

Working together: new directions in global labour history*

Leo Lucassen

Q1 International Institute for Social History, Cruquiusweg 31, 1019AT Amsterdam, The Netherlands
E-mail: leo.lucassen@iisg.nl

Abstract

The aim of this article is to show the added value of global history that puts labour and labour relations as independent variables in the centre and uses structured long-term data by collaborating closely with historians in various parts of the world. The first part focuses primarily on the global labour relations approach, within the broader debate on social inequality and migration. The second part illustrates the potential of labour as an independent variable by reflecting on recent innovative work pertaining to labour-intensive industrializations in East Asia and Europe. The third part employs the perspective of migration to show the interrelated nature of labour relations and labour. Using the insights from the global labour relations approach and by taking labour seriously, the article will help to address core questions in labour history in a more structural way: why has work been valued and compensated in very different ways over the past five centuries? And how have people individually or collectively influenced these conditions? To find answers, it is crucial to make use of standardized empirical data, structured global comparisons, and more intensive collaborations.

Keywords big data, labour, labour relations, migration, skills, social inequality

Introduction

In 2014 Jo Guldi and David Armitage published their *History manifesto*, in which they make a strong and convincing plea for the relevance of history and the humanities at large.¹ They warn against what they call ‘short-termism’ of politicians and media who are blind to long-term developments and historical path dependencies, as if civilization started only yesterday and history has no bearing on the present or the future. I fully support their passionate argument, but I am not sure how new the problem is that they signal, nor whether the *longue durée* is really out of fashion.² Let me limit myself to two examples: Thomas Piketty’s stellar hit *Capital*

* I thank Ulbe Bosma, Tamira Combrink, Ewout Frankema, Marjolein ’t Hart, Manon van der Heijden, Karin Hofmeester, Gijs Kessler, Jaap Kloosterman, Marcel van der Linden, Jan Lucassen, Patrick Manning, David Mayer, Elise van Nederveen Meerkerk, Matthias van Rossum, Christian de Vito, Henk Wals, Jan Luiten van Zanden, Pim de Zwart, and the editors and anonymous readers of this *Journal* for their comments on an earlier version.

1 J. Guldi and D. Armitage, *The history manifesto*, Cambridge: Cambridge University Press, 2014.

2 The authors pay little attention to the field of social and economic history. See also the critique in *Annales: histoire, sciences sociales*, 70, 2, 2015, esp. Christian Lamouroux, ‘Longue durée et profondeurs chronologiques’, *Annales*, 70, 2, 2015, pp. 359–65.

in the twenty-first century, in which he analyses the development of social inequality over two hundred years, and Daron Acemoglu and James A. Robinson's *Why nations fail*, in which they try to explain current differences in wealth and governance between countries by going back half a millennium.³

Within global social and economic history, the long term definitely has become the norm. This is also true for labour history, which in the last decade has not only globalized but also fully embraced the early modern period. In particular, the focus on the worldwide diffusion of people, goods, and ideas since 1500 has invigorated the field considerably.⁴ This article concentrates on global labour relations and labour as an independent variable and argues that, with the 'global turn', we find ourselves at the beginning of a new journey that can deepen our knowledge and insights significantly.

For this journey we need to be well equipped, because going global has its pitfalls. We are all limited in our language skills and hence in systematically comparing world regions empirically. Furthermore, the concepts and approaches that we use inevitably result from certain cultural and political traditions and easily lead to cultural and geographic biases, of which Eurocentrism is only one (albeit the most discussed) example. To meet these challenges historians and other humanities scholars can draw inspiration from the (hard) sciences: identify shared problems, formulate clear questions, and find answers through intensive global empirical collaboration. One of those shared problems in the fields of social and labour history is that of social inequality (in terms of unequal access to social, economic, and political resources) and the limited understanding of the underlying dynamics. When we approach this issue from the perspective of global labour, then the following questions surface: how has work changed and why has it been valued and compensated in very different ways over the past five centuries? Why do people's working conditions vary so widely, from slavery to well-paid wage labour? And how can people individually or collectively influence these conditions? This article will not answer these questions directly, but it offers a conceptual and organizational framework that allows us to gather data much more systematically, proposing shared meso-level ontologies and typologies that are sensitive to the specific historical context, while still making sense at both the micro and the macro level.⁵

Once definitions and taxonomies are amply discussed and accepted, they can be used to build joint databases ('collaboratories', henceforth abbreviated to 'collabs'), to which scholars from all parts of the globe can contribute. Such an approach stimulates fruitful and long-lasting collaborations between scholars worldwide and can thus overcome the often lamented (cultural and linguistic) barriers that separate researchers in the broad field of long-term social

3 T. Piketty, *Capital in the twenty-first century*, Cambridge, MA: Harvard University Press, 2014; D. Acemoglu and J. A. Robinson, *Why nations fail: the origins of power, prosperity and poverty*, London: Profile Books, 2012, although, given their determinist assumptions, one might argue that the latter study is to some extent 'ahistorical'.

4 M. van der Linden and J. Lucassen, *Prolegomena for a global labour history*, Amsterdam: IISH, 1999; J. Lucassen, ed., *Global labour history: a state of the art*, Bern: Peter Lang, 2006; M. P. Hanagan, 'An agenda for transnational labor history', *International Review of Social History*, 49, 3, 2004, pp. 455–74; M. van der Linden, *Workers of the world: essays toward a global labor history*, Leiden and Boston, MA: Brill, 2008; M. van der Linden, 'The promise and challenges of global labor history', *International Labor and Working-Class History*, 82, Fall 2012, pp. 52–76; J. Lucassen, *Outlines of a history of labour*, Amsterdam: IISH Research Paper 51, Amsterdam, IISH, 2013; G. Austin and K. Sugihara, eds., *Labour-intensive industrialization in global history*, Abingdon: Routledge, 2013.

5 On the limits of macro approaches and the importance of micro studies in global labour history, see C. G. de Vito, 'New perspectives on global labour history: introduction', *Workers of the World*, 1, 3, 2013, pp. 7–31.

and economic developments. The aim of this article is to show the added value of a type of global history that puts labour relations and labour as an independent variable in the centre and that uses structured long-term data by collaborating closely with historians in various parts of the world. Thus, in the first part I will focus primarily on the global labour relations approach, within the broader debate on social inequality and migration. In the second part I will illustrate the potential of labour as an independent variable by using recent work on labour-intensive industrializations within the Great Divergence debate. Finally, in the third part, I will use the perspective of migration to show the interrelated nature of labour relations and labour as an independent factor.

Global labour relations

Instead of discussing the various directions that global labour history has taken since the 1980s this article limits itself to a specific approach for comparative empirical research. The centre-piece is a universal taxonomy of labour relations, which aims to map different kinds of labour relations in various world regions in the period 1500–2000. The taxonomy of this collab, created at the Research Department of the International Institute of Social History in 2007, basically distinguishes between four types of labour: non-work, reciprocal labour, tributary labour, and commodified labour, either connected with the household, the community, or the market (see Figure 1).⁶ This bedrock is further elaborated in nineteen different labour relations at the individual level.⁷ Moreover, the dataset can also capture combinations of labour relations, which were widespread, as illustrated by studies on seasonal migration and work cycles, ‘economies of make shift’, proto-industry, and ‘penny capitalists’.⁸

The aim of this taxonomy is to serve as a guiding principle to build a global dataset that can be used to answer a range of questions that focus on labour conditions, remuneration, power relations, and levels of coercion, as well as on the individual and collective agency of workers.⁹ By mapping labour relations in various parts of the world, we can identify important shifts from one type of dominant labour relations to another: for example, shifts from tributary to

6 The collab is at present run by Karin Hofmeester, Jan Lucassen, Richard Zijdeman, and Rombert Stapel and collaborates with researchers in other parts of the world, among whom are Paolo Teodoro de Matos, Raquel Varela *et al.* (Portugal and colonies), Dmitry A. Khitrov and Gijs Kessler (Russia), Marcelo Badaró Mattos, Tarcisio Botelho *et al.* (Brazil), Rosanna Baragan (Bolivia), Filipa Ribeiro da Silva, Jelmer Vos, Gareth Austin, Shiferaw Bekele *et al.* (Africa), Hülya Çanbakal, Erdem Kabadayı *et al.* (Turkey), Shireen Moosvi (India), and Christine Moll-Murata (Far East). For joint publications see, among others, Karin Hofmeester and Christine Moll-Murata, eds., *The joy and pain of work: global attitudes and valuations, 1500–1650*, *International Review of Social History*, 56, special issue 19, 2011; Marcelo Badaró Mattos *et al.*, eds., *Relações laborais em Portugal e no mundo lusófono. História e demografia*, Lisbon: Edições Colibri, 2014; and K. Hofmeester and Filipa Ribeiro da Silva, eds., ‘Labor history in Africa’, *History in Africa: A Journal of Method*, 41, 2014, pp. 249–386.

7 ‘Labour relations worldwide: the taxonomy of the global collaboratory on the history of labour relations’, https://collab.iisg.nl/c/document_library/get_file?p_l_id=273223&folderId=277142&name=DLFE-197301.pdf (consulted 9 November 2015). See also Hofmeester and Moll-Murata, *Joy and pain of work*, pp. 5–7.

8 J. Lucassen, *Migrant labour in Europe, 1600–1900: the drift to the North Sea*, London: Routledge, 1987; O. Hufton, *The poor of eighteenth-century France 1750–1789*, Oxford: Oxford University Press, 1974; J. Benson, *The penny capitalists; a study of nineteenth-century working-class entrepreneurs*, New Brunswick, NJ: Rutgers University Press, 1983; A. Smart and J. Smart, *Petty capitalists and globalization. Flexibility, entrepreneurship, and economic development*, New York: State University of New York Press, 2005.

9 The collab is also interested in how contemporaries perceived and valued labour and work (Hofmeester and Moll-Murata, *Joy and pain of work*; see also C. Lis and H. Soly, *Worthy efforts: attitudes to work and workers in pre-industrial Europe*, Leiden and Boston, MA: Brill, 2012), but the primary focus is on concrete labour relations.

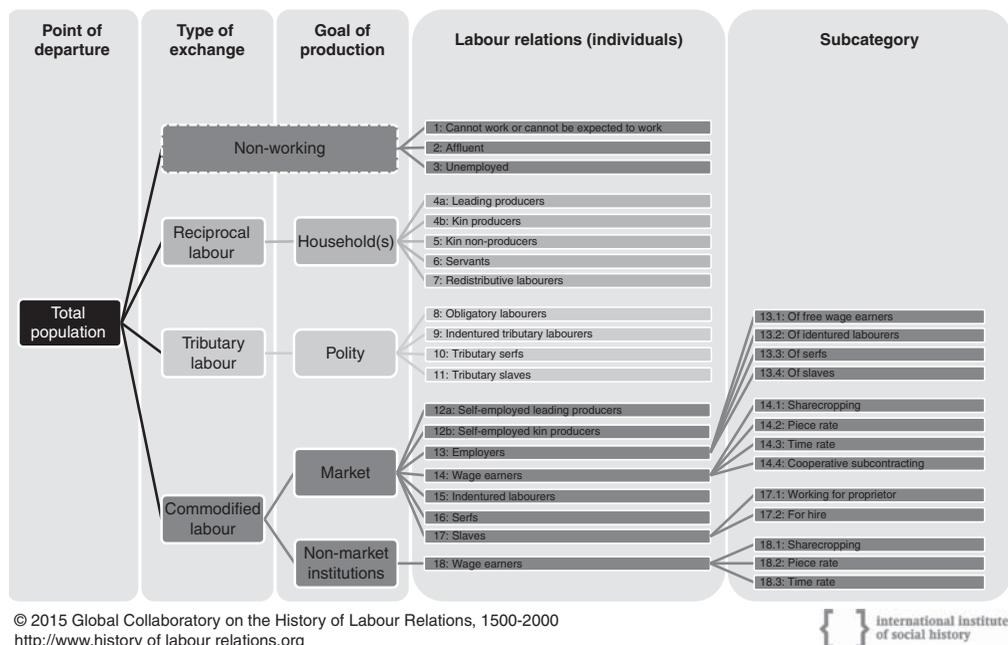


Figure 1. Taxonomy of global labour relations.

wage labour, increases and decreases in slave labour, the intensification of labour efforts within households owing to the increased labour market participation of women, and the flexibilization of labour contracts.¹⁰ To discover, compare, and explain such shifts and trends, the collab has provisionally concentrated on five cross-section years: (1500, 1650, 1800, 1900, and 2000 (with the addition of 1950 for Africa). Although we need much more data on labour relations before the nineteenth century, some general contours are becoming visible, as Karin Hofmeester and Christine Moll-Murata indicated in 2011: ‘we can conclude that while peasant self-subsistence was still the rule in most regions, commodified labour increased in the cities of Europe and South and East Asia, and also in the colonial empires of South America, varying from free wage labour to chattel slavery’.¹¹ The systematic collection of standardized

10 On women in the labour market, see Lucassen, *Outlines*, p. 28; this situation is, of course, not new: see J. de Vries, *The industrious revolution: consumer behavior and the household economy, 1650 to the present*, Cambridge: Cambridge University Press, 2008. On flexibilization, see D. Weil, *The fissured workplace: why work became so bad for so many and what can be done to improve it*, Cambridge, MA: Harvard University Press, 2014.

11 Hofmeester and Moll-Murata, *Joy and pain of work*, p. 20. On slavery in Asia, see e.g. S. Arasaratnam, ‘Slave trade in the Indian Ocean in the seventeenth century’, in K. S. Mathew, *Mariners, merchants and oceans: studies in maritime history*, New Delhi: Manohar Publications, 1995, pp. 195–208; L. Chatterjee and M. R. Eaton, eds., *Slavery and South Asian history*, Bloomington, IN, and Indianapolis, IN: Indiana University Press, 2006; M. Mann, *Sahibs, Sklaven und Soldaten. Geschichte des Menschenhandels rund um den Indischen Ozean*, Darmstadt: Verlag Philipp von Zabern, 2012. The more economic-oriented Clio-Infra databank, which also uses the cross-section years to map economic growth in relation to a number of key indicators of wellbeing, has given the labour relations collab an extra boost. See J. L. Van Zanden, J. Baten, M. Mira d’Ercole, A. Rijppma, C. Smith, and M. Timmer, *How was life? Global well-being since 1820*, Geneva and Amsterdam: OECD Publishing and IISH, 2014.

data worldwide in the period 1500–2000 has led to increasing collaboration with colleagues from all world regions, especially in the Global South.

Instructive examples of the added value of the explicit application of the global labour relations collab approach are shifts in Russia (seventeenth and eighteenth centuries) and Angola (nineteenth and twentieth centuries). When we explicitly compare labour relations in Russia between 1678 and 1795 we observe that at both moments by far the most people were engaged in reciprocal (or subsistence) labour. This is not in itself surprising for a peasant society characterized by institutionalized serfdom, but by including second and third labour relations *within* ‘reciprocal labour relations’ we can observe a significant increase of the combination of subsistence and commodified labour, especially through seasonal waged labour in agriculture and industry (such as brickmaking). Thus in 1795 over 3 million peasants (11.4%) combined wage work with farming. This shows that serfdom and peasant labour migration were by no means incompatible and that Russian society was more dynamic than often perceived, whereas the importance of tributary labour decreased.¹² That the increase in commodified labour is by no means linear is illustrated by the example of Angola, where the trend towards labour commodification, stimulated by nineteenth-century trade and colonial rule, was reversed in the decades following independence. At the beginning of the twenty-first century wage labour had decreased, while subsistence farming had returned and the majority of the urban population tried to survive by self-employment in the informal economy.¹³ The shifts in these two examples are both vertical (caused by external, political, factors) and horizontal in nature. The latter, the aggregate result of numerous individual decisions, is understudied and explains the often gradual transition from one type of labour relation to another.¹⁴

The collab provides a solid base from which to analyse shifts in labour relations over time within societies. A next step is to add more contextual information, such as labour productivity, wages, skills, and the nature of the labour contract, which has consequences for the income, status, and bargaining power of workers, both at individual and collective levels.¹⁵ Especially for the category of wage-earners these layers increase the value of the collab approach. Roughly we can distinguish four different outcomes (Figure 2), which mirror the major socioeconomic divisions. Position 1 includes political (and symbolic) jobs, including that of modern constitutional monarchs, who are under high social pressure to do this kind of work, but also refers to professionals in whom institutions have invested with the intention of using their skills. In return the workers are legally obliged to work for that (market or non-market) institution for a certain period of time.¹⁶ Position 2 concerns highly skilled

12 G. Kessler, ‘Wage labor and the household economy: a Russian perspective, 1600–2000’, in M. van der Linden and L. Lucassen, eds., *Working on labor: essays in honor of Jan Lucassen*, Leiden: Brill, 2012, pp. 360–1.

13 J. Vos, ‘Work in times of slavery, colonialism, and civil war: labor relations in Angola from 1800 to 2000’, *History in Africa*, 41, 2014, pp. 363–85.

14 Lucassen, *Outlines*, pp. 14–15.

15 ‘Contract’ is broadly defined here, including that between ‘owner’ and ‘slaves’. For other distinctions, e.g. between individual and collective strategies and remuneration, see U. Bosma, E. van Nederveen, and A. Sarkaer, eds., *Mediating labour: worldwide labour intermediation in the nineteenth and twentieth centuries*, *International Review of Social History*, 57, special issue, 20, 2012; G. Kessler and J. Lucassen, ‘Labour relations, efficiency and the Great Divergence: comparing pre-industrial brick-making across Eurasia, 1500–2000’, in Maarten Prak and Jan Luiten van Zanden, eds., *Technology, skills and the pre-modern economy in the east and the west*, Leiden and Boston, MA: Brill, 2013, pp. 259–322.

16 Think, for example, of Russian engineers in the Soviet Union in secret (defence industry) cities. See L. Siegelbaum and L. P. Moch, *Broad is my native land: repertoires and regimes of migration in Russia’s twentieth century*, Ithaca, NY, and London: Cornell University Press, 2014, pp. 177–87.

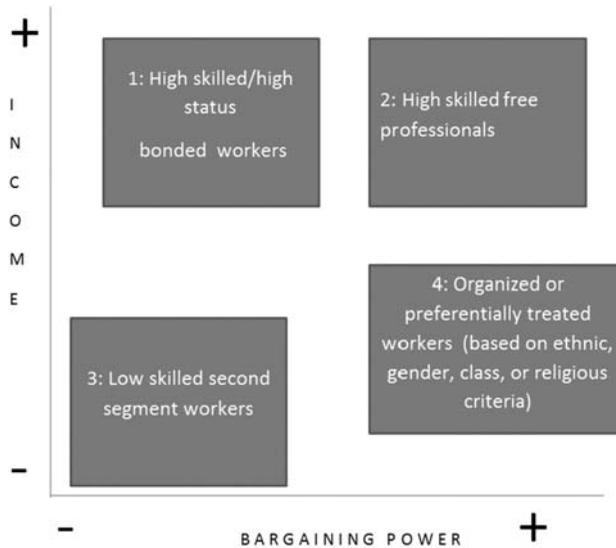


Figure 2. Social positions of wage earners on the basis of income (and status) and bargaining power.

professionals (such as bankers), who can offer their skills to whomever they like and some of whom can determine their own remuneration, uncorrected by market forces or otherwise.¹⁷ Position 3 represents workers in the second segment of the labour market with low wages and few opportunities to experience upward social mobility. Position 4, then, is dominated by low- (or medium-) skilled workers, whose wages and (limited) room for upward social mobility are the result of collective bargaining (through unions, for example) or of preferential treatment in societies where ascription (based on ethnicity, class, gender, or religion, or a mix of these categories) partly trumps meritocratic or egalitarian principles, as in apartheid South Africa or the southern states of the USA until the 1960s.¹⁸ Other examples include the present-day Gulf States, Malaysia, and the German welfare state under the Nazis, which passed hundreds of social security laws that were limited to those workers who fitted the racial Aryan category.¹⁹

A good example of a shift in labour relations that is directly related to the two dimensions in Figure 2 is the recent interest in the ‘precariat’ (a contraction of ‘precarious’ and ‘proletariat’) and the ‘fissured workplace’, which refers to subcontracting, franchising, and global supply chains.²⁰ The growing interest in the precarization of labour in western Europe and North America – a shift from well-paid and stable wage jobs to makeshift mini jobs, either for wages

17 Piketty, *Capital*.

18 S. B. Greenberg, *Race and state in capitalist development: comparative perspectives*, New Haven, CT, and London: Yale University Press, 1980; P. Kolchin, *Unfree labor: American slavery and Russian serfdom*, Cambridge, MA: Harvard University Press, 1987; G. M. Fredrickson, *The comparative imagination: on the history of racism, nationalism, and social movements*, Berkeley, CA: University of California Press, 1997.

19 P. Fargues, ‘Immigration without inclusion: non-nationals in nation-building in the Gulf States’, *Asian and Pacific Migration Journal*, 20, 3–4, 2011, pp. 273–92; G. Aly, *Hitler’s beneficiaries: plunder, racial war, and the Nazi welfare state*, New York: Henry Holt, 2006.

20 G. Standing, *The precariat: the new dangerous class*, London: Bloomsbury Academic, 2012; Weil, *Fissured workplace*.

or as self-employed – reflects the need to understand and explain the growth of (high- and low-skilled) workers without job security, with low incomes, and with little or no social security.²¹

Adding agency dimensions to the labour relations approach forces us to look more closely at what certain types of labour relations mean for people’s day-to-day lives.²² The conditions under which wage-earners work, for example, may be very similar to those of indentured workers, which means that applying the taxonomy too rigidly can obscure important similarities between taxonomic different categories. It is important, therefore, to be aware of transcending resemblances; in the words of Alessandro Stanziani, comparing Russia and England between 1780 and 1850: ‘Servants, wage earners, the poor, criminals, slaves, and serfs all had to respond to common general principles of utility and efficiency.’²³ A good example is the agency of Indian indentured workers within the British colonial empire, who used the demand for labour to challenge the rule of capital and benefited from transoceanic networks of communication to decide where to go (for example, Mauritius or Trinidad) or return after their contract.²⁴

Labour relations and social inequality

However, labour relations worldwide – as well as labour as such – should not be studied within the confines of (global) labour history alone, as they will gain depth and relevance when linked to broader debates on social inequality in the long run. So far this theme has been successfully put on the research agenda by historians, archaeologists, institutional (historical) economists, political scientists, and macro-sociologists, recently joined by economists such as Thomas Piketty and Anthony Atkinson.²⁵ In their approaches, however, labour is either absent or treated as an unproblematic factor of production (alongside capital and land) and as such plays a marginal role in the analysis, except for human capital and skill formation.²⁶

21 Standing, *Precariat*; for a thorough critique of this work, see R. Seymour, ‘We are all precarious: on the concept of the “precariat” and its misuses’, *New Left Project*, 2012, http://www.newleftproject.org/index.php/site/article_comments/we_are_all_precarious_on_the_concept_of_the_precariat_and_its_misuses (consulted 9 November 2015), and J. Breman, ‘A bogus concept?’, *New Left Review*, 84, November–December 2013, pp. 130–8. See also J. Breman and M. van der Linden, ‘Informalizing the economy: the return of the social question at a global level’, *Development and Change*, 45, 5, 2014, pp. 920–40.

22 For the subjective experience, see Hofmeester and Moll-Murata, *Joy and pain of work*. See also B. Maddison, ‘Labour commodification and skilled selves in late nineteenth-century Australia’, *International Review of Social History*, 43, 2, 1998, pp. 265–86.

23 A. Stanziani, ‘The travelling panopticon: labor institutions and labor practices in Russia and Britain in the eighteenth and nineteenth centuries’, *Comparative Studies in Society and History*, 51, 4, 2009, p. 732. See also the pioneering work of R. J. Steinfeld, *The invention of free labor: the employment relation in English and American law and culture, 1350–1870*, Chapel Hill, NC, University of North Carolina Press, 1991. In other parts of the world we similarly find many shades and modalities when it comes to the relation between labour contracts and labour relations, as is demonstrated in the case of freed persons in nineteenth- and early twentieth-century Brazil. See H. Espada Lima, ‘Freedom, precariousness, and the law: freed persons contracting out their labour in nineteenth-century Brazil’, *International Review of Social History*, 54, 2009, pp. 391–416; M. Badaró Mattos, ‘Experiences in common: slavery and “freedom” in the process of Rio de Janeiro’s working-class formation (1850–1910)’, *International Review of Social History*, 55, 2010, pp. 193–213; S. Chalhoub, ‘The precariousness of freedom in a slave society (Brazil in the nineteenth century)’, *International Review of Social History*, 56, 2011, pp. 405–39. For colonial West Africa, see B. Fall, *Social history in French West Africa: forced labor, labor market, women and politics*, Amsterdam and Calcutta: Sphis-CSSSC, 2002.

24 Y. Hurgobin and S. Basu, ‘“Oceans without borders”: dialectics of transcolonial labor migration from the Indian Ocean world to the Atlantic Ocean world’, *International Working Class History*, 87, 2015, pp. 7–26.

25 Acemoglu and Robinson, *Why nations fail*; I. Morris, *The measure of civilization: how social development decides the fate of nations*, Princeton, NJ: Princeton University Press, 2013; A.B. Atkinson, *Inequality: what can be done?*, Cambridge, MA: Harvard University Press; Piketty, *Capital*.

26 J. L. Van Zanden, *The long road to the industrial revolution: the European economy in a global perspective 1000–1800*, Leiden and Boston: Brill, 2009; Prak and van Zanden, *Technology*; Austin and Sugihara,

Labour relations are barely thematized, predominantly because – in the tradition of Adam Smith, Karl Marx, and Max Weber – they are seen as an effect of market forces. The focus of the institutionalist school, partly drawing on the work of Barrington Moore and Charles Tilly, is somewhat different and questions to what extent states and markets guarantee ‘open access’ to collective resources and institutions and further social mobility and civil society.²⁷ There is some intersection with labour relations when it comes to human capital, gender relations, and the functioning of guilds and unions, but this overlap is limited, not least because most institutional economic historical research is focused on western Europe.²⁸

Although the research on global labour has amply shown that labour relations matter in seeking to understand the key economic and social developments of the past five centuries, this insight has not yet influenced mainstream economic and social history. It is too easy, however, to blame economic historians for not integrating labour relations into their models. In order for that to happen, social historians should be much clearer about the causal connection between these relations and broader themes, and should start developing hypotheses that can ultimately be integrated into a middle-range theory in which labour relations function either as *explanans* or *explanandum* (in other words, as an independent/dependent variable) to explain social (in)equality.

To reach the goal of social equality two extra ingredients are required: individual attempts to better one’s lot, for example by changing jobs, migrating, or adjusting one’s reproductive behaviour; or collective attempts through social movements. Historical demography, comparative historical life-course studies, and migration history have all added greatly to our understanding of the ways in which people have tried to improve their situation and climb the social ladder, in Europe, the US, and Asia.²⁹ Moreover, the concept of collective action has proved to be very useful and applicable through time and space because it enables us to compare all kinds of formal and informal types of mobilization that implicitly or explicitly aim to change labour relations, ranging from loitering and gossiping ‘subalterns’³⁰ (‘weapons of the weak’) to members of trade unions, and from consumer and producer cooperatives to (left- and right-wing) political parties.³¹

Labour-intensive industrialization; J. Van Lottum, ‘Labour migration and economic performance: London and the Randstad, c. 1600–1800’, *Economic History Review*, 64, 1, 2011, pp. 1–20; J. Van Lottum and J. L. Van Zanden, ‘Labour productivity and human capital in the European maritime sector of the eighteenth century’, *Explorations in Economic History*, 53, 2014: pp. 83–100. See also P. Vries, *Escaping poverty: the origins of modern economic growth*, Vienna and Göttingen: V&R Unipress/ Vienna University Press, pp. 222–25.

27 D. C. North, J. J. Wallis, and B. R. Weingast, *Violence and social orders: a conceptual framework for interpreting recorded human history*, Cambridge: Cambridge University Press, 2009.

28 On guilds and unions, see M. Prak, C. Lis, J. Lucassen, and H. Soly, eds., *Craft guilds in the early modern Low Countries: work, power and representation*, Aldershot: Ashgate, 2006; J. Lucassen, T. de Moor, and J. L. van Zanden, eds., *The return of the guilds*, Cambridge: Cambridge University Press, 2009; C. Gerteis, *Gender struggles: wage-earning women and male-dominated unions in postwar Japan*, Cambridge, MA: Harvard University Press, 2009. An interesting exception to evolutionary, deterministic, and sweeping linear global long-term narratives on inequality is the careful archaeological study of K. Flannery and J. Marcus, *The creation of inequality: how our prehistoric ancestors set the stage for monarchy, slavery, and empire*, Cambridge, MA: Harvard University Press, 2012.

29 C. Lundh and S. Kuroso, *Similarity in difference: marriage in Europe and Asia, 1700–1900*, Cambridge, MA: MIT Press, 2014; N.O. Tsuya, F. Wang, G. Alter, and James Z. Lee, *Prudence and pressure: reproduction and human agency in Europe and Asia, 1700–1900*, Cambridge, MA: MIT Press, 2010; J. P. Ferrie, *Yankees now: immigrants in the antebellum U.S. 1840–1860*, New York: Oxford University Press, 1999.

30 I use the term ‘subalterns’ here more broadly than as defined by the (Gramscian-inspired) Indian school of subaltern studies, meaning people with very limited means to resist repression and unequal treatment from above. See V. Chaturvedi, ed., *Mapping subaltern studies and the postcolonial*, London and New York: Verso, 2000.

31 On collective action, see C. Tilly, *Social movements 1768–2004*, Boulder, CO, and London: Paradigm Publishers, 2004; C. Tilly, *Trust and rule*, New York: Cambridge University Press, 2005; C. Tilly, *Democracy*,

The results of these collective actions, however, were divided unequally. Whereas the position of workers in Europe, North (and partly South) America, Oceania, Japan, the Gulf, and to some extent the communist states of the Soviet bloc improved considerably from the end of the nineteenth century onwards, workers in other parts of the world were much less successful. In the Global South, low wages and often appalling work conditions and outright coercion increased or continued to prevail, in both the colonial and the postcolonial periods, and in fact have contributed to the prosperity of workers in societies where collective action was far more successful. In recent years, the transnational *histoire croisée* (entangled history) approach has started to address these relationships.³²

Piketty's *Capitalism in the twenty-first century* offers a good starting point for global labour history to showcase its potential. More fundamentally, it invites readers to sharpen their analytical tools and develop hypotheses in which labour relations and social movements play a pivotal role. Social movements and institutions, however, are only touched upon in Piketty's book, which is centred around the solid law that the average annual rate of return on capital (r) is larger than the rate of growth of the economy (g).³³ The ' $r > g$ law' implies that, in the long run, income from capital is always higher than that from labour and as a result social inequalities are bound to increase.

Piketty shows that this development was muted for a large part of the twentieth century (1914–80) by the two world wars, which led to the collapse of foreign portfolios and resulted in a very low savings rate.³⁴ This temporary decrease in the capital/income ratio masked the long-term underlying ' $r > g$ law'. Although Piketty acknowledges that social inequality can be diminished by political choices (social transfers and, more specifically, taxing wealth), he is not very optimistic in this regard and only pays scant attention to the role of social movements or the emergence of redistributive welfare states.³⁵

From a longer historical perspective, the research on workers' insurances and mutualities since the seventeenth century (as well as studies on social movements and strike activities) offers an important complement and a correction to the gloomy and uniform picture that surfaces from Piketty's theory.³⁶ Additional comparative historical studies are needed to

New York: Cambridge University Press, 2007; J. C. Scott, *Weapons of the weak: everyday forms of peasant resistance*, New Haven, CT: Yale University Press, 1985; J. C. Scott, *Domination and the arts of resistance: hidden transcripts*, New Haven, CT: Yale University Press, 1990; M. van der Linden and R. Price, eds., *The rise and development of collective labour law*, Bern: Peter Lang, 2000. On different forms of mobilization, see G. Esping-Andersen, *The three worlds of welfare capitalism*, Cambridge: Polity Press, 1990; D. King, *In the name of liberalism: illiberal social policy in the USA and Britain*, Oxford: Oxford University Press, 1999; C. Postel, *The populist vision*, Oxford and New York: Oxford University Press, 2007, ch. 7; Y. Moon, *Populist collaborators: the Ilchinhoe and the Japanese colonization of Korea, 1896–1910*, Ithaca, NY, and London: Cornell University Press, 2013.

32 M. Werner and B. Zimmermann, 'Histoire croisée: penser l'histoire croisée: entre empirie et réflexivité', *Annales: économies, sociétés, civilisations*, 58, 1, 2003, pp. 7–36; Van der Linden, *Workers of the world*, ch. 14.

33 Piketty, *Capital*, p. 25. Piketty is not the only economist deeply concerned with social inequality who nevertheless neglects the role of labour relations (with the exception of a paragraph on slavery, pp. 158 ff.). See also e.g. J. Drèze and A. Sen, *An uncertain glory: India and its contradictions*, Princeton, NJ: Princeton University Press, 2013.

34 Piketty, *Capital*, p. 148.

35 R. Wilkinson and K. Pickett, *The spirit level: why more equal societies almost always do better*, London: Allen Lane, 2009.

36 S. van der Velden, *Striking numbers: new approaches to strike research*, Amsterdam: IISH, 2012; M. van Leeuwen, 'Historical welfare economics in the nineteenth-century: mutual aid and private insurance for burial, sickness, old age, widowhood, and unemployment in the Netherlands', in B. Harris and P. Bridgen, eds., *Historical perspectives on charity and mutual aid: European and American experiences since 1800*, London: Routledge, 2007, pp. 89–130.

explain significant differences in social inequality between capitalist states such as the USA (Gini coefficient of 44 in 2,000) and the Netherlands (Gini of 32).³⁷ An obvious point where global labour historians might enter this discussion is to add labour relations and social movements to the equation and explain how these have had an impact on social inequality.

Furthermore, global labour history is well suited to test a number of Weberian (West–East) assumptions that drive many of the macro-sociological studies in the vein of Acemoglu and Robinson, North *et al.*, Putterman and Weil, Fukuyama, and Morris.³⁸ These studies all explain recent social development of countries and societies (expressed in the level of well-being,³⁹ meritocracy, democracy, equality, and social justice) by pointing to roots in the early modern period (or even earlier). They particularly stress the importance of institutional and relatively meritocratic ‘open access’ structures such as urban citizenship, education (and hence skill formation), and family systems that stimulate relative gender equality.⁴⁰ The problem, however, is that their explanations tend to be rather static and Eurocentric. As if the outcome was already determined around 1500 and no other pathway was conceivable.

Comparing labour relations worldwide offers a more contextual and dynamic way out, without getting caught up too deeply in ideological debates on Eurocentric templates.⁴¹ Comparing labour relations through time enables us to test in an empirical way hypotheses about the assumed differences between world regions. Additional measures of socioeconomic developments are (deep) monetization, skill formation, and social and geographic mobility, both in Europe and in other parts of the world in the last half millennium.⁴² The data and taxonomies developed in Clio Infra and the Global Labour collaborator have proved robust enough for such global comparisons.

Christine Moll-Murata’s work on China, which follows the collab methodology, is exemplary in this respect. It shows the relationship between state formation and shifting labour

37 Measured in the year 2000. See M. Moatsos, J. Baten, P. Foldvari, B. van Leeuwen, and J. L. van Zanden, ‘Income inequality since 1820’, in J. L. van Zanden *et al.*, eds., *How was life? Global well-being since 1820*, Geneva and Amsterdam: OECD and IISH, 2014, p. 206. See also D. Acemoglu and J. A. Robinson, ‘The rise and fall of general laws of capitalism’, December 2014, <http://economics.mit.edu/files/10302> (consulted 10 November 2015).

38 D. Acemoglu and J. A. Robinson, *Economic origins of dictatorship and democracy*, Cambridge: Cambridge University Press, 2006; Acemoglu and Robinson, *Why nations fail*; D. C. North, J. Wallis, and B. Weingast, *Violence and social orders: a conceptual framework for interpreting recorded human history*, Cambridge: Cambridge University Press, 2009; L. Putterman and D. N. Weil, ‘Post-1500 population flows and the long run determinants of economic growth and inequality’, *Quarterly Journal of Economics*, November 2010, pp. 1627–82; F. Fukuyama, *Origins of political order: from pre-human times to the French Revolution*, New York: Farrar, Strauss and Giroux, 2011; Morris, *Measure of civilization*.

39 This includes material living conditions, quality of life, and sustainability. See also van Zanden *et al.*, *How was life?*

40 North, Wallis, and Weingast, *Violence and social orders*. On urban citizenship, see L. Lucassen, ‘Population and migration’, in P. Clark, ed., *The Oxford Handbook of Cities in World History*, Oxford: Oxford University Press, pp. 664–82. Skill should be understood broadly and is not confined to formal training, either through guilds or education, but includes informal on-the-job training. Although such skill formation is more difficult to measure, it is far from impossible: see J. Benson, H. Gospel, and Y. Zhu eds., *Workforce development and skill formation in Asia*, London and New York: Routledge, 2013; van Lottum and van Zanden, ‘Labour productivity’. More specifically gendered analyses have made this point forcefully: see e.g. the highly interesting studies and observations in J. Sangster, ‘Making a fur coat: women, the labouring body, and working-class history’, *International Review of Social History*, 52, 2007, pp. 241–70.

41 D. Chakrabarty, *Provincializing Europe: postcolonial thought and historical difference*, Princeton, NJ: Princeton University Press, 2000; see also the critique by V. Chibber, *Postcolonial theory and the specter of capital*, London and New York: Verso, 2013.

42 Kessler and Lucassen, ‘Labour relations’. On deep monetization, see J. Lucassen, ‘Deep monetization, commercialization and proletarianization: possible links, India 1200–1900’, in Sabyasachi Bhattacharya, ed., *Towards a new history of work*, New Delhi: Tulika, 2014, pp. 17–55.

relations, a topic which in the Great Divergence debate has not received full attention.⁴³ Thus, after an expansion of wage labour in the sixteenth century, during the Qing dynasty small farmers became indebted and forms of unfree labour returned, leading to the sale of children and women as slaves. At the same time under the eight ‘banners’ of the Manchu’s tributary military labour grew. Commodified, wage, labour then increased at the end of the nineteenth century, but was radically reversed under Mao, only to reappear from the late 1970s onwards with Deng Xiaoping’s decision to liberalise the Chinese economy.⁴⁴

As Moll-Murata’s work demonstrates, not only economic developments but also prevailing asymmetric power relations are crucial to understanding shifts in labour relations. This is also true from a global perspective, especially as expressed in colonial relationships, and reminds us that more equal labour conditions in some parts of the world were often related to increasing exploitation elsewhere. At the same time, however, caution should be exercised to avoid making assumptions about the role of imperialism and the reduction of Asia and Africa to passive victims of core–periphery dynamics. Ravi Ahuja, Jairus Banaji, and others have severely criticized Marx’s description of the ‘Asiatic mode of production’ and have pointed out that, long before Western states penetrated Asian polities, processes of commercialization and the occurrence of wage labour were already present.⁴⁵ The question is to what extent and in what forms these were present, and whether the intensity, extensity, and impact differed from other regions in the world.

Within ‘the West’, changing economic structures have influenced labour relations, as is illustrated by the growth of single self-employed persons in European welfare states. According to some, this type of flexible self-exploitative labour leads to precarization and weakens social security.⁴⁶ What the long-term consequences of this development will be for workers is not clear, however, and calls for comparative research. According to Jeroen Touwen, who has analysed the institutional structure of the Dutch labour market from 1950 and compared this with other European countries, flexibilization is largely a reaction to increasing global competition, and does not necessarily have negative effects for workers.⁴⁷ He distinguishes between job insecurity (high chance of losing one’s job) and job instability, which is caused by labour market fluidity and means that people make more job switches. Whereas in the last decade or so some European countries have combined job insecurity and low fluidity (Belgium, Italy, and Portugal), others have had high job insecurity and high fluidity (Germany, the UK, Ireland, and Spain). The third variant displays low job insecurity and high fluidity (the Netherlands, Finland, and Denmark).⁴⁸

Changes in labour relations may also have positive effects for the people involved. The transition to wage labour in the North Atlantic in the last two centuries (assisted by collective action by labour unions) has raised living standards of workers and increased their share in the

43 An exception being Vries, *Escaping poverty*.

44 C. Moll-Murata, *State and crafts in the Qing dynasty (1644–1911)*, Tübingen: Habilitationsschrift, 2008; C. Moll-Murata, ‘China, Taiwan, Japan 1500–2000’, unpublished paper for ‘IISH Collaboratory Global Labour Relations 1500–2000’ conference, Amsterdam, May 2012.

45 R. Ahuja, ‘Labour relations in an early colonial context: Madras, c. 1750–1800’, *Modern Asian Studies*, 36, 4, 2002, pp. 793–832; J. Banaji, ed., *Theory as history: essays on modes of production and exploitation*, Leiden and Boston, MA: Brill, 2010, p. 17.

46 Standing, *Precariat*.

47 J. Touwen, *Coordination in transition: the Netherlands and the world economy, 1950–2010*, Leiden: Brill, 2014, pp. 138, 329.

48 *Ibid.*, pp. 194–5.

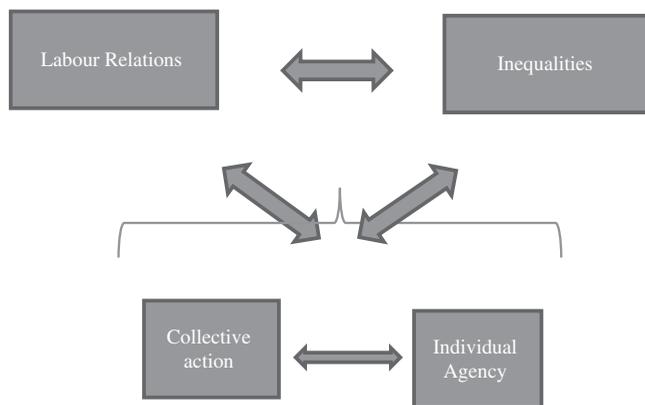


Figure 3. The connection between labour relations, collective and individual action, and inequalities.

collectively produced wealth, at least until the 1980s.⁴⁹ In other parts of the world and in other periods the shift to wage labour could be similarly profitable, even for people for whom it might be expected (given their subaltern ‘master status’) that gross exploitation would be their inescapable fate.⁵⁰ In Figure 3 I have visualized the connection between labour relations and inequality simply as the two mutually constituting each other, while continually interacting with social movements, value systems, and individual agency.

There is not space here to offer an overview of the vast scholarly field of collective action and social movements, but, given the centrality of this approach within labour history until recently, it seems useful to link it more explicitly to the field of global labour history. Inequalities have often given rise to individual and collective action, although there are also many examples of situations in which people endure (extreme) inequalities, either because they internalize the legitimizations for their unequal position or because they have no power to protest openly.⁵¹ When the barriers to developing collective action are removed, however, the demands to change individuals’ societal position and reduce inequalities have repercussions for the existing labour relations. Women may claim their place in the labour market as wage-earners, and in the late eighteenth and nineteenth centuries slaves (or sympathetic abolitionists) demanded that the system of hereditary forced labour was abrogated, so that they could choose to become self-employed, employers, or wage-earners. As successful collective action reduces social and economic inequalities, it makes sense to include individual and collective agency as a factor in a middle-range theory that tries to understand how labour relations and social (in)equality influence each other.

The most obvious approach is to map and quantify on a global and historical scale social movements such as guilds, unions, and political parties, as well as all kinds of civil society organizations and NGOs and more informally connected social groups. Charting the most outspoken activities – such as strikes, riots, revolutionary activities, terrorist violence,

49 Piketty, *Capital*.

50 M. Van Rossum, *Werkers van de wereld. Globalisering, arbeid en interculturele ontmoetingen tussen Aziatische en Europese zeelieden in dienst van de VOC, 1600–1800*, Hilversum: Verloren, 2014.

51 B. Moore, *Injustice: the social bases of obedience and revolt*, London and New York: Macmillan Press, 1978; Scott, *Weapons of the weak*; Scott *Domination*.

peaceful civil obedience, mutinies, marronage, and demonstrations – has the added value of laying bare the lack of resistance in certain periods and places, including individual strategies such as migration.⁵² Such ‘silences’ are equally relevant, because (as Barrington Moore argues in his book *Injustice*) they help to formulate the necessary and sufficient conditions under which people do or do not regard certain situations as unjust and accept inequality.⁵³ In other words, satisfaction with and acceptance of inequality (for whatever reason) is as interesting as protest, activism, and revolutions and should not simply be dismissed as false (class or otherwise) consciousness, the result of oppression, or merely stupidity. Religions, ideologies, or cultural preferences that implicitly or explicitly further inequality (for example, caste systems, male breadwinner models, eugenics, apartheid, neoliberalism, and most recently the new caliphate in the Middle East) have to be taken seriously as social movements, as they are part and parcel of the overall puzzle that most people would like to solve.⁵⁴

Labour as an independent variable and the Great Divergence debate

Within the larger theme of social inequality, the ‘Great Divergence’ debate is one of the most well known in global social and economic history. It tries to answer the question why Europe and its offshoots have overtaken other parts of the world, in particular China, from the eighteenth century onwards, and have become much richer and powerful. What has the debate, sparked off by the seminal studies of Bin Wong and Kenneth Pomeranz, yielded so far with regard to labour as an independent factor?⁵⁵

At a first glance, labour seems to be rather poorly treated in the debate. The main discussions focus on levels of GDP in western Europe and the Yangzi region, and on institutional arrangements, such as the market, property rights, state bureaucracies, and mental dispositions towards technology. Wages, and thus the remuneration of the labour that workers perform, come closest to the role of labour but they are subservient to calculating levels of GDP and are considered primarily as a function of the availability of (mostly proletarian) labour. However, when we scratch the surface of the Great Divergence debate a little, gradually the (independent) role of labour reveals itself, although often implicitly. Here we concentrate on two aspects in the debate: the timing of alleged acceleration of economic growth in north-western Europe and the more long-term path dependency of the specific factor endowments in East and West.

Timing

In his trail-blazing book, Pomeranz claimed that, until the end of the eighteenth century, living standards in China’s Yangzi region were more or less at the same level as those in the most

52 B. J. Silver, *Forces of labor: workers’ movements and globalization since 1870*, Cambridge: Cambridge University Press, 2003. See also van der Velden, *Striking numbers: Collaboratories in Social and Economic History*, ‘Labour conflicts’, <https://collab.iisg.nl/web/labourconflicts/datafiles> (consulted 10 November 2015).

53 Moore, *Injustice*.

54 Eugenic attitudes have been demonstrated by the left as well as the right: see L. Lucassen, ‘A brave new world: the left, social engineering, and eugenics in twentieth-century Europe’, *International Review of Social History*, 55, 2, 2010, pp. 299–330.

55 B. Wong, *China transformed: historical change and the limits of European experience*, Ithaca, NY: Cornell University Press, 2000; K. Pomeranz, *The Great Divergence: China, Europe, and the making of the modern world economy*, Princeton, NJ: Princeton University Press, 2000.

developed part of Europe, England. Only through exogenous factors – the availability of coal and the creation of colonies in North America – did the divergence take off. This is the position of the ‘California school’. This article is not the place to summarize the discussion which it provoked and which has kept historians busy in the last fifteen years, but much of the debate has focused on the question of when China got behind. Critics of Pomeranz, Bin Wong, and other proponents of the ‘California school’ have tried to push the beginning of the divergence back in time, at least a century and sometimes more, using real wages as one of the yardsticks in the north-western Europe–Yangzi region comparison.⁵⁶

The problem with wages, however, as argued by Patrick O’Brien and Jack Goldstone, is that we often do not know what part of the working population was earning wages, or for how many days in the year.⁵⁷ Especially in China (as well as Japan and India), where the process of proletarianization was very limited and peasant households dominated, wages do not tell us a great deal about the standard of living of the total population.⁵⁸ Recently, O’Brien and Deng have pleaded for using more local and regional data, as well as price data, to calculate net output/incomes of households in agriculture and in proto-industrial activities. These can then be used to arrive at kilocalories per capita per day.⁵⁹ Based on their estimates for Jiangnan in the period 1600–1829 they reach a similar conclusion as Allen *et al.*, pushing back the timing to the early seventeenth century, but what is interesting to us is their much broader perspective on the role of labour. In particular, the labour relations approach, explained in the previous paragraph, is a crucial ingredient in mapping standards of living in a more systematic way, because it shows us the proportions of the population (differentiated for men and women) engaged in household production, wage labour, reciprocal work, and so forth at any given time and place. Combined with data on wages, (market) prices, and productivity, this enables us to make much more grounded estimates on living standards, expressed in ‘consumption baskets’ or kilocalories. Furthermore, this method also make visible the shifts in labour relations over time and thereby the agency (or ‘repertoires’) of the people involved, as well as the prevailing social and cultural regimes and institutions.⁶⁰

The justified critique on the use of wages as a proxy for living standards and GDP at the regional and national level should not be taken as an inducement to neglect wage data, however.⁶¹ On the contrary, the income generated by globally spread proto-industrial activities and seasonal labour in largely agricultural regions in the sixteenth to twentieth centuries, not least in East Asia, can only be quantified fully by adding information on wages. We then

56 J. L. van Zanden, ‘The road to the Industrial Revolution: hypotheses and conjectures about the medieval origins of the “European Miracle”’, *Journal of Global History*, 3, 3, 2008, pp. 337–59; R. Allen, J. Bassino, D. Ma, C. Moll-Murata, and J. L. van Zanden, ‘Wages, prices, and living standards in China, 1738–1925: in comparison with Europe, Japan, and India’, *Economic History Review*, 64, 8, 2011, pp. 8–38; B. Li and J. L. van Zanden, ‘Before the Great Divergence? Comparing the Yangzi Delta and the Netherlands at the beginning of the nineteenth century’, *Journal of Economic History*, 72, 4, 2012, pp. 956–89; Vries, *Escaping poverty*.

57 P. O’Brien and K. Deng, ‘Can the debate on the Great Divergence be located within the Kuznetsian paradigm for an empirical form of global history?’, *Tijdschrift voor Sociale en Economische Geschiedenis*, 12, 2, 2015, pp. 63–78; J. Goldstone, ‘Why and where did modern economic growth begin?’, *Tijdschrift voor Sociale en Economische Geschiedenis*, 12, 2, 2015, pp. 17–30.

58 G. Austin and K. Sugihara, ‘Introduction’, in Austin and Sugihara, *Labour-intensive industrialization*, pp. 6–7.

59 O’Brien and Deng, ‘Can the debate’, pp. 74–7.

60 In their recent book on Russian migrations in the twentieth century (*Broad is my native land*), Lewis Siegelbaum and Leslie Moch use the notion of ‘regimes’ and ‘repertoires’ as an alternative to Giddens’s much more abstract ‘structure’ and ‘agency’.

61 As implied by Goldstone, ‘Why and where’.

need to go beyond the standard urban wages of male building workers and cast our net much wider, especially in the overwhelmingly rural world. That the harvest can be considerable is attested by recent preliminary research, using the collab approach, on wages in Bengal, including Bihar and Orissa in the period 1700–1875, which added 4,119 pieces of data to the existing meagre 120 instances.⁶² Combining these with prices, it is possible to construct the standard of living, leading to the conclusion that the Great Divergence in India was already on its way around 1700, while at the same time stressing that the difference between northern India and Europe was less dramatic than has been assumed, owing to the contribution of wives and children to the family income. Finally, in terms of the Great Divergence, this combination of wages, prices, and labour relations is important, because it is a healthy antidote to what are often very general statements about fundamental differences in the extent of commercialization between Europe and other parts of the world. Markets may have been less well integrated in early modern India and China,⁶³ and people did not fit the stereotypical image of immobile and autarchic peasants, untouched by monetary and market forces.⁶⁴

Path dependency

The Great Divergence debate is not only of interest for global labour historians for the timing of departure of (western) Europe, but also raises a much more fundamental question as to whether economic growth and industrialization should follow the Western (English) path. This point was raised by both Pomeranz and Wong, who argued that differences between areas do not necessarily imply inferiority. Instead, reciprocal comparison is like a two-way mirror, ‘by viewing both sides of the comparison as “deviations” when seen through the expectations of the other, rather than leaving one as always the norm’.⁶⁵ This line, but in a different context, was advocated as early as 1977 by the Japanese economic historian Akira Hayami, who distinguished two different paths towards the Industrial Revolution taken by England and Tokugawa Japan.⁶⁶ It was then taken up and further developed by Kaoru Sugihara. In his ‘two paths’ approach, he takes the differences in factor endowments as point of departure and thus diverges from Pomeranz: instead of exogenous ‘coal and colonies’ as way out of the Malthusian trap, Sugihara stresses the prevailing endogenous factor endowments to explain why Europe mechanized earlier and more intensely than (East) Asia. Whereas in England, and

62 P. de Zwart and J. Lucassen, ‘Poverty or prosperity in Bengal c.1700–1875? New evidence, methods and perspectives’, unpublished paper for ‘World Economic History’ conference, Kyoto, 5 August 2015. Robert C. Allen and Roman Studer found only 120 pieces of data (‘Prices and wages in India, 1595–1930’, on the website of the Global Price and Income History Group, <http://gpih.ucdavis.edu> (consulted 10 November 2015)).

63 R. Studer, ‘India and the Great Divergence: assessing the efficiency of grain markets in eighteenth- and nineteenth-century India’, *Journal of Economic History*, 68, 2, 2008, pp. 393–437; O’Brien and Deng, ‘Can the debate’, p. 74; Vries, *Escaping poverty*.

64 This critique by early modern historians such as Jan de Vries (*The industrious revolution*) has now been widely accepted for Europe, but less so for other parts of the world. For pioneering work on Japan, see A. Hayami, *The historical demography of pre-modern Japan*, Tokyo: University of Tokyo Press, 2004. For weaving in south Indian hamlets, see T. Mizushima, ‘Transformation of south Indian local society in the late pre-colonial period’, *Journal of Asian Network for GIS-based Historical Studies*, 1, 2013, pp. 12–16.

65 Pomeranz, *Great Divergence*, p. 8. See also Wong, *China transformed*; J. L. Rosenthal and B. Wong, *Before and beyond divergence: the politics of economic change in China and Europe*, Cambridge, MA: Harvard University Press, 2011.

66 In a Japanese book chapter by Hayami, cited by K. Sugihara, ‘Labour-intensive industrialization in global history: an interpretation of East Asian experiences’, in Austin and Sugihara, *Labour-intensive industrialization*, p. 24.

more broadly in north-western Europe, wages were relatively high, which stimulated entrepreneurs to invest in labour-saving technologies, in (East) Asia labour was abundant and thus a more 'labour-intensive' path towards industrialization made perfect sense.⁶⁷

Sugihara criticizes single path, Eurocentric, explanations, because they ignore the role of labour:

When Simon Kuznets designed a theory of economic growth, he understood the importance of labour in essentially the same way as he understood the importance of capital. For him, labour was substantially 'human capital'. Along the way, however, the unique attributes of labour among factors of production (labour embodied in human beings) have largely disappeared from the analysis of economic growth. The most conspicuous writer that promoted this process was W. W. Rostow. In his scheme the timing of the 'take-off' was determined by the rise in the ratio of saving to GDP.⁶⁸

Kuznets' emphasis on human capital adds a crucial element which puts labour as an independent variable centre-stage. Instead of simply assuming that labour is abundant, homogenous, and disposable in Asia, Japanese economic historians such as Akira Hayami, Osamu Saito, and Kaoru Sugihara, have shown that the quality of labour, and thus the skills of workers, matters greatly.⁶⁹ Skills should not only, or primarily, be understood as formal qualifications, in terms of literary and numeracy,⁷⁰ but more broadly in terms of self-discipline, the timing of work, and planning.⁷¹ Contrary to the arguments of scholars such as Allen and Mokyr, the skills of common workers also mattered and can explain differences in productivity and hence economic growth, as recently demonstrated in research on sailors in the early modern maritime Atlantic economy.⁷²

These skills seem to have been especially well developed in regions with wet-rice cultures in Japan and China, which demanded careful planning, disciplined timing of work, and the coordination of tasks.⁷³ But similar skill developments also took place in peasant areas in Europe. A good example is Alsace, where the size of farm holdings decreased in the eighteenth

67 On the European approach, see R. Allen, *The British industrial revolution in global perspective*, Cambridge: Cambridge University Press, 2009; S. Broadberry and B. Gupta, 'The early modern great divergence: wages, prices and economic development in Europe and Asia, 1500–1800', *Economic History Review*, 59, 1, 2006, pp. 2–31. For a recent discussion of the 'two paths' approach, see Austin and Sugihara, *Labour-intensive industrialization*. See also Vries, *Escaping poverty*, p. 220, who sees the labour-intensive path in Japan more as an intermediary (small-firm) stage.

68 Sugihara, 'Labour intensive industrialization', p. 20.

69 Hayami, *Historical demography*; O. Saito, 'Population and the peasant family economy in proto-industrial Japan', *Journal of Family History*, 8, 1, 1983, pp. 30–54; O. Saito, 'Proto-industrialization and labour-intensive industrialization: reflections on Smithian growth and the role of skill intensity', in Austin and Sugihara, *Labour-intensive industrialization*, pp. 85–106; K. Sugihara, 'The European miracle and the East Asian miracle', *Sangyo to Keizai*, 11, 2, 1996, pp. 22–47.

70 Although such qualifications are obviously important: J. Baten, D. Ma, S. Morgan, and Q. Wang, 'Evolution of living standards and human capital in China in 18–20th century: evidences from real wage and anthropometrics', LSE Working Paper 122/09, 2009.

71 T. C. Smith, 'Peasant time and factory time in Japan', *Past & Present*, 111, 1986, pp. 165–197; J. van Lottum and B. Poulsen, 'Estimating levels of numeracy and literacy in the maritime sector of the North Atlantic in the late eighteenth century', *Scandinavian Economic History Review* 59, 1, 2011, pp. 67–82; J. de Vries, 'The industrious revolutions in East and West', in Austin and Sugihara, *Labour-intensive industrialization*, p. 74; Goldstone, 'Why and where', p. 21; M. Hau and N. Stoskopf, 'Labour-intensive industrialization: the case of nineteenth-century Alsace', in Austin and Sugihara, *Labour-intensive industrialization*, p. 276; Saito, 'Proto-industrialization', p. 97.

72 Allen, *British industrial revolution*; J. Mokyr, *The gifts of Athena: historical origins of the knowledge economy*, Princeton, NJ: Princeton University Press; J. Mokyr, *The enlightened economy: an economic history of Britain, 1700–1850*, New Haven, CT, and London: Yale University Press, 2009. For acknowledgement of the importance of workers' skills, see van Lottum and van Zanden, 'Labour productivity'.

73 G. Austin, 'Labour-intensity industrialization and global economic development: reflexions', in Austin and Sugihara, *Labour-intensive industrialization*, p. 291.

century and peasants shifted first to intensive farming of commercial crops such as tobacco and hemp, followed by proto-industrial manufacture of a wide range of products (textiles, wood, metal). According to Hau and Stoskopf these experiences were a perfect preparation for the transition to factories later on in the nineteenth century: ‘The rural population brought many of their characteristics from intensive polyculture: the use of family manpower, a low division of labour, flexible working hours and very few dealings with banks.’⁷⁴ They add that social and cultural factors mattered as well, especially those pertaining to (gendered) family structures.⁷⁵ In Alsace the ‘stem family’ dominated, which meant a strict and authoritarian parental control of the (three) generations living and working together, and Alsatian society therefore socialized its members to be obedient and to comply with the demands of factory foremen.

In Japan the link between family systems and industrialization was somewhat different. Here the tradition of working together in the household and the prevalence of the family collective over the individual was reproduced in the industrial phase, which was characterized by small urban-based workshops and factories from the end of the nineteenth century onwards. Like proto-industrial activities within the European peasant households, these enterprises were highly competitive (and export-oriented), not only because of low wages but also through adaptability to changes in demand, while skills were built through an apprenticeship system.⁷⁶ Thus, efficiency from past learning and a tradition of ‘flexible specialization’, had consequences for the input of skills and the way in which labour-absorbing households were organized later on.⁷⁷ As Saito remarked on Tokugawa Japan: ‘Thus the long hours of work, its skill-intensive handicraft character, and time discipline were all related with each other within the same farm household, and it is such attitudes towards work and skill that were transferred to modern industry later.’⁷⁸

It is interesting to observe the different development in India, where ‘despite the high seasonality of agricultural work, rural workers never took up artisanal work on a large scale’.⁷⁹ In contrast to Japan, the artisanate (mostly weavers) and the peasantry remained two distinct groups. Partly because of caste boundaries, artisanal groups kept the training of apprentices within their own group. From the end of the nineteenth century male peasants did flock to urban factories in cities such as Bombay and Calcutta, but only seasonally (women were restricted to the household).⁸⁰ Moreover, their skills were much less developed than in east Asia or in western Europe, and, because of the caste system and the specific system of labour recruitment through jobbers, those skills were also much less transferrable.⁸¹ As Tirthankar Roy has remarked:

The jobber, in other words, was a particular response to the absence of labour markets in the mid nineteenth century. The jobber was needed in the early years of mill

74 Hau and Stoskopf, ‘Labour-intensive industrialization’, p. 268.

75 *Ibid.*, p. 276; see also J. Kok, ‘The family factor in migration decisions’, in J. Lucassen, L. Lucassen, and P. Manning, eds., *Migration history in world history: multidisciplinary approaches*, Leiden and Boston, MA: Brill, 2010, pp. 215–50.

76 M. Tanimoto, ‘From peasant economy to urban agglomeration: the transformation of “labour-intensive industrialization” in modern Japan’, in Austin and Sugihara, *Labour-intensive industrialization*, p. 172.

77 C. Sabel and J. Zeitlin, eds., *World of possibilities: flexibility and mass production in Western industrialization*, New York: Cambridge University Press, 1997.

78 Saito, ‘Proto-industrialization’, p. 97.

79 T. Roy, ‘Labour-intensity and industrialization in colonial India’, in Austin and Sugihara, *Labour-intensive industrialization*, p. 113.

80 A. de Haan, *Unsettled settlers: migrant workers and industrial capitalism in Calcutta*, Hilversum: Verloren.

81 D. Chakrabarty, *Rethinking working-class history: Bengal 1890–1940*, Princeton, NJ: Princeton University Press, 1982.

development, Morris suggests, also because of a linguistic, cultural and communication gap between the managers and the workers. A senior worker who spoke the language of the ordinary worker and came from the same social background, and yet could communicate with the managers, bridged the gap.⁸²

The solution that most factories chose was to rely on labour contractors who were responsible for recruitment, a stable supply, and training, which was not always in the interests of the jobbers, leading to inefficiency, because an efficient individual worker was not in the interests of the labour contractor. Skilled and well-trained workers meant higher productivity and hence fewer workers, whereas the intermediaries received a commission for each worker they provided.⁸³ Although Morris, Chakrabarty, and Roy have pointed to important institutional barriers, they overstate the negative role of intermediaries, at least where it concerns subcontracting. In those cases where foremen worked alongside other members of their team, research on brickmakers in Europe, Russia, and India has shown that they were very skilled, efficient, and productive, defying the widespread parasitic ‘padrone’ image that pervades the literature on labour migration.⁸⁴

We can conclude that the literature on proto-industry in a global context shows that, in order to understand how ‘industriousness’ stimulates economic growth, we should focus on the embeddedness of labour within the geographical (soil, climate), social (household), cultural (gender and caste ideologies), and political (labour institutions) contexts.⁸⁵ The labour relations approach might be considered as a logical addition, because it provides the necessary contextual information about actual labour relations at the level of both individual and household at a certain place and time.

Migration as a bridge between global labour relations and labour as an independent variable

Having looked at global labour relations and labour as an independent variable from two different angles, in this final section I bring these two interrelated phenomena together by viewing human social change through the lens of migration. Human movements, moreover, enable us to draw more explicit attention to the importance of the horizontal nature of shifts in labour relations and the individual repertoires (agency) of people involved.

Migration is closely related to the factor endowments, the quality of labour, households, and agency, and hence labour as an independent factor. When we start at the macro level and the distribution of factor endowments, Asia is an interesting case, because from the end of the nineteenth century onwards Asian labour migrants were largely excluded from the western hemisphere, at least until the 1960s.⁸⁶ This ‘continental incarceration’ stimulated the

82 T. Roy, ‘Sardars, jobbers, kanganies: the labour contractor and Indian economic history’, *Modern Asian Studies*, 66, 4, 2008, p. 993. See also D. Morris, *The emergence of an industrial labor force in India: a study of the Bombay cotton mills, 1854–1947*, Berkeley, CA: University of California Press, 1965, pp. 129–53.

83 Roy, ‘Labour intensity’, p. 116. See also B. Gupta, ‘Wages, unions, and labour productivity: evidence from Indian cotton mills’, *Economic History Review*, 64, 1, 2011, pp. 76–98.

84 Kessler and Lucassen, ‘Labour relations, efficiency and the Great Divergence.’

85 The political context includes the role of the state: see T. Besley and R. Burgess, ‘Can labour regulation hinder economic performance? Evidence from India’, *Quarterly Journal of Economics*, 119, 1, 2004, pp. 91–134.

86 A. McKeown, *Melancholy order: Asian migration and the globalization of borders*, New York: Columbia University Press, 2008.

labour-intensive path discussed above: ‘Had Japanese and Chinese labour been able to move to North America and Australasia on the same terms as European labour in the nineteenth and early twentieth centuries, the difference between the labour-intensive path in East Asia and the capital-intensive path in Europe and the “Neo-Europes” would have been much attenuated.’⁸⁷

The anti-Chinese (and more general anti-Asian) migration policy in the West, starting with the American Chinese Exclusion Act of 1882, did not prevent Chinese and Indians from migrating within Asia at a scale similar to the great Atlantic migrations, both within their states and across them.⁸⁸ Just like Europeans, Asian migrants were not simply ‘pushed’ and ‘pulled’ but made their decision within households and networks of kin and people of the same ethnicity. This partly explains some striking differences between, for example, the millions of Indian migrants who set off to plantations in Malaya and Burma (the bulk of whom moved in a circular pattern, returning home each time) and Chinese and European migrants who settled in Manchuria and North America.⁸⁹ Both sociocultural (household system) and institutional (colonial) politics determined these different mobilities. In most agricultural societies households and village communities played a key role in the allocation of labour, whereas employers and labour institutions determined the (un)freedom of migrants to leave, stay, and return.⁹⁰ Labour relations, both as departure and arrival, are crucial to understanding the extent and nature of the migration patterns. Mapping migration in relation to labour relations is also important because the incomes generated by migrants as members of households partly determined living standards and levels of social inequality. Seasonal peasant migrants earned wages in commercialized areas and thus added to the household income, and recent research on Eurasia shows that these migrations (and thus the incomes they generated) were significant, not only in early modern western Europe but also in Russia, India, China, and Japan, and expanded in the nineteenth and early twentieth centuries.⁹¹

Migration history not only studies the effects at the receiving end but also tries to understand why migrants leave in the first place and what role is played by labour relations. In other words, under what conditions do workers continue or change their labour relations, or attempt to improve their situation? Several examples can be found in labour history, such as slaves who escaped their masters and tried to become self-employed, or skilled English industrial workers who (temporarily) moved to the USA after 1860 to earn higher wages, navigating the North Atlantic as one integrated labour market and migratory field.⁹²

Migration data can therefore help us not only to map the level of geographical and social mobility in various regions at the aggregate level, and thereby to assess the effectiveness of labour relations in terms of allocation and skill formation, but also to increase our understanding of how people experienced labour relations in their daily life.⁹³ In that sense,

87 Austin and Sugihara, ‘Introduction’, p. 3.

88 W. A. Lewis, *Growth and fluctuations, 1870–1913*, London: Allen & Unwin, 1978, pp. 185–8; A. McKeown, ‘Global migration 1846–1940’, *Journal of World History*, 15, 2, 2004, pp. 155–189; K. Sugihara, ‘Patterns of Chinese emigration to Southeast Asia, 1869–1939’, in K. Sugihara, ed., *Japan, China, and the growth of the Asian international economy, 1850–1949*, Oxford: Oxford University Press, pp. 244–74.

89 S. Amrith, ‘South Indian migration, c. 1800–1950’, in J. Lucassen and L. Lucassen, eds., *Globalising migration history: the Eurasian experience (16th–21st centuries)*, Leiden: Brill, 2014, pp. 122–48.

90 Stanziani, ‘Traveling panopticon’.

91 Lucassen, *Migrant labour*; various chapters in Lucassen and Lucassen, *Globalising migration history*.

92 R. T. Berthoff, *British immigrants in industrial America, 1790–1950*, Cambridge, MA: Harvard University Press, 1953; D. Baines, *Migration in a mature economy: emigration and internal migration in England and Wales 1861–1900*, Cambridge: Cambridge University Press, 1985.

93 Lucassen and Lucassen, *Globalising migration history*; van Lottum, ‘Labour migration’.

migration can be considered as ‘voting with one’s feet’, either legally or illegally.⁹⁴ This ranges from Indian or Chinese peasants who temporarily settled in cities to perform wage labour, black workers in the USA who moved to northern cities after 1914, Bolivian peasants whose soil was polluted by mines, to Russian Jews who emigrated around 1900 to the USA where they hoped to be free of pogroms and have better chances of upward social mobility.⁹⁵ One could thus use migration as a thermometer for the subjectively experienced quality of labour relations and freedom of expression (such as political or religious). In this context, migration can be studied either as the cause of shifts in labour relations, forcing those left behind to find other solutions to organize labour, or as the consequence of existing relations, as in the case of slaves or serfs who escaped forced labour or men and women who were fed up with the limited options of paternalistic family systems. Similarly, people may migrate because they want to escape political repression, especially in authoritarian regimes. In that case, migration reveals something about the quality (or absence) of democracy and civil society. In many cases, there will be a mix of motives, but these two dimensions should be kept apart analytically.

A last bridge between migration and labour relations concerns the impact of organizations that hire or enlist workers and in whose interests it is to send them to various work sites.⁹⁶ These workers can be soldiers, diplomats, missionaries, or corporate expatriates, all having in common the fact that their migration patterns are primarily determined by the interests of the organization for which they work, and therefore limiting whether and to where they migrate.⁹⁷ Although these migrants are almost always wage-earners, there are important differences in their income and bargaining power. A similar observation, which again shows why the status dimension is important (and not only for self-employed and wage-earners but also for forced labour), has been made with respect to elite soldiers recruited as slaves. A telling example is provided by the so-called ‘Turkish’ *ghulams*, who were recruited by the Abassid caliphs in the tenth to thirteenth centuries, and later on the janissaries in the Ottoman empire. The case of the *ghulams* furthermore highlights a general feature of organizational migrants and workers, which is that their attachment to households and family is deliberately weakened or completely erased, with the explicit aim of strengthening their loyalty to the organization they have joined.⁹⁸ Limited agency, therefore, is a crucial feature of organizational migrants and workers. Linking migration to labour in these various ways adds to our understanding of shifting labour relations and at the same time frees migration from the narrow state- and policy-dominated framework of assimilation and integration.⁹⁹

94 Lucassen, *Outlines*, p. 19.

95 P. H. Lindert, *Growing public: social spending and economic growth since the eighteenth century*, Cambridge: Cambridge University Press, 2009, pp. 125–6; J. N. Gregory, *The southern diaspora: how the great migrations of black and white southerners transformed America*, Chapel Hill, NC: University of North Carolina Press, 2005; T. Perreault, ‘Dispossession by accumulation? Mining, water and the nature of enclosure on the Bolivian Altiplano’, *Antipode*, 45, 5, 2013, pp. 1050–69, esp. p. 1065.

96 Including subcontracting by other migrants, as in the well-known ‘padrone system’ (McKeown, *Melancholy order*, pp. 113–18).

97 L. Lucassen and A. X. Smit, ‘The repugnant other: soldiers, missionaries and aid workers as organizational migrants’, *Journal of World History*, 2015 (forthcoming).

98 P. Jackson, ‘Turkish slaves on Islam’s Indian frontier’, in I. Chatterjee and R. M. Eaton, eds., *Slavery and South Asian history*, Bloomington, IN: Indiana University Press, 2006, pp. 63–82, esp. pp. 74–5.

99 L. Lucassen and J. Lucassen, ‘The strange death of Dutch tolerance: the timing and nature of the pessimist turn in the Dutch migration debate’, *Journal of Modern History*, 87, 1, 2015, pp. 72–101.

Conclusion

The *longue durée*, advocated so passionately by Jon Guldi and David Armitage in their *History manifesto*, has been part and parcel of the field of global labour history since the 1990s, further enriched by an explicit spatial comparative dimension. This article has argued that, more recently, global labour history has entered a new phase in which structured data at micro, meso, and macro levels make it possible to engage much more explicitly in larger historical debates around global economic and social inequalities. Although it is still too early to present a theoretical model that stipulates the relationship between labour, labour relations, and larger social and economic developments, this article has offered new perspectives to develop such thoughts, starting with the typology used by the Global Labour Relations Collaboratory.

Building on more intense and structural (international) collaboration, this collab offers globally applicable taxonomies and aggregated and individual life-course databases, resulting from long, intensive, and ongoing empirical collaborations in the field of social and economic history, and backed up by institutions with long-term commitments.¹⁰⁰ The ultimate aim is not to find one (Western) master pattern, but to map different trajectories in time and space in a ‘poststructuralist structuralist’ way, with labour and labour relations as the core variables.¹⁰¹ To avoid Eurocentrist reductionism, we need not only to be attentive to entanglements (*histoire croisée*) but, even more importantly, to apply what Pomeranz dubbed ‘reciprocal comparisons’, which urges researchers to choose meaningful levels of aggregation and to ask not only why Europe (or its regions) is different from ‘the rest’ but also why world regions differ, thus making the comparative exercise a more balanced and fruitful one.¹⁰² In this respect, Patrick Manning’s point where he distinguishes between ‘exceptionalism’ (one cannot compare) and ‘distinctiveness’ (something is – to some extent – different) is well taken.¹⁰³

Big data and collaboratories can only be studied within their proper historical context. ‘Wage labour’, ‘slavery’, or ‘tributary labour’ may mean very different things, depending on time and place. New techniques in digital humanities offer innovative ways to overcome the problem of interpretation of rough data and broad categories by large-scale text mining of vast textual corpora, ranging from traditional labour movement periodicals and archives to more general sources (such as travel accounts and encyclopaedias dating from the sixteenth century). Information on income, status, wealth, bargaining power, collective action, and gender, as well as subjective interpretations of labour relations, can thus be linked to certain places and periods and added to the more quantitative collab-like databases.

100 David Montgomery in G. Field and M. Hanagan, ‘A conversation with David Montgomery’, *International Working Class History*, 82, 2012, pp. 16–26, esp. p. 20. A particularly important resource is the North Atlantic Population Project, <https://www.nappdata.org/napp/> (consulted 10 November 2015). For the life-course approach, see, for example, the Historical Sample of the Netherlands, <http://socialhistory.org/en/hsn>, and the China multi-generational panel dataset series available at <http://www.icpsr.umich.edu/icpsrweb/ICPSR/series/265> (both consulted 10 November 2015).

101 N. L. Green, ‘The comparative method and poststructuralist structuralism: new perspectives for migration studies’, in J. Lucassen and L. Lucassen, eds., *Migration, migration history, history: old paradigms and new perspectives*, Bern: P. Lang, 1999, pp. 57–72.

102 Pomeranz, *Great divergence*, pp. 7–8. This approach also diverges from postcolonial theory, which was recently attacked by Chibber, *Postcolonial theory* (targeting Chakrabarty, *Provincializing Europe*). Although Chibber’s book, which rejects the Indian subaltern school and reinstates a – Marxist – universalism, entails an important message, G. Austin, ‘Reciprocal comparison and African history: tackling conceptual Eurocentrism in the study of Africa’s economic past’, *African Studies Review*, 50, 2007, pp. 1–28, is less polemical and more useful for global historians.

103 P. Manning, *Navigating world history: historians create a global past*, New York: Palgrave Macmillan, 2003, p. 156.

The second main question of this article – how can we study ‘labour’ as an independent variable and what does that bring to broader debates – is directly related to the global labour relations approach. Having seen that most shifts in labour relations are of a ‘horizontal’ nature (the aggregate results of individual decisions), it follows that we should be much more attentive to the agency, or repertoires, of workers. In this article I have used the Great Divergence debate to illustrate its potential. A crucial contribution in this respect is the recent discussion about the labour-intensive path towards industrialization. Instead of treating labour as abundant, homogenous, and disposable, the work of Austin, Sugihara, Saito, Roy, and Chakrabarty has shown that labour and labour markets are complex and that individual workers’ behaviour depends on the specific social and cultural context, embodied family systems, household regimes, and categorical differences. Workers are not simply pulled to capital, like metal particles to a magnet, but have their own agency as well as constraints. The discussion on the labour-intensive path has also made clear that, in order fully to understand how labour has affected economic development, labour relations linked to skills (beyond mere numeracy and literacy) should be taken much more seriously.

Finally, migration history is a perfect bridge to bring together labour relations and labour as an independent factor, but also to link individual agency and collective action. Many people ‘vote with their feet’ to escape oppressive labour relations and regimes, and thus within the available repertoires determine for themselves where to go and for whom to work, if at all. Together with their human capital these decisions largely influence the supply of labour and thereby the nature and extent of economic growth.

By using the insights from the global labour relations approach and by taking labour as such seriously it will become much easier to address the questions posed in the introduction: why has work been valued and compensated in very different ways over the past five centuries? And how have people individually or collectively influenced these conditions? To find answers, standardized empirical data, structured global comparisons, and more intensive collaborations are essential.

Leo Lucassen is Director of Research of the International Institute of Social History in Amsterdam and Professor of Global Labour and Migration History at the University of Leiden. He has published widely on migration, vagrancy, state formation, and social engineering. Among his publications are The immigrant threat: the integration of old and new migrants in western Europe since 1850 (2005) *and the co-edited volume (with Jan Lucassen)* Globalising migration history: the Eurasian experience (2014).