
INTRODUCTION

CHAPTER I

THE WAGE IN EUROPE SINCE THE SIXTEENTH CENTURY

Peter Scholliers and Leonard Schwarz

An archaeology of this volume

Historical consideration of wages and prices emerged in Europe in the second half of the nineteenth century and by 1900 it was growing firmly, together with the general contemporary interest in the wage. The research considered issues as varied as wage and price movements, wage forms and methods of payment, working time, labour conflicts, as well as wage theories.¹ However, interest in the movement of (real) wages exceeded interest in the more qualitative aspects of the wage. This has been explained by the nature of the sources (e.g., tariff lists, account books, insurance documents) and by the growing influence of statistics in those days.² Thus, the main concern of the pioneers of wage research, for example C. von Tyszka in Germany, A.L. Bowley in Britain and E. Levasseur in France, was to collect hourly, daily or weekly wages and to estimate the cost of living, hoping to obtain insights into the overall evolution of the living standards of the working classes, particularly since the 1850s. During the 1930s, influential scholars such as J. Kuczynski and F. Simiand continued to study wages, prices and real wages, situating their research within a broad theoretical and increasingly sophisticated quantitative framework.³ At the same time the *International Committee on Price History* coordinated the compilation of very long-run wage and price series, with contributions from eminent scholars as W. Beveridge, M. Elsass, N. Posthumus and A. Pribram.⁴ As a consequence, by 1940 historical interest in wage forms, wage systems and shop-floor relations (or *rappports salariaux*) had declined. This contrasted with the attention given to the subject by (labour) economists who were zealously discussing pay methods, wage theories, the effect of high wages on output and the like.⁵

When, after the Second World War, the study of wages, prices and real wages was taken up again, the approach of many historians remained resolutely quantitative, enticing numerous historians to incorporate more and more data, tables and graphs, to consider diverse occupations, to study various regions and to apply refined calculation formulae. In each decade, at least one or two papers provoked a lively debate among economic and social historians, thus leading to a non-stop production of papers, revisions, critical notes, rejoinders and comments. The debate on the standard of living in Britain during the industrial revolution is without doubt the best example.⁶ Around 1980 the qualitative approach of the wage made a modest reappearance, due to ever-persistent criticism of the methodology and meaning of real wage studies,⁷ to the accession of the so-called new institutional economics⁸ and particularly to a 'cultural turn' within the social historiography of the early modern period.⁹ This is not to say that qualitative wage studies were completely lacking in the 1960s and 1970s. For example, Hobsbawm considered the view of workers with regard to the 'rules of the game' of wages, giving custom a central position in wage formation.¹⁰ Nonetheless, such an approach remained rather exceptional and quantitative analysis predominated. To illustrate this, we may refer to a paper by Schwarz, who in 1985 advocated the study of the 'social history of the wage' but, deploring the lack of information in this regard, he then had to drop the matter entirely.¹¹

It was within this context that an international colloquium was organised in Brussels in March 1988. The primary aim was to compare historical series of real wages in various countries since the late eighteenth century, but the intention was also to contribute to the methodology and the theory of the real wage. Implicitly or explicitly, most participants assumed that real wages did inform – at least to a considerable extent – our understanding of the living standards of the greater part of a nation's population, that they reflected the overall economic performance of a country, and/or that their movements influenced workers' social and political behaviour. It was there that we, the editors of the present volume, met for the first time. It appeared that we represented two distinct paths of historiography which, surprisingly, had only rarely converged. Scholliers dealt with the nineteenth and twentieth centuries and wished to construct and compare trustworthy long-run series of real wages; Schwarz focussed on the eighteenth and early nineteenth centuries and considered the role of the wage, incomes in kind, and perquisites. During the colloquium, both paths became quite apparent via a different language and lively discussion. Although the volume reflects both approaches very well, it appeared that such mixed views were particularly valuable because of the more balanced and complete study of the wage that they provided.¹² Nonetheless, the concluding 'Suggestions for further research' pleaded for the integration of the 'social history of wages' into the study of the movement of the real wage.

During the 1990s, the huge attention to movements of (real) wages diminished. Some attention remained, particularly among a group of

Anglo-American economic historians with a special interest in econometric history.¹³ This work has not prevented some social scientists and even economic historians from continuing to use the 'old' and often out-of-date series, placing these firmly within labour market theories (about wage formation and/or differentials).¹⁴ Some economic historians adhere to a global view, seeking to compare the real wages of various countries and continents.¹⁵ Many social and economic historians have taken on a more refined and even relativist view of the movements of (real) wages, focussing on wage differentials with regard to region, gender or occupation.¹⁶ Most likely, this shift was caused by the ongoing critique of real-wage series and the ensuing proposal of alternative measurements for the standard of living (e.g. nutrition, height, literacy, mortality), that attracted some earlier students of the real wage.¹⁷

The 'social' approach to the wage developed swiftly. As mentioned above, this was not new, but it gradually became more widespread. It was directly linked to an overall shift of interest within labour history that started among social historians of the early modern period and that was, in its turn, influenced by 'new directions' in history writing.¹⁸ In the second half of the 1980s, several books and papers were published where the movement of (real) wages was discussed as part of a broader social and cultural view of the wage. Thus, attention was paid to the precise nature of the work that was undertaken and the wage for undertaking it, the hiring of workers, the place of the wage in total income, small-scale wage conflicts (between one employee and the employer) alongside the study of larger-scale conflicts, the role of guilds and unions, the influence of custom on wage formation, the meaning of the wage, the development of wage earning, etc.¹⁹ In particular, non-monetary forms of the wage (goods, entitlements) were given the attention they rightly deserved and questions were asked about the (low) supply of cash up to the middle of the nineteenth century, the evolution of payments in kind or the extent of credit.²⁰ Fortunately, this new approach spread to the historiography of the industrial period too and historians were soon analysing wage forms, pay systems, wage theories and shop-floor wage relations in the nineteenth and twentieth centuries.²¹

Would it be appropriate to bring together wage and labour historians with widely varying views, interests and methodologies and to seek to cross borders between the quantitative and the qualitative, between time periods, between countries or between structuralist and post-structuralist approaches, in order to discuss the 'social history of the wage'? We believed it would, when we proposed a so-called C-session on 'Wage forms, entitlements and industrialisation in Europe, eighteenth – nineteenth centuries' to the Twelfth International Economic History Congress (August 1998). This was accepted, but alas, the session never met. Fortunately, in a rare clairvoyant moment we had foreseen to organise a post-conference on the same topic and this did meet in April 1999 in *Le Domaine des Treilles*, a marvellous site in the Provence, that offers all possible conditions for fruitful talks. Papers were presented and discussed at

length.²² The meeting was a success and the publication of the papers seemed to impose itself. Some authors withdrew, while others were asked to join, but all readily revised their text (eventually), and all chapters have been thoroughly rewritten especially for this volume.

This book covers a varied range of places and periods, but it does not provide a geographically or chronologically well-balanced survey. Such a survey may be possible when statistics of (real) wages are compared, but to present a European survey of wage forms, wage systems, perquisites, entitlements, wage differentials and the like since the sixteenth century is simply unrealisable. So, the reader will find a very unbalanced book in terms of time and place, but one that reflects research innovations in a traditionally important field. With this book, we wish indeed to contribute to a new approach of the study of the wage.

Old and new questions about the wage

The advantage of the turn toward the ‘social history of the wage’ is that wages are increasingly situated within the social history of work, with the ensuing fundamental questions being about the precise significance of wage earning and the wage. Such was the underlying issue of the Treilles conference. This was hardly new. In 1981 Woodward questioned the use of the Phelps Brown and Hopkins series, then widely quoted and considered a reasonable indicator of wages, prices and living standards in the very long run.²³ His critique touched the very core of the problem about the significance of the wage. The author argued that it was far from clear who actually received the wage (contractors, subcontractors, gang leaders), how the wage was divided between the workers of the gang, what the ‘social status’ of the workers was (independent businessmen, subcontractors, wage earners), the costs that these craftsmen had to bear (raw materials, tools), whether they had income from other sources (farming, for example) that would influence their attitude toward wage labour and whether non-monetary wages (drink, lodging) were important. Ultimately, Woodward concluded, the long-run series inevitably link (frequently) self-employed businessmen in pre-industrial times to modern wage earners, which makes them misleading measures of the standard of living of a wage earner.²⁴ We would add that some of these comments are also valid for the modern period, when the actual income was – and is – composed of a monetary wage, combined with a non-monetary wage (e.g., coal for miners; meal vouchers) and with social benefits of various kinds (e.g., poor relief, pension). Similarly, the social status of a worker was (and is) not always clear (cottage workers, craftsmen). Not surprisingly, some historians have considered it an unconditional necessity to focus on such questions before tackling the movement of wages, whether monetary or real.²⁵ In short, the turn toward the social and cultural history of the wage is a complex venture, but one that is very rewarding and animated. We hope that this volume contributes to the process, and does so without

ignoring that wages are a production cost, which means that, alongside the social and cultural history of the wage, there is of course an economic history.

In fact, the basic question of this book is surprisingly simple and naïve: how were people paid for their work? The problem of ‘how much’ is of course linked to this question, which will tend to appear in this book under the form of wage differentials rather than under the form of wage movements. Right away, the problem of defining both ‘work’ and ‘pay’ appears. With regard to ‘work’, it has been argued that paid labour was and is marginal when seen against the whole of labour (household, voluntary, slavery, compelled, self-employed, etc.) and that people often combined and alternated wage labour with other forms of work and income.²⁶ Wage labour refers to (legally) free labour done by a person for another person or an institution, and since the Middle Ages this type of work seems to have expanded gradually. The process was certainly not linear and occurred with considerable regional and temporal differences. Nevertheless, wage relations were at the core of big social transformations (commodification, urbanisation, industrialisation, migration, etc.), especially, but not exclusively, since the middle of the eighteenth century.²⁷ Moreover, contemporaries saw wages and wage movements as important issues.²⁸ The money wage incited workers to protest, strike, petition or join an organisation, while it drove employers to apply new technology, to enlist female labour, to demand or to reject State intervention. Wage labour structured the world of an ever-growing number of people. Surely, no one would disregard its role.²⁹

The history of wage labour is not central here. The main issue of this volume is that of *payment* for specific work. Despite the many historical wage studies, there remains an endless list of questions and themes that, in our opinion, urgently need (renewed) attention. For the sake of clarity this book shall group these themes into three general categories which have manifested themselves in the more recent literature and within which we may, albeit hesitantly, situate each chapter of this volume. We shall thus apply the following labels: ‘Custom, wages and the market’, ‘Changing pay systems and wage forms’, and ‘Age, gender and wages’. In so doing, we must stress that a rigid distinction cannot of course be upheld: one chapter may consider payment methods related to gender in a market economy full of rules and conventions.

Having said this, it is quite obvious that not all questions and themes related to wage history will be dealt with here. Quite the contrary. For instance, issues related to the calculation of the wage (measurement of output, negotiation of tariffs), the timing of the wage (how, where and especially when was the pay given to the worker), or the perception of the wage (how did the community see a wage worker; how did workers and employers perceive various wage systems and forms; what was their view on unemployment or migrant workers) are lacking. Clearly, there is still plenty of work to be done.

Custom, wages and the market

One theme that has increasingly come forward in wage studies is the relationship between custom, the market and the wage. This is not new.³⁰ Phelps Brown and Hopkins addressed the core of this problem in rather plain terms in their 1955 study on English building wages from 1264 to 1954. They noted, as the most salient feature, the extent of the rise of the wage, but they also found an 'extraordinary absence of falls' in daily wages, very long periods of unvarying daily wages and a 'remarkable stability' in the wage differential between rates of craftsmen and labourers. In their attempt to explain these phenomena, they questioned the applicability of the laws of supply and demand to the wage: they thought it unlikely that 'supply and demand remained exactly balanced at the ruling price; rather it must have been that their movements were not wide enough to overcome the inertia of convention', particularly inertia vis-à-vis downward pressures.³¹ After the Great War, wage gaps tended to diminish because of the effects of inflation and education.³² In later work on the nineteenth and twentieth centuries, Phelps Brown and Browne presented a framework of factors affecting the course of the wage, including the wage earner's desire for higher wages, custom (that inhibited change), phases of the business cycle, market environment, conditions on the labour market, productivity, the capital-output ratio and workers' vigour (individually or via unions). 'Custom inhibited change, but was broken by the trade cycle', the authors wrote, thus allocating a different position to custom compared to early modern times.³³

Slowly but surely, their conclusions about the absence of wage falls, the long periods of unvarying wages and the stability of wage differentials in the early modern period came to be revised.³⁴ Nonetheless, the notions of 'custom', 'tradition' and 'convention' gradually gained attention in the study of the wage, whether directly influenced by Phelps Brown's work or not. These notions appeared to be very complex, more so than was captured by Hobsbawm's innovative paper in 1964. M. Sonenscher noted for eighteenth-century France that 'custom' implied a sense of wage differentials and work hierarchy, entitlements and drinking money, credit and wages in kind, celebration meals and other 'customs oral in character'.³⁵ That this sense had actual consequences, is shown by J. Rule for England around 1760, where the 'sense of a legitimate right' caused a conflict over wages involving five hundred weavers who struck to 'support our ancient custom'.³⁶ One may ask – and historians are asking – when and how 'custom' emerged in language and practice, when and how it was fought for, and when and how it eventually disappeared.

These questions link up with the notion of 'moral economy' that is debated among eighteenth-century social (particularly English) historians. On the whole, we feel that the concept is more likely to retard than enhance the study of changing wage forms during this period. Originally used by Edward Thompson to describe the behaviour of bread rioters in England during the second half of the eighteenth century, the concept has

been attacked and defended; some have expanded it into ever wider areas, with its meaning becoming ever vaguer in the process; others, chief among them Thompson himself, have taken care to control its original conceptual sharpness. 'Moral economy' as used by Thompson was not solely a matter of tradition or of some degree of opposition to the market economy. There needed to be a legal background that could be used to justify direct action; furthermore, the action needed to be accepted by broad circles of the population, not merely those undertaking the action. Thompson came to accept – or was at least 'more than half persuaded' – that there was a strong case for extending the concept from an explanation of bread riots to a wider description of a communitarian culture, such as existed in the West of England clothing towns during the eighteenth and earlier nineteenth centuries – 'a dense texture of trade rituals and customary usages, endorsed by community sanction'. He was, however, reluctant to go further, and was distinctly unhappy with W. Reddy's use of the term to describe 'a set of values and moral standards that were violated by technical and commercial change'.³⁷ By Thompson's original standards, the wage was therefore not part of the moral economy. Unlike bread prices, it did not affect everybody. Its legal and communitarian backing was far weaker than – say – grain prices; any attempt by the authorities to fix wage rates by law was almost invariably intended as a ceiling to wages, however rapidly the ceiling might become a floor in practice. In fact, by its flexibility and its capacity to attract individuals and to divide communities, the money wage was potentially as deeply inimical to tradition as was inflation, its cousin from the same world of markets and money.³⁸

Yet, as many studies in this volume and elsewhere have shown, there were definite elements of tradition in the wage. This was not only the nineteenth-century formula of 'a fair day's work for a fair day's pay' – Hobsbawm's rules of the game – but particular attributes of the wage that attained more widely in eighteenth-century Europe, some of them gradually disappearing at different speeds in different regions. In this context we will refer to four themes that need to be kept in mind when considering the 'traditional' or 'pre-modern' wage. In the first place, as King and Muldrew have shown in their chapter in this volume, the specie necessary for a flexible labour market was usually not available. Secondly, there was the notorious tendency of some wages to stick at a particular monetary level for a century or more. For most of the eighteenth and earlier nineteenth centuries the pay of women in agriculture was set at 6d. a day over most of England, irrespective of price movements, but also irrespective of a surplus or shortage of female labour.³⁹ Building wages are a better-known but less striking example. However, usually wages, even building wages, did move – at any rate for men. The building workers examined by Reith in this volume had to cope not only with (slowly) changing money wages but also with changing entitlements, such as meal times. Thirdly, there is the question of whether there was ever anything particularly 'moral' in the level of wages received by women. Despite the

research by Pam Sharpe on the stickiness of women's agricultural wages during the eighteenth century, it is very tempting to look for the full application of the market economy, red in tooth and claw, to working women from the Middle Ages onwards – and it should be noted that the eighteenth-century wage stickiness included the inflationary second half of the century. Fourthly, and related to the third point, wage-earning men notoriously fought as hard as they could to defend themselves from the full rigours of a flexible labour market. The greater their skills – in other words the greater their market power – the greater their success. Concluding a detailed examination of three industrial disputes in eighteenth-century England – shipwrights in a small Devon port in 1766, Exeter wool sorters in 1787 and the weavers and wool combers in a wide area of Devon in 1726 – Rule concludes that 'industrial disputes in the eighteenth century were complex phenomena, neither entirely within or without the reach of the moral economy', and the same conclusion would apply to some of the eighteenth-century Central European industrial disputes discussed by Reith in this volume.⁴⁰ It is worth recalling Randall and Charlesworth's comment on Rule's essay: 'the moral economy market model was...not an *alternative* to a capitalist market but a model of a capitalist market subject to careful regulation'.⁴¹ Up to the present day, the rhetoric of community and morality has been more readily paraded in a defensive than in an aggressive industrial action.⁴²

It is this persistent model of a regulated market economy, however little observed in practice, that needs to be remembered. It is this that puts the money wage at the borders of 'modernity' and at the centre of questions regarding the extent to which a labour market existed and of the attitude of the labour force to the money wage. In fact one of the intriguing aspects of the wage is its mixture of cultural and economic baggage. There was a labour market, labouring families had growing aspirations (or at least, during the price rise from the 1750s they wished to maintain their living standards), and the wage reflected this. There were also cultural norms and traditions that somehow had to coexist with the wage and with the market (the issue of how custom is *shaped* and changed by workers and employers is addressed by Van den Eeckhout in this volume). In the rare event of the norms being enshrined by a bureaucracy – as in Britain's naval dockyards – a complex system of traditional payments and perquisites coexisted with an even more complex system of overtime pay, difficult for any outsider to understand and even more difficult for the Admiralty to break.

The role of the state cannot of course be ignored. States operated on many levels, including areas of obvious relevance to this discussion such as the regulation of market conditions, the supply of specie, labour relations and legislation and social welfare schemes. This introduction will consider three of them. The first is the provision of specie. This was an area in which most states had only a partial success until the later eighteenth or even the nineteenth century. As Muldrew's work has shown, the shortage was important in a market economy as developed as late seventeenth-century England, while coin clipping and forgery were common in

England until the 1780s.⁴³ For the purpose of paying wages it was the low-value copper coinage or what in France was called ‘billon’ – copper mixed with silver – that was more important. Copper, however, was heavy and governments tended not to produce enough of it. Between 1782 and 1789 the value of copper coinage produced by the French mints was less than half of one percent of the combined gold and silver coinage that they produced, but this weighed almost one-third of the weight of the gold and silver coinage produced. It is easy to see why the French government was happy to give Boulton a contract to use his steam engines to produce large amounts of copper coinage.⁴⁴ Shortages of all kinds of coin were endemic in many parts of Ancien Régime Europe – the Netherlands being an exception – and shortages of copper coins were more endemic.⁴⁵ As King and Muldrew show in this book, a shortage of coin compelled the payment of exchange entitlements (i.e. wages) in kind or credit.

A second role for the State was as a large industrial employer (for instance with naval shipyards in some British or French ports, the Arsenal in Venice or – later – railways and coalmines. In this volume L. Galvez-Muñoz describes the case of the Seville factory of the *Compañía Arrendataria de Tabacos*, owned (or at least controlled) by the government, which needed to take special care as so much of the welfare of Seville depended upon its employment and production processes. In such cases a complex network of entitlements grew up, whose existence appears in the records only when a hard-pressed State seeks to reduce them. The British Admiralty had permanent problems with its dockyards; in Toulon the dockyard workers were unable to prevent the Ancien Régime from large scale subcontracting in 1786, but they took their opportunity to riot in 1790 and the authorities more or less retreated.⁴⁶ The rulers of Venice always watched the expenses of their Arsenal carefully, but until the Venetian state itself ended they took good care to ensure that the supply of free wine to the workers at the Arsenal was maintained.⁴⁷

The third role of the State that will be briefly mentioned in this context was the relief of poverty, or – in twentieth-century terms – the operation of social welfare. Some states, such as Ancien Régime England or revolutionary France, sought to play a central role in the relief of hardship. The absence of such relief in Spain made it necessary for the government to take especial care with the *Compañía Arrendataria de Tabacos*. The influence of poor relief and charity on wages was all-pervasive and where State agencies played a central role in the relief of hardship as in England or Holland – albeit in such a decentralised manner that to see this as part of the role of the State is problematic – the outcome is a mass of documentation of the effects on wages. The contribution of the Poor Law to wages in southern England between 1795 and 1834 is well known and generally put under the generic (if rather misleading term) of Speenhamland. However, King and Muldrew show here the importance of poor relief from the 1790s, while in his recent book King discusses the Poor Law’s contribution to wages over the entire century and a half between 1700 and 1850 – a contribution that extended far beyond the Speenhamland

counties, and also drew in the ‘deserving poor’ who might be employed explicitly in order to keep them off poor relief.⁴⁸ Such employment applied especially to women – which goes some way to explain the stickiness of agricultural wages for women noted above. But it was also liable to pervade the entire local economy. It is a large theme, implicit in virtually all the chapters of this book, particularly in the discussion of the Spanish Tobacco Monopoly by Gálvez-Muñoz, where the absence of alternative schemes of welfare was an important constraint on the ability of the State’s freedom of manoeuvre with the labour force. King and Muldrew specifically refer to the problem – ‘there have been few studies [in England] of alternative earning avenues or their relationship to the payment of poor relief and wages, but it is nonetheless important to investigate these variables as a precursor to dealing with the communal welfare system’. The question obviously requires further study.

In this volume three chapters focus on the tension between the market for wage labour and the conditions of work expected by the workers. Harald Deceulaer links the fluctuating transport volumes of the Antwerp harbour in the long seventeenth century to changing wage formations, noting that rules, norms and values were transformed by all the actors and institutions involved. Michael Huberman detects distinct work relationships in two cotton communities in Lancashire in the nineteenth century, one of bonds between worker-firm (paternalism) in Bolton and worker-worker (co-operation) in Oldham; these traditions led to different practices and different economic performances. Using the court cases of the *Conseil de Prud’hommes* between 1875 and 1900, Patricia Van den Eeckhout found a shift from an accustomed ‘fortnight’ to an ‘eight days’ period for giving notice in Ghent. This suggests a trend toward flexibility within work relations, while it also emphasises the flexibility that was attained within a rather rigidly regulated legal framework. She also shows how ‘custom’ operated in the daily practice of labour relations. Huberman and especially Deceulaer show that the ‘market’ had an influence on wage formation and work practices when one industrial activity is studied (textiles; harbour work), while Van den Eeckhout does not (and cannot) refer to ‘one’ market or ‘the’ business cycle because of the great variety of occupations with which she is confronted in Ghent.⁴⁹ Crucially, these authors do not accept ‘usage’ or ‘tradition’ as given, but as constantly negotiated, contested and, paradoxically, adaptable. They also show that it is impossible to draw clear borderlines between the eighteenth and the nineteenth century with regard to the influence of ‘custom’. As suggested by Hobsbawm, it was perhaps the spread of scientific management around 1900 (incentive pay schemes, time and motion studies, etc.), together with its inevitable and understudied concomitant, the generalisation of the money wage, that replaced the sense of custom in wage claims by a sense of progression.⁵⁰ Huberman’s argument will doubtless prove controversial, but those who object will need to set their own arguments within a wide social and economic context and to this extent it is to be hoped that it will set the terms for future discussion of the issues that he raises.

Changing pay systems and wage forms

Hobsbawm's suggestion leads us to the second set of problems: the pay system. In his 1964 paper, he deplored the absence of research on this issue.⁵¹ In their 1993 study of the development of pay systems in the agriculture of Groningen during the nineteenth century H. Gooren and H. Heger were still regretting the absence of such research.⁵² Quite recently, R. Reith has repeated this criticism.⁵³ Why such silence? Would it not be important to study wage systems? Is it possible that for many centuries the distinction between a piece rate and a time wage was not particularly important, because 'workmen produced an accepted output for an accepted remuneration from an accepted working week'?⁵⁴ In this volume Huberman compares the different remuneration methods for two towns within the Lancashire cotton industry and draws out their significance. Distinct work and labour relationships in different Lancashire towns implied distinct systems of payment. In Bolton's fine spinning mills, a tariff list appeared in 1813 and stipulated prices per pound of yarn; this list did not include a speed clause. Earnings accordingly varied with the age of the machine: the more recent the machine, the higher the output and the wage. In Oldham's coarse spinning mills, the tariff list dated from 1872 and provided for the piece rate by dividing the *normal* output on a given mule by the *standard* weekly wage (our italics); later, a speed clause was introduced. The Oldham list aimed at equal earnings. These were truly opposite procedures for calculating both wages and earnings, and both methods implied different organisations of labour relations and of work, that in turn characterised their communities' social and political life.

It would of course be erroneous to suggest that pay systems have never been examined, but on the whole their developments have been studied in very general terms.⁵⁵ R. Duplessis, for example, constructs the following picture for early modern Europe. Piece wages – i.e., the payment to an individual or a work gang for a specific task or quantity of output – were generally preferred by employers because these prompted the workers' efforts, and because of the limited need for supervision. But workers also saw an advantage in piece rates, because they could, within limits, set their own pace and regulate their earnings. Time wages – i.e., the payment to an individual or a work gang for a task during a specific period of time – were paid to workers who worked together in a multi-stage process (the classic example being the building industry), to workers who performed standardised jobs (such as tailoring) and to workers in new industries (such as ironmaking).⁵⁶ Generally, piece wages prevailed over time wages and with the development of industrialisation, and particularly sweated outworking, piece wage methods were increasingly applied.⁵⁷ In many sectors, there were surpluses to the wage when the labour market was tight, the work was urgent or particularly difficult.⁵⁸

Hobsbawm wrote that pay systems became more complex after 1850. He advanced three reasons for this: the growing interest of economists in methods of payment, the extension of payment by results and incentive

schemes, and finally the increase in money wages. Around 1900, he continued, there was the spread of scientific management, aiming at increasing labour efficiency and profits and accompanied by increasingly complicated pay methods (bonus systems named after their inventors – Rowan, Halsey or Bedaux).⁵⁹ It is of course possible that the apparent growing complexity of wage systems from the nineteenth century is merely a reflection of the greater availability of source material and that pay systems were indeed equally complex prior to 1850. Nevertheless, we can document the growing complexity of pay methods in the nineteenth century by the example of the Ghent machine building industry. Up to 1850, daily wages prevailed, while only a few categories of workers had weekly wages. These simple time wages faded during the 1850s. Then, the *travail à l'entreprise* appeared, which was a combination of a (theoretical) hourly wage and a time period for the manufacturing of a particular machine part. Time and wage were negotiated on the basis of experience and tradition. Also, the possibility for adept workers to earn a moderate premium was included. With the introduction of machine tools in the 1880s productivity rose and hence the possibility of increasing the premium. However, a new pay system was introduced in the 1890s that foresaw a more sophisticated premium system as well as a penalty system when the output norm was not reached. This norm was no longer the result of an agreement between workers, overseers and managers, but of a study by the firm's technical bureau. Furthermore, cuts of the (theoretical) hourly wage were applied – the so-called rate busting. Finally, around 1905 an extremely complex premium scheme was introduced (to the despair of unions), that adopted elements of scientific management and that implied the utter technicality of wage calculation.⁶⁰ Other modern industries offer similar examples.⁶¹

Whether a worker was paid by time or piece and received a bonus, he or she could obtain money or another form of payment. The form of the wage has retained the historian's attention to a greater extent than was the case with pay methods. For example, G. Schmoller stressed the importance of the non-monetary wage up to 1800, noting that its rigid nature in terms of quantity of goods automatically led to a stable real wage. He thus connected wage forms to custom and to habit.⁶² Since the pioneers' labours historians have paid attention to wage forms but, as noted above, the theme came fully to the fore in the 1980s. For example, when considering the alleged shift from payment in kind to payment in cash in eighteenth-century France, M. Sonenscher stressed that there was no linear trend, that both systems coexisted and were dependent upon changes in prices, production schedules and labour-market conditions.⁶³ If such a shift between monetary and non-monetary wage forms had indeed occurred, many questions need to be solved: when, where, how and why did this happen and what were the consequences for the level of money wages? There seems to have been a direct link between cash payment, payment by results, and growing industrialisation in the nineteenth century, leading to the gradual decline of payment in kind, perhaps

indeed forcing its decline. Yet, in some so-called advanced economies, like the Northern Netherlands in the sixteenth century, the wage appeared only under a monetary form.⁶⁴ At the other extreme, the extent to which wages in kind had disappeared in nineteenth-century England, the heartland of industrialisation, remains debatable.⁶⁵

If payment in food, beer or lodging would appear to have diminished from the later eighteenth century, other forms emerged, spread or endured in the nineteenth and twentieth centuries such as coal, 'chips', subsidised meals and – later – meal vouchers, profit sharing, the use of a car, etc. We know hardly anything about the development of wages in kind during the nineteenth and twentieth centuries. The list of elements contained within non-monetary wages may also contain credit. If the latter may be defined as 'postponed' wage, it is clear that part of our present-day *indirect* wage (pension, sick care and paid holidays) may also be classified under the heading of credit. Of course, linking directly both forms of wages to each other is entirely a-historical. Causes and effects differed totally: social security schemes of the post-1945 era contrast widely with the credit allowed to the *bon ouvrier* by his seventeenth-century employer. For early modern Europe, Schwarz noted that 'a large and immediate entitlement for a man with a job was credit. This might be from his employer... or it might be from a retailer or a publican'.⁶⁶ 'Entitlements', or perquisites, lead us back to the world of rights, custom, habits, traditions and conventions.

In this book, three chapters focus on the problem of pay systems and wage forms, and all three emphasise the many bonds with other features of society. Thus, Reinhold Reith considers the study of wage forms and pay methods as the point of departure for understanding the history of wage labour and wage conflicts in general. He deals with eighteenth- and nineteenth-century Germany, linking wages in kind to the labour market. With workers frequently living (and more frequently dining) in the master's household, he is able to show that many labour conflicts took place around the issue of in-kind wages, disputes about the quality of meals being a typical example. He found that the piece wage spread gradually, although it did not simply replace the time wage but was added as a temporary compensation. While Reith suggests that piece rates were not so much applied from disciplinary aims, but were used particularly for managing periods of intensified demand, Henny Gooren and Hans Heger find that for Groningen agriculture in the nineteenth century the spread of the incentive wage was directly linked to increasing control over the work. This was needed, they argue, because of changes in labour organisation and work frequency that entailed the hiring of more casual workers. Because payment in kind was given exclusively to regular and resident workers, in-kind wages disappeared gradually. Both chapters illustrate the huge complexity and diversity of payment systems in the eighteenth and nineteenth centuries, as well as the impossibility of marking a distinct moment of transition. In their chapter on England between 1650 and 1800, Craig Muldrew and Steven King emphasise the lasting shortage of cash (up to the early nineteenth century), the interrelation between a

formal labour market and a complex world of makeshifts, a remuneration system full of customary entitlements, and the existence of credit networks. Lack of cash would lead to irregular payments, truck systems and all kinds of means to make ends meet, including charity. The poor law made this even more complex. They argue that the meaning and the level of the wage cannot be understood without incorporating all these elements. To us, the three chapters prove, once again, the central, irrefutable position of wage forms and payment methods in the general history of labour, involving the labour market, cash availability, work conflicts, charity, family decisions, credit and managerial tactics.

Age, gender and wages

So far, issues of gender have hardly been dealt with. Yet wage forms, wage systems and wages have a clear gendered dimension. Gooren and Heger show that in Groningen in-kind wages for resident workers consisted of wool for the maids and the right to graze a sheep for the men. In nineteenth-century cotton mills, male overseers and maintenance workers received a weekly wage, while female reelers, spoolers or warpers were paid by the piece, with consequences for the working time, the status of men and women, as well as the work effort. The biggest difference between male and female wages, however, was that women were generally paid less than men. Such inequality appears to have been 'traditional' and can be encountered from the fourteenth century.⁶⁷

Wages related to gender appeared in historical research quite recently via two routes.⁶⁸ First, there was the big question 'Are women underpaid?' that was asked by (feminist) social researchers in the 1970s. Historians picked up the problem and started to investigate the money wages of male and female workers especially in the nineteenth century. They concluded, among other things, that there was no systematic discrimination against women, at least when occupational discrimination is disregarded.⁶⁹ Recently, J. Burnette provided a significant addition to this research. She suggested that piece-rates and time-rates have often been misinterpreted, which has led to an underestimation of women's wage rates. Correcting for differences in hours worked, payments in kind (particularly board) and misreporting of home work would lower the male-female wage ratio. The remaining wage differential may be explained by productivity differences. This is not to say that wage discrimination against women did not exist, nor to deny that custom played a role, but to limit the extent of both of these.⁷⁰ Nevertheless, other researchers have reached conclusions that include a clear discrimination against women (doing equal jobs and having had equal schooling). For example, in the Dutch diamond industry during the 1890s, women replaced men at fine stone cutting, leading to an immediate decline of the wage rate.⁷¹ It may be that Burnette's argument places too much faith in the working of the labour market; it will doubtless give rise to a lively literature.

The second way of introducing gender into wage studies, originated out of a reaction against the assumption that adult male wages were representative of all wage earners and that male wages thus inform about the general standard of living, the production costs or the economic performance of a country. Not surprisingly, this criticism has been heard loudly in the course of the debate on the standard of living during the industrial revolution in England. In 1992 S. Horrell and J. Humphries, referring to the paradox between a relatively optimistic consensus based on real wage trends for male workers and pessimistic indicators based on data for consumption and height, insisted that family income should be considered in its entirety. Data from household budgets allowed these authors to revise trends in the standard of living, stressing that between 1787 and 1865 family incomes rose less than did male earnings while inequality between families grew more than might have been expected on the basis of male wages.⁷² Similar findings had appeared with regard to Belgium in the nineteenth and early twentieth centuries,⁷³ thus underlining the general need for a cautious approach towards regarding the male wage as *the* socio-economic proxy. Writing about the English industrial revolution, J. Mokyr sought to reconcile the contradiction between stagnant average per capita consumption for many important items and rising male wage rates. He suggested that the self-employed, who formed ‘perhaps’ as much as forty percent of the English labour force in 1845, were lagging behind wage earners; in addition the census – for what it is worth – suggested that women formed about thirty percent of the labour force in 1851.⁷⁴ The significant point remains that even in England by the mid-nineteenth century reasonably regular payment by means of a money wage cannot be said to have been relevant to at least one-third of the adult male labour force, while a significant number of the remaining two-thirds were working in agriculture, many of them in low-wage agriculture, where there may have been regular supplements to money incomes. Jan de Vries’ concept of an ‘industrious revolution’ aimed to tackle directly the disparity between real wage rates as reflected by the indices – usually declining from the mid-eighteenth century – and the growth of consumer demand during this period, a reconciliation that he suggested was brought about by increased effort and self-exploitation from households.⁷⁵

Despite the many investigations into women’s work and wages over the last decade, among which questions about the paid labour of married women and the ideology of the male breadwinner have figured most prominently,⁷⁶ many problems remain to be solved. In this volume, Sakari Heikkinen tackles the wage in Finnish agriculture and industry during the decades around 1900. Important wage gaps between male and female workers, as well as distinctive wage systems between both, point very clearly at a gendered wage. The wage gap may be explained by women’s shorter work experience, a presumed lower productivity and indeed discrimination, while the difference with regard to payment methods in industry (women were paid more by the piece than men) would be the ‘solution’ for a contradiction that was formed between custom and the

needs of the market. Lina Galvez-Muñoz deals with a similar problem, but focussing on one industry, the Spanish tobacco factories from the early nineteenth century to the 1930s. She asks whether employers' choices with regard to a particular remuneration method did indeed have a gendered dimension. She shows that neither the (labour) market nor customary forces can explain the choice of pay systems, but that gender, 'as a principal explanatory tool', helps to interpret the forms of remuneration.

Attention to family budgets includes the consideration of paid labour by children. Needless to say that child labour has been hugely debated since about the 1840s, leading to fierce indignation by both bourgeois and leftist observers and to legal restrictions in many countries. It is only recently that historians have sought to situate child labour within the context of the family economy and income. Indignation has often remained, but the starting point has differed. Thus, some historians have studied the share of the mother, the father, the children and other household members in total family income often linking it to the standard of living over the family life cycle.⁷⁷ In this line of research child labour began to be viewed as an income source that influenced, for example, family structures, debt or consumption.⁷⁸ With this interest in the family income over the family life cycle, the study of the wage in relation to age emerged. Already around 1900 some social researchers had studied this⁷⁹ and recently household budgets have been used again to study the work and wages of older men in London around 1930.⁸⁰

In this volume Paul Johnson tackles the question whether custom or market determined wage differentials; he does so not by looking at pay differences by skill or by industry, but by examining pay differences by age. He compares earnings surveys for three periods (1833, the late 1880s and 1929–1931), notes a 'long-run stability in the relationship between age and earnings', and concludes that a traditional relationship between age and earnings was so strongly imprinted on the social and cultural environment that a century of economic change and technical innovation failed to undermine it. The stability clearly requires explanation; and Johnson is clearly seeking to escape from the catch-all term 'custom', a term that historians are tempted to use when all else fails. The implications of this argument are considerable and the concern for free riding and collective action is apparent elsewhere in this volume.

Finally, for the period of the industrial revolution in Britain, Jane Humphries stresses the particularities of child labour that was clearly unfree and hidden. She studies the age of children at the start of work, connecting this to estimated earnings, apprenticeship and family circumstances, such as the death of an older brother. Overall, she finds an 'exceptionally intensive use' of child labour, that she connects to the 'industrious' revolution, thus putting the child worker (back) at the centre of the industrialisation process. This chapter might at first appear to be more concerned with the nature of the industrial revolution than with wages as such; our argument, of course, is that such a distinction is tenuous.

A final word

Our classification of the papers into three groups inevitably impairs the richness of the themes and chapters. Indeed, all the chapters cover more than merely the issues of custom, gender, age or managerial tactics with regard to pay methods. In fact, most of them address all these issues. Moreover, most chapters touch upon topics that could hardly be mentioned in our introduction: individual conflicts over firing and the payment of wages due (Van den Eeckhout), collective wage conflicts (Reith), work organisation and control (Deceulaer, Gooren and Heger, Gálvez-Muñoz), workshop regulations (Van den Eeckhout, Gálvez-Muñoz), or the wage bill and industrialisation (Humphries). Furthermore, some chapters situate their theme firmly within a broad historical view, incorporating the long term or a comparative perspective (albeit within 'national' borders) and referring to technological change, credit, collective actions, family economy, child labour, the industrial revolution, disputes brought to court, guilds, or wage differentials of varying natures. In addition, theories are referred to: wage theories, of course, but also theories about the labour market, a model of wage payment systems, neo-institutional economic theory, and theories about the development of paid labour. Yet, empiricism dominates the great majority of the chapters, which has tempted one author to oppose (neoclassical) economic theory to sound historical research. To us, all this confirms the centrality of the wage with regard to the history of labour. Also, it confirms the need to incorporate economic, social, cultural and ideological matters in an open way. We firmly believe that the history of the wage awaits a bright and shining future.

Finally, some words of thanks. First, we wish to thank all the participants at the Treilles colloquium of April 1999: those who presented a paper, as well as those who commented, discussed, argued and disagreed. The papers most certainly gained a lot in the process. Second, we thank the anonymous referee of the International Institute for Social History for useful and relevant criticism, as well as the two referees of Berghahn Books for pointed comments and many suggestions. Also, we wish to thank Hugo Soly, director of the project 'Labour 1500-2000' (financed by the Flemish Fund for Scientific Research) for financial support. Last but not least, we particularly wish to thank the members of the Board of *La Fondation des Treilles* for the opportunity to meet in Les Treilles. Mmes. C. Bachy and S. Melkoyan were extremely helpful in organising the meeting, while the Domaine des Treilles proved to be the most exquisite place for fruitful discussions. It is not only a place to work hard and to concentrate, but also where one can enjoy working hard.

Brussels and Birmingham, August 2002

Notes

1. An excellent example is G. Schmoller, 'Le mouvement historique des salaires de 1300 à 1900 et ses causes', *Revue Internationale de Sociologie* (1904), pp. 3–21; after having presented a broad survey of the wage and price development in Europe, the author (professor of Political Economy at Berlin University) paid attention to the form of the wage, the organisation of work, the role of institutions and the role of custom, all of which had changed tremendously. See the chapter by R. Reith in this volume, dealing with the German *Historische Schule*.
2. Reinhold Reith, *Lohn und Leistung. Lohnformen im Gewerbe 1450 – 1900* (Stuttgart, 1999), pp. 24–32.
3. Kuczynski and Simiand had broad historical interests, as indeed did Keynes. For another example, see Elizabeth Gilboy, 'The cost of living and real wages in eighteenth-century England', *Review of Economic Statistics* (1936), pp. 134–43.
4. On the history and achievements of this Committee, see O. Dumoulin, 'Aux origines de l'histoire des prix', *Annales Economiques, Sociétés, Civilisation* (1990), pp. 507–22.
5. See, e.g., the classic by Maurice Dobb, *Wages* (Cambridge, 1929 – 14 reprints up to 1960).
6. As landmark papers of the 1950s and 1960s, we may refer to the survey by Eric Hobsbawm and R. M. Hartwell, 'The standard of living during the industrial revolution: a discussion', *Economic History Review* (1963), pp. 120–46; for the 1970s Michael Flinn, 'Trends in real wages, 1750–1850', *Economic History Review* (1974), pp. 395–411, and for the 1980s Peter Lindert and Jeffrey Williamson, 'English workers' living standards during the industrial revolution: a new look', *Economic History Review* (1983), pp. 1–25. A mention of the Dutch debate ('Would high wages between 1800 and 1850 be responsible for slow industrial growth?') to which, e.g., Joel Mokyr, Jan de Vries and Richard Griffiths contributed) may suffice to show that (real) wages were also discussed widely outside Britain (see, e.g., Jan Luiten Van Zanden, 'Lonen en arbeidsmarkt in Amsterdam, 1800–1865', *Tijdschrift voor Sociale Geschiedenis* (1983), pp. 3–27).
7. For a survey of the critique of real wages, see Joel Mokyr, 'Editor's introduction', in Joel Mokyr (ed.), *The British industrial revolution. An economic perspective* (Boulder – Oxford, 1993), pp. 118–30. An inventory of *fausses pistes* with regard to early modern (real) wage research may be found in Denis Morsa, 'Salaire et salariat dans les économies préindustrielles (XVIe–XVIIIe siècles). Quelques considérations critiques', *Revue Belge de Philologie et d'Histoire* (1987), pp. 751–84.
8. The NIE devoted theoretical attention to organisations, firms, contracts, customs, rules, etc in relation to economic development within neoclassical economics; see P. G. Klein, 'New institutional economics', in B. Bouckaert and G. De Geest (eds), *Encyclopaedia of law and economics* (Aldershot, 2000), pp. 456–89.
9. By a 'cultural turn' we refer to new directions or new approaches that emerged in the 1980s and became 'undeniable' in the 1990s. These do not form a coherent paradigm, but are related to a wide and perhaps incoherent variety of new approaches to economic and (especially) social history writing. For an impression of the directions and discussions, see, e.g., 'Wirtschafts – und Sozialgeschichte – Neue Wege?' *Vierteljahrschrift für Sozial – und Wirtschaftsgeschichte* (1995), vols. 3 and 4; *Social History* (1995), vols. 1 and 3; *Storia della Storiografia* (1995); *Historiens et géographes* (1995), no. 350; *Tijdschrift voor Sociale Geschiedenis* (1997), vol. 2.
10. Eric Hobsbawm, 'Custom, wages and work-load in nineteenth-century England', in A. Briggs and J. Saville (eds), *Essays in Labour History in Honour of G. D. H. Cole* (London, 1960), and subsequently reprinted in Eric J. Hobsbawm, *Labouring Men* (London, 1972), pp. 334–70. Hobsbawm suggested that employers and employees had to learn the rules of modern industrial relations, which occurred *partially* (up to the 1850s) and then *completely* (towards the 1880s).
11. Leonard Schwarz, 'The standard of living in the long run: London, 1700–1860', *Economic History Review* (1985), pp. 24–41.
12. Peter Scholliers (ed.), *Real wages in nineteenth and twentieth century Europe. Historical and comparative perspectives* (New York – Oxford – Munich, 1989).

13. At the time of writing, its most recent outcome has been the appearance of Feinstein's real wage index for Britain between 1770 and 1882, where the author is well aware of the technical criticisms that have been made of previous indices and which is probably more robust than its predecessors: Charles H. Feinstein, 'Pessimism perpetuated: real wages and the standard of living in Britain during and after the industrial revolution', *Journal of Economic History*, 58 (1998), pp. 625–58. This is unapologetically quantitative.
14. E.g., Olivier Marchand and Claude Thélot, *Le travail en France (1800-2000)*, s.l., 1997, pp. 155–172, use the work by Jean Lhomme ['Le pouvoir d'achat de l'ouvrier français au cours d'un siècle 1840-1940', *Le Mouvement Social* 1968], pp. 41–70], who relied heavily on J. Kuczynski's contested estimates.
15. In the 1990s, the most innovative work was indeed no longer about Europe, but about a world-scale comparison; see, e.g., Jeffrey Williamson, 'Real wages, inequality and globalization in Latin America before 1940', *Revista de Historia Económica* (1999), pp. 101–42. For a pre-industrial European comparative perspective, see Jan Luiten Van Zanden, 'Wages and the standard of living in Europe, 1500 – 1800', *European Review of Economic History* (1999), pp. 175–97.
16. E.g., J.-M. Chanut, J. Heffer, J. Mairesse and G. Postel-Vinay, 'Les disparités de salaires en France au XIXe siècle', *Histoire et Mesure*, 10, (1995), pp. 381–409; Edward H. Hunt, *Regional wage variations in Britain 1850–1914* (Oxford, 1973) was a particularly early example.
17. For example, Nick Crafts, an eminent contributor to the debate on real wages up to the early 1990s, concluded in 1997 that it was necessary 'to move beyond real wages'; Nicholas Crafts, 'Some dimensions of the 'quality of life' during the British industrial revolution', *Economic History Review* (1997), p. 617. See, too, François Crouzet, 'Les niveaux de vie en Europe à la fin du XVIIIe siècle: l'apport qualitatif', in B. Etamad, J. Batou and T. David (eds), *Pour une histoire économique et sociale internationale. Mélanges offerts à Paul Bairoch* (Genève, 1995), pp. 137–67.
18. With regard to early modern labour relations, e.g., this shift was emphasised in the collection of essays edited by Catharina Lis, Jan Lucassen & Hugo Soly, *Before the unions. Wage earners and collective actions in Europe, 1300-1850*, *International Review of Social History*, Supplement 2 (Amsterdam, 1994).
19. E.g., Michael Sonenscher, *Work and wages. Natural law, politics and the eighteenth-century French trades* (Cambridge, 1989).
20. E.g., Leonard Schwarz, *London in the age of industrialisation* (Cambridge, 1992), pp. 161–8.
21. E.g., Henny Gooren and Hans Heger, *Per mud of bij de week gewonnen. De ontwikkeling van beloningssystemen in de Groningse landbouw, 1800-1914* (Groningen, 1993), pp. 19–79; Reith, *Lohn und Leistung*, pp. 48–54.
22. It is a great pleasure to thank the commentators who not only gave a manifest surplus value to the debates in Les Treilles, but who also inspired greatly the authors of the papers as well as the editors: Ad Knotter (Maastricht), Henny Gooren (Nijmegen), Pat Hudson (Cardiff), Gilles Postel-Vinay (Paris), Iori Prothero (Manchester), Carmen Sarasua (Barcelona).
23. The Phelps Brown and Hopkins series run between the thirteenth and the twentieth centuries, see Henry Phelps Brown and Sheila Hopkins, *A perspective of wages and prices* (London, 1981), which includes most of the original papers published in the 1950s.
24. Donald Woodward, 'Wage rates and living standards in pre-industrial England', *Past and Present* (1981), pp. 28–45. See too, Donald Woodward, *Men at work: labourers and building craftsmen in the towns of northern England, 1450-1750* (Cambridge, 1995).
25. E.g., Martin Daunton, *Progress and poverty. An economic and social history of Britain, 1700-1850* (Oxford, 1995), p. 421 (chapter 16 is significantly labelled 'The standard of living and the social history of the wage').
26. Chris Tilly and Charles Tilly, *Work under capitalism* (Boulder, 1998), chapter 2 (Worlds of work).

27. See, e.g., Robert Castel, *Les métamorphoses de la question sociale. Une chronique du salariat* (Paris, 1995), pp. 109–22.
28. Stressed by, among others, Schwarz, London in the age of industrialisation, pp. 165–6.
29. In view of the criticisms by P. van den Eeckhout (‘Wage formation: some more problems’, in Scholliers, *Real wages*, pp. 40–47) it might be safer to limit this comment to ‘money wage labour’, but this begs the question of this book.
30. According to Ricardo, habit and custom contributed to the workers’ consumption norm, which in turn influences wages: David Ricardo, *On the principles of political economy and taxation* (ed. R.M. Hartwell, Harmondsworth, 1971 – orig. 1817), pp. 118–9.
31. Later, ‘wage rigidity’ and ‘wage stickiness’ have been put within the concept of the ‘efficiency wage’, which directly links (high) wages to (high) productivity: see, e.g., Pierre Cahuc and André Zylberberg, *Economie du travail. La formation des salaires et les déterminants du chômage* (Paris – Brussels, 1996), pp. 180–227.
32. Phelps Brown and Hopkins, *A perspective of wages and prices*, p. 8.
33. E.H. Phelps Brown and M.Browne, *A century of pay. The course of pay and production in France, Germany, Sweden, the United Kingdom and the United States of America, 1860–1960* (London – New York, 1968), pp. 151–2.
34. In this volume, Reith summarises the critiques. For Holland between 1500 and 1620, Jan de Vries and Ad Van der Woude found rapidly rising wages and highly fluctuating wage differentials; yet, some wage rates remained unchanged for two hundred years between 1600 and 1800 (*The first modern economy* (Cambridge, 1997), pp. 609–19). The wages paid to seventeenth-century London building workers have been examined in detail by Boulton: the *modal* wage rate does indeed show elements of long-term stability (though not usually for more than two or three decades), but there was a large variation around the mode. To some extent, therefore, the stability of building wage rates is a statistical creation of historians seeking to find patterns in the mass of data: J. Boulton, ‘Wage labour in seventeenth-century London’, *Economic History Review* (1996), pp. 275–83. The tradition of seeking the mode has been particularly strong in England; compare with, for instance, the work on Germany and Belgium: M.J. Elsass, *Umriss einer Geschichte der Preise und Löhne in Deutschland* (Leiden, 1936–49); H.J. Gerhard, *Löhne in vor-und frühindustriellen Deutschland* (Göttingen, 1984); C. Verlinden, J. Craybeckx and E. Scholliers (eds), *Documents pour l’histoire des prix et des salaires en Flandre et le Brabant*, esp. volume 2 (Brussels, 1965). It is fair to note that during the last thirty years even English scholars have been pointing to the dispersion around the mode: see the references in Leonard Schwarz, ‘The formation of the wage: some problems’, in Scholliers, *Real wages*, n.29.
35. Sonenscher, *Work and wages*, chapter 6 (the quotation on p.206).
36. John Rule, *The labouring classes in early industrial England 1750-1850* (London – New York, 1991), p. 116.
37. E. P. Thompson, ‘The moral economy reviewed’ in E. P. Thompson (ed.), *Customs in Common* (London, 1991), pp. 337–41; W. Reddy, *The rise of market culture* (Cambridge, Mass., 1984), pp. 331–4. Thompson was more than half persuaded by Adrian Randall, ‘The industrial moral economy of the Gloucestershire weavers in the eighteenth century’, in J. Rule (ed.), *British Trade Unionism 1750-1850. The Formative years* (London, 1988), pp. 29–51.
38. P. Linebaugh, *The London hanged: crime and civil society in the eighteenth century* (London, 1991) has been much criticised by reviewers, but it is almost unique in recognising the divisive power of a money wage. Linebaugh’s stress on the 1790s as a pivotal decade for the advance of the money wage in London is also debatable, but the impact of the inflation of that decade on social relations remains to be fully studied.
39. Pam Sharpe, ‘The female labour market in English agriculture in the industrial revolution: expansion of contraction?’, *Agricultural History Review*, 47:3 (1999), pp.11–81.
40. John Rule, ‘Industrial disputes, wage bargaining and the moral economy’ in A.J. Randall and A. Charlesworth (eds), *Moral economy and popular protest: crowds, conflict and authority* (Basingstoke, 1999), pp.166–86.

41. A. J. Randall and A. Charlesworth, 'The moral economy: riot, markets and social conflict' in A. J. Randall and A. Charlesworth (eds), *Moral economy and popular protest*, p. 17 (their italics).
42. The defensive communitarian rhetoric is particularly in evidence when de-industrialisation threatens vital regional employment in coal, steel, cars, etc.
43. Craig Muldrew, *The economy of obligation: the culture of credit and social relations in early modern England* (London, 1998); John Styles, '“Our traitorous moneymakers”: the Yorkshire coiners and the law, 1760–83', in J. Brewer and J. Styles (eds), *An ungovernable people: the English and their law in the seventeenth and eighteenth centuries* (New Brunswick, 1980).
44. Angela Redish, *Bimetallism: an economic and social analysis* (Cambridge, 2000), pp. 149–58, 167–89. See also L. Dermigny, 'Une carte monétaire de la France', *Annales ESC*, 19 (1955), p. 481: the figures given above omit the recoinage of 1786: if this is included the copper currency was worth only 0.2 % of the combined gold and silver but weighed 30 %.
45. de Vries and van der Woude, *The First Modern Economy*, pp. 87–90.
46. Malcolm Crook, *Toulon in war and revolution* (Manchester, 1991), pp. 47, 95.
47. Robert G. Davis, 'Venetian shipbuilders and the fountain of wine', *Past and Present*, 156 (1997), pp. 55–86.
48. Steven King, *Poverty and welfare in England 1700-1850. A regional perspective* (Manchester, 2000), pp. 59, 118.
49. This is a suitable point to warn about any attempts to draw a direct comparison between M. Huberman and P. Van den Eckhout: textile workers form only a minority of the Ghent database.
50. Hobsbawm, 'Custom, wages and work-load', p. 360.
51. 'We know so little about systems of management and wage payment that it is dangerous to generalize about them, especially in view of the incredible complexity of the industrial scene', Hobsbawm, 'Custom, wages and work-load', p. 357.
52. Gooren and Heger, *Per mud of bij de week gewonnen*, p. 2.
53. Reith, *Lohn und Leistung*, p. 29.
54. Rule, *The labouring classes*, p. 121; Hobsbawm, 'Custom, wages and work-load', p. 349.
55. Significantly, historians have to refer to 'classics' of labour economics, such as David Schloss, *Methods of industrial remuneration* (London, 1898); Maurice Dobb, *Wages*; Tom Lupton (ed.), *Payment systems* (Harmondsworth, 1972); Angela Bowey (ed.), *Handbook of salary and wage systems* (Aldershot, 1982).
56. Robert Duplessis, *Transitions to capitalism in early modern Europe* (Cambridge, 1997), pp. 267–8.
57. Rule, *The labouring classes*, p. 126.
58. This is illustrated with regard to the Antwerp port labour by Harald Deceulaer, 'Arbeidsregulering en loonvorming in de Antwerpse haven, 1585 – 1796', *Tijdschrift voor sociale geschiedenis* (1992), pp. 29–31.
59. Hobsbawm, 'Custom, wages and work-load', pp. 356–61.
60. Peter Scholliers, 'L'identité des ouvriers-mécaniciens gantois au XIXe siècle', *Histoire, Economie et Société* (1987), pp. 96–7.
61. E.g., Patrick Fridenson, *Histoire des usines Renault. 1. Naissance de la grande entreprise 1898-1939* (Paris, 1972), pp. 38-9, 77.
62. Schmoller, 'Le mouvement historique', p. 13.
63. Sonenscher, *Work and wages*, p. 194.
64. Jan de Vries, 'An employer's guide to wages and working conditions in the Netherlands, 1450–1850', in Carol Leonard & B. Mironov (eds), *Hours of work and means of payment: the evolution of conventions in pre-industrial Europe* (Milan, 1994), p. 56.
65. Schwarz, *London in the age of industrialisation*, p. 164.
66. Schwarz, 'The formation of the wage', p. 37.
67. Duplessis, *Transitions to capitalism*, p. 20.
68. Evidently, wage differences between men and women were well known right from the beginning of the wage research; yet, this did not form a great concern. For instance, in

- a survey on the German working classes, the general wage development in the textile industry was rightly seen as 'inadequate' because of the steadily growing proportion of women; hence, female wages were neglected [W. J. Ashley, *The progress of the German working classes in the last quarter of the century* (London, 1904), pp.96–100].
69. E.g., Donald Cox and John V. Nye, 'Male-female wage discrimination in nineteenth-century France', *Journal of Economic History* (1989), p. 903.
 70. Joyce Burnette, 'An investigation of the female-male wage gap during the industrial revolution in Britain', *Economic History Review* (1997), 257–281.
 71. Corrie van Eijl, *Het werkzame verschil. Vrouwen in de slag om de arbeid, 1898–1949*, (Hilversum, 1994), p. 308.
 72. Sara Horell and Jane Humphries, 'Old questions, new data, and alternative perspectives: families' living standards in the industrial revolution', *Journal of Economic History* (1992), pp. 849–80.
 73. Peter Scholliers, 'Family income, needs, and mother's wages. A critical survey of working-class budget inquiries in Belgium, 1853–1929', in Toni Pierenkemper (ed.), *Zur Ökonomik des Privaten Haushalts* (Frankfurt – New York, 1991), p. 169.
 74. Joel Mokyr, 'Is there still life in the pessimist case? Consumption during the industrial revolution, 1790–1850', *Journal of Economic History* (1988), p. 88.
 75. Jan de Vries, 'Between purchasing power and the world of goods: understanding the household economy in early modern Europe', in J. Brewer and R. Porter (eds), *Consumption and the world of goods* (London, 1993), p. 85–125.
 76. For a view of the debate, see, e.g., Colin Creighton, 'The rise of the male breadwinner family: a reprisal', *Comparative Studies in Society and History* (1996), pp. 310–37.
 77. E.g., Michael Haines, 'Industrial work and the family life cycle, 1889–1890', in P. Uselding (ed.), *Research in economic history* (1979), pp. 289–356; Patricia van den Eeckhout, 'Family income of Ghent working-class families, c. 1900', *Journal of Family History* (1993), pp. 87–110.
 78. Elyce Rotella and George Alter, 'Working class debt in the late nineteenth-century United States', *Journal of Family History* (1993), pp. 111–34; Sara Horrell and Jane Humphries, 'The exploitation of little children: child labor and the family economy in the industrial revolution', *Explorations in Economic History* (1995), pp. 485–516.
 79. E.g., Louis Varlez, *Les salaires dans l'industrie gantoise. 1. Industrie cotonnière* (Brussels, 1901), pp. 80–1 (presenting the wage of female and male cotton workers whose ages ranged from 13 to over 70).
 80. Dudley Baines and Paul Johnson, 'The labor force participation and economic well-being of older men in London, 1929–1931', in Timothy Guinane, Paul Johnson and Clara E. Nuñez (eds), *The microeconomic analysis of the household and the labour market, 1880–1939* (Seville, 1998), pp. 125–35.