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THE LABOUR MARKET*

by

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1. Introduction

The analysis of labour markets in the Northern Netherlands necessarily involves us in a study of the general and the particular. The region could hardly avoid feeling the impact of powerful economic forces sweeping over all of Europe during the so called 'long sixteenth century' at the same time it assumed a special place in the larger international economy whereby the general developments were modified – sometimes softened, sometimes accentuated – to produce a labour market with unique opportunities and unique problems.

All of Western and Central Europe experienced a substantial population growth in the two centuries after 1450, and this demographic vitality was coupled with dramatic growth of the money supply and an irregular, but in the long run equally dramatic rise in the price level. This 'price inflation' was fuelled first by new mining activity in Central Europe, but after the 1530s the newly discovered silver mines of Mexico and Peru brought an acceleration to growth of the money supply. The uneven spread of the new supplies of precious metals through Europe put pressure on monetary systems of various countries, provoking a chain reaction of devaluations, which further increased price levels. Finally, the growth of population itself, by increasing the demand for food and other necessities faster than supplies could increase, stimulated price inflation in its own right.¹

The rapid growth of population caused the land-labour ratio to deteriorate, bringing about a decline in the marginal productivity of labour in agriculture and, hence, in the real earnings of labour. Labour in the industrial sector, where the modest capital stock per worker caused something approaching constant returns to prevail, did not suffer sharply diminishing productivity. But in an overwhelmingly agrarian Europe the fate of agriculture was decisive: food prices rose rapidly while prices for industrial goods lagged behind. As the terms of trade deteriorated for the non-farm sector, the purchasing power of wages declined.²

The long sixteenth century witnessed a powerful economic expansion throughout Europe, but this rarely translated into economic growth of the modern type, whereby per capita real incomes rise on the strength of productivity-enhancing investment and organizational improvements. Most economic historians see the strictures of Malthus emerging from archival sources of this period:³ as population grew, the prices of necessities rose far more rapidly than wages, causing nearly every calculation of purchasing power ever attempted to reveal a sharp decline.⁴

The history of labour markets in the Northern Netherlands must be placed in this larger European context. When we do so, questions immediately arise about how the exceptional characteristics of the Dutch economy might have caused the experience of Dutch labour to differ from the common pattern. Here, we will focus on three such questions.

First, the labour market already in the early sixteenth century was large and largely free of feudal constraints. Some 25 percent of the entire Northern Netherlands population resided in towns, and in Holland the figure already exceeded 40 percent. Wage labour played a larger role here than in many other European countries three hundred years later. How did these unusual characteristics influence the workings of the pre-industrial labour market?

Second, the high and rising level of urbanization was linked to an ongoing transformation of agriculture, especially in the coastal provinces. The agricultural sector absorbed but a fraction of the additional labour created by the rapid growth of population, while its productivity rose as a result of large-scale investment, land reclamation, and specialization. If the agricultural sector of the coastal provinces escaped the Malthusian pressures that afflicted the rest of Europe, should this not have affected the terms on which labor was supplied and the prices of agricultural products?

Third, and finally, the European economic expansion of the long sixteenth century was felt in the Netherlands with special intensity. In the course of this period it emerged from its peripheral position vis-à-vis Antwerp to become the dynamic center of the European economy. How did labour fare in this precociously capitalistic economy: did it share in the prosperity of the 'Golden Age' or was it the necessary victim of the accumulators of capital?

The first question raises the issue of whether it is legitimate to approach the terms and conditions of employment as a market phenomenon. Many historians regard the employment of labor as a social act governed by 'tradition', where

the relations of patron and client and any number of non-economic considerations overwhelm the economic dimension of working for wages. Still others see the labour market as entirely one-sided; labourers were without the bargaining power to receive anything more than a subsistence wage. Adherents of both positions find in the 'stickiness' of wage agreements, their resistance to change in the face of short-term changes in the economic environment, evidence that market forces played little role in the determination of wages. Is there reason to believe the Netherlands to have been different?

The second question has two aspects. To the extent that a productive, specialized agriculture prevented the decline of labour productivity and limited inflation of Dutch food prices it could soften the real wage deterioration that afflicted all of Europe. This possibility has not yet been studied in much detail.⁵ But the effect of this process on the supply of labour to the non-agricultural sector *has* attracted interest, and the opinions are divided. On the one hand, labour can be attracted away from a productive agricultural sector only with high wages (i.e., the opportunity cost of labour is high); on the other hand, an agricultural sector made productive by specializing in land-extensive production will expel labour, making the supply of labour to potential employers very elastic. This leads directly to the third question, and on that question the disagreement is complete.

Economic historians divide between 'optimists' and 'pessimists' (not to mention the many 'agnostics') on the issue of whether workers benefited from the economic expansion of the long sixteenth century. Ironically, the two camps fasten on the same prominent characteristic of the Dutch labour market in arguing their cases.

The optimist position can be traced back at least to the turn-of-the-century Germany scholar Otto Pringsheim. He advanced the proposition that 'the seventeenth century was a time of economic brilliance for Holland that has never returned, and this forceful upswing also worked to the benefit of the labourers.'⁶ J.A. van Houtte expressed, without elaboration, a similar view in his *Economic History of the Low Countries* in 1977 when he wrote, 'Rich or poor, the Dutch could hardly have found better conditions anywhere else'.⁷ Both historians regarded the large-scale migration into the cities from the countryside and abroad as a telling fact in support of their optimistic position. Surely, they reason, these multitudes were attracted by opportunities and material conditions superior to those available at home.

The pessimist position also rests on an interpretation of labour migration to the cities of Holland. W. van Ravesteyn in 1906, Charles Boxer in 1965, J.G. van Dillen in his 1970 textbook *Van rijkdom en regenten*, and J.L. van Zanden in 1991, all held that the vigorously expanding demand for labour elicited a supply so elastic that labour markets were chronically over-supplied. Their insatiable demand for labour notwithstanding, employers could unilaterally determine the wage level; they were, at any rate, free to set wages at or below subsistence.⁸

This brief review of the literature makes clear that the disagreements rest not so much on the empirical evidence of historical wages and prices, but on differing models of how the pre-industrial labour markets actually behaved ? what determined the elasticity of supply, and in what social context were labour contracts, explicitly or implicitly, determined. Additional wage data can help advance this debate, but by themselves new data cannot dispel dearly held preconceptions about the motivations and options of the participants in the labour market.

2. The early sixteenth century

The archival records of wage payments are not scarce, but they are limited in their coverage. The vast majority of usable records pertain to construction labour and similar outdoor, manual work. Moreover, the documents refer almost exclusively to such labour in the employ of cities, churches, or other public bodies. Construction labour has the notable advantage of being quite uniform across space and through time. This makes comparisons possible. But, it is possible that the supply and demand for this type of labour differs in certain periods from industrial or agricultural labour.

The daily wages for skilled and unskilled construction and manual labour for the periods 1460-1480, 1510-1525, and 1550-1559 are presented in Table 1. Already in the period 1460-1480 wage rates varied considerably by region, and already the highest wages in the Burgundian/Habsburg Netherlands appear to have been paid in Holland. When unskilled labourers earned 3 stuivers per day in Haarlem, Woerden, and Leiden, they earned only 2 stuivers in Utrecht, Bergen op Zoom (and elsewhere in Brabant), and even less in the IJssel city of Zutphen.

This early evidence of regional differences that would persist into the twentieth century is in some respects surprising. 'Holland's Advance/Hollands voorsprong' in the fifteenth century is thought to have been based on factors that made wage labour abundant and cheap in comparison to other regions. The deteriorating hydrographic conditions caused agriculture to become more land-extensive, stimulating out-migration. This is thought to explain the extraordinary rate of fifteenth century urbanization, whereby Holland came to be endowed with many, mostly small, cities filled with 'rural refugees' seeking employment in industry, fishing, transport, and commerce.⁹ Besides this reservoir of cheap labour, the countryside, especially in North Holland, appears to have been home to thousands

of smallholders who supplemented their inadequate agricultural earnings with seasonal labour in fishing, ocean shipping, dike maintenance and other infrastructural activities.¹⁰

The supply of wage labour in both city and countryside is thought to have been highly elastic in Holland, but the wage level was, even before 1500, the highest in the Netherlands. More consistent with this characterization of the labour market is a second feature of Table 1: the nominal wages of unskilled labour in Holland do not rise very much in the period 1460-1550. The wages for unskilled labour rise further in several other regions, reducing the gap between Holland and the other regions by 1550. Moreover, the wages for skilled labour rise more rapidly than those of the unskilled, bringing about a substantial increase in the 'skill premium' – the extent to which skilled workers' wages exceed those of the unskilled. The skill premium in Holland rose from some 50 to 67 percent in the 1460-80 period to over 80 percent in the period 1525-1550.

This important development suggests that unskilled labour was relatively abundant, a suggestion reinforced by direct evidence of large work forces massing at ports and drainage projects to carry out seasonal activities and temporary projects. For example, in 1510 the Hoogheemraadschap van Rijnland needed hundreds of workers to repair breached dikes between Amsterdam and Spaarndam. Its records show that 605 workers came to the work sites, mainly from North Holland villages. The 4 stuivers per day paid to the dike workers may well have reflected the pressing need for labour faced by the drainage board (the prevailing wage at Spaarndam fell to 3 stuivers in 1520-1523). Less was paid to young, old, or otherwise less able workers (of 394 labourers, the 259 *gravers* received 4 stuivers, the rest, mostly *jonge en oude burendragers*, were distributed across a range of wage rates stretching from 3.5 stuivers to 1 stuiver). Those who supplied the 106 boats needed for the movement of earth and building materials received 1 or 2 stuivers per day for boat rental, which suggests the high price of capital relative to labour in this economy.¹¹

The high relative cost of capital goods is more clearly apparent when the drainage board required horses and wagons. The daily payment for the use of a horse and wagon plus the wage for a man, was about 2.5 times the wage for a man alone. After 1545, when it becomes customary to hire wagons with two horses, the payment was almost always three times the daily wage for unskilled labor. The hire of a horse cost nearly as much as the wage for a man, and this relationship persisted throughout the period under study in this volume.

Dike works near Callandsoog, in northernmost North Holland, illustrate the way wage labor fit into the agrarian economy. In 1556-1557 the repair and improvement of the dikes was contracted out to eight contractors, many from far away; the over 200 day laborers, *slechtsers*, were agricultural laborers and other more-or-less landless men from throughout the region. They earned 6 stuivers per day, then equal to the highest wages for unskilled labour in the Netherlands. They were accompanied in the fall, after the harvests, by over 200 *karrers*, mostly farmers in possession of a horse and cart, who earned 18 to 20 stuivers per day in compensation for their labour and the use of their capital goods.¹²

The sixteenth century casual labour market in the maritime zone was large, but complex. Those in charge of the reclamation of the Nieuw Beijerlandpolder in South Holland in July of 1582 calculated that their labourers from *below* the rivers would continue to work for a time yet, until called away by the harvest. But the *north* Hollanders, they noted, were already drifting away to sign on with herring and merchant vessels.¹³ In general, the herring fishery, the Baltic trade, peat digging, and dike repair all had their seasonal emphasis, making it possible for casual labourers to combine two or more of these activities in an annual employment cycle.¹⁴

Not all Dutch wage workers were to be found in the casual labour market, of course. Many of the seamen of Waterland and West Friesland were wholly occupied with the growing Baltic trade, as were many fishermen in the expanding ocean fisheries. In both cases, the crews often worked regularly for the same skippers, often for a share of the profit rather than for wages. In the cities the industrial sector formed the largest source of employment, but, unlike shipping and fisheries, this sector was everywhere in profound decline. We know little about industrial wages, often piece rates, but it is not unlikely that wage levels were higher in the rural centers of shipping and fishing than in the stagnant industrial cities of central Holland, let alone the declining cities of the eastern provinces.

Nominal wages in the century before the 1560s were certainly 'sticky' – they were adjusted only at substantial intervals – but they were not unchangeable. Between 1460 and 1560 skilled craftsmen' wages approximately doubled, while the wages of the unskilled rose more modestly, by 50-67 percent. But these increases in the nominal wage – concentrated in the 1490s, a period of currency instability in the eastern provinces, and the 1540s, when the Antwerp economy was growing with special vigour – universally failed to keep pace with the rising cost of living.

The purchasing power of wages was unusually volatile in the period 1460-1500. The high real wages that prevailed throughout Europe in the century after the Black Death then gave way to wide swings in food prices, as harvest failures and chronic warfare interrupted economic life. After 1500 these problems did not disappear, but the volatility they generated came to be subordinated to the powerful long term, and pan-European, forces, discussed in the introduction to this essay, pushing the price level upward. Real wages for skilled and unskilled workers alike tended

to decline in the first 60 years of the sixteenth century (see graphs 1 and 2).

3. Labour during the Revolt

In a European context, the labour markets of the Northern Netherlands before the 1560s stood out by virtue of their large size and flexibility. Labour was relatively unencumbered by institutional constraints; nor was it often in possession of strong guild protection. This exceptional status does not appear to have exempted Dutch labour from the long-term real wage trends that affected other regions. It is possible that the growing import of cheap Baltic grain and the economic stimulus emanating from prosperous Antwerp softened the impact of rising prices, but the current state of our knowledge is insufficient to make more nuanced statements with confidence.

After the 1570s everything changes; the Northern Netherlands, led by its maritime provinces, pursued new political and economic opportunities whereby the unique internal economic characteristics of the region were able to benefit from a new external economic environment. The result was a veritable explosion of economic activity in which both the demand curve for and the supply curve of labour shifted radically to the right.

The explosion was most intensely felt in Holland. There, in the half century between the 1570s and 1620s, the population nearly doubled from about 350,000 to 700,000, with natural increase and immigration playing roughly equal roles; the urban share of this population rose from about 40 to nearly 60 percent (increasing the percentage of the labour force likely to work for wages); and the length of the working year increased from about 260 to 307 days (a consequence of the reform of religion). Natural increase, immigration, urbanization, and reformation all combined to flood the Republic with wage labour: the effective supply of non-farm labor grew by nearly three percent per year in the period 1570-1620.

If the demand for labour had not also increased at least as fast as did the supply, the equilibrium wage would certainly have fallen – as we know it to have fallen in this period in surrounding countries where population growth was not nearly so rapid. That is, the rising price level may have forced nominal wages up to some extent in this period, just as it probably did in the century preceding 1560. Permanent upward shifts in the price level in 1569-1575 and 1591-1601 were especially intense, and almost certainly forced some compensatory wage concessions from employers. But in other countries, as in the Netherlands before 1570, these concessions had been insufficient to maintain the earlier level of purchasing power. After 1570 nominal wage increases in the Republic more than kept pace with price increases, causing real wages to regain its early-sixteenth century high point, and then some.

Consider the demand for labour at the drainage installations maintained by the Hoogheemraadschap van Rijnland at Spaarndam and nearby Halfweg. Craftsmen's wages, which had stood at a very high 6 stuivers per day in 1510-1515, actually fell to 5 or 5.5 stuivers in the 1530s. In the 1540s they rose to 6 then 7 stuivers, where they stood until 1565. In that crisis year they suddenly jumped to 9 stuivers, and in 1578 to 12, and in some cases 15. The latter wage was not long maintained, for 12 stuivers continued to be the prevailing wage for carpenters and masons in 1587-1588. Then began a new round of wage increases: to 14 stuivers in 1589, 16 st. in 1590, and 18 st. in 1593. The next general wage increase came in 1628.

Wages for the large numbers of unskilled workers hired, by the same drainage board, usually on a seasonal basis, rose in the same pattern (from 5 stuivers to 6 in 1565, in stages to 9 st. in 1583, and then from 9 st. in 1591 by stages to 14 in 1606) Altogether, the wages of common labour rose by 180 percent while those craftsmen's wages rose by 157 percent.¹⁵

The cost of living index (more about this later) rose by 98 percent in the interval 1565/1569 to 1605/1609.

Frequent wage increases, sufficient to more than outstrip the rise in prices, were not unique to the drainage works at Spaarndam. They were general to the entire economy, as is shown by Table 2, which summarizes in unweighted indexes wage data drawn from ten separate locations in the western Netherlands (Holland, Zeeland, Utrecht), and from seven locations in the eastern Netherlands (all other provinces). The real wage recovery of this period is revealed in Graphs 1 and 2.

The demand for labour rose more rapidly in the period 1570-1620 than did its supply – despite the massive immigration from the Southern Netherlands, despite the rapid natural increase and urbanization of the domestic population, and despite the radical rationalization of the work year introduced after 1574.

Until the Revolt, the maximum length of the work year was limited by the Church calendar to 261-264 days. Records from Antwerp, Bergen-op-Zoom, Utrecht, and Zutphen all confirm that some 50 saints days supplemented the 52 Sundays as days free of ordinary labour. This situation reflected the achievements of workers in the labour-scarce fifteenth century, and even before the Revolt efforts to prune this luxuriant growth of leisure had brought a measure of reform. Still, the decisive step came when the Synod of Dordrecht in 1574 pronounced that workers should henceforth take satisfaction with Sundays as the day of rest, and no other days.¹⁶ The pronouncements of clergymen in solemn conclave certainly did not alter immediately the practice of thousands of workers and their

employers. At any event, a handful of religious holidays (the same ones that are now observed in the Netherlands) escaped the sentence of the Synod. But, in time, a work year of 307 days became practice as well as theory; the maximum work year had grown by 18 percent.

The argument that the rising wages in the decades after 1570 is the result of a vigorous growth in the demand for labour is bolstered by the behaviour of relative wages. The wages of unskilled labour – least able to create artificial scarcity of supply – rose more rapidly than did craftsmen's wages, causing the skill premium to decline from some 80 percent in the period 1550-1574 to 40 percent, and often less, in the decades after 1630. The relative rise of unskilled wages testifies to a rapid economic expansion pressing upon the supply of labor.

The role of productivity-increasing investment in this economy is illustrated by a second example of relative wage changes. Sawyers [*houtzagers*] held a strategic place in the 'capital goods' sector of the pre-industrial economy because urban expansion, farm improvements, and shipbuilding all required sawn lumber. The demand for sawyers' labour sensitively reflected the level of investment. As beneficiaries of the 'investment accelerator' (i.e., the demand for capital goods rises more rapidly than the growth of the economy, and visa versa when the economy ceases to grow) sawyers saw their wages rise from some 90 percent of master craftsmen in the first half of the sixteenth century to a peak of 130 percent by 1610. The invention of windmill-driven mechanical lumber sawing in 1596 was a logical reaction to this growing bottleneck to economic expansion. It took time to perfect the sawing mill, and to overcome the municipal guild obstacles to its use, but as the sawing mill was diffused through Holland after 1610, the relative wages of hand sawyers declined, until by 1665 the references to sawyers all but disappear. The sawyers had become early victims of technological unemployment.

4. Labour in the Golden Age

The explosive growth in both the demand for and the supply of labour was followed by a short, but serious setback in the 1620s, as the Republic renewed its war with Spain and as much of Europe suffered the trade and monetary contraction known collectively as the 'crisis of the 17th century'.¹⁷ The price rises of this decade were almost entirely uncompensated by wage adjustments. After 1630, these setbacks were more than made good by another, more gradual, round of nominal wage increases. In retrospect, we can see that the wage increases granted in the 1640s-1660s would be the last of any size and scope until well into the nineteenth century; they brought about no further deterioration of the skill premium, however, for skilled craftsmen's wages rose by 37 percent in the period 1610/1614 – 1665-1669 while in the same interval wages for the unskilled rose by 31 percent.

The hectic development of the Republic's economy in the century after the Revolt had a substantial regional impact: Political, military, and economic forces conspired to drain the economic life from many border, inland, and river communities at the same time that the maritime regions flourished. Despite this, the wage-gap between the maritime and inland zones did not change substantially. In the 1670s the differentials between these zones were much as they had been 120 years previously: inland craftsmen earned some 70 percent of the wage paid to their colleagues in the west; unskilled labor fared a bit worse, earning about two-thirds of the western wage. Over many centuries, this east-west differential fluctuated within a narrow range.

Another curious feature of Dutch labour markets in our period is that rural wages were not lower than urban wages; nor were small town wages lower than those in the biggest cities. The available evidence does not allow us to conclude that there was any systematic difference at all, although it is striking that the very highest wages are often found in small places, like Spaarndam and Woerden in the early sixteenth century and rural North Holland in the third quarter of the seventeenth.

The rough equality of wages for the same grade of labour in urban and rural locations in the west suggests that labour markets were well-integrated, both among cities and between countryside and city. The high productivity of labour in agriculture may play a role in this, by seeing to it that the opportunity costs of labor in the rural economy were no lower than in the city.

These nominal wage differentials, or their absence, raise a puzzling issue when their consequences for the real wage are considered. The cost of living index used here, and the food prices used in other studies, are based on urban evidence. The higher excise taxes of the cities (they levied municipal as well as provincial taxes), the higher house rentals, and the reduced scope for auto-consumption in the city are all compelling arguments in favor of higher living costs in the cities. Moreover, those costs were substantially higher in Holland, with its high excise taxes and large cities, than in the inland provinces. Could it be that the standard of living was higher in rural areas and small cities than in the large cities; and higher, or as high, in the sleepy inland provinces as in Holland?¹⁸ And if this was so, how could one explain the large-scale migration of labour from regions of high real wages to Holland and its cities, where high living costs forced down the real wage?

The resolution of this paradox will be assisted by improved cost of living data (we know very little about such costs

outside the cities of Holland), but a full resolution requires that we confront the issue of *actual earnings* vs. *daily wages*. When a calculation of the amount of rye bread that a day's wage can buy shows that the worker in Overijssel was better off than the worker in Holland, but other evidence shows that most Hollanders ate the much more expensive wheat bread while in Overijssel the cheaper rye bread predominated, it should be apparent that the purchasing power calculation has missed an important factor, the income earning potential of the two regions.

It is understandable that this issue has been avoided; few sources stand ready to shed light on the annual earnings of households rather than the daily wages of (adult male) workers. In what respects might Holland and its cities have offered better prospects for high household earnings than rural and, especially, inland locations? To begin with, we can point to the more regular employment that awaited the worker in a region of high investment. The large casual labour market benefitted especially from the ongoing investment in urban expansion, residential construction, land reclamation, improved drainage, and canal and other infrastructural improvements that characterized the first 60 years of the seventeenth century.

When the cities of Haarlem and Leiden decided to dig a new canal, a *trekvaart*, between their two cities they parcelled the work out to nearly a hundred contractors who worked simultaneously, each in his own segment of the 29 kilometre canal. The work was completed in a single summer season, and involved the simultaneous labour of some 1500 workers.¹⁹ These men, who assembled along the length of the canal, and just as quickly dispersed, carried on in the tradition we noted earlier when hundreds of labourers were needed at the dykes near Spaarndam in 1510. The investment booms of the Golden Age kept this flexible labour force employed, on the 27,000 hectares of newly drained lakes between 1600 and 1650 [the *droogmakerijen*], the over 80,000 ha. of reclaimed coastal land between 1590 and 1665 [the *bedijkingen*], the 658 km. of new *trekvaart* dug or improved in 1632-1665, the 45 harbour extensions build in 16 separate ports between 1570 and 1670, and, of course, the continual urban expansion during that same hundred-year period.²⁰

The days of this large casual labour market were numbered. The demand would vanish once the demographic and economic expansion, and rising prices, ceased; the supply of casual labour was apparently shrinking as the small farms and supplementary employments needed to make such seasonal work possible began to disappear. They disappeared, ironically, because of the very investment processes that had offered employment to so many casual labourers.

Via the large-scale use of casual labour, the Golden Age economy developed capital-intensive agricultural and industrial sectors that offered, by the standards of the time, steady employment to thousands in shipbuilding, refining, brewing, distilling and other fuel-intensive industries, industrial windmill-based food processing, oil-pressing, and papermaking, and in employment on commercial farms.

In addition, the urbanization that proceeded on the strength of the commercial sector gave rise to a large number of crafts and specialist services that offered regular employment to thousands, as demand was held up by the high incomes of the commercial elites and supply was controlled by municipally regulated guilds.

By the mid-seventeenth century, the Republic's economic expansion had succeeded in creating a large number of well-paying, reasonably secure jobs. These fruits of a century of economic expansion shifted the composition of employment away from unskilled, casual labour and toward more regular employment in sectors featuring substantial investment in human and physical capital. So long as the economic opportunities justified a continuation of the investment process, the labor markets of the maritime zone must have been very attractive: the number of secure jobs rose while the casual labour market benefitted from an ongoing demand for casual labour.

Although little is known with certainty about the potential earnings of other than adult male workers, it is likely that the cities offered substantial earnings opportunities to married women, especially in the expanding sphere of retail trade. The prolonged absences of men employed in shipping must have stimulated independent economic activity among women; foreign visitors, at any rate, did not fail to remark at the (unseemly) independence of Dutch women, and no one thought it inappropriate to reserve certain forms of heavy labour, such as *turfvulster* (filling bags with peat) and *verschietster* (turning grain stored in warehouses to prevent spoilage) to poor and widowed women.

For single women the chief employment opportunities, as everywhere in Europe, were in household service. The demand for such labour was probably no different in the cities of the Republic than in other countries, but in those rural areas specialized in dairy production the demand for female servants was particularly strong, causing their salaries to stand at less of a discount to male salaries than elsewhere. It remains to be seen how this rural demand may have affected the status of single women in the urban labor market.²¹

The new structure of the Republic's labour market ? featuring a 'core' of permanent, capital intensive and/or high skill jobs and a large, fluid casual labour market became difficult, indeed, impossible to sustain in the century after the 1670s. As noted earlier, the sharp decline in infrastructural and capital goods investment de-stabilized the casual labour market while the declining price level that then set in confronted a cost structure in the urban and commercial agricultural economies that proved to be unbudging. In time, the growing unprofitability of these sectors undermined

employment levels, and even a long process of demographic contraction could not restore the balance between supply and demand in the labour market. The high wage levels reached in the century after the Revolt came to form an obstacle to economic revival at the same time that they appeared to be a requirement for survival in a high cost urbanized society.²²

These problems notwithstanding, the wage levels remained at the high levels achieved by the mid-seventeenth century long thereafter. Wage rates changed but rarely until well into the nineteenth century, forming a remarkably long era of wage rigidity that has attracted the attention of economic historians, who have seen in the 'inherited' high wage structure an important obstacle to the later industrialization of the Dutch economy.²³

But we should not assume too quickly that the stability of wages reflects an ossification in the economy, or a labour market so petrified as to cease being a market at all. On the contrary, there is abundant evidence of ongoing adjustments – individually always minor adjustments – to the terms of employment after the mid-seventeenth century. The length of the winter wage season (when wages were reduced by 15 to 25 percent below the summer wage rates cited in the tables above) was periodically adjusted, sometimes to the workers benefit, sometimes not. After 1650, usually not. The provision of beer, which was customary in many crafts, came to be converted into the payment of 'beer money' – an effective increase in the money wage – as beer became a less customary drink. New workers were not necessarily paid the prevailing wage if their skills or effort did not warrant it, or if temporary demand required exceptional payments. Many documents record a substantial range of wage rates stretching below the 'norm', and sometimes extra payments, usually disguised as bonuses, hardship payments, compensation for the use of tools, etc.. For instance, when the Nijmegen public works director, Peter Bruyns, hired a new man, Jan, on 22 July 1662, he recorded in the margin of his wage book, 'De daghuur van Jan is niet hier inbegrepen, oorsake om dat men eerst eens sien wil wat hij verdienden kan'. In 1666 labour was in short supply, and Peter Bruyns hired, against his own better judgement, a certain Gybert Coenen, 'maar, voor mindre dagheer also hij geen [normale] daghuur kan verdienden'. In the margins of another wage notation he wrote 'N.B. dezen is een onnuttig gesel'²⁴. Jan Jacobs, the useless journeyman, was soon released. But at the same time, also in 1666, Bruyns noted about two others, '[Ik] heb haer beyde niet konnen houden inden arbeyt alsoo anderen meerdeer loon wilden geven en [omdat ze] zeer bequaam zynde heb haar elck 2 st. moeten geloven [beloven].'²⁵

If Peter Bruyns is at all typical of those in charge of supervising labour in the Dutch Republic, nothing proceeded by sheer routine. The long stability of wages was not so much a product of inattention and neglect as it was the net result of ongoing adjustment – and resistance to adjustments.

From its earliest days the Republic's labour market extended beyond the territorial boundaries of the Republic. Apart from the short-term refugee migration from the Southern Netherlands in the years after 1585, there came into being ongoing labour migration flows from all the neighbouring territories. Textile workers continued to be drawn from Flanders, and later from Liège, throughout the seventeenth century; Amsterdam's bakers were mainly Germans, as were a large number of bricklayers and stonemasons. Many other construction workers migrated from Brabant. The supply of tailors and shoemakers was regularly replenished by migrants from Gelderland, Overijssel, and the neighbouring German territories. The seafaring and shipbuilding sectors drew their labour needs from the Dutch maritime provinces and from a coastal zone extending through Northern Germany to Denmark and Norway.²⁶

A special problem of labour recruitment, already in the early seventeenth century, was formed by the large, but variable, demand for soldiers and sailors to serve in both the Dutch military and the Dutch East India Company [*Verenigde Oostindische Compagnie*, or VOC]. Already in 1645 well over half the soldiers of the Dutch army [*het Staatse leger*] consisted of foreign regiments while over half of the personnel recruited for service in the VOC had been born beyond the borders of the Republic.²⁷ These labour recruitment efforts especially filled the Dutch cities with poor, resourceless migrants that pressed on the resources of the charitable institutions and challenged the bodies charged with maintaining peace and order in the cities.

Throughout the first half of the seventeenth century the cities acted with vigour to suppress public begging; they arrested beggars by the hundreds, and established *tucht- en spinhuizen*, *verbeterhuizen* and the like to incarcerate the overwhelmingly immigrant beggars, thieves, and prostitutes.²⁸ The suppression of these vices could be intense in part because the cities also sought to accommodate the lowest stratum of the labour market with a policy of accessible poor relief. In the first decades of the seventeenth century the deacons boards of the Reformed church [*diakonie*] placed few qualifications on supplicants with respect to religious affiliation, regularity of church attendance, or duration of residence in the community. Just as the society stood open to immigrants, the dominant Reformed church assumed an inclusive 'public church' posture.

Poor relief was first of all a religious duty, but the cities always sought to regulate this important function, and most of them established supplementary public poor relief agencies, such as Amsterdam's *Almoezeniers* in 1613 or Utrecht's *Almoezenierskamer* in 1628. As the churches became more restrictive in their support of the poor – placing more requirements with respect to membership in a specific religious community – the role of the public poor relief

agencies grew. While the churches catered to a more settled population, the poor, resourceless migrants became the special responsibility of the public agencies.²⁹ So long as the demand for the labour of such migrants was strong, public policy was accommodating. As the demand receded, in the 1670s, so did the posture of public policy become more restrictive; by 1682 most cities sought to restrict immigration to persons possessing written guarantees (*acten van indemniteit*) that their home towns would provide for them should they become a public charge. Not all cities insisted on this guarantee. The most conspicuous exception was Amsterdam, the center of VOC recruiting, with a continuing demand for casual labour, which remained an 'open' city.

5. Conclusion

By the third quarter of the seventeenth century the fluid labour market that had characterized the preceding era of rapid economic growth was assuming the shape it would have for the next century and more. The new labour market was characterized by 'segmentation', where the employees of the relatively secure 'core' jobs enjoyed the protection of public or semi-public employers, guild regulation, or the continuity promised by the capital- or skill-intensity of their work. Besides this fruit of a century of economic growth, there was the casual labour market (to which one can add the labour-intensive industrial employments, especially in the textile trades) which was declining in importance, but also in viability by the very process of capital investment and commercialization that raised up the 'core' employment sector. Finally the labour market possessed a lowest segment of the unskilled, uprooted, indebted, ? where military employment and, increasingly, service in the VOC always beckoned. The VOC, indeed, came to fill the function of 'employer of last resort' in the port cities of the Republic.

This three-sector labour market acted to protect and sustain the high-wage economy achieved by the mid-seventeenth century. The achievement was real. The purchasing power of labour stood at a higher level in the Republic than elsewhere in Europe, and it did so not because of fleeting market conditions, but as a result of productivity-raising investment and organizational change. But, even a well-grounded prosperity is not invulnerable. As the profitability of the economy declined after 1670 the level of investment fell. It fell most sharply in the most labour-intensive sectors, exposing growing numbers of wage labourers to unemployment, and the resulting labour market disequilibrium gave rise to reactive measures that solidified the three-sector segmentation described above.³⁰

One can conclude this examination of the labour market during the economic growth of the era 1500-1670 by observing that the high wage economy was not a *product* of the later economic stagnation, with its high taxes and restrictive practices. It was a product of the era of economic growth, achieved by productivity-raising investments in agriculture, industry, and commerce. In this expansion era costs rose, to be sure, but wages rose more rapidly than prices, and real annual household earnings probably rose even more than did real wages. The growth process did not so much 'sow the seeds of its own destruction' as it established material standards and economic interests whose defense in the new post-1670 economic environment gave rise to practices that prevented the reachievement of competitive cost structures in many sectors of the economy. Merchant capitalism had its limitations, to be sure, but it was not intrinsically self-destructive. Employers and labourers alike had choices to make ? then as now.

Table 1 a. *Wages of skilled construction labour, in stuivers*

	1460-1480	1510-1525	1550-1554
Spaarndam		6	10
Haarlem	5	5-6	9
Woerden	5	7	8
Leiden	5	5-6	
Amsterdam			7
Den Haag			7
Dordrecht			7
Utrecht	3	4	6
Den Bosch		5	5
Bergen op Z	4	5	5.5-6
Antwerpen	4	5	9
Mechelen	4	4	
Brussel		5	6
Lier	3.2	4	
Zutphen	2.4	2.7-3	5
Nijmegen			5
Venlo			5.2
Kampen			5

Sources: Hoogheemraadschap van Rijnland, Oud Archief, nr. 9513-9577; Noordegraaf, *Hollands welvaren?*; W. Koppers & R. van Schaik, 'Levensstandaard en stedelijke economie te Zutphen in de 15de en 16de eeuw', *Bijdragen en Mededelingen ? Gelre?* 72 (1981) 1-45; H. Scholtes, *Werken om den Brode; Peiling naar de levensstandaard van timmerlieden, metselaars en ongeschoolden te Bergen op Zoom* (Nijmegen 1983; unpublished *doctoraalscriptie*); Ch. Verlinden *et al.* (eds.), *Dokumenten voor de geschiedenis van prijzen en lonen in Vlaanderen en Brabant, XVe - XVIIIe eeuw* (Brugge 1959); B. Blonde, *De sociale structuren en economische dynamiek van 's-Hertogenbosch, 1500-1550* (Tilurg 1987; *Bijdragen tot de geschiedenis van het zuiden van Nederland*) 211-16.

Table 1 b. *Wages of unskilled labourers, 1460-1554, in stuivers*

	1460-1480	1510-1525	1550=1554
Spaarndam		4	4
Haarlem	3	3	3-4
Woerden	3	4	4
Leiden	3	2.5	3
Amsterdam			5
Den Haag			3.5-4
Dordrecht			4-5
Utrecht	2	2.5-3	3
Den Bosch		3	3
Bergen op Z	2	2.5	3-4
Antwerpen	1.67	2.75	4
Mechelen	2	3	3
Brussel		3	3.5
Lier	2	2.5	3.5
Zutphen	1.8	1.8-2	2.7-3
Arnhem			3
Nijmegen			2.5
Brugge			3-4
Gent			3

Sources: see table 1a

Sources for tables 2a and 2b

Table 2a

Alkmaar: L. Noordegraaf, *Daglonen in Alkmaar 1500-1850* (Amsterdam 1980).

Medemblik: G.A. Medemblik, Oud Archief, Bijdragen tot de Thesauriersrekening, 1591-1813, no. 150.

Amsterdam: G.A. Amsterdam, Fabrieksambt, no. 2; Part. Arch. 367, Burgerweeshuis archief, no. 446-48; H.P.H. Nusteling, *Arbeid en werkgelegenheid in Amsterdam* (Amsterdam 1985) ###.

Spaarndam en Halfweg: Hoogheemraadschap van Rijnland, Oud Archief, Bijlagen tot de rekeningen, no. 9530 - 10086.

Leiden: Hoogheemraadschap van Rijnland, as above; G.A. Leiden, Oud Archief, Trekvaarten en jaagpaden, no. 60, bijlagen tot de rekeningen.

Utrecht: R.A. Utrecht, Kapittel ten Dom, no. 704; G.A. Utrecht, Acquitten kameraar rekening, no. 1260.

Goes: G.A. Goes, Rekeningen van de stad, no. 783-959; rekeningen stadsfabriek, no. 1813-14, 1793-97.

Den Haag: G.A. Den Haag, Oud Archief, no. 5198, rekeningen van Delftse straatweg, L. Noordegraaf & J.T. Schoenmakers, *Daglonen in Holland 1450-1600* (Amsterdam 1984).

Dordrecht, Noordegraaf en Schoenmakers, as above.

Noordholland platteland: Hoogheemraadschap van de Uitwaterende Sluizen, Rekeningen van de Rentmeester, no. 74.

Table 2b

Franeker: G.A. Franeker, no. 725-831, kwitanties en bijlagen tot de rekeningen.

Groningen: G.A. Groningen, Oud Archief, No. 332b, Bijlagen tot de stadsrekeningen.

Kampen: G.A. Kampen, Oud Archief, no. 1977-1989, 685; D. van der Vlis, 'Daglonen in en rond Kampen van 1526 tot 1810', *Overijsselse Historische Bijdragen* 96 (1981) 77-97.

Zutphen: G.A. Zutphen, no. 2010-14; Rekeningen, bijlagen tot rekeningen van timmermeester.

Arnhem: G.A. Arnhem, Secretarie rekeningen en bijlagen, no. 1636-92; Rentmeester rekeningen en bijlagen, no. 1305-1548; Fortificatiën, no. 3388-3446.

Nijmegen: G.A. Nijmegen, Oud Archief, no. 2892-93, 1953-66, 3089; T.L.M. Engelen, 'Nijmegen in de 17de eeuw', *Nijmeegse studiën* 7 (1978); P.H.M.G. Offermans, *Arbeid en levensstandaard in Nijmegen omstreeks de Reductie (1550-1600)* (Zutphen 1972) 147-53.

Den Bosch: G.A. Den Bosch, stadsrekening, no. 10-361, bijlagen to stadsrekeningen, no. 1-180; Godshuizen Archief, no. 581-593, 643-655.

NOTES

Translation:

F. Braudel & F. Spooner, 'Prices in Europe from 1450 to 1750', E.E. Rich & C.H. Wilson, eds., *The Cambridge Economic History of Europe* (Cambridge 1967) IV: 374-486.

- 2.. P. Brown & Hopkins, *A perspective on wages and prices* (London 1981), on pre-industrial wage formation.
- 3.. Abel, W., *Agrarcrisis en Agrarconjunktuur; Eine Geschichte der Land- und Ernährungswirtschaft Mitteleuropas seit dem hohen Mittelalter* (Hamburg/Berlin 1978³); E. Le Roy Ladurie, 'L'Histoire immobile', *Annales E.S.C.* ### (1972).
- 4.. See L. Noordegraaf, *Hollands welvaren?; Levensstandaard in Holland 1450-1650* (Bergen 1985) for a review of evidence.
- 5.. But see, J. de Vries, *The Dutch rural economy in the Golden Age, 1500-1700* (New Haven/London 1974) ch. 5.
- 6.. O. Pringsheim, *Beiträge zur wirtschaftlichen Entwicklungsgeschichte der Vereinigten Niederlande im 17. und 18. Jahrhundert* (Leipzig 1890) 52.
- 7.. J.A. van Houtte, *An economic history of the Low Countries 800-1800* (London 1977) 232.
- 8.. W. van Ravesteyn, *Onderzoekingen over the economische en sociale ontwikkeling van Amsterdam gedurende de 16de en het eerste helft der 17de eeuw* (Amsterdam 1906) 251; C. Boxer, *The Dutch Seaborne Empire, 1600-1800* (New York 1965) ch. 3; J.G. van Dillen, *Van rijkdom en regenten; Handboek tot de economische en sociale geschiedenis van Nederland tijdens de Republiek* (Den Haag 1970) 294; J.L. van Zanden, *Arbeid tijdens het handelskapitalisme; Opkomst en neergang van de Hollandse economie, 1350-1850* (Bergen 1991) ch. 2 and 7.
- 9.. D.E.H. de Boer, *Graaf en grafiek; Sociale en economische ontwikkelingen in het middeleeuwse 'Noordholland' tussen 1345 en 1415* (Leiden 1978); H.P.H. Jansen, *Hollands voorsprong* (Leiden 1976; inaugural lecture), translated as 'Holland's advance', *Acta historiae neerlandicae* 10 (1978) 1-19. See also C.M. Lesger, *Hoorn als stedelijk knooppunt; Stedensystemen tijdens de late middeleeuwen en vroegmoderne tijd* (Hilversum 1990; Hollandse Studiën 26) 19-26.
- 10.. Van Zanden, *Arbeid*, ch. II.
- 11.. Hoogheemraadschap van Rijnland, Oud archief, nr. 9513
- 12.. H. Schoorl, 't Oge (Hillegom 1979) 125-27.
- 13.. C. Baars, *De geschiedenis van de landbouw in de Beijerlanden* (Wageningen 1973) 38, 45.
- 14.. J. Lucassen, *Naar de kusten van de Noordzee; Trekarbeid in Europees perspectief, 1600-1800* (Gouda 1984) 159-171.
- 15.. Hoogheemraadschap van Rijnland, Oud archief, nrs. 9589-10013.
- 16.. Noordegraaf, *Hollands welvaren?*, 58-60.
- 17.. See: J. de Vries, *The economy of Europe in an age of crisis 1600-1750* (Cambridge 1976) 16-29; G. Parker & L. Smith, 'Introduction', G. Parker & L. Smith, *The general crisis of the seventeenth century* (London 1978) 6-14; R. Romano, 'Between the sixteenth and seventeenth centuries; The economic crisis of 1619-22', Parker & Smith, *The general crisis*, 165-225.
- 18.. An argument in support of the view that real wages were as high in Overijssel as in Holland is found in: J.L. van Zanden, 'Lonen en de kosten van levensonderhoud, 1600-1850', *Tijdschrift voor sociale geschiedenis* 11 (1985) 309-324; reprinted in Van Zanden, *Arbeid*, ch. VII.
- 19.. J. de Vries, *Barges and capitalism; Passenger transportation in the Dutch economy (1632-1839)* (AAG Bijdragen 21 (1978)/Utrecht 1981) 98.
- 20.. On land reclamation see, Woude, A.M. van der, *Het Noorderkwartier; Een regionaal historisch onderzoek in de demografische en economische geschiedenis van westelijk Nederland van de late middeleeuwen tot het begin van de negentiende eeuw* (AAG Bijdragen 16 (1972)/Utrecht 1972) 46-53; on *trekvaart* construction, De Vries, *Barges and Capitalism*, 97-102; on harbour construction, J.P. Sigmond, *Nederlandse zeehavens tussen 1500 en 1800* (Amsterdam 1989) 59-60, 103-104, 156.
- 21.. Comprehensive salary data for servants is first available only in 1800, in the Goldberg enquete, (ARA Den Haag, Collectie Goldberg, nr. 34, 'Staat van den Landbouw in 1801'). The observations made here are based on more fragmentary data that suggest that the patterns observed in 1800 were not new, but reflected long-standing characteristics of female salaries in regions specialized in dairy production.
- 22.. For a full account of labor market evolution after 1650 see: J. de Vries, 'How did pre-industrial labor markets function?', G. Grantham & M. MacKinnon (eds), *The evolution of labour markets* (Montreal, McGill University Press, forthcoming).
- 23.. The literature on this subject is vast. Major works include: I.J. Brugmans, *De arbeidende klasse in Nederland in de 19e eeuw, 1813-1870* (Amsterdam 1925) ch. II; J. Moky, *Industrialization in the Low Countries, 1795-1850* (New Haven 1976) ch. V; R.T. Griffiths, 'The role of taxation in wage formation in the Dutch economy in the first half of the nineteenth century', *Ondernemende geschiedenis; 22 opstellen geschreven bij het afscheid van Mr. H. van Riel als voorzitter van de vereniging Het Nederlandsch Economisch-Historisch Archief* ('s-Gravenhage 1977) 260-271; J.M.M. de Meere, 'Daglonen in België en Nederland in 1819; Een aanvulling', *Tijdschrift voor sociale geschiedenis* 6 (1980) 357-384; R.W.J.M. Bos, 'Loon en arbeidsmarkt in Nederland, 1800-1850; Een overzicht en uitblik', *Bijdragen en Mededelingen betreffende de Geschiedenis der Nederlanden* 96 (1981) 516-524; Ph. Kint & R.C.W. van der Voort, 'Economische groei en stagnatie in de Nederlanden 1800-1850', *Economisch- en sociaal-historisch jaarboek* 43 (1980).
- 24.. 'The daily wage of Jan is not included here, because one first wants to see what he can earn', 'but, for a lower daily wage because he can not earn a normal daily wage', 'N.B. this is a useless journeyman'.
- 25.. Gemeente-archief Nijmegen [= GA Nijmegen; Municipal Archive of Nijmegen], Oud Archief, nr. 1963; 'I have not been able to keep these two at work as others were prepared to pay more to them and because they were very capable I have had to promise them 2 st.'
- 26.. A. Knotter & J.L. van Zanden, 'Immigratie en arbeidsmarkt in Amsterdam in de 17de eeuw', *Tijdschrift voor sociale geschiedenis* 13 (1987) 403-31; S. Hart, *Geschrift en getal; Een keuze uit de demografisch-, economisch- en sociaal-historische studiën op grond van Amsterdamse en Zaanse archivalia* (Dordrecht 1979).
- 27.. For military recruiting see: H.L. Zwitzer, *De militia van den staat; Het leger van de Republiek der Verenigde Nederlanden* (Amsterdam 1991) 44-45; for recruitment by the Admiralties and the VOC, J. Lucassen & J.R. Bruijn, *Op de schepen der Oost-Indische Compagnie* (Groningen 1980) 11-29.
- 28.. W.F.H. Oldewelt, 'Het aantal bedelaars, vondelingen en gevangenen te Amsterdam in tijden van welvaart en crisis', *Amstelodamum* 39 (1942).
- 29.. H.P.H. Nusteling, *Welvaart en werkgelegenheid in Amsterdam 1540-1860; Een relaas over demografie, economie en sociale politiek van een wereldstad* (Amsterdam 1985) 161-66.
- 30.. I try to explain the labour market disequilibrating impact of segmentation in De Vries, 'How did pre-industrial labor markets function?', [forthcoming].