PART II Falling labour shares and equitable growth

Recent trends in wages and productivity growth determine what is known as the *functional distribution of national income* – that is, the distribution of national income between labour and capital. When overall GDP grows faster than total labour compensation, the labour income share (also called the "wage share") falls relative to the capital income share. By contrast, when the growth in total labour compensation exceeds the growth in total GDP, the labour income share increases and the capital income share falls. In this part of the report we analyse trends in the labour income share and the causes behind the trends, contributing to the recently growing literature on the subject.[19]

We then ask how changes in the labour income share have affected macroeconomic aggregates such as consumption, investment and net exports. In the current global economic context, understanding the causal relationship between labour compensation and aggregate demand is of paramount importance. The macroeconomic effects of changes in labour shares have so far received relatively less attention in the empirical literature, even though wages are widely perceived as having a major impact on the economy. Our empirical analysis contributes towards the existing literature by providing a statistical causal framework and by covering both developed and developing countries.

5 The fall in the labour income share

5.1 Trends in labour shares

A myth of stability exploded

During much of the past century, a stable labour income share was accepted as a natural corollary or "stylized fact" of economic growth. As industrial countries became more prosperous, the total incomes both of workers and of capital owners grew at almost exactly the same rate, and the division of national income between labour and capital therefore remained constant over long periods of time, with only minor fluctuations.[20] It seemed as if some unwritten law of economics would ensure that labour and capital would benefit equally from material progress, and the subject of the functional distribution of income almost vanished from the agenda of academic research. In recent years, however, this long-held conventional wisdom has been challenged. An outpouring of literature has provided consistent new empirical evidence indicating that recent decades have seen a downward trend for the labour share in a majority of countries for which data are available.

The OECD has observed, for example, that over the period from 1990 to 2009 the share of labour compensation in national income declined in 26 out of 30 developed economies for which data were available, and calculated that the median labour share of national income across these countries fell considerably from 66.1 per cent to 61.7 per cent (OECD, 2012b). These findings echo the evidence presented in the ILO *Global Wage Report 2010/11*, which described declining wage shares in a large majority of OECD countries since 1980 (ILO, 2010a; see also ILO, 2008a). Earlier, similar trends had been observed in other reports published by international organisations (IMF, 2007; European Commission, 2007; BIS, 2006; ILO, 2008a, 2010a; OECD, 2011, 2012a). Looking beyond the advanced economies, the ILO *World of Work Report 2011* found that the decline in the labour income share was even more pronounced in many emerging and developing countries, with considerable declines in Asia and North Africa and more stable but still declining wage shares in Latin America (IILS, 2011). Other studies also point to the apparently global nature of this trend, suggesting a decline in the proportion of worldwide income going into labour compensation (see ILO, 2008a; Stockhammer, forthcoming; Husson, 2010; Artus, 2009).

Evidence for labour share decline

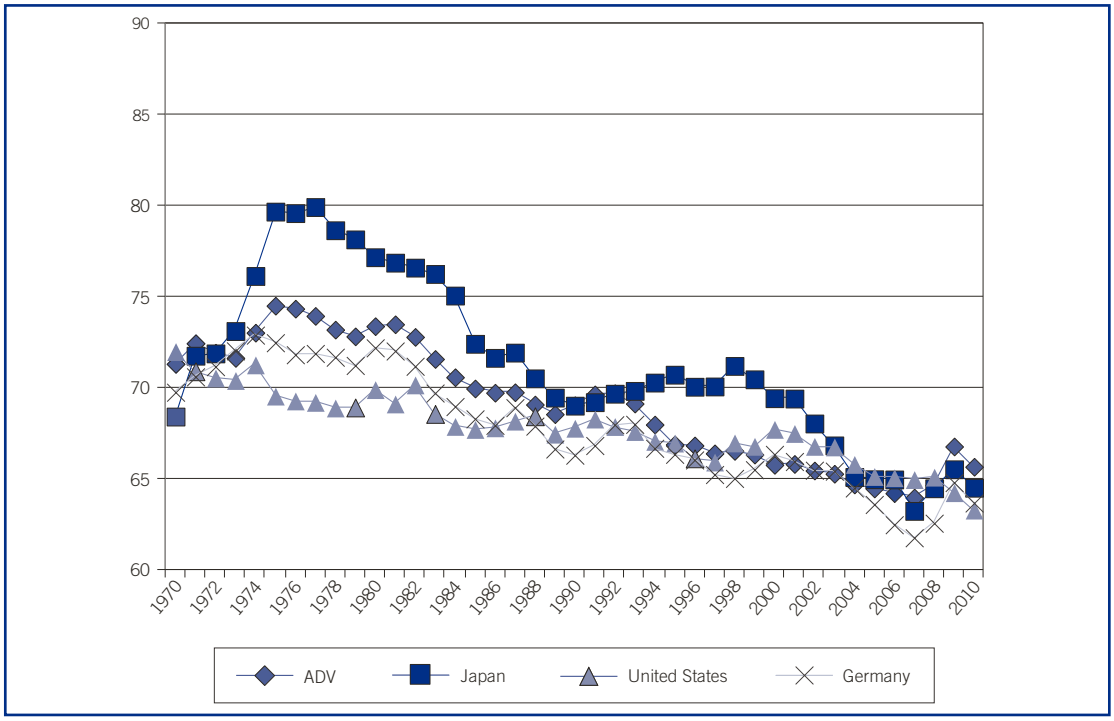
Figures 31 and 32 illustrate the trends in so-called "adjusted" labour income shares for the period 1970 to 2007 or 2010 for certain individual and grouped developed countries and for three groups of developing and emerging economies.[21] In figure 31, we observe that the simple average of labour shares in 16 developed countries for which data are available for this long period declined from about 75 per cent of national income in the mid-1970s to about 65 per cent in the years just before the global economic and financial crisis. Figure 32 shows how the average of labour shares also declined in a group of 16 developing and emerging economies, from around 62 per cent of GDP in the early 1990s to 58 per cent just before the crisis. Even in China, a country where wages roughly tripled over the last decade (see Part I), GDP increased at a faster rate than the total wage bill – and hence the labour income share went down (figure 33). The data available for China, Kenya, the Republic of Korea, Mexico and Turkey (figure 32) suggest that the decline in this group of countries may already have started in the 1980s.

The global economic crisis seems to have reversed the decreasing trend only briefly. In developed economies, the wage share bounced back initially after the beginning of the crisis but began to decline again from 2009. This reflects the typical "countercyclical" nature of the wage share, which arises because wages tend to be less volatile than profits during economic downturns. The OECD, for example, observed: "In times of economic recession, this decline [in the wage share] has typically paused, but then subsequently resumed with a recovery. The recent economic and financial crisis and subsequent sluggish recovery have not deviated from this general pattern" (OECD, 2012b, p. 112).

Different skill levels, different impacts

These trends have not been uniform across workers with different levels of education and skills. Studies on developed economies that have disaggregated total labour compensation by categories of workers have invariably found that recent trends were driven by

Figure 31 Adjusted labour income shares in developed economies, Germany, the USA and Japan, 1970–2010



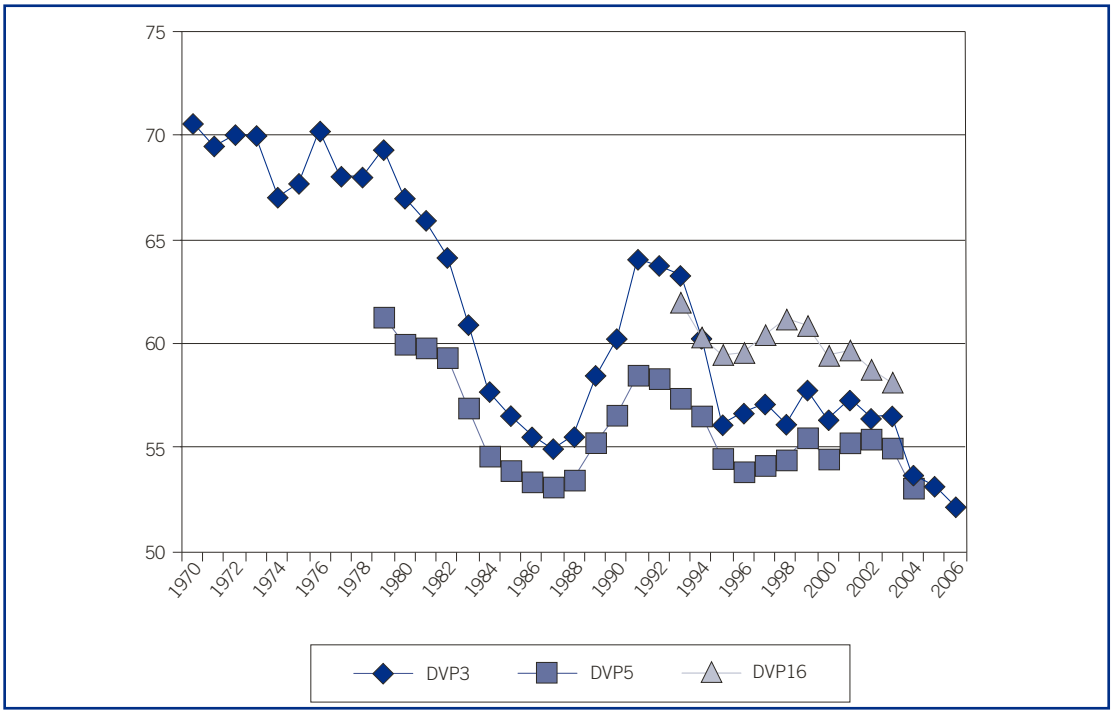
Note: ADV = unweighted average of 16 high-income OECD countries (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, Spain, Sweden, the United Kingdom, and the United States. The Republic of Korea is excluded.)
Source: Stockhammer, forthcoming, from AMECO database.

the falling wage shares of low- and medium-skilled workers. The International Institute for Labour Studies (IILS, 2011) calculated, for example, that in the ten developed economies for which data were available the wage share fell by 12 percentage points for low-skilled workers between the early 1980s and 2005, while it increased by 7 percentage points for highly skilled workers. Similarly, the IMF found that between 1980 and 2005 the labour share of unskilled workers fell in the United States, Japan and Europe (by 15 per cent, 15 per cent and 10 per cent respectively), but increased for skilled workers educated to tertiary level and above (by 7 per cent, 2 per cent and 8 per cent respectively) (IMF, 2007). More recently, the OECD found that in the 13 countries for which data are available, the average wage share of those with low educational levels fell (OECD 2012b). This occurred in the context of the observed polarization of jobs, with increasing numbers of low- and high-skilled jobs and fewer medium-skilled jobs. Although one could expect that an expansion of low-skilled jobs would in principle raise the wages of low-skilled workers, it appears that such workers have increasingly been displaced by overqualified workers with intermediate levels of education.

Taking out the top earners

Labour shares, as measured in the UN System of National Accounts, therefore underestimate the fall in the proportion of labour compensation going to workers paid below the median wage. If the labour compensation of the top 1 per cent of income earners

Figure 32 Adjusted labour income shares in developing and emerging economies, 1970–2007



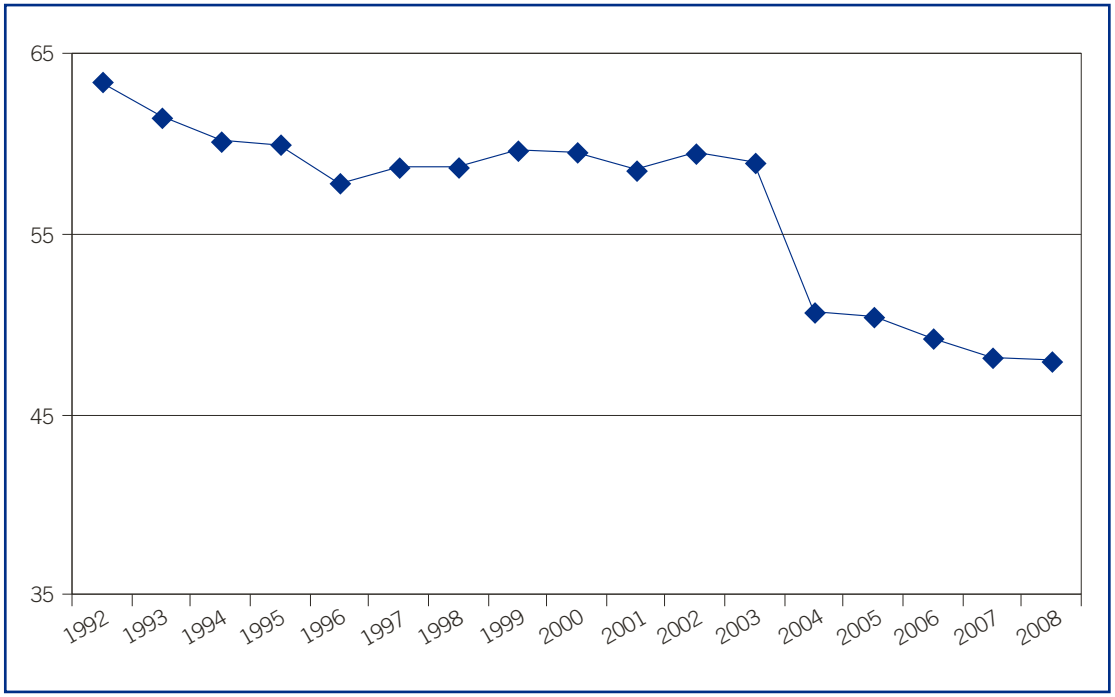
Note: DVP3 = unweighted average of Mexico, Republic of Korea and Turkey; DVP5 = unweighted average of China, Kenya, Mexico, Republic of Korea and Turkey; DVP16 = unweighted average of Argentina, Brazil, Chile, China, Costa Rica, Kenya, Mexico, Namibia, Oman, Panama, Peru, Republic of Korea, Russia, South Africa, Thailand and Turkey.
Sources: ILO Global Wage Database; Stockhammer, forthcoming.

was excluded from the computation, the drop of the labour share would appear even greater (see, for example, IILS, 2011; OECD, 2012b). This reflects the sharp increase, especially in English-speaking countries, of the wage and salaries (including bonuses and exercised stock options) of top executives, who now cohabit with capital owners at the top of the income hierarchy (see Atkinson, Piketty and Saez, 2011; Piketty and Saez, 2003; OECD, 2008; Wolff and Zacharias, 2009).[22] The proportion of wage earnings in the top segments of household income also increased, to various degrees, in other countries including Japan, the Netherlands, Canada, Italy, Spain and the United Kingdom – though not in Sweden, Finland or Australia (Atkinson, Piketty and Saez, 2011).

The other side of the coin: The increasing capital share

The mirror image of the fall in the labour share is the increase in the capital share of income (often called the profit share), which is measured most frequently as the share of gross operating surplus of corporations as a percentage of GDP. The ILO/IILS found that when total capital share is disaggregated by type of corporations, the growth of the capital share has been faster in the financial sector than for non-financial corporations. Also, in advanced economies, profits of non-financial corporations have increasingly been allocated to pay dividends, which accounted for 35 per cent of profits in 2007 (IILS, 2011) and increased pressure on companies to reduce the share of value added going to labour compensation.

Figure 33 Unadjusted labour income share in China, 1992–2008



Note: The unadjusted wage share is calculated as total labour compensation of employees divided by value added. The sudden change between 2003 and 2004 likely reflects an adjustment to the data; nonetheless, it does not change the direction of the trend.

Source: ILO calculations based on data from the *China Statistical Yearbooks*, http://www.stats.gov.cn/english/statisticaldata/yearlydata/ [accessed 17 Sep. 2012].

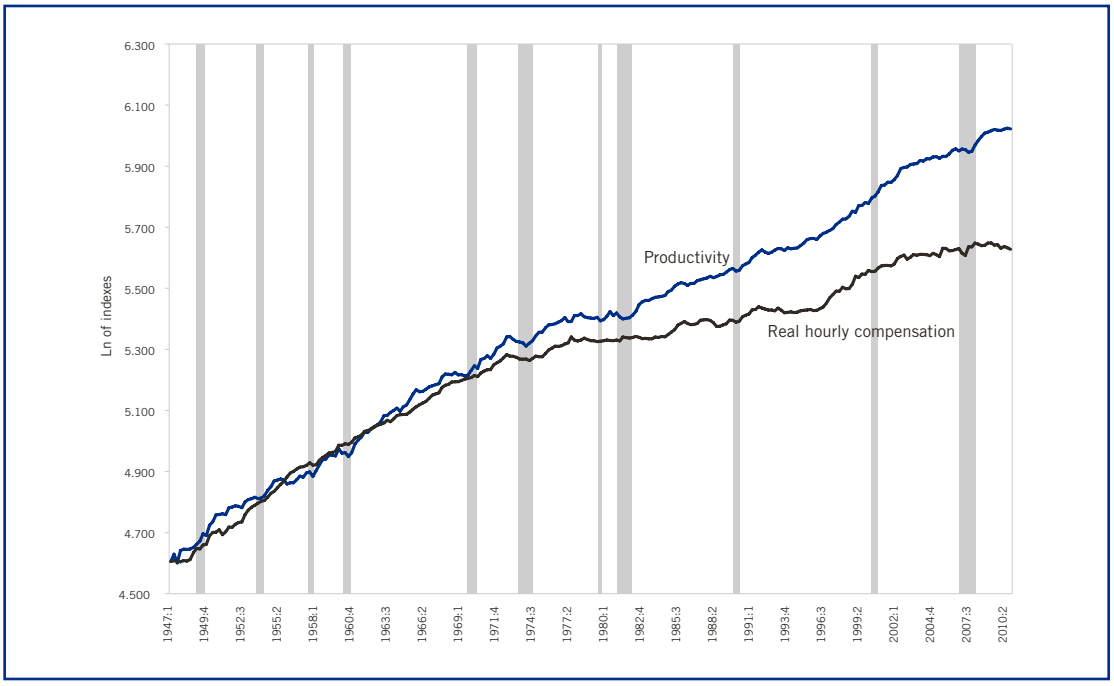
Looking at a set of four developed economies (France, Germany, the United Kingdom and the United States), Husson found that over the period 1987–2008 a large part of the increased surplus of corporations went into boosting the dividends paid to shareholders (Husson, 2010). He calculated that in France total dividends increased from 4 per cent of the total wage bill in the early 1980s to 13 per cent in 2008. Interestingly, in the United Kingdom the shares of dividend payments and labour compensation both increased, so that the higher dividends came at the expense of reduced retained earnings.[23] In the United States, three-quarters of the increase in gross operating surplus went into the payment of dividends. Given the greater concentration of income with capital rather than labour, booming dividends have often contributed to higher overall household income inequality (OECD, 2011; see also Roine and Waldenström, 2012).

5.2 The gap between wages and productivity

The effect on the labour share

A shrinking labour share is almost always tied to another empirical regularity, namely the growing discrepancy between the respective growth rates of average wages and labour productivity (for a detailed exposition of the relationship between wages, productivity, unit labour costs and labour shares, see Appendix II). A publication by the US Bureau of Labour Statistics, for example, shows that the gap between hourly labour productivity and hourly compensation growth contributed to a decline in the labour

Figure 34 Hourly productivity and compensation in the United States, Q1 1947–Q1 2012



Note: Shaded areas represent recessions.

Source: Figure reproduced from Fleck, Glaser and Sprague (2011) using updated data published by the Division of Major Sector Productivity of the Bureau of Labour Statistics, as of 26 June, 2012.

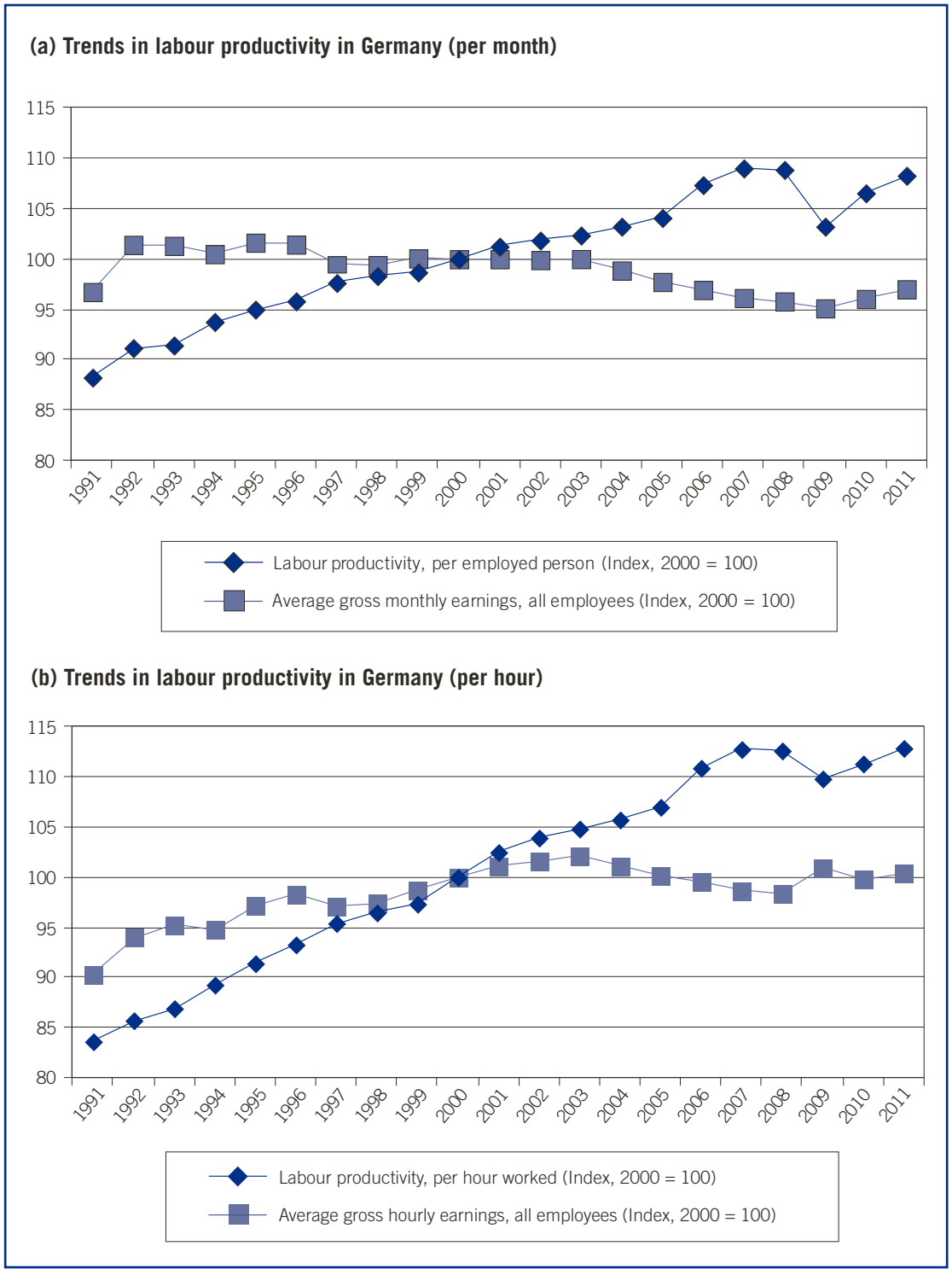
share in the United States (Fleck, Glaser and Sprague, 2011). Since 1980 hourly labour productivity in the non-farm business sector increased by around 85 per cent, while real hourly compensation increased by about 35 per cent (figure 34).

Another example is Germany, where labour productivity (defined as value added per person employed) has surged by almost a quarter (22.6 per cent) over the past two decades, while real monthly wages have remained flat over the same period – indeed, between 2003 and 2011 they actually fell below the level seen in the mid-1990s (see figure 35(a)). The decline in monthly wages is attributable in part to a sharp reduction in monthly working time, from 122.7 hours in 1991 to 110.7 hours in 2011,[24] as the number of workers in part-time and atypical forms of employment such as the so-called 'mini-jobs' rose substantially (see Federal Statistical Office, 2009). Even so, a discrepancy is also apparent between hourly labour productivity and hourly wages (see figure 35 (b)). In 2011, hourly wages were only marginally (0.4 per cent) above their 2000 level, while hourly labour productivity had grown by 12.8 per cent over the same period.

Productivity outpaces pay in developed economies

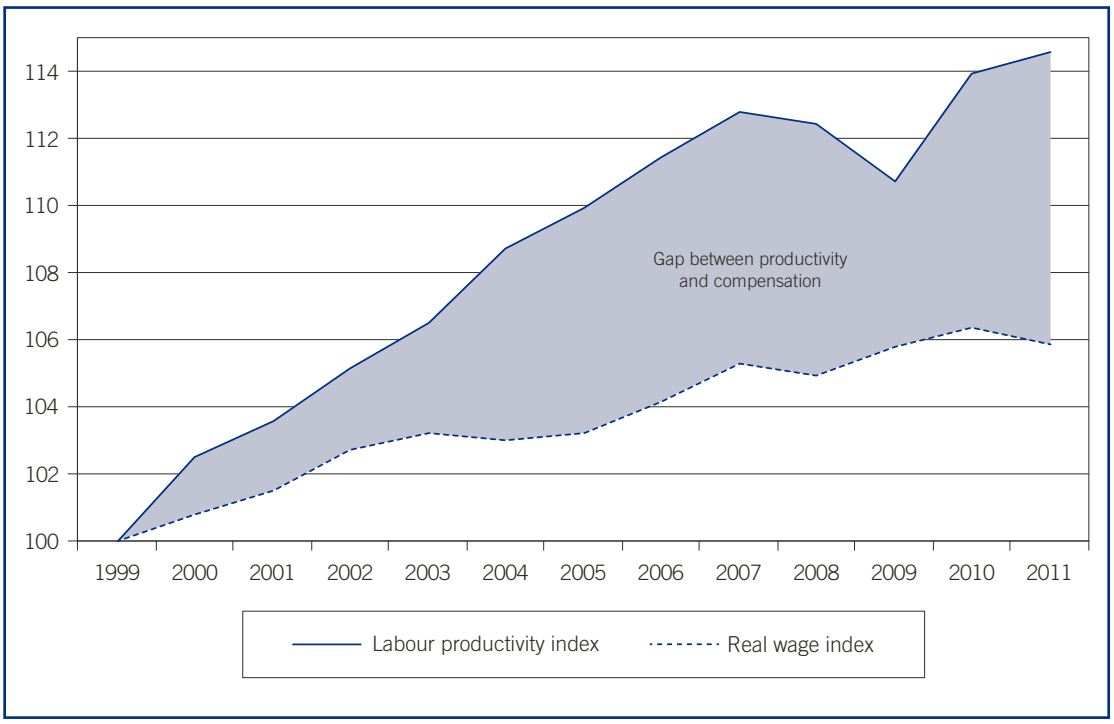
Because some of the larger economies, including the United States, Germany and Japan, have seen wage growth lagging behind productivity growth, our report estimates that in developed economies as a whole average labour productivity has outpaced real average wage growth. Based on the wage data for 36 countries, we estimate that since 1999 average labour productivity has increased more than twice as much as average wages in developed economies (figure 36).

Figure 35 Trends in labour productivity and wages in Germany, 1991–2011: (a) per month; (b) per hour



Note: Nominal average monthly and hourly wages published by the Federal Statistical Office have been deflated using the CPI from the same source.
Source: Federal Statistical Office, Germany, National Accounts: Domestic Product, Quarterly Results, Fachserie 18, Series 1.2 (May 2012), table 1.12; Federal Statistical Office, 2012.

Figure 36 Trends in growth in average wages and labour productivity in developed economies (index: 1999 = 100)



Note: Since the indices refer to a weighted average, developments in the three largest developed economies (United States, Japan and Germany) have a particular impact on this outcome. Labour productivity is measured as output per worker (see note 9).
Sources: ILO Global Wage Database; ILO Trends Econometric Model, March 2012.

5.3 The role of financial markets and other factors

The search for explanations

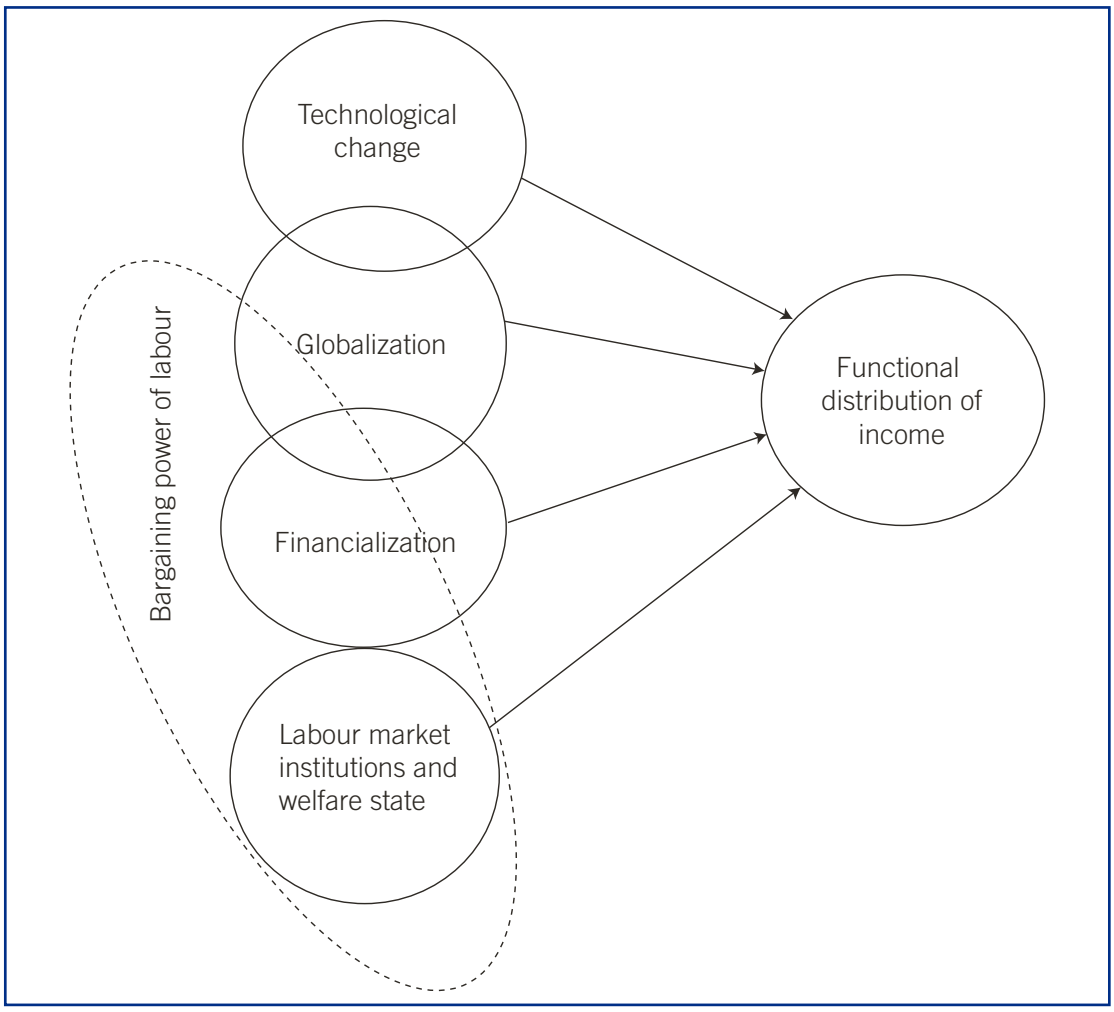
Most studies that have documented the fall in the labour income share since the 1980s have also tried to understand its causes (see, for example, IMF, 2007; European Commission, 2007; OECD, 2012a; ILO, 2008a; ILO 2010a; IILS, 2012).

The analysis undertaken in the previous *Global Wage Report* explored the possibility that trends in the labour share were determined by a compositional shift in employment from labour-intensive to more capital-intensive sectors, where labour shares are lower. The analysis showed that the shift in sectoral composition was indeed a contributory factor, but that most of the fall in the labour share was the result of falling shares *within industries* (ILO, 2010a). A recent OECD study confirmed this finding, pointing out that "within-industry falls in the labour share explain an overwhelming proportion of its aggregate decrease between 1990 and 2007" (OECD, 2012b, p. 119). Large falls were observed in financial intermediation, and also in high- and medium-technology manufacturing, while the decline was less steep in other service sectors, construction and low-tech manufacturing.

New evidence: Revisiting the "usual suspects"

The present report goes further and provides a new set of empirical evidence. Figure 37 provides an illustration of the "usual suspects": technological change, globalization, financial markets, labour market institutions, and the decline in the bargaining power of labour. In our illustration, the circles for technological change, globalization and financial markets overlap, reflecting the difficulties in distinguishing between these phenomena at both conceptual and empirical levels. The structure of the diagram also indicates that the bargaining power of labour derives directly from labour market institutions (particularly the existence and strength of trade unions) but is also influenced by globalization and financial markets, which give firms more options for investing in financial assets as well as in real assets, both at home and abroad (Rodrik, 1997; Onaran, 2011). In fact, while much evidence has focused on the role of globalization and especially technology, many studies have overlooked the potential effects of financial markets and of the downsizing of labour and social institutions.

Figure 37 Factors influencing the labour income share



Source: Stockhammer, forthcoming.

Technological changes are often presented as the main culprit, with the suggestion that they have been "capital augmenting" rather than "labour augmenting", increasing the demand for capital and complementary high-skilled labour and reducing the demand for low-skilled workers (see IMF, 2007; European Commission, 2007; OECD, 2012b; IILS, 2012).[25] The standard hypothesis is that the diffusion of information and communication technologies (ICT) has allowed for automation of production, boosting productivity and displacing low-skilled workers. The latest OECD study estimated that technical change and capital accumulation accounted, on average, for 80 per cent of intra-industry change of the labour share in advanced economies over the period 1990–2007 (OECD, 2012b).

Studies typically also find negative but smaller effects of globalization on the labour share. One possible explanation for this is that the intensification of competition and the entry of labour-abundant countries into the global economy may have worked as a wage-moderating factor (ILO, 2008a). More recent firm-level evidence produced in a joint ILO–WTO publication (Bacchetta and Jansen, 2011) shows that increased competition from trade liberalization has often induced firms in both developed and developing countries to become more productive through a process of "industry rationalization", involving the elimination of the least productive firms and the dismissal of workers in the remaining firms. It is also possible that redistribution from labour to capital has occurred through offshoring or the so-called "threat effects" that can occur even without actual changes in production locations (Epstein and Burke, 2001; see also Messenger and Ghosheh, 2010, on service sector offshoring and outsourcing).

A new focus on financialization

The globalization of financial markets and "financialization" – defined as the increasing role of financial motives, financial actors and financial institutions in the operation of domestic and international economies (Epstein, 2005) – have been brought into the picture only more recently. A report by the IILS found that the international integration of financial markets has been a major driver of falling wage shares, at least in advanced economies (IILS, 2011). The switch in the 1980s to corporate governance systems based on maximizing shareholder value and the rise of aggressive returns-oriented institutions, including private equity funds, hedge funds and institutional investors, put pressure on firms to increase profits , especially in the short term (Rossmann, 2009; Lazonick and O'Sullivan, 2000; Stockhammer, 2004; see also IILS, 2008; Hein and Schoder, 2011; Argitis and Pitelis, 2001). In addition, as pointed out above, financial globalization has probably weakened workers' bargaining position (Rodrik, 1997; Onaran, 2011). Some groups of workers, particularly top executives, may have benefited from this process of "financialization" through deferred salaries in the form of pension funds and other types of capital gains. For the average worker, though, the evidence indicates that the extent and size of such gains are much more limited.

Labour market institutions: Declining collective power?

Labour market institutions and the size of the welfare state are also among the variables that have been debated in the existing literature. These institutional indicators include factors such as union density, minimum wage legislation, unemployment benefits and

coverage, severance pay, or government consumption. The decline in union density – the number of trade union members as a percentage of total employees or as a percentage of total employment – in many developed economies has often been linked to the weakening of workers' bargaining power, negatively affecting their ability to negotiate a larger share of the pie for labour compensation. The level of the minimum wage and other "intermediary" institutions, including employment protection legislation, the generosity of unemployment benefit and other benefits and contributions (the 'tax wedge'), are among the institutional variables that have been included in empirical studies (IMF, 2007; European Commission, 2007; OECD, 2012b). The level of unemployment benefit can have an impact on the labour share by affecting workers' "reservation wages", that is, the level of pay workers would accept as a minimum.

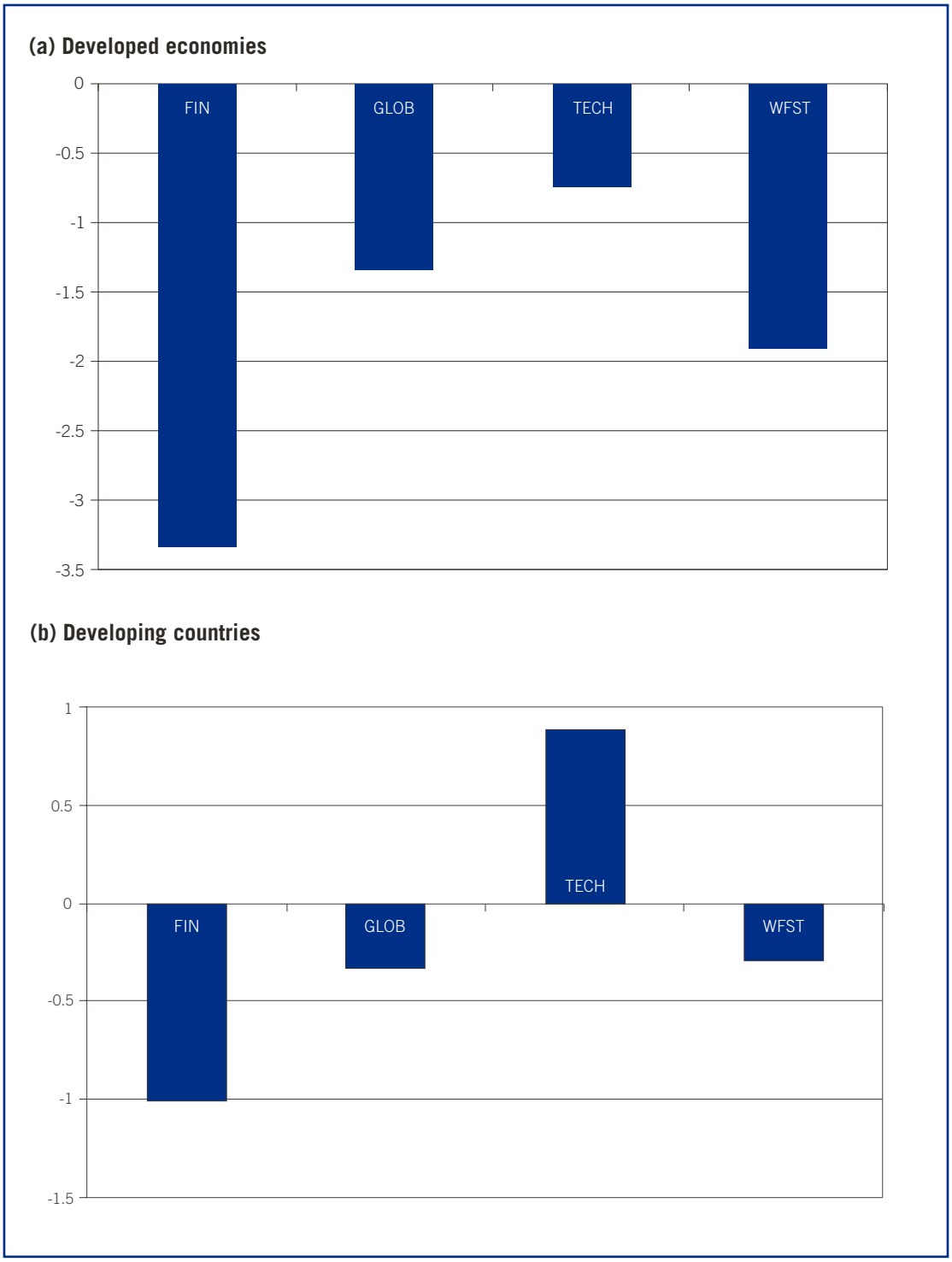
Deepening the analysis

The estimates in the present report provide new evidence to complement and update existing studies. Our analysis covers a wider range of countries and a longer period of time, drawing on the recently updated ILO Global Wage Database and other complementary data sources.[26] It includes annual data from 71 countries (31 high-income economies and 40 developing economies, including emerging economies) for the period 1970–2007. Although data were available for the years 2007–09, the crisis period was excluded to avoid the effect of structural breaks on the underlying historical trend and because our main interest lies in the long-term trends in the run up to the crisis. The estimates are based on a model that captures the factors in figure 37. Appendix III provides a step-by-step account of the methodology used for estimation and summarizes the main results for the regression outcomes. The countries included are also described in the appendix.

Figure 38 shows the results we obtained by decomposing the effects of the different factors that enter the model to explain changes in labour income shares over time. This decomposition was calculated by weighting the measurable changes between two selected periods (1990/04 and 2000/04) for each of the factors where the weights are the estimated coefficients in the selected model (shown in table A4 of Appendix III). The decompositions are estimated separately for developed and developing economies. Figure 38(a) shows that in the case of developed economies all factors contributed to the fall in the labour income share over time, with global financialization playing the largest role. The estimates mean that, in terms of relative contribution, global financialization contributes 46 per cent of the fall in labour income shares, compared to contributions of 19 per cent by globalization, 10 per cent by technology and 25 per cent by changes in two broad institutional variables: government consumption and union density. These results open up the possibility that the impact of finance may have been underestimated in many of the previous studies and suggest that overlooking the role of financial markets may have serious implications for our understanding of the causes of labour share trends.

The negative contribution of the institutional factors to the labour income share can be explained with reference to the diminution, on average, of government consumption as a share of GDP and union density in advanced economies. In other words, while the positive and significant coefficients of these variables (see table A4) imply that

Figure 38 Decomposing changes in the average adjusted labour income share between 1990/94 and 2000/04



Notes: The decomposition is based on estimates in table A4. (a) Developed economies (table A4, column 3); (b) developing countries (table A4, column 4). FIN stands for "financialization"; GLOB stands for "globalization"; TECH stands for "technology"; WFST stands for "welfare state measures and labour market institutions". See Appendix III for a detailed explanation of the steps leading to the decomposition.

Source: ILO estimates (Stockhammer, forthcoming).

increases in government consumption and union density have a positive impact on labour income shares, the actual drop in both government consumption and unionization has contributed to a decline in the labour share. On the other hand, financialization, globalization and technological progress have all grown in magnitude over time, thus contributing negatively to changes in labour income shares between the two periods.

In the case of developing economies, figure 38(b) illustrates our finding of a positive impact of technology on the labour share, which might possibly be explained by some "catching up" effect of economic growth, with a tightening of labour markets and the draining of excess labour supply. This technology effect partly offsets the adverse effects of financialization, globalization and the shrinkage in the welfare state. Nevertheless, as was the case with the decomposition for developed economies, financialization stands as the single most adverse factor in terms of explaining the decline of labour income shares among the economies in the developing world that are included in our sample.

In addition to these variables, increases in unemployment also have strong negative impacts on the labour share, which should not come as a surprise given the downward pressure on wages and the weakening of workers' bargaining position in the presence of higher rates of unemployment (see Appendix III).

6 The effects of labour income shares on economic growth

6.1 Falling labour shares and aggregate demand: Ambiguous effects

Equity and economics: What happens when the labour share falls?

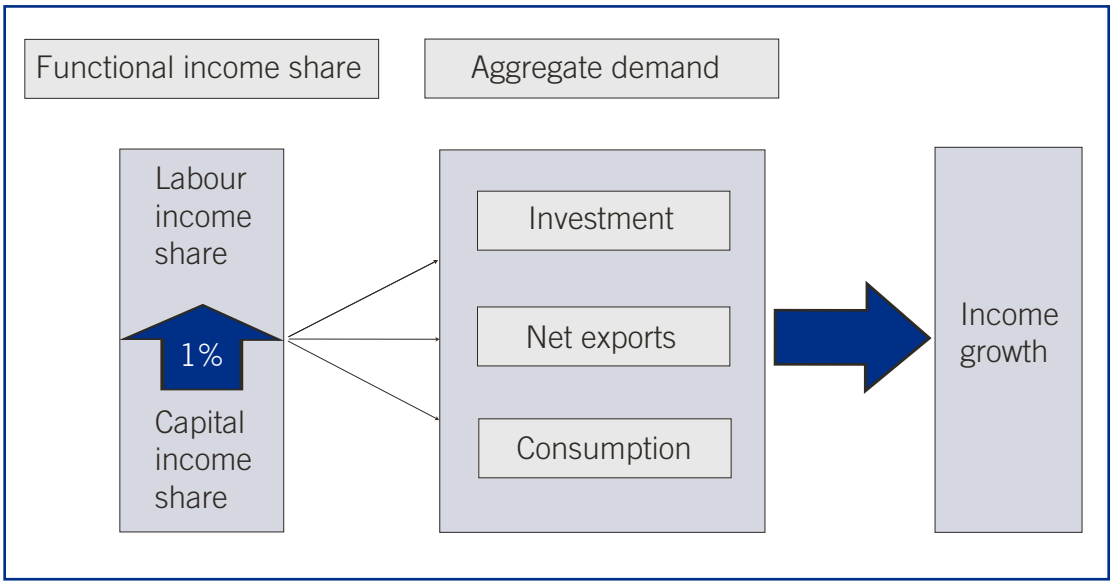
Because factor shares (capital share and labour share) link income to productive activity, they are often seen as an indicator of the fairness of the distribution of income. Also, as pointed out by Atkinson, factor shares are a crucial issue in collective bargaining, where a fair division of income may be regarded as one where increased labour productivity is reflected in increased labour compensation (Atkinson, 2009). Some commentators also consider that decreasing labour shares may have political consequences.[27]

Analysing the effects on aggregate demand

While these are important considerations, this section of the present report focuses on the economic implications of declining labour shares. In particular, we underline the fact that changes in labour share have different effects on the various key components of the aggregate demand for goods and services produced in an economy. Aggregate demand is the sum of consumption by households, private sector investment, net exports and government consumption. The economic mechanism illustrated in figure 39 indicates that a shift between the two components of the functional income distribution (labour and capital shares) affects the main elements of aggregate demand and ultimately these changes affect national income growth in a dynamic process.

But how exactly does a decline in the labour share affect aggregate demand? This question has so far received relatively less attention, and does not have a simple answer. We have set out to explore empirically the link between the observed changes

Figure 39 The macroeconomic effects of functional income shares



Source: ILO.

in labour income shares in the past four decades (1960s to 2000s) and each of the main components of aggregate demand, namely consumption, investment and net exports.[28] We have restricted our analysis to 15 countries that are members of the G20 and for which sufficient data are available, and also look at the 12 eurozone member countries as a group. The methodology in estimating the effect of wage shares on aggregate demand and detailed results are provided in Appendix IV, and the main direction of results is shown in table 2.[29]

Table 2 Direction of effects of a 1% decrease in labour income share on private consumption of domestic goods and services, investment and net exports in 16 economies

	Private consumption	Investment	Net exports
Eurozone	↘	↗	↗
Argentina	↘	→	↗
Australia	↘	↗	↗
Canada	↘	↗	↗
China	↘	→	↗↗
France	↘	↗	↗
Germany	↘	↗	↗
India	↘	→	↗
Italy	↘	↗	↗
Japan	↘	↗	↗
Mexico	↘	↗	↗
Republic of Korea	↘	→	↗
South Africa	↘	↗	↗
Turkey	↘	→	↗
United Kingdom	↘	↗	↗
United States	↘	→	↗

Source: Onaran and Galanis, forthcoming.

Consumption down, exports up, investment uncertain

The table illustrates the finding that a 1 per cent decline in the labour share has been consistently associated with a lower share of private consumption relative to GDP in all 15 countries, as well as in the eurozone as a whole. Conversely, a 1 per cent lower labour share was associated with a higher share of net exports in all countries, particularly in China (as highlighted by the two upward arrows) which has pursued a highly explicit export-led growth strategy. The link between labour shares and investment is less clear-cut. A 1 per cent lower labour share was associated with higher rates of investment in GDP in nine countries as well as in the eurozone group, but had no perceptible effect on investment in five emergent economies and the United States.

The positive effect of lower labour share on exports is perhaps not surprising, given the close relationship between the concept of the labour share and the concept of unit labour costs (labour costs per unit of output; for more detail on this relationship, see Appendix I). A decline in unit labour costs is often seen as an improvement in external cost competitiveness, particularly in the eurozone, where individual Member States cannot devalue their currency or adjust interest rates, and where lower unit labour costs are therefore frequently advocated as a means of restoring economic growth and promoting employment. This was, for example, the rationale behind the decision in Greece to reduce the minimum wage by 22 per cent, with a further 10 per cent cut for young workers, together with a reduction in non-wage costs (social security contributions) by 5 percentage points (see Part I of this report). Similar, though less radical, measures were also part of IMF programmes in Portugal, Serbia and Latvia.[30]

Private consumption and the labour/capital share

However, a single-minded focus on lowering unit labour costs would fail to take into consideration the generally negative impact of lower wages on private household consumption, and hence the uncertain effect on overall aggregate demand. The positive effect on consumption of redistribution from the capital to the labour share most likely arises because the propensity to consume out of labour compensation is higher than the propensity to consume out of capital income, as the latter is mainly redistributed through dividends to wealthier people who save a higher proportion of their total incomes. It is important to realize, though, that a substantial part of profit accrues to companies, who pass on only a part of it in dividends, and whose retained earnings contribute to generating future labour incomes. Also, a sizeable fraction of the dividends accrues to pension funds, which may pay out pensions at a later date that will be spent on consumption. Furthermore, the State levies taxes on capital income and pays transfers that may be an important determinant of consumption. Nevertheless, in spite of these complexities, we find that labour compensation and household consumption remain positively correlated.

Investment: Resources for the "real economy"

The relationship between the labour share and investment is less clear. In principle one could expect that higher capital incomes might lead to more productive investment, and this indeed seems to have been the case in a majority of countries. But there are