new, exciting research project that is organized by Bas van Bavel (and myself) at the University of Utrecht on POWER, MARKETS AND ECONOMIC DEVELOPMENT: THE RISE, ORGANIZATION, AND INSTITUTIONAL FRAMEWORK OF MARKETS IN HOLLAND, 11TH - 16TH CENTURIES. The project tries to find out which (institutional, social-political and economic) developments between 1000 and 1550 led to the rise of a set of institutions which were very conducive to market exchange. In other words, it aims at locating the causes behind the rise of a market economy in Holland in this period. In this way we hope to unveil the ‘ultimate mysteries’ of early economic development in this small part of the world, and to answer the question why Holland/the Netherlands was already relatively highly developed before the Industrial Revolution..

Inequality in the long run

A related issue is, of course, the development of (income) inequality in the Netherlands. Research by Lee Soltow and myself have documented the strong increase in inequality during the Golden Age – in particular in prosperous Holland – the relative stability during the 19th century, and the levelling of income disparities during the Egalitarian Revolution of the 20th century (Soltow and Van Zanden 1998). The links between this extremely long Kuznets-curve, spanning half a millennium, and the process of economic growth are however still unclear.

From the perspective of global history this is all relevant for understanding why, in 1820, that is before the Industrial Revolution, the Netherlands was already such a prosperous country, i.e. a nation with a GDP per capita that was about three times the level of Java/Indonesia. It was however also a country with an extremely high level of income inequality. The final aims of this

leg of the research programme should be to identify when this relatively high level of GDP per capita came about (which means that we have to chart the long term development of GDP per capita between 1500 and 1800), and how the success of the Netherlands before the rise of modern industry can be explained. Which institutions caused the rise of Holland between 1300 and 1500, and its spectacular efflorescence during the 17th century? And what were the causes of its renewed growth and development during the past two centuries?

Second leg: Indonesia

My work on Indonesia has started only recently (in 2001, when I became a senior researcher at the IISH), and this part of the programme is still very much 'under construction'. The questions I would like to answer, do however follow from the discussion on global economic history.

Firstly, the long term development of GDP and its components, and of income inequality has to be reconstructed, in a more or less similar way as has been done for the Netherlands. This part of the research is focusing on Java in the period 1815-1940, for which it is possible to estimate the development of national income (see the first attempts in this direction: ['Economic growth in Java 1815-1939. The reconstruction of the historical national accounts of a colonial economy'](#)). These results can be linked to similar work by Pierre van der Eng (1992) on the historical national accounts of Indonesia in the 20th century. At the same time data on the income distribution have been collected, of which some have been published already (see Van Zanden 2003).

The second phase of the project is to explain Indonesian development and underdevelopment in the 19th and 20th centuries (and perhaps also, to explain why it was still so poor at the beginning of the 19th century). I attempt to integrate three different approaches into the analytical framework:

- new growth theory, which stresses the role of technology and human capital, and the endogenous character of economic growth (important new work on the link between human capital formation and growth in Indonesia is now being done by Bas van Leeuwen, Ph D student at IISH)
- new institutional economics, focusing on the 'rules of the game' for market exchange, and
- new political economy, analysing the relationships between the state and the economy.

These theoretical approaches will be used to analyse the development of rice markets and (rural) capital markets in the long run (a first experimental paper is already available on the internet: ['On the efficiency of markets for agricultural products. Rice prices and capital markets in 19th century Java'](#)). At present I am working on a detailed analysis of the income and expenditure of the colonial state, in order to analyse its political economy more in detail.

The planned product of this project will be a book covering the long term economic development of Indonesia in the 19th and 20th centuries.

What makes studying Indonesian economic history so fascinating to me, is that many of the 'rules of the game' which are more or less taken for granted in early modern Europe – many of the preconditions for efficient market exchange – seem to be so different or indeed absent in 19th century Indonesia/Java. Early modern markets in Europe/the Netherlands sometimes seem to work far more efficiently than Lombok markets in 2003. Interest rates are perhaps a good guide to these differences, because they reflect the efficiency of capital markets – and therefore perhaps also the degree of trust – in an economy quite well. Since the early 15th century (when interest rates in Holland fell markedly), meaning in the past 600 years or so, interest rates in Holland have been fluctuating between 3 and 7 percent (with a few exceptions during periods of war). In Indonesia interest rates of 20 to 40 percent, sometimes to as high as 100 percent have been quite normal; these high interest rates are already present in 17th and 18th century sources, and persists until today.

The divergence in interest rates is one important aspect of the structural (and still unexplained) differences between the two economies. I think (but I will have to write a book about it to argue the point more convincingly) that these differences are also linked to the political economy of both societies - at this point the 'modern political economy' comes in. Whereas income inequality in 19th century Indonesia was perhaps rather low, political rights were distributed quite unequally (and again, I see a lot of path dependency here); high income inequality in the 19th century Netherlands on the other hand was paradoxically a feature of a relatively 'egalitarian' society. These different distributions of political rights have had – in my view – enormous consequences for the protection of property rights, for institutions governing exchange in general, and in this way for economic development. The point was made most succinctly by Van Vollenhoven, the great expert of the *adat*, the system of customary rights of Java, who wrote a brief book on the ways in which the colonial state had maltreated the rights to land of the Javanese peasantry. He concluded that if there had been a Parliament, a authoritative body representing the interests of the population, this recurrent violation of their property rights had not been possible – as something similar had not been possible in 19th century (or for that matter 16th century) Netherlands.

You may sense some tension between the enormous scope of the first part of this essay, which focused on economic growth and inequality on a global scale, and the relative modest ambitions of my own contribution, which is about comparing and explaining the trajectories of two countries. One of the ways to solve this problem is by working together with other colleagues who have similar research interests. Such 'global' projects, in which scholars from different parts of the world work together intensively are now in the making. The Global Economic History Network organized by Patrick O'Brien (LSE) organizes a series of workshops on different themes of global economic history. A second initiative, set up by Peter Lindert (UCDavis) aims to bring together all experts on the history of wages and prices in different parts of the world in order to create a large dataset containing series of wages and prices from the Middle Ages to the 20th century covering all continents.

Addendum: institutions for economic-historical research

These projects are fine examples of more or less ad hoc ways of working together. Can we develop structures to create a durable infrastructure for this kind of global (or internationally-comparative) research? Being aware of the importance of institutions for commercial exchange, specialization and development, economic historians might also want to invest part of their time and effort in improving the institutional infrastructure of their own trade, in order to create improved conditions for academic exchange. This is the more pressing as true global economic history will always be the product of the work of many specialists, working in different countries and continents and focusing on a great variety of topics and periods. But cooperation presupposes a well defined set of rules, which have to be adapted now and then to changing circumstances.

In my view, the International Economic History Association (<http://www.neha.nl/ieha/index.html>) should play a role in this. To begin with, by organizing the world economic history congress each 3 or 4 years (the next one will be in Helsinki, in 2006: <http://www.valt.helsinki.fi/yhis/iehc2006/>). Recently two other initiatives have been undertaken to strengthen this role. One concerns the setting up of an on-line research design course, which is now available on the web (see http://www.neha.nl/ieha/rdc_index.html). The idea of to help students from outside the OECD-countries to develop their own research plan, and to connect them with the research that is going on in other parts of the world.

The other initiative is to set up a network of 'hubs', i.e. central (internet) places where scholars can and will store and exchange their data sets and where international comparative research on the relevant theme is being organized.¹⁴ The idea is that economic-historical research is to a large extent based on databases constructed by economic historians (in fact, one of our qualities is that we know how to produce 'new' data). Data on historical national accounts, wages and prices, historical-demography, monetary phenomena (interest rates, money supply, exchange rates), heights (from ancient skeletons to 20th century recruits), governments expenditures and taxation, international trade and capital flows and so on and so forth. form the backbone of our kind of research. The creation of a database often is the most labour intensive part of a project, and its quality to a large extent determines the quality of its outcomes. Yet, after the publication of the results of a research project, most datasets tend to be neglected, and remain the sole property of its author. Some scholars tend to monopolise access to their data - or even worse, prefer to throw the data away or store them in such a way that they are inaccessible for other researchers. This state of affairs makes it often very difficult to do international-comparative research, or more in general to build upon the work that often have done before.

Historical national accounting offers an example of how it can be organized differently. Angus Maddison has for more than one generation been the focal point of this branch of research. He knew everyone working in this field, stimulated it enormously (he always might ask you: what did you do for GDP this week?), and above all collected the results of the work of all these scholars himself, compared them internationally, and published the results of this endeavour once every ten years or so. This gave an enormous impulse to this kind of research, and created a framework for international comparative work which is one of the strongest sub-disciplines in our field.

Given the possibilities of the internet, one may nowadays think of more efficient ways to bring these data together and publish international-comparative results. Given the internet, we can perhaps try to realize the same objectives in the following way: we need central hubs in the networks of economic-historical research that concentrate - as Angus Maddison did - on the collection, storage and publication of relevant data bases from a certain sub-discipline. This means, to begin with, that the rule has to be introduced that researchers make their data bases accessible to others, at least once the most important publications based on these data have appeared. They either do this on a site at their own research institute (with a hyperlink to the relevant 'hub'), or send the data, and a description of the way in which they are collected and constructed, to the 'hub', which then makes it accessible to all. This 'hub' may be a group of scholars who specialize in this field - for example the 'pupils' of Maddison at Groningen University - who organize workshops and conferences on the topic, and publish once every ten years a review of the state of the art of the discipline. On the one hand this means a large investment in maintaining and extending the databases, and publishing the results of their comparative work. On the other hand, the benefits of being such a hub are also substantial, especially when their publications are going to be considered the standard of this sub-discipline (again, think of the influence of the work of Maddison). For individual scholars this would mean that via the internet they would get access to the data bases in a particular field, which would enhance the prospects of international-comparative research enormously.

This idea has been discussed at a round table at the XIIIth World Economic History Congress that was held in Buenos Aires in 2002. It found a lot of support, although there was also some doubt whether the idea would work in practice (see the summary of discussion at <http://www.neha.nl/ieha/briefreport-01.html>). Four colleagues are now prepared to work out the idea in practice and set up a hub:

¹⁴ The following 7 paragraphs are quoted from a memo written for the meeting of the Executive Committee of the IEHA, May 2003 in Paris.

- Jan-Pieter Smits and his colleagues from the Groningen Growth and Development Center are already developing a hub in the field of historical national accounting: <http://www.eco.rug.nl/ggdc/index-dseries.html#top>, and also the personal webpage of Angus Maddison: <http://www.eco.rug.nl/~Maddison/>
- Joerg Baten from the University of Tuebingen is designing two different hubs, one on the anthropometric history (see <http://www.uni-tuebingen.de/uni/wwl/dhheight.html>), the other on the econometric history of firms and capital markets (still under construction)
- David Mitch (University of Maryland) is working on a hub about education and human capital formation (see http://www.umbc.edu/economics/faculty_cv/mitch.html)
- I have developed a hub on the history of prices and wages; see <http://www.iisg.nl/hpw>

There is still an ongoing discussion about ‘the rules of the game’. A few rules have already been formulated: a hub is a website with databases from a certain sub-discipline of economic-historical research (and with links to websites on which similar data are being published), managed by a scholar who is actively involved in the collection and analysis of those data. Other scholars working in this field are asked to put their data on this website, or to publish them in another form on the internet and create a link to the hub. Ideally the hub is embedded in a larger network of specialists working in this field, organizing regular academic meetings.

A crucial part of the strategy is to convince editorial boards of leading journals to make the publication of data underlying papers published by them obligatory. The next step is to discuss this idea with the editors of the most important journals: the Journal of Economic History, the Economic History Review, the European Review of Economic History and Explorations in Economic History. The undersigned will take further steps to consult the editors involved.

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