The ‘revolt of the early modernists’ and the ‘first modern economy’: an assessment

By JAN LUITEN VAN ZANDEN

In the 1950s and 1960s the dominant view of the early modern economy was that it was unable to generate long-term economic growth. This view was perhaps most clearly expressed in the writings of Abel, who emphasized the decline of real wages and the increase of poverty in Europe between 1500 and 1800. Equally pessimistic were many studies published by the French Annales school; Le Roy Ladurie’s ‘histoire immobile’ is perhaps the most consistent statement of this stagnationist view. He described the French economy between c. 1320 and 1700 as characterized by a permanent production ceiling that it was unable to break through until the middle of the eighteenth century. The stagnationist view was based on a variety of sources, among which series of real wages and estimates of the development of land productivity based on the yield of tithes were probably the most important. Moreover, this view of the early modern economy was consistent with the then current interpretation of the industrial revolution. Economic historians of the 1950s and 1960s saw this as the single most important event in the economic history of western Europe, the dividing line between a stagnant agrarian economy, dominated by Malthusian forces, and a dynamic industrial society, driven by the unbound Prometheus of technological change.

In the 1980s and 1990s this picture of the stagnant economy that supposedly preceded the industrial revolution came under attack from several sides. Attempts to quantify the growth of output and productivity in Great Britain and France in the eighteenth and nineteenth centuries indicated a gradual acceleration of industrial growth, not a clear-cut ‘revolution’. The work of Crafts, who revised Deane and Cole’s estimates of British economic growth, had an especially great impact on the interpretation of the industrial revolution. Moreover, economic historians of the early modern period began to point out that the industrialization

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1 I would like to thank Bas van Bavel, Maarten Prak, and the referees of this journal for their detailed comments on a previous version of this article, and Jan de Vries and Jeremy Boulton for sharing with me the results of their research into the historical development of prices.

2 Abel, *Agrarkrisen und Agrarkonjunktur*.

3 Le Roy Ladurie, ‘L’histoire immobile’.

4 The most influential papers were published by Phelps Brown and Hopkins in the 1950s; see Phelps Brown and Hopkins, *Perspective*.


6 Crafts, *British economic growth*. 

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of the late eighteenth and early nineteenth centuries was made possible by structural changes that had taken place earlier. The development of urbanization and international trade networks,\textsuperscript{7} of agricultural productivity,\textsuperscript{8} proto-industry,\textsuperscript{9} of national patterns of specialization\textsuperscript{10} and labour markets,\textsuperscript{11} all demonstrated that this was a dynamic period, during which the basis was laid for the industrialization of western Europe after 1780. This ‘revolt of the early modernists’, as De Vries has called it,\textsuperscript{12} has resulted in a much more optimistic interpretation of economic growth during the centuries before the industrial revolution. The work of Persson on ‘pre-industrial economic growth’ can be seen as a first attempt to bring this revisionism into one coherent framework. He made the point that growth had been more or less characteristic of the European economy at least since the late middle ages. He was also among the first explicitly to criticize the stagnationists of the 1950s and 1960s.\textsuperscript{13}

In their recent book, \textit{The first modern economy: success, failure, and perseverance of the Dutch economy, 1500-1815}, De Vries and Van der Woude have carried this ‘revolt of the early modernists’ to its logical conclusion. Their thesis, based on a very detailed and at the same time broad interpretation of the development of the economy of the Netherlands,\textsuperscript{14} is not only that it can be characterized as ‘the first modern economy’, but also that it went through a process (or rather a cycle) of ‘modern economic growth’ between 1500 and 1815.\textsuperscript{15}

The first claim is based on their analysis of the Dutch economy, which they suggest was characterized by:

- markets, for both commodities and the factors of production (land, labour, and capital), that are reasonably free and pervasive;
- agricultural productivity adequate to support a complex social and occupational structure that makes possible a far-reaching division of labour;
- a state which in its policy making and enforcement is attentive to property rights, to freedom of movement and contract, and at the same time is not indifferent to the material conditions of life of most inhabitants; and
- a level of technology and organization \textit{capable} of sustained development and of supporting a material culture of sufficient variety to sustain market-oriented consumer behaviour.\textsuperscript{16}

Their second and closely related claim is based on a number of estimates of the level of income between c. 1650 and c. 1800, which show that in the first period there was a 30 to 40 per cent differential

\textsuperscript{7} De Vries, \textit{European urbanization}.
\textsuperscript{8} \textit{Idem}, \textit{Dutch rural economy}; Hoffman, \textit{Growth}.
\textsuperscript{9} Mendels, ‘Proto-industrialization’.
\textsuperscript{10} Kussmaul, \textit{General view}.
\textsuperscript{11} Lucassen, \textit{Migrant labour}.
\textsuperscript{12} De Vries, ‘Industrial revolution’, p. 253.
\textsuperscript{13} Persson, \textit{Pre-industrial economic growth}.
\textsuperscript{14} In this article the term the Netherlands refers to the area covered by the current kingdom of the Netherlands (or by the seventeenth-century Dutch Republic), whereas the term Holland refers to the province of Holland, the western and most urbanized part of the Netherlands.
\textsuperscript{15} De Vries and Van der Woude, \textit{First modern economy}, p. 721.
\textsuperscript{16} Ibid., p. 693.
between Dutch and English per caput incomes, the result of the first round of ‘modern economic growth’ during the seventeenth century. A crucial piece of evidence is supplied by the development of real wages, showing a strong increase during the first phase of rapid economic growth between 1580 and 1620, and another upturn, resulting from a decline in prices between the 1650s and 1680s. Real wages showed an upward trend during much of the seventeenth century, whereas in England real wage erosion continued after the 1570s, and consequently ‘an enormous gap between real wages in the two countries’ opened up. The authors conclude that after the 1570s ‘vigorous growth or restoration of wage levels took place’ and that this made it possible to identify an era of Dutch ‘exceptionality’ from the end of the sixteenth century until well into the eighteenth (when the gap closed as a result of rising real wages in England). The argument is, then, that between about 1580 and 1670 Dutch economic expansion resulted in a rise in the standard of living of the population of the Netherlands.

Finally De Vries and Van der Woude argue that this ‘first round’ of modern economic growth came to a halt after the 1660s, and that this was caused not by Ricardian or Malthusian forces, or by (other) supply constraints, but by ‘economic circumstances that limited demand’. The two claims—that the Dutch pioneered economic modernity and that they experienced the first cycle of modern economic growth—are linked, of course. De Vries and Van der Woude maintain that because this was a modern economy, decline also had modern causes.

These challenging ideas are, in my view, the boldest expression of the revisionism of the 1980s and 1990s. The claim is no longer simply that early modern economic development prepared the way for the structural changes and rapid expansion that began between 1780 and 1850, but that the cycle of economic expansion pioneered by the Dutch Republic was in a way similar to what happened in the rest of the world after the industrial revolution. The reasons for discussing those ideas in detail are not only that they have been put forward by two of the most distinguished experts on the economic history of the Netherlands in this period and on the early modern period generally, but also that the Dutch Republic offers probably the best example of rapid economic expansion before the industrial revolution, and therefore a highly interesting case for testing ideas about the dynamics and scope of economic development in the pre-industrial era. Accordingly, the purpose of this article is to analyse certain crucial dimensions of economic growth before the industrial revolution (or ‘early modern economic growth’) in the light of the hypotheses developed by De Vries and Van der Woude, using the Dutch Republic as the case study.

It is possible to distinguish between the quantitative and the qualitative

17 Ibid., p. 710.
18 Ibid., p. 631.
19 Ibid., p. 630.
20 Ibid., p. 631.
21 Ibid., p. 720.
dimensions of their argument. First, this article tests their ideas about the development of real wages on the basis of new evidence. Secondly, the claim that this was the ‘first modern economy’ is analysed in greater detail, focusing in particular on the genesis of the modern features singled out by them. The second part of the argument is based on new evidence about the structure of the economy of Holland at the beginning of the sixteenth century. In the first section I will try to show that this version of the ‘revolution of the early modernists’ goes too far—that the claim that this economy went through a process of modern economic growth resulting in a rise in real wages is not consistent with the evidence. However, the related claim about the nature of the Dutch economy in the period 1500-1815 in my view does not go far enough (literally that is). I argue that the roots of its modernity, and indeed its first phase of ‘modern economic growth’ (as defined by De Vries and Van der Woude) are found in the period before 1500. In other words, the major institutional developments which made possible the Dutch ‘golden age’ and which, according to De Vries and Van der Woude, characterized this ‘first modern economy’ actually predate the starting point of their story.

I

The development of real wages is at the core of the argument of De Vries and Van der Woude that the Dutch economy after 1580 was able to generate a rising standard of living for its population. The results of the labour market study used in The first modern economy have been published previously by De Vries, and since the book was published he has used the same graphs on real wages to make the point that Dutch economic development was exceptional. Therefore a detailed discussion of these results will go to the heart of the argument of the book.

Obviously, these results depend on the reliability of the series on nominal wages and on the cost of living. The problem with the wage evidence is that it is limited to workers in the building industry—carpenters, masons, sawyers, hodmen, and unskilled labourers—and it is unclear how representative those wages are for the rest of the labour force. This is a general problem with the study of wage developments in early modern Europe, because almost all labour market studies focus on these occupations. A comparison of the development of wages in construction with those in other branches of the economy sheds new light on the representativeness of these data.

Using some recently published wage data combined with older sources, it is possible to reconstruct the long-term development of wages in textiles, shipping (the navy in particular), and agriculture. The textiles

### Table 1. The wages of textile workers in Holland, compared with those of hodmen, c. 1450-c. 1740 (stivers)

<table>
<thead>
<tr>
<th>Year (approx.)</th>
<th>Spinning (/lb.)</th>
<th>Combing (/lb.)</th>
<th>Fulling (/day)</th>
<th>Weaving (/piece of laken)</th>
<th>Hodman (/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1450</td>
<td>0.75</td>
<td>0.75</td>
<td>2.9</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>1500</td>
<td>1.00</td>
<td>1.00</td>
<td>3.8</td>
<td>20</td>
<td>3.3</td>
</tr>
<tr>
<td>1550</td>
<td>1.90</td>
<td>—</td>
<td>5.5</td>
<td>20-25</td>
<td>—</td>
</tr>
<tr>
<td>1620</td>
<td>12.5</td>
<td>3.0-3.5</td>
<td>18.0</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>1650</td>
<td>13.0</td>
<td>—</td>
<td>90-110</td>
<td>18.0</td>
<td>16.1</td>
</tr>
<tr>
<td>1663</td>
<td>10.0</td>
<td>—</td>
<td>70-80</td>
<td>—</td>
<td>16.9</td>
</tr>
<tr>
<td>1700</td>
<td>—</td>
<td>—</td>
<td>20.7</td>
<td>—</td>
<td>14.0</td>
</tr>
<tr>
<td>1740</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>12.0</td>
<td>18.6</td>
</tr>
</tbody>
</table>


Wages are presented in Table 1. Unfortunately no wage data are available for the period between the 1550s and the 1620s, and hence it is difficult to trace the changes in nominal wages in detail. But the evidence on long-term trends between about 1550 and 1650 shows that nominal wages in textiles were growing at about the same rate as in building. In fact, wages of spinners rose much more, but the wage evidence from the seventeenth century is somewhat suspect, as it is derived from petitions of entrepreneurs who complained about the high level of (spinning) wages in Holland (in order to explain that they had moved this part of their business to Brabant or Amersfoort, where wages were much lower). Wages for combing did not move up very much, however, and the wages of fullers (whose trade was strictly regulated by the city of Leiden before the 1580s) and of weavers more or less kept pace with those of hodmen until the middle of the seventeenth century. Afterwards trends diverged: building wages continued to increase, albeit much more slowly than before, but wages in textiles went down across the board from the 1650s onwards.

The wages of the navy—which were linked to those in other parts of the shipping industry—were going up much less than those in construction (see Table 2). The comparison between the sailor/soldier and the hodman is very instructive in this respect: during the middle decades of the sixteenth century a sailor could earn as much as a hodman who worked 18 to 20 days per month (i.e. the monthly pay in guilders was almost equal to the daily wage in stivers). Given that the sailor was also fed and housed by the navy, the wage levels of the two groups were on a par. The wages of a carpenter in and outside the navy were the same: 6 guilders per month and 6 stivers per day respectively. In 1621 this had changed drastically, and wages of the navy were now only half of those

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Table 2. *Monthly wages of the navy of Holland and Zeeland, 1521-1770* (guilders)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sailor/soldier</th>
<th>Cook</th>
<th>Sailmaker</th>
<th>Carpenter</th>
<th>Quartermaster</th>
<th>First mate</th>
<th>Hodman (stivers/day)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1521</td>
<td>3</td>
<td>—</td>
<td>6</td>
<td>12</td>
<td>21</td>
<td>3.2</td>
<td>20</td>
</tr>
<tr>
<td>1536</td>
<td>—</td>
<td>8</td>
<td>—</td>
<td>6</td>
<td>8</td>
<td>20</td>
<td>3.4</td>
</tr>
<tr>
<td>1544</td>
<td>3</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>20</td>
<td>3.6</td>
<td>—</td>
</tr>
<tr>
<td>1550</td>
<td>3.75</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>20</td>
<td>3.8</td>
</tr>
<tr>
<td>1621</td>
<td>6-8</td>
<td>12</td>
<td>—</td>
<td>16</td>
<td>12</td>
<td>24</td>
<td>13.5</td>
</tr>
<tr>
<td>c.1650</td>
<td>10-11</td>
<td>18-21</td>
<td>14-16</td>
<td>28-30</td>
<td>13-14</td>
<td>34-36</td>
<td>17.0</td>
</tr>
<tr>
<td>c.1725</td>
<td>11</td>
<td>18</td>
<td>18</td>
<td>28</td>
<td>15</td>
<td>36</td>
<td>19.0</td>
</tr>
<tr>
<td>1770</td>
<td>9-12</td>
<td>20</td>
<td>25</td>
<td>30</td>
<td>14</td>
<td>36</td>
<td>19.2</td>
</tr>
</tbody>
</table>

*Note: a 20 stivers = 1 guilder*


on shore; only the carpenter managed to keep his relative wage at the level that was usual outside the navy. An explanation for the relative decline of sailors’ wages may be that because the navy housed and fed its employees, and because the prices of foodstuffs and housing had gone up relative to all other prices, the net disposable income of the sailors may have changed to the same degree as the net disposable income of their colleagues on shore, who had to buy much more expensive foodstuffs and pay a much higher rent. This would, of course, depend on the composition of the basket of goods that was bought by sailors: if they had to maintain a family, their cost of living would probably have gone up as much as that of a city-based hodman.

Finally, some data on the development of wages in agriculture can be presented (figure 1). These consist of two series of harvest wages from areas near the city of Leiden (1500-c. 1630) and a series of wages of threshers in Zeeland (converted into an estimated daily wage). These series are again compared with the De Vries and Van der Woude estimates of the daily wages of hodmen (the line of diamonds in figure 1). During the sixteenth century the wages for mowing and haymaking were 30 to 40 per cent higher than those of hodmen, a gap which remained more or less the same between the 1570s and the 1610s, and even widened somewhat in the 1620s. The wages of threshers in Zeeland were relatively high as early as the 1590s, but during the seventeenth century they declined relative to the wages of hodmen. It appears, however, that in the long run wages in agriculture developed more or less in parallel with those in construction.

This overview of wage data from agriculture, textiles, and the navy shows that there was more diversity in wage developments than is suggested by the wages of construction workers.24 Nevertheless, these appear on average to be a relatively good index of wage developments in the

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24 For the development of salaries of employees in government and the services sector, see Van Zanden, ‘Tracing the beginning’, pp. 650-5.
rest of the economy, in particular in the period before 1650. In some activities, such as spinning and harvest work, wages may have increased more during the ‘golden age’, in others—the navy—wages lagged behind, but the wages in construction seem to be quite representative of the overall trend.

II

The second part of the analysis of the development of real wages is concerned with the consumer price index. The index used by De Vries and Van der Woude has a number of weaknesses. Before 1575 no price index was calculated for the western part of the Netherlands, and a consumer price index constructed by Van der Wee for the city of Antwerp (in Brabant) was used instead. For a number of reasons prices in this city may not have reflected those in Holland. Until about 1565 Antwerp was the staple market of western Europe, the largest urban centre in the Low Countries and therefore probably more expensive to live in than Holland. Moreover, 1575 is a particularly bad year to link the Antwerp series to the Holland index, because it was the time of the Dutch Revolt, a devastating civil war, when communications were interrupted violently and the lack of grain imports created food shortages which must have distorted price levels throughout the Low Countries.25 Moreover, the

西部荷兰的指数由德维尔斯在1575年后构建，但有几个缺点。虽然已知荷兰的居民不自己做面包，而是在面包店买面包，面包的价格被代表为大麦的价格。这在1584年引入磨坊税，并在其后急剧增加后，面包价格上升得远超过大麦的价格。26

房租，一个重要的预算部分，在城市化的荷兰，不包括在指数中，尽管有发展房租的指数在阿姆斯特丹可以获取，一项由Lesger研究。27

最终，没有考虑到消费模式的改变和因此工作阶级家庭的预算在17和18世纪的改变（除了1740年后啤酒价格被茶、咖啡和白兰地的价格所替代）。

为了克服这些问题，一个新的消费者价格指数（CPI）已被构建，这个指数涵盖了整个1450-1800年。这也参考了1410-1570年Leeuwenhorst修道院的价格和工资的最近出版。28

新指数包括了大麦面包的价格（从1596年开始）和阿姆斯特丹的房租系列（从1550年开始；在此之前没有数据可用）。两个具有不同权重方案的指数（代表消费模式变化）从1450/74和1725/49被链接在1656年；1763年土豆消费增加被考虑。这些新的CPI的细节在我其他地方有更详细的说明。29

这些变化的净效果相对较小，然而（见图2）。新的荷兰价格指数和凡德威指数的1575年价格是100，1575年差值只有4%，主要归因于1570年代初期荷兰的极度高价格。1575年后，德维尔斯系列和新系列再次收敛；直到1650年，一个重要的房租和面包价格的差距出现，但不是持续的（除了约1650年后价格的下降，与其他价格相比）。直到1800年两个指数几乎相同。整体上，价格的

27 Lesger, *Huur*; De Vries and Van der Woude (*First modern economy*, p. 628) decided not to incorporate an index of rents because of the 'heterogeneity of housing costs'; a detailed comparison of the Amsterdam rents and the average rents per house in Holland in 1561, 1632, 1732, and 1807 showed, however, that the Amsterdam series is quite representative of the general trend in rents (J. L. Van Zanden, 'Towards a second generation of historical CPIs; the case of the western Netherlands 1450-1800', paper presented at conference on 'New evidence of the standard of living in preindustrial Europe and Asia', Arild, 2000).
28 De Moor, *Lonen* (also published on www.iisg.nl/hpw); comparison of the prices published in this volume with the prices from Utrecht and Leiden published by Posthumus, *Nederlandse prijsgeschiedenis*, shows that the prices paid by the abbey were at about the same level as prices elsewhere (in the cities of Leiden and Utrecht).
29 Van Zanden, ‘Towards a second generation’ (see above, n. 27); the series is also available on the website on historical prices and wages of the International Institute of Social History: www.iisg.nl/hpw

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consumer goods have increased by a factor of nine to 10 in the period between 1450/74 and the 1630s, and according to the new CPI they remain on this plateau for more than a century (whereas they decline after the 1650s according to the De Vries index).

Nominal wages strongly lagged behind the rise in prices. Between 1500 and 1650—the classic period of the price revolution—the wages of master carpenters and masons increased fivefold, those of journeymen, unskilled labourers, and hodmen by about 450 per cent, but prices went up almost tenfold. The estimated real wage index (based on the wage series of masters and hodmen compiled by De Vries and Van der Woude, and the new CPI) shows an almost continuous decline in real wages between the 1450s and the 1560s and early 1570s, followed by a stabilization at about 60 per cent of the 1450/74 base level (see figure 3); after about 1760 a renewed decline in real wages sets in.

At a number of points these estimates diverge from the De Vries and Van der Woude series. To start with, the decline between 1450/74 and c. 1550 is much greater, at about 40 per cent. De Vries using the Van der Wee price index estimated this decline at about 20 per cent; it is not possible to explain the difference because the new CPI and the Van der Wee index move together closely in this period. The series presented by De Vries shows an almost continuous increase between c. 1570 and the 1670s and 1680s, which is not corroborated by the research presented here, although some recovery after the famine of the early 1570s occurred. This second discrepancy is caused by the new CPI. The net effect of

Figure 2. The two CPIs for the western part of the Netherlands, 1450-1800 (1450/74 = 100)
Sources: Van der Wee, ‘Prijzen en lonen’; De Vries and Van der Woude, First modern economy; Van Zanden, ‘Towards a second generation’ (see above, n. 27)
both differences is that whereas De Vries and Van der Woude found that real wages of hodmen during the 1670s and 1680s were higher than in the base period, my new estimates show that it is highly unlikely that this was the case: during the golden age (i.e. between 1580 and 1680) real wages of all groups of construction workers remained more or less stable at about 60 per cent of the level that was attained during the third quarter of the fifteenth century.

III

A different reading of the De Vries and Van der Woude argument might be that this stabilization was already a unique achievement, because elsewhere, in England in particular, real wages continued to decline after the 1570s. To make this claim De Vries and Van der Woude have used the indices of wages and prices compiled by Phelps Brown and Hopkins (PBH) in the 1950s. These have, however, been criticized for a number of reasons, and superseded by recent research. A number of contributions to the ‘standard of living debate’ have shown that the post-1750 estimates of PBH are not a reliable guide to changes in real wages. More important for the present discussion is that Rappaport demonstrated as long ago as 1989 that the PBH indices were not representative of what happened in London: there real wages declined by 29 per cent between

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the 1490s and the 1600s, only half as much as was estimated by PBH.\footnote{31} This difference is partly explained by the fact that Rappaport uses retail prices for flour and beer instead of the wholesale prices for wheat and malt used by PBH (his corrections are therefore similar to the ones I propose for the price index of Holland).\footnote{32} Comparable corrections result from the research by Boulton into prices and wages in London in the seventeenth century; he showed that after about 1650 prices did not fall as much as PBH maintained, a conclusion which is again very similar to that reached here on price developments in Holland in the same period.\footnote{33}

The Rappaport and Boulton price indices for the sixteenth and seventeenth centuries are clearly a better guide to what happened to the cost of living than the PBH index. Moreover, in view of the weaknesses of the PBH wage index, I have also constructed a new wage index for construction workers in southern England on the basis of evidence on wages in five towns: London (based on the research by Rappaport and Boulton), Cambridge, Oxford, Dover, and Canterbury. Those series give a better coverage than the PBH series, which for a large part of the period is exclusively based on Oxford. In particular, the new series shows a more rapid increase in wage levels during the second half of the sixteenth century. The appendix provides a description of the procedures and the sources used.

The results can be presented in a number of ways. First, I addressed the question of what happened to real wages in comparison with the base period of the third quarter of the fifteenth century. Because the price index used for England was based on London data, two real wage indices were calculated, the first of London wages only, the second of wages in the five towns in southern England (London has a 20 per cent weight in the latter series).\footnote{34}

Figure 4 presents the results. The most striking difference is that in Holland real wages had already declined substantially before the beginning of the sixteenth century, whereas in England this decline did not begin before about 1510.\footnote{35} Between the 1550s and the 1630s real wages in both regions moved more or less in parallel; after the 1620s the difference between real wages in London and in Holland remains the same. The ‘gap’ between Holland and southern England closes, however, after the 1620s. One reason for the diverging trends of real wages between London and the rest of southern England may be the fact that prices in London increased more than in the countryside, which is an almost ‘natural’ effect of rapid urban growth. The PBH series showed a remarkable increase of real wages after about 1650, which disappears when the

\footnote{31} Rappaport, Worlds within worlds, p. 150.
\footnote{32} Ibid., pp. 145-8; Phelps Brown and Hopkins, Perspective, p. 12.
\footnote{33} Boulton, ‘Wage labour’; idem, ‘Food prices’.
\footnote{34} Slightly different base periods were used: 1450/74 for Holland, and 1457/71 for London and England, but this difference does not affect the outcome, as can be checked from the Holland data.
\footnote{35} An analysis of nominal and real wage developments during the fifteenth century is presented in B. J. P. Van Bavel and J. L. Van Zanden, ‘The Holland miracle during the late medieval crisis, 1350-1500’ (unpub. paper, Univ. of Utrecht, 2002); here I concentrate on developments after 1500.
Boulton price series for London is used; this may help to explain the ‘divergent’ development of real wages in England during the seventeenth century. But the most important conclusion is that the new comparison shows that between 1500 and 1700 the development of real wages in Holland was not exceptional, and quite similar to that in London and southern England.

The De Vries and Van der Woude case is strengthened somewhat if explicit international comparisons of the purchasing power of wages in Holland and in southern England are included. The two studies of wages and prices in the western part of the Netherlands and in southern England supply the data to make such a comparison for two periods, 1530/50 and 1730/50 (before and after the Dutch golden age). The nominal wages of two groups of construction workers (carpenters and labourers) and the prices of seven products (bread, beer, eggs, meat, woollen and linen cloth, and peat/coal) were converted into grammes of silver. Weights derived from the budgets used in the two studies made it possible to calculate indices of the cost of living in both regions, and hence to estimate differences in the real wages. The result of this direct comparison, which is explained in detail elsewhere, is that real wages in the two regions were almost identical in both periods. In 1530/50 real wages in Holland were perhaps 5 per cent higher than in England (but the difference is smaller than the margin of error involved), whereas in 1730/50 English workers had acquired a slightly higher earning capacity.

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36 Van Zanden, ‘Towards a second generation’ (see above, n. 27).
37 For very similar results, see Allen, ‘Great divergence’.

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This means that the gap between England and Holland suggested in figure 4—which results from the fact that in Holland real wages had already declined between 1450/74 and the 1490s—does not give a reliable impression of the international differences in real wages. The purchasing power of wages in Holland and in England (and in particular in London) moved more or less in tandem between 1500 and 1700. The implication is that the only period during which real wages in Holland were perhaps higher than those in England was before 1500, but at this point I will not try to make a case for Dutch exceptionalism in the fifteenth century.

IV

The previous section has been able to build on a long tradition of scholarly work on the reconstruction of the development of real wages during the early modern period. It is much more difficult to verify the other hypothesis that was formulated by De Vries and Van der Woude, concerning the development of GDP per caput during the seventeenth century. Attempts to reconstruct this material for western Europe during the early modern period started only in the 1990s (with the exception of a number of older studies which tried to quantify eighteenth-century growth in England and France). These attempts have ranged from very optimistic estimates by Snooks showing high rates of growth in per caput GDP in England, to more pessimistic accounts of stability and even decline in Italy presented by Malanima.38 The tentative conclusion that can be derived from this work is that in general economic growth, where it occurred, was still rather slow and did not result in large increases in GDP per caput. Growth was certainly much slower then than after 1800, and even in the more dynamic parts of Europe (Britain, Holland) it is unlikely that GDP per caput as much as doubled between 1500 and 1800.39

This conclusion seems to be consistent with the evidence presented by De Vries and Van der Woude on the performance of the Dutch economy during the golden age. After comparing different sets of estimates of the level and rate of growth of income and output of the Dutch and the British economy during the period between the 1660s and the 1830s, they conclude that ‘the small superiority of Dutch income over British around 1740-60 (10 to 15 percent) must have been greater in the late seventeenth century (perhaps 30 to 40 percent)’.40 The estimated income gap at the end of the seventeenth century is then used as an index of the economic exceptionalism of the Netherlands during that century. But what does this tell us of growth before the 1660s? Already in the sixteenth century the Netherlands was the more developed economy, with a much higher level of urbanization and, in all likelihood, a (much) higher GDP

39 An attempt to synthesize these findings is made in Van Zanden, ‘Early modern economic growth’.
40 De Vries and Van der Woude, First modern economy, p. 710.

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per caput. It is impossible to estimate the difference precisely, but this is unlikely to have been smaller than 20 per cent in 1500. The gap in estimated GDP in the 1660s of 30 to 40 per cent therefore implies that the growth spurt of the Dutch economy increased its relative GDP per caput by perhaps 10 to 20 per cent. This means either that the British economy did quite well too—which is consistent with the real wage data, but undermines the thesis of exceptional Dutch performance in those years—or that both economies grew relatively slowly, which is also inconsistent with the De Vries and Van der Woude hypothesis. Therefore, these GDP estimates do not really prove the hypothesis that growth during the Dutch golden age was exceptional. The Dutch economy was surely the wealthiest in western Europe during the seventeenth century, but its rate of growth was probably not much higher than the British.

A related issue concerns the consistency of these results. The data on wages and prices suggest that real wages in Holland and in England were probably quite similar between 1500 and 1700. On the other hand, the GDP estimates indicate that the figure per caput in Holland was probably higher than in England. However, the large differences in economic structure—agriculture was still by far the largest sector of the economy in England, whereas its importance was rather small in Holland (see table 3)—implies that these results do not contradict each other. Moreover, the relationship between GDP per caput and the level of (real) wages is complex and dependent on a host of other factors (for example, the participation ratio, the length of the working year, and the functional distribution of income). This may also help to explain why per caput growth in seventeenth-century Holland went together with a more or less stable level of real wages.

V

Economic history is not a sports match, however. It is much more important to understand these phenomena than to argue about who came first, or which country performed best. It is probably more relevant to ask why the Dutch economy performed so well during the seventeenth century, and what were the institutional and technological causes behind this growth spurt. If the Dutch Republic was characterized by a relatively modern set of institutions—which is the core of the argument for modernity advanced by De Vries and Van der Woude—why and when did these institutions develop in this part of the world? Davids has argued that at this point the story of the ‘first modern economy’ is incomplete. It does not offer a systematic explanation for the rise of the institutional framework that De Vries and Van der Woude consider to be modern. Again the comparison with England is instructive. In a number of publi-

41 See, for example, the estimates of the urbanization of the Netherlands as a whole in 1525, put at 31 to 32%; ibid., p. 60.
42 The complex relationship between GDP per caput and real wages is discussed in Van Zanden, ‘Wages and the standard of living’.
North has analysed the development of a modern set of property rights and their protection by the state in the wake of the Glorious Revolution of 1688, which in his view provides an explanation for the remarkable performance of the English economy in the eighteenth and nineteenth centuries. A similar story explaining the institutional setting of the ‘first modern economy’ is notably absent from De Vries and Van der Woude’s book.

They do offer a few clues, however. In the economic-historical literature on the rise of the economy of Holland in the centuries before 1700 two different interpretations can be distinguished: one stresses its medieval origins, the other the ‘early modern’ exogenous shocks that gave rise to the golden age. The latter focuses on the special developments during the period between 1580 and 1650 which made Amsterdam the central staple market of western Europe: the religious wars in the neighbouring countries, the blocking of the port of Antwerp by the Dutch navy, the immigration of entrepreneurs and craftsmen from the southern Netherlands, and the spectacular growth of the grain trade as a result of the famines in western and southern Europe. In his classic study, Israel stresses these causes of the sudden rise of Holland to primacy in world trade.

De Vries and Van der Woude disagree. They argue that the success of the Dutch economy was brought about by endogenous forces, which had their roots in the medieval period. They disagree with Israel about the significance of the political events of 1585, when Antwerp was conquered by Spanish troops and many inhabitants migrated to Holland. In their view the fate of Antwerp was already sealed before that date, and the rise of the northern ports of the Netherlands was caused by ‘characteristics that had earlier given those ports command of the bulk trades of the Baltic and North seas: elastic supplies of shipping, low transaction costs, and efficient markets’. The efficient markets and modern institutional setting that were behind the spectacular expansion of the economy after the 1580s therefore preceded the political events of that decade.

One way to approach the issue of the historical roots of the ‘modernity’ of the Dutch Republic is to analyse the growth of markets and of specialization in the centuries before the 1580s. The proof that efficient markets and institutions exist is that producers are able to specialize, trade flows increase, and wage labour becomes an important source of income. The level of structural transformation of an economy (the pro-

44 North, *Structure and change*, pp. 154-7; North and Weingast, ‘Evolution’. Without entering this debate, the evidence presented in the previous sections suggests that the remarkable performance of the English economy predates the events of 1688.


46 Israel, *Dutch primacy*.

47 De Vries and Van der Woude, *First modern economy*, p. 668; but see the analysis of the development of the grain trade of Holland between 1470 and 1570 by Van Tielhof, *De Hollandse graanhandel*, which shows that the rise to prominence of Amsterdam was also related to political and military changes. See also the recent discussion of the importance of Antwerp merchants for the rise of the Amsterdam staple market in Gelderblom, *Zuid-Nederlandse kooplieden*. 

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portion of the population that is active outside agriculture) or the extent of the labour market can be seen as empirical proofs of the existence of more or less efficient markets and institutions (because it is extremely difficult to test this matter in a more direct way).

Table 3. *The occupational structure of the labour force and the structure of GDP in Holland, 1510/14 (percentages)*

<table>
<thead>
<tr>
<th>Labour force</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>24</td>
</tr>
<tr>
<td>Fisheries</td>
<td>12</td>
</tr>
<tr>
<td>Peat digging</td>
<td>3</td>
</tr>
<tr>
<td>Total primary sector</td>
<td>39</td>
</tr>
<tr>
<td>Construction/dikes and dams</td>
<td>5</td>
</tr>
<tr>
<td>Woodworking/metal industry</td>
<td>9</td>
</tr>
<tr>
<td>Leather working</td>
<td>1</td>
</tr>
<tr>
<td>Textiles</td>
<td>11</td>
</tr>
<tr>
<td>Clothing</td>
<td>5</td>
</tr>
<tr>
<td>Brewing</td>
<td>3</td>
</tr>
<tr>
<td>Other food</td>
<td>4</td>
</tr>
<tr>
<td>Total industry</td>
<td>38</td>
</tr>
<tr>
<td>Trade</td>
<td>8</td>
</tr>
<tr>
<td>Transport</td>
<td>9</td>
</tr>
<tr>
<td>Other services(^a)</td>
<td>5</td>
</tr>
<tr>
<td>Total services</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>99</td>
</tr>
</tbody>
</table>

Notes:
\(^a\) education, government, religion
\(^b\) includes housing services
Source: Van Zanden, ‘Taking the measure’.

Using a set of relatively good sources on almost all aspects of the economy, I have recently reconstructed a set of estimates of the structure of the labour force and of the national product of Holland at the beginning of the sixteenth century (table 3). They show that by then Holland already had a remarkably modern economy: only about one-quarter of the labour force was employed in agriculture, and perhaps one-fifth of GDP originated from this sector, whereas almost 40 per cent of employment was in industry, which contributed a comparable share to GDP. The precise details of this contribution cannot be discussed at any length here, but they are consistent with the demographic data of the period (almost half the population lived in cities, and non-agricultural activities were very important in the countryside) and corroborated by independent research by Van Bavel.  

These results have a number of implications for the interpretation of the ‘first round of modern economic growth’ put forward by De Vries

\(^{48}\) Van Bavel, ‘Early proto-industrialization?’.
and Van der Woude. On the one hand, the modern features of sixteenth-century Holland seem to confirm the hypothesis that it was a relatively ‘modern economy’ at the beginning of that century (but they do not prove, of course, that Holland was ‘the first’; Flanders or northern Italy—or Sung China—in the thirteenth or fourteenth century may already have had a similar structure and level of development). On the other hand, and this is perhaps even more important, they imply that the most dramatic changes in its structure had already occurred before 1514, and that structural change between then and 1800 was relatively small, if not insignificant (in 1807 the share of agriculture in the labour force showed only a slight decline, to 20-22 per cent). The model that is implicit in the analysis by De Vries and Van der Woude in fact assumes that specialization and structural transformation were the key ingredients of Dutch economic growth between 1500 and 1800. Therefore, the fact that those processes to a large degree preceded the sixteenth century raises a number of questions about the sources of growth between 1500 and 1800, and in particular during the golden age. An obvious solution to this apparent paradox is that per caput growth between 1500 and 1800 was also rather limited, and that the changes which occurred before 1500 were much more significant than those that took place during the seventeenth century. The most spectacular growth spurt, the breakthrough of a ‘modern economy’, appears to have occurred before 1500.

VI

This, of course, brings us back to the problem of the medieval heritage, and its rather ‘negative’ interpretation by De Vries and Van der Woude:

If one asks what appears around 1500 as the most characteristic difference between society in the Northern Netherlands and that of the rest of western Europe, the answer would have to be the absence of a truly feudal past... The absence of significant feudal traditions also had the consequence of diminishing the influence of communal institutions and collective behaviour. Where the collectivity is weak, the individual and individualistic behaviour necessarily become more prominent. This creates situations in which personal initiative, innovation, and responsibility can develop, and where political, economic, and personal freedom is valued more highly.

Its remoteness from the centres of Roman and Carolingian power, as well as its marginal agricultural value and late colonization, provided the setting in which feudal principles were modified or remained unimplemented while new, practical institutional solutions were sought to address the challenges of land drainage and colonization.

49 See the comments on the claim that the Dutch Republic was ‘the first’ in Van der Wee, ‘Continuité’.
50 Horlings, Economic development, p. 333.
51 De Vries and Van der Woude, First modern economy, p. 160.
52 Ibid., p. 666.
Their interpretation, which goes back to a paper published by De Vries in 1973, is that Dutch modernity was the direct result of the absence of ‘a truly feudal past’. One of the arguments against this view is that it ignores much of the recent literature on the medieval history of the Netherlands, which stresses the existence of the manorial system in large parts of the country and shows that the socio-political structure had distinct ‘feudal’ features. Slicher van Bath has demonstrated the existence of manors in large areas of Overijssel and Gelderland, and Dekker found similar evidence in parts of Utrecht. In a recent book on the river clay area of Gelderland, Van Bavel has also shown how fundamental these institutions were for the long-term development of the agricultural sector in this region. For the provinces to the south of the Rhine and the Meuse the fact that they became feudalized has never been questioned. This leaves only one region, the largely independent ‘peasant republics’ of Frisia and Drenthe in the north-eastern corner, completely outside the spectrum of this system of agricultural management.

The fact, however, that the northern part of the Low Countries was literally at the margin of the manorial system does not imply, as De Vries and Van der Woude seem to assume, that this system was ‘marginal’. Evidence from the strongly feudalized river clay area studied by Van Bavel seems to support the opposite conclusion. He claims not only that in this border region manorialism was highly developed, but that there was a direct link between this feudal past and the modernization of agriculture here in the fifteenth and sixteenth centuries, which led to the rise of a class of market-oriented farmers with large holdings.

The reclamation of the central peat bogs of Holland and Utrecht between the tenth century and the fourteenth is often mentioned as an example of the particular ‘non-feudal’ development of institutions in medieval Holland, because it resulted in the formation of a class of free peasants who were in possession of the land. However, this project (like similar projects elsewhere) was planned and undertaken by feudal lords—the count of Holland, the bishop of Utrecht—who took care of the necessary infrastructural investments and attracted settlers to farm the new land. In return for acquiring a plot of land, the peasants were obliged to pay annual monetary dues to their lords, as happened elsewhere. The reclamation projects as such, therefore, fitted rather well into the ‘feudal’ socio-political framework of the period. As Bartlett has shown in his comparative analysis of similar projects, they were comparable to reclamation schemes elsewhere (east of the Elbe in particular, in

53 De Vries, ‘On the modernity’.  
54 Dekker, Het kromme Rijngebied, pp. 151-6; Slicher van Bath, ‘Hoven’.  
55 Van Bavel, Transitie, pp. 437-41; he also presents an overview of the recent literature on this subject: pp. 442-6.  
56 Slicher van Bath, ‘Economic and social conditions’, p. 107.  
58 The classic study is Van der Linden, De Copie; as Van Bavel, Transitie, p. 442, rightly remarks, this very special case has dominated the socioeconomic history of the northern part of the Low Countries to a disproportionate extent.  
59 A recent study that also stresses these points is Buitelaar, De stichtse ministerialiteit.
the reconquered parts of Spain, and in parts of Ireland), where free settlers were also attracted to colonize the new land.\textsuperscript{60} That the long-term result was so different in eastern Europe, where the peasants became enserfed, was the result of developments which occurred after the reclamations had taken place.

Although there is some debate about the existence of centralized systems of agricultural management in the northern part of the Netherlands, there has never been much doubt that the socio-political structure during the middle ages was dominated by the nobility (who were dependent on income from the land) and that warfare was conducted in ways similar to those prevailing in the rest of western Europe. Again, the ‘peasant republics’ of the north-eastern corner are probably the exception to this rule, but even their exceptional status has come under attack to some extent recently as detailed studies have revealed the large measure of inequality of land ownership in these regions and the fact that they were governed by a class of wealthy landowners.\textsuperscript{61} In fact, because the regions to the north of the great rivers were relatively underdeveloped compared with Flanders and Brabant, and the degree of urbanization was fairly slight until the fourteenth century, the socio-political structure of the Netherlands remained relatively ‘feudal’ until well into that century.

In Holland, for example, many towns were founded by the counts in the thirteenth century\textsuperscript{62} and only slowly gained more independence. By the same time the large Flemish cities had already acquired a considerable degree of political autonomy from their sovereign as well as complicated systems of internal power sharing.

\textbf{VII}

Perhaps this search for a link with a feudal past—or its absence—is a red herring. The comparison with England is again instructive here: that country had a highly developed manorial system, which was still producing a large proportion of agricultural output in the fourteenth century (when manors had become nearly extinct in the Netherlands as elsewhere on the continent), but England was as successful as the Netherlands in the early modern period. The wish to tell their own version of the classic story of the transition from feudalism to capitalism—or in their case, the rise of capitalism because of the absence of feudalism—has perhaps led De Vries and Van der Woude to develop this particular view, but they do not offer much evidence for it. Moreover, their implicit view of the feudal economy is rather traditional, and ignores much of the recent work on this topic.\textsuperscript{63} Finally it leaves unresolved the issue of how and why there came into existence the modern institutional framework that made possible the dramatic transformation of the economy which is

\textsuperscript{60} Bartlett, \textit{Making}, pp. 111-46.

\textsuperscript{61} Noomen, ‘Koningsgoed’.

\textsuperscript{62} Kruisheer, ‘Stadsrechtbeoorkondiging’.

\textsuperscript{63} For an excellent review of this literature on the commercialization of the English economy during the ‘feudal’ period, see Hatcher and Bailey, \textit{Modelling the middle ages}, pp. 121-74.
apparent from table 3. De Vries and Van der Woude argue that the market economy arose spontaneously—the result of ‘personal initiative, innovation, and responsibility’—because there was no feudal legacy. This view ignores the core message of the new institutional economics of North and others. North argues that ‘the market’ is a social institution that consists of a set of rules for human conduct, of formal and informal constraints to human behaviour with the aim of minimizing transaction costs. The existence of a market economy implies that a certain degree of consensus about these rules is established, concerning the protection of the property rights of the parties involved, the ways in which contracts are negotiated and enforced, and so on. The rise of a market economy, therefore, implies a complicated process of searching for these new rules, an activity which by its nature is ‘social’ and ‘political’, because it requires some sort of cooperation between the many actors involved: merchants, the state, landowners, and labourers.

It is beyond the scope of this article to go into this issue in any detail, but it is obvious that in order to explain the rise of the economy of Holland these questions should be addressed in future research. The success of the Dutch economy during the early modern period appears to be built on a radical transformation during the late middle ages, a transformation which is left unexplained by De Vries and Van der Woude. It can be argued that they have not been radical enough: the logical conclusion of the ‘revolt of the early modernists’ appears to be that the most fundamental changes in the economy and society of the Netherlands (or of western Europe in general) did not occur during the centuries between 1500 and 1800, but took place earlier. A ‘revolution of the medievalists’ is the inevitable next step. For scholars working on Dutch economic history this is a reassuring conclusion: even after almost 800 pages of brilliant economic history on ‘success, failure and perseverance of the Dutch economy’, the big questions are still open, and the potential rewards of new research are quite large.

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APPENDIX: New indices on the wages of construction workers and the consumer price index for southern England

Wages: the PBH (Phelps Brown-Hopkins) index is based on a fairly static interpretation of the data on wages of carpenters and labourers in Cambridge and Oxford presented by Thorold Rogers. In my view, the Rogers data suggest more flexibility than the PBH summaries of them. For instance, PBH gives a constant wage of 12d. for carpenters and 8d. for labourers between 1580 and 1626, whereas the Rogers data show that by 1611 wages of 14d. and 10d. respectively had become the norm in Cambridge (although wages of 9d. were

64 North, Institutions, pp. 27-54; Furubotn and Richter, Institutions, p. 284.
65 See also Greif, ‘Fundamental problem’.

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also paid during the 1620s). One modification is that I have followed the Rogers data more closely. More importantly, I have been able to include similar wage series (for carpenters and labourers) from London data published by Rappaport and by Boulton, and unpublished wage data from Dover and Canterbury collected by Beveridge (deposited at the library of the London School of Economics; the relevant files are: W3 and W8 (wages in London in the sixteenth and seventeenth centuries), D4 and D5 (Canterbury), W2 and W7 (Dover, and additional data on Oxford and Cambridge)). I have calculated unweighted averages of both sets of five series to derive two series of average wages of carpenters and of labourers, and again taken the average of both series to construct the wage index for the period 1450-1700. A comparison between this series and the PBH series shows that PBH seriously underestimated the rise of nominal wages between 1560 and 1640; in the 1610s the difference is as much as 30 per cent of the PBH level. London wages increased much more rapidly than the PBH estimates indicate, but this is also true of wages in Cambridge, Dover, and Exeter. Oxford, on which the PBH series for this period are largely based, seems to be exceptional.

CPI: I linked the CPI constructed by Rappaport (1490-1609, base period 1457/71) with the ‘Vanderlint-labouring sort’ index constructed by Boulton, ‘Food prices’. All series have been published on www.iisg.nl/hpw.

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