Notes

Major trends in wages

1 For unemployment rates in individual countries, see ILO, 2011c.

2 "Paid employees" excludes own-account workers, contributing family workers, members of workers' cooperatives and workers unclassifiable by status. Wages are defined in Appendix I.

3 See ILO, 2012b. An alternative measure of wages would have been hourly wages, but these are available for only a limited number of countries with more advanced statistical systems.

4 Estimates including China may somewhat overstate global wage growth, given that the only wage series which covers the entire period from 2006 to 2012 refers only to "urban units", which in practice cover mostly State-owned enterprises, collective-owned units and other type of companies linked to the State. A new series published in the China Yearbook of Statistics now provides separate estimates of annual wages paid to employees in "urban private units", but this series only started in 2009 and no series is available that covers all employees.

5 Work-sharing programmes are also known as "short-time work" or as "partial" or "technical" unemployment (see Messenger, 2009).

6 Work-sharing programmes have been implemented in Argentina, Austria, Bulgaria, Canada, Chile, Croatia, the Czech Republic, Belgium, France, Germany, Hungary, Mexico, the Netherlands, Poland, Romania, Serbia (at company level only), Slovakia, Slovenia, South Africa, Switzerland, Turkey and Uruguay; small programmes have been implemented in a number of individual states in the United States (see ILO, 2011a). For further information regarding work-sharing measures in middle-income countries, see also Messenger and Rodríguez, 2010).

7 Preliminary estimates, using preliminary quarterly data from 30 selected developed economies for which data are available, suggest that real average wages are likely to grow by about 0 per cent in developed economies in 2012.

8 Figure 9 also confirms that higher inflation in 2008 was not caused by higher nominal wage demands, as nominal wages continued to grow at the same (or even a slightly slower) rate as in 2007. On the contrary: the higher prices were passed on to workers, who as a result received lower real wages. The figure also suggests that positive wage growth in 2009 prevented a fuller price deflation in 2009.

9 While there are a number of different ways to measure labour productivity, they all define economic output in relation to labour input (see OECD, 2001). In line with the United Nations' Millennium Development Goals, this report uses GDP per person employed as a simple measure of labour productivity. While more

refined approaches that adjust for hours worked are often useful for single-country studies (see e.g. the labour productivity figures published by the US Bureau of Labor Statistics at http://www.bls.gov/lpc/ [accessed 17 Sep. 2012]), our simple measure is more appropriate for studies such as the Global Wage Report that cover a large number of countries, for many of which no reliable data on hours worked are available.

10 For trends in Ukraine between 1992 and 2002 see Ganguli and Terrell, 2006; for more recent trends, see ILO, 2011d.

11 The proportion of people available to work full-time but working shorter hours shot up from 4.4 per cent in 2007 to 10.6 per cent in 2008 and to 19.4 per cent in 2009, before declining again to 12.3 per cent in the first half of 2010.

12 Argentina identified some inconsistencies in its wage series which could not be resolved before publication of this report; for this reason, the decision was made not to publish them in this edition of the report.

13 The members of the GCC are Bahrain, Qatar, Kuwait, Oman, Saudi Arabia and the United Arab Emirates.

14 The 2008 ILO Declaration on Social Justice for a Fair Globalization highlights as part of its Decent Work Agenda the promotion of "policies in regard to wages and earnings, hours and other conditions of work, designed to ensure a just share of the fruits of progress to all and a minimum living wage to all employed and in need of such protection" (ILO, 2008a, p. 10). The 2009 Global Jobs Pact also encouraged governments to "consider options such as minimum wages that can reduce poverty and inequity, increase demand and contribute to economic stability" (ILO, 2009, p. 7).

15 See the Minimum Wage Fixing Convention, 1970 (No. 131).

16 From € 877 per month (i.e. € 751 payable over 14 months) to € 684 per month.

17 In early 2010, the ILO and the World Bank conducted a joint survey of policy responses to the crisis in 77 countries over a two-year period (mid-2008 to end 2010). The resulting database and the joint report can be seen at http://ww.ilo.org/crisis-inventory [accessed 17 Sep. 2012]. The minimum wage was one of 62 policy tools surveyed. Several explanations were put forward for the variation among countries, including the institutional setting of the minimum wage which makes it easy – and sometimes compulsory – to adjust its level (Bonnet, Saget and Weber, 2012).

18 The US$1.25 international poverty line corresponds to the mean national poverty line of 15 least developed countries (LDCs), while the US$2 international poverty line corresponds to the median poverty line of 75 developing economies. The national poverty lines are based on the estimated cost of a basket of basic consumption goods, which are typically anchored to minimum nutrition requirements. See Ravallion et al., 2008.

Falling labour shares and equitable growth

19 These include the previous two editions of the Global Wage Report (ILO, 2008a, 2010a); European Commission, 2007; IMF, 2007; World Bank, 2011; OECD, 2011, 2012a; UNCTAD, 2011 and 2012; and IILS, 2011, 2012, to mention but a few. In the case of studies that deal with the effect of wage share on aggregate macroeconomic components, studies such as those by UNCTAD (2011) show that much of the research on the topic so far has been in the form of descriptive correlations as opposed to estimates of the causal empirical framework we present in the current report.

20 These empirical findings date back to the early twentieth century, when Arthur Bowley first observed such regularity using British data from the nineteenth and twentieth centuries and formulated "Bowley's Law". Paul Douglas made a similar finding regarding the labour share in the United States, and developed, together with the mathematician Charles Cobb, the famous Cobb–Douglas production function, which simplifies economic modelling by assuming that the functional income distribution between labour and capital always remains constant (see Mankiw, 2003). Keynes described this empirical constancy as "a bit of a miracle" (Keynes, 1939) and later Solow questioned the reliability of the empirical evidence (Solow, 1958) (see La Marca and Lee, forthcoming).

21 Roughly, the (non-adjusted) labour income share is equal to the total compensation of employees divided by GDP, while the adjusted labour income share assumes that self-employed workers have similar average earnings to employees and adds this element to the total compensation of labour. There are advantages and disadvantages in using this standard adjustment methodology. On the one hand, the reality of self-employment is different in different types of economies: in advanced economies the self-employed are more likely to be in the formal sector and their remunerations are likely to be above that of their counterfactual employees, thus the adjusted labour share probably underestimates the true labour share. The opposite is the case for less developed economies where the self-employed are more likely to be vulnerable workers with remunerations below that of their counterfactuals in the formal sector. At the same time, however, failing to adjust the labour share for the self-employed workers leads to a significant underestimation of the actual share of GDP going to workers in the form of employment-related income. In addition, trends (the main focus of our analysis) do not change significantly when different adjustments are applied (see ILO, 2010a). Use of the adjusted labour share also provides for a consistent benchmark with most other studies.

22 The World Top Income database is available online at the Paris School of Economics at http://g-mond.parisschoolofeconomics.eu/topincomes/

23 Retained earnings are defined here as gross operating surplus minus dividend payments.

24 Federal Statistical Office, Germany, National Accounts: Domestic Product, Quarterly Results, Fachserie 18, Series 1.2, table 1.11.

25 A European Commission report concluded that "for the period for which the data is available (i.e. from the mid-1980s to early 2000s), the estimation results clearly indicate that technological progress made the largest contribution to the fall in the aggregate labour income share" (European Commission, 2007, p. 260). However, evidence is rather limited for developing countries.

26 For a description of the data sources, see Stockhammer, forthcoming.

27 In an interview with the *Financial Times* in 2007, Alan Greenspan, former President of the Federal Reserve Bank, apparently considered that the decline in the labour share and the gap between wages and productivity growth in the United States might undermine political support for free markets: see Guha (2007).

28 Aggregate demand, as noted above, is the sum of consumption, investment, net exports and government expenditures. Government consumption has been excluded from the analysis because by definition government consumption is the same as public employment income share.

29 All specific econometric results underlying the table can be found in Onaran and Galanis, forthcoming.

30 See e.g. IMF, 2012c. Note that the concept of unit labour costs as a measure of cost competitiveness is not without its critics. Felipe and Kumar consider, for example, that when unit labour costs increase, then by definition unit capital costs must decrease, and so the impact on external competitiveness is unclear (Felipe and Kumar, 2011).

31 The only advanced economy that shows zero impact on investment of an increase in profit share is the United States. In an earlier study by Onaran et al. (2011), the inclusion of interest and dividend payments in the definition of investment for the United States was found to have compounding effects that prevented the identification of the significance of an increase in capital income share (a drop in labour income share) on investment. The same may be happening in the present set of estimates. See also Hein and Vogel, 2008, who find no effects of capital income on US investment, consistent with the findings in this report.

32 One question in such a scenario would be how the incremental economic growth that might result from a lower income share would be distributed among the population. But this question is beyond the scope of the present report. For the importance of introducing the microeconomic impact of changing functional income distribution into the debate, see Atkinson, 2009.

33 Several case studies have examined this phenomenon for the United States in particular. See esp. Barba and Pivetti, 2009; Cynamon and Fazzari, 2008; Guttmann and Plihon, 2010; van Treeck Hein and Dünhaupt, 2007; and van Treeck, 2009). Econometric studies have shown that (financial and housing) wealth is a statistically significant determinant of consumption, and not only in the United States. See Ludvigson and Steindel, 1999; Mehra, 2001; Onaran, Stockhammer and Grafl, 2011; Boone and Girouard, 2002; Dreger and Slacalek, 2007.

Appendix I

34 ILO commissioned report by Farhad Mehran, Estimation of global wage trends: Methodological issues, International Labour Office, mimeo; peer reviews by Prof. Yves Tillé, Expertise report on the "Estimation of global wage trends: Methodological issues", Institute of Statistics, University of Neuchatel, mimeo; Prof. Yujin Jeong and Prof. Joseph L. Gastwirth, Comments on the draft ILO report "Estimation of global wage trends: Methodological issues", HEC Montreal and George Washington University, Washington, DC, mimeo; Dr Joyup Ahn, Responses to draft ILO report "Estimation of global wage trends: Methodological Issues", Korea Labor Institute, mimeo.

35 ILO resolution concerning the International Classification of Status in Employment (ISCE), adopted by the 15th International Conference of Labour Statisticians, Geneva, Oct. 1993.

36 ILO resolution concerning the measurement of employment-related income, adopted by the 16th International Conference of Labour Statisticians (Geneva, October 1998). http://www.ilo.org/global/What_we_do/Statistics/standards/resolutions/lang--en/docName--WCMS_087490/index.htm.

37 Aiming for the broadest possible coverage is in line with the idea that decent work and hence adequate earnings are a concern for all workers, and that statistical indicators should cover all those to whom an indicator is relevant. See ILO, 2008c.

38 We do this on the basis of the IMF's consumer price index (CPI) for the respective country. In the case of Brazil and the United States, where our national counterparts recommended the use of an alternative CPI, we relied on national sources provided by the Brazilian Institute of Geography and Statistics (IBGE) and the BLS, respectively. We also rely on the national CPI or real wage values in cases where the national statistical office of a country provides us with the data directly, or where a country's primary wage series is provided in nominal and real form.

39 Our universe includes all countries and territories for which data on employment are available from the ILO's Global Employment Trends Model (GET Model), and thus excludes some small countries and territories (e.g. the Channel Islands or the Holy See) that have no discernible impact on global or regional trends.

40 This is in line with standard survey methodology, where a model-based framework is generally used for item non-response, while a design-based framework is used for questionnaire non-response.

41 For a discussion of the missing data problem, see also ILO, 2010c, p. 8.

42 An alternative specification with GDP per capita and population size produced very similar results.

43 Data for the number of persons employed and the number of employees are from KILM, and data on GDP in 2005 PPP$ are from the World Bank's World Development Indicators.

44 The estimate, $\hat{n}_h$, of the number of employees in region h is obtained by multiplying the number of employees in countries from the region for which we have wage data with the uncalibrated weights, and then summing up across the region.

45 See e.g. the work done mainly for industrialized countries by the International Labor Comparisons programme of the US Bureau of Labor Statistics (http://www.bls.gov/fls/ [accessed 17 Sep. 2012]). Since we do not compare levels, but focus on change over time in individual countries, data requirements are less demanding in our context.

46 We estimate the number of employees in 2009 (which is not yet available from KILM) by calculating the ratio of employees over employment in 2008, and then multiplying total employment in 2009 with this ratio. The main data source for KILM is Laborsta.

47 See also ILO (2008b, p. 15) for the association between wage levels and GDP per capita. Notwithstanding this, wage developments can diverge from trends in labour productivity in the short and medium term.

Appendix II

48 OECD Glossary of statistical terms, stats.oecd.org/glossary/ [accessed 17 Sep. 2012].

Appendix III

49 The indicator government consumption as welfare indicator suggests a hump-shaped development over time: government expenditure as share of GDP peaked in the early 1980s and has followed a declining trend ever since. The role of government expenditure and the generosity of welfare spending has been highlighted previously in the literature, with emphasis on the role of the latter on the reservation wage of the working-age population; see Pierson, 1994; Korpi and Palme, 2003. Incidentally, a reduction in welfare state generosity has occurred since 1980, which is precisely the moment when the labour wage share began its downward trend. For studies that include government consumption as share of GDP to explain the falling labour wage share, see Harrison, 2002; Jayadev, 2007.

50 European Commission, 2007, and IMF, 2007, find surprisingly small, if any, effects of union density. The IMF includes union density and the tax wedge after having found no effect of other LMI variables.

51 Technological changes have also been approximated by capital–labour ratios and ICT capital or combinations of these in Bentolila and Saint-Paul, 2003, and in European Commission, 2007. The use of ICT capital (or ICT services) is a less ambiguous proxy for technological change as it reflects implemented technological change independent of the motives of its implementation.

52 In particular, such studies point to the significance of government spending and the welfare state in determining the reservation wage of participants, i.e., the level at

which individuals are willing to enter the labour market. An increase in generosity (the welfare state) shifts the reservation wage upward (income effect through labour market disincentives) and therefore shifts the distribution of wages to the right, making wages higher for all: this, holding everything else constant, increases the labour income share.

53 Unemployment is expressed as the unemployment rate in the economy, and exchange rate volatility as a function of the variance of the real exchange rate. Financial reforms is based on a variable that measures entry barriers, international capital flows, interest rate controls, privatization, the development of security markets and a financial reform index. For more detail on a battery of related specifications to the baseline specification, see Stockhammer, forthcoming.

Appendix IV

54 The use of single equations in a similar aggregate demand framework has been widely used in the literature: see e.g. Onaran, 2011; Hein and Vogel, 2008; Naastepad and Storm, 2007. An alternative to the single equation approach is to estimate elasticities on a VAR system where the underlying identification restrictions are often arbitrary assumptions on the relation between consumption, investment and net exports. One advantage of using a VAR system is that of allowing for the endogeneity of the labour income share. In the single equation system the assumption of a long-run relation helps to overcome the problem of endogeneity; that is, the model assumes a stable long-run equilibrium relation in a causal framework.

55 See also Hein and Vogel, 2008: they find no effects of profit shares on US investment, consistent with the findings in this report.

56 For more details, see Onara and Galanis, forthcoming.