# has the LABOUR SHARE declined? it depends.

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**ABSTRACT**

We revisit the issue of how to best measure the labour and capital shares in OECD economies, distinguishing between production- and income-based perspectives. The former adopts a producer perspective with gross income as a reference: it uses a production function in a market setting. The latter adopts a consumer perspective with net income as a reference, taking account of depreciation and including taxes and subsidies as perceived by final consumers. We confirm a statistically significant but small decline in the labour share across OECD countries over the past two decades under a production perspective. But this appears to result mainly from a rise in the gross capital share caused by rising depreciation rates, themselves reflecting a shift towards short-lived, high-obsolescence capital goods such as information and communication technology products and cyclical effects. Accordingly, we find little or no decline in the labour share under an income perspective, where income is measured net and after depreciation.

*Keywords: Labour share, functional distribution*

*JEL classification: D33*

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## 1. Introduction

Along with the debate on the increasing dispersion of income and consumption among households (OECD, 2015b; Atkinson, 2015), the distribution of income between labour and capital has also attracted rising interest[[1]](#footnote-2) in light of evidence of a declining labour share, in particular in the United States. International evidence such as Karabarbounis and Neiman (2014) have corroborated the idea that the declining labour share can be considered a stylised fact in many countries even more so as convincing explanations have been put forward to account for the decline, including technical change that led to rapid declines in relative prices of investment goods, coupled with a large elasticity of substitution between labour and capital, technical change that is biased against unskilled labour, international trade and investment that put pressure on wages through rising competition and declining bargaining power of workers. The declining labour share has also played a central part in the macro-economic discussions around inequality (Stiglitz, 2015) and in the discussions around the role that specific industries play in the evolution of the aggregate labour share (Elsby, Hobijn and Sahin, 2013). One reason for the strong interest in the functional income distribution is the impact from ‘upstream’ that it may exert on the inter-household distribution of income and consumption. As labour income tends to play a larger role as a source of income among lower-income households than among higher income households, a decline in the labour share can translate into a widening overall income distribution[[2]](#footnote-3). In short, there continues to be strong interest in the evolution of aggregate and industry-level labour shares and, by implication, capital shares.

It is hardly news that gauging the labour and capital shares is fraught with measurement issues to which theory provides little guidance. These include the allocation of the income of the self-employed between labour and capital; the right scope of income; the valuation of income and whether it should be measured gross or net of depreciation. Work on some of these issues dates back to Johnson (1954) and Kravis (1959). We revisit the measurement question and make some headway by drawing a distinction between *production-based* and *income-based* measures of the labour share. This distinction reflects different purposes in measuring the labour share. The production-based approach depicts the roles of labour and capital in a production framework; the income-based approach depicts how labour and capital shares influence inter-household income distribution. We carefully decide on various measurement questions with these references in mind and put in place labour and capital measures based on high-quality national accounts data from official sources in OECD countries. This leads to new and differentiated messages about the evolution of the labour share in OECD countries over the past 20 years or so.

To foreshadow results, the basic observation of a statistically significant decline in the labour share holds up, for the past two decades, for the *production-based* measure of labour and capital income, albeit with significant variations across countries. Also, while the measured average, cross-country decline of the labour share is statistically significant, it tends to be modest in size. On the other hand, evidence for a decline in the *income-based* labour share is much weaker or non-existent. This is somewhat surprising given the greater proximity of the income measures underlying the income-based labour shares to overall net income which in turn affects net income that is disposable to households and whose distribution has become more unequal in many countries. We devise a method to de-compose the difference between the production- and income-based labour shares and find that the single most important explanatory is depreciation. There is no deduction for depreciation of capital in gross income, and its share is rising. And as gross income is the basis of the production-based approach, the capital share is also rising under this approach, implying a corresponding fall in the production-based labour share. This is not true for the income-based labour and capital shares, where income is measured net. This corroborates the conclusions reached by Bridgman (2014), Zheng et al. (2015) who compare gross and net labour shares and find no evidence for a decline of the net labour share in the United States and several other advanced countries. We conclude that the functional income distribution, in particular when measured from an income rather than a production perspective is a weak predictor of the development of the inter-household income distribution whose driving forces must be sought elsewhere.

## 2. Measurement of labour shares

### Production and income perspective

The labour share is the share of factor income or production costs that accrues to labour. A central analytical use of the labour share arises from its role in production analysis and neoclassical economic models. Under assumptions of cost-minimising behaviour of producers the labour share in production costs approximates the otherwise unobserved cost elasticity of labour. Measurement of the cost elasticity is in turn central for estimating multi-factor productivity (MFP) and for purposes of growth accounting[[3]](#footnote-4). The cost elasticity is also instrumental in that it permits establishing a direct link between changes in the labour share and the elasticity of substitution between labour and capital (Hicks, 1932), a relationship that has been used in the analysis of changing labour shares, for instance by Elsby, Hobijn and Sahin (2013), Karabarbounis and Neiman (2014), and Stiglitz (2015). We refer to this analytical use of the labour share as the ***production perspective***.

Another use of the labour share is to respond to the question about the distribution of income between factors of production, labour and capital[[4]](#footnote-5) from a political economy angle or from an ***income perspective***. Atkinson (2009) is an excellent example of this perspective. He judges the study of labour shares important because it allows “(i) to make a link between incomes at the macroeconomic level (national accounts) and incomes at the level of the household; (ii) to help understand inequality in the personal distribution of income; (iii) to address the concern of social justice with the fairness of different sources of income” (p.5). In the debate, a decline of the labour share is often associated with a loss of collective bargaining powers of workers, itself a consequence of declining unionisation, unemployment or increased competition through globalisation of markets. Along the same lines, the labour share is often seen as the link between the functional distribution of factor income and the inter-personal distribution of income and wealth. As Atkinson (2009) explains, differentiating between labour and capital income is important from a policy perspective because different types of incomes raise different policy issues, and “In building bridges between the national accounts and household experience, the factor shares provide, therefore, a valuable starting point.” (p.8).

None of these income and distribution-related issues requires setting the labour share discussion in a production model. While in a simple world without taxes and subsidies (on products), and in the absence of any residual profits, losses and mark-ups (typically assumed away via fully competitive markets) the production perspective and the income perspective coincide except for the effects of depreciation, this is not in general the case. From a very practical angle, the distinction will be useful in decisions about measurement of the labour and the capital share, of which there are many including the treatment of taxes, the scope of income and the treatment of depreciation. As we shall see, the two perspectives also give rise to somewhat different conclusions about the development of the labour share over time.

### Valuation of income

A first measurement question relates to the valuation of income in terms of taxes and subsidies. From a production perspective, value-added (output) is appropriately measured at *basic prices*, a valuation that includes taxes minus subsidies on production and so reflects the value actually received by the producer. Value added at basic prices has to be distinguished from value-added at *market prices*[[5]](#footnote-6), the headline GDP figure in many countries including the United States. Valuation at market prices reflects *all* taxes minus subsidies on products and production and consequently represents a demand or consumer perspective rather than a producer perspective. We conclude that a computation of labour shares for purposes of production analysis is best based on gross value-added at basic prices whereas a computation of labour shares for purposes of distribution analysis should use gross value-added at market prices. In terms of accounting identities, we relate the gross value-added at basic prices GVAB and at market prices GVAM to the compensation of employees CE, gross operating surplus GOS (a measure of profits), gross mixed income GVMIX of the self-employed (of which more below), taxes minus subsidies on products TPR, and other taxes minus subsidies on production TPRN[[6]](#footnote-7):

(1.1) Gross value-added at basic prices: GVAB=CE+GOS+GVMIX+TPRN;

(1.2) Gross value-added at market prices (GDP): GVAM=CE+GOS+GVMIX+TPRN+TPR.

### Scope of income and production

A further practical question concerns the scope of income or production. Should all resident producers and all domestic income be considered or should certain economic activities or sectors be excluded? One activity that is regularly considered for exclusion is income from owner-occupied housing (see, for instance OECD, 2012; Pionnier and Guidetti, 2015). This income is an imputed item that corresponds to the value of housing services for persons living in their own house. These services are exclusively recorded as operating surplus or capital services in the households sector[[7]](#footnote-8) along with a corresponding value of consumption, but no imputation is made for the labour input associated with providing housing services, thus producing a potential upwards bias to profit shares and an asymmetric treatment of labour and capital inputs. Excluding these housing services appears plausible from a production perspective but not necessarily from an income perspective – housing services on which owner-occupiers draw are true consumption items even if there is no monetary transaction, they matter for peoples’ well-being and have played a significant role in shaping the distribution of consumption and wealth between households (Atkinson, 2015). Therefore, our set of labour shares for purposes of production analysis will exclude imputed housing services, but the contribution of housing services to capital income will be taken into account when calculating labour shares for purposes of analysis of functional income distribution

A related reasoning applies to non-market producers, such as general administration, health and education where government often provides services for free or below market prices. The value of these services is measured via their costs but, by convention, capital costs only comprise depreciation whereas capital costs of market providers also reflect a net return to capital. The consequence is a systematic downward bias in the remuneration of government-owned capital[[8]](#footnote-9). Pionnier and Guidetti (2015) therefore also recommend exclusion of the public sector (or of industries that are dominated by non-market producers). We agree in principle with this reasoning for purposes of production analysis but encounter the practical difficulty that in general industry data with the appropriate break-down of value-added components and matching employment series is less timely and patchier than aggregate data which would limit the scope of cross country comparisons. We thus do not exclude Public Administration for the dataset at hand. However, we carry out a sensitivity test for case of Korea for which a full data set is available to find that the exclusion of public administration, defense, health and education from the list of activities can affect the level of the labour shares but hardly matters for their evolution over time.

A similar robustness check was applied to test for the effects of excluding the financial services industry, another activity that Pionnier and Guidetti (2015) purge from their computation of production-based labour shares. Again, at least for the Korean case, this exclusion matters little for the trend in labour shares.

We do exclude, however, owner-occupied housing for our labour share computations for purposes of production analysis. Accounting identity (1.1) is then modified as in (2) to reflect the exclusion of owner-occupied housing (as value-added consists exclusively of gross operating surplus, one has GVAB\_OOH=GOSOOH):

(2) GVAB’≡GVAB-GVAB\_OOH=CE+GOS-GOSOOH+GVMIX+TPRN

### Mixed income

Mixed income is the income of unincorporated enterprises owned by households (the self-employed) and lumps together compensation for labour services and a gross return to capital. A tricky issue lies in splitting the income of the self-employed into a labour and a capital component. Some authors, for instance Karabarbounis and Neiman (2014) and Rognlie (2015) have restricted labour share measurement to the corporate sector, thereby aiming to avoid splitting mixed income altogether as, in principle, corporations do not produce mixed income. However, Pionnier and Guidetti (2015) find that the practice of allocation of units to the corporate and to the household sector varies significantly between countries. For instance in Germany and Italy, a large part of self-employed workers, and consequently the mixed income that they receive, are allocated to the corporate sector[[9]](#footnote-10). Thus, limiting the scope of labour share measurement to the corporate sector, only avoids the issue of dealing with “mixed income” in some countries[[10]](#footnote-11). Absent a consistent allocation of mixed income in countries’ national accounts, the issue of splitting mixed income into a labour and a capital component needs to be tackled[[11]](#footnote-12) both for international comparisons and for studying the evolution of the labour share over time[[12]](#footnote-13). Further, from an income perspective, restricting the object of research to corporations is questionable in particular for developing countries where self-employment accounts for significant part of economic activity.

Various authors (Johnson, 1954; Jorgenson, 1991; Young, 1995; Gollin, 1998, 2002; Krueger, 1999; Bernanke and Gurkaynak, 2001; Freeman, 2011; Guerriero, 2012; Cho, Kim and Schreyer, 2015; Pionnier and Guidetti, 2015) have employed different approaches towards splitting mixed income. The theoretically most compelling approach is a procedure based on matching micro-data records at national level. As this is not a feasible approach for the task at hand, we shall consider a whole sequence of options for breaking down mixed income as laid out below. The allocation of mixed income to labour and capital is required whether a production or an income perspective prevails.

### Gross and net labour shares

A key aspect in moving from a production to an income perspective is that income should be measured net of depreciation[[13]](#footnote-14) rather than gross. Income provides the bridge to consumption expenditures in constant prices (Jorgenson and Slesnick, 1987, 2014). Net saving in constant prices corresponds to increments in the current period to future flows of consumption (Weitzman, 1976; Sefton and Weale, 2006; Hulten and Schreyer, 2010). Thus, net concepts are a natural choice when labour and capital shares are interpreted from an income and, ultimately, welfare perspective. Gross concepts, on the other hand, are the appropriate set-up for production-related analyses with labour shares[[14]](#footnote-15). We conclude that gross and net labour shares are complementary rather than competing concepts.

In terms of identity (1.2), depreciation D is deducted from gross operating surplus and gross mixed income to yield a measure of net domestic product NDPM:

(3) NDPM = GVAM-D=CE+GOS+GVMIX-D+TPRN+TPR.

Equation (3) will form the basic identity for the measurement of labour shares from an income perspective, and (2) from a production perspective.

### Allocation of income items to labour and capital

#### Taxes

The next task is the allocation of the various income items in (2) and (3) to labour and capital. We start from a *production perspective* and define labour compensation wPjLj as

(4) wPjLj = (CE+αjVMIX)(1+τP),

where wPj is the unit value of labour compensation in the economy, Lj is the corresponding quantity of labour input, αj is the share of net mixed income VMIX attributed to labour. Labour compensation variables are indexed with j=1,2,…5 to reflect the fact that different values of αj (j=1,2,…5) will be selected during computations. We start by noting that gross mixed income GVMIX contains a depreciation part that is clearly not part of labour compensation. Thus, the measurement of the labour part of mixed income uses net mixed income VMIX as a starting point[[15]](#footnote-16). τP ≡TPRN /[GVAB’-TPRN] is the rate that proportionally allocates other net taxes on production[[16]](#footnote-17) to labour and capital. There are no strong theoretical reasons for this proportionate allocation of TPRN but it seems like a neutral way of dealing with taxes on production from a production perspective. Also, the proportionate allocation leads to the same labour share as would be observed under a valuation of income at factor costs, i.e., ignoring net taxes on production TPRN[[17]](#footnote-18). We compute the labour share from a production perspective LSPj as:

(5) LSPj = wPjLj/GVAB’; j=1,2,…5.

Labour compensation for purposes of *income analysis* is:

(6) wDjLj = CE + αjVMIX

where wDj is the unit value of labour and Lj is again the quantity of labour input. For purposes of income analysis, we allocate all taxes to the non-labour (capital) component of value-added on the grounds that these taxes must be covered out of operating surplus. One notes that net domestic income at market prices NDIM which is the same, in nominal terms, as net domestic product at market prices NDPM also includes taxes on products TPR (such as sales taxes) for which there is no basis for allocation to labour or capital. We then compute the labour shares from an income perspective LSDj as:

(7) LSDj = wDjLj/NDIM; j=1,2,…5.

#### Mixed income

We shall now present alternative measures of α, the share of mixed income allocated to labour. Table 1 below presents various combinations. Some of the computations of α require information on the volume of labour and the following holds: total employment L equals employees (LW), employers (LNW\_empr), and own-account workers and contributing family workers (LNW\_wkr). Hours worked are preferred to numbers employed but not widely available so for the computations at hand we use data on numbers employed.

(8) L = LW + LNW\_empr + LNW\_wkr.

Of the five computations presented, LS4 – assuming the same unit compensation for the self-employed as for the employees - is a widely-used approach towards dealing with mixed income (OECD, 2001). This does not necessarily mean it is correct. Where more in-depth analysis has been carried out, the hypothesis of equal average compensation is not normally confirmed. For instance, Freeman (2011), following the methodology[[18]](#footnote-19)by Jorgenson (1991) finds a downward bias implied by the LS4 method for the United States. Other empirical work (Cho, Kim and Schreyer 2015) uses a different method and finds the unit compensation for the self-employed to be significantly below the unit compensation of employees[[19]](#footnote-20). Also, OECD (2001) reports that small business owners often have a lower average compensation. A second best solution, only based on national accounts data is to make an imputation at the industry level. This allows controlling for industry composition effects (for instance, self-employed workers in the agriculture sector are probably less well paid than self-employed workers in the services sector). Data constraints for our cross-country panel data set prevent us from testing this method for all countries. However, the method was put in place for the Korean case. As it turns out, the resulting economy-wide allocation of mixed income to labour is quite close to the allocation that is obtained by applying an economy-wide adjustment factor α = 0.5(CE/Lw)(LNW/VMIX) or α = 2/3, in line with LSP5 or LSP2[[20]](#footnote-21).

Table 1 Allocation of mixed income

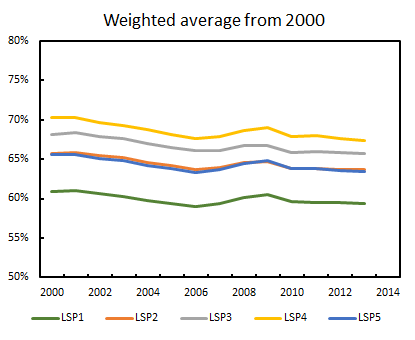
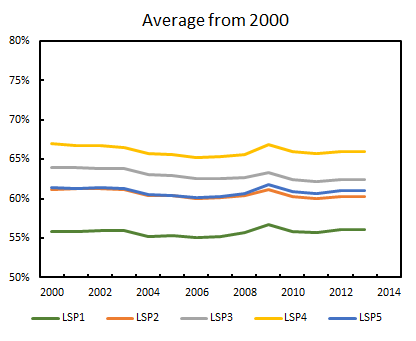
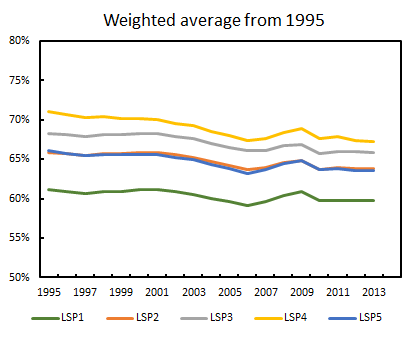
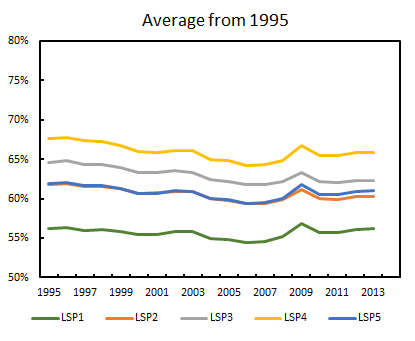
|  |  |  |
| --- | --- | --- |
| **Variant** | **αj** | **Comment** |
| j=1 | 0 | Unadjusted labour share |
| j=2 | 2/3 | Johnson’s (1954) version with 2/3rds of mixed income allocated to labour |
| j=3 | 1 | Gollin’s (2002) 1st adjustment with all mixed income allocated to labour |
| j=4 | (CE/Lw)(LNW/VMIX) | Average compensation of non-salaried workers equals the average compensation of salaried workers (CE/Lw). |
| j=5 | 0.5(CE/Lw)(LNW/VMIX) | The average compensation of non-salaried workers is set to equal half the average compensation of salaried workers. α5 is also a simple average of α1 and α4 |

## 3. Results

### Labour shares

We estimate labour shares from a production and from an income perspective, each for different values of αj (j=1,2,…5). As we only rely on officially available national accounts data collected by the OECD, country coverage varies over the period. Our core analysis relates to 22 OECD countries and the period 1995-2014 (when only the period 2000-2014 is considered, the set grows to 28 countries). We start with a visual inspection of results for production-based average labour shares in Figure 1. Two types of averages are presented – an unweighted average across countries and a GDP-weighted measure. A first observation is that the levels of labour shares vary significantly with the choices of allocation of mixed income. Also, in general, the various measures evolve at a different pace, indicating that the allocation of mixed income is indeed a crucial element in the computation and interpretation of labour shares. The exception is labour shares 2 and 5 yield that yield nearly identical results.

Figure 1 Average labour shares (production perspective)



*Note*: Data starting in 1995 comprise 22 countries of Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Japan, Korea, Netherlands, Norway, Portugal, Slovak Republic, Sweden, Switzerland, United States; data starting in 2000 also include 6 countries of Iceland, Ireland, Poland, Slovenia, Spain, United Kingdom.

*Sources*: Authors’ calculation based on OECD Annual National Accounts.

To check the presence of a common time trend, we set up the following regression models[[21]](#footnote-22) for the production-based labour share:

(9a) LSPi,t = μi + α\*xi,t + β\*t + εi,t; εi,t ~N(0, ∑ε );

(9b) LSPi,t = μi + α\*xi,t + β\*t + εi,t ; εi,t = φ εi,t-1+vi,t; vi,t ~N(0, ∑v ).

(9a) is a fixed effects model where LSPi,t is the production-based labour share in country i=1,...22 and year t=1,…20, μi are the corresponding country dummies, α captures a business cyclical factor effect based on countries’ output gap (xi,t)[[22]](#footnote-23), β captures a positive or negative common trend among countries’ labour shares and a normally-distributed error term εi,t allows for random deviations. In (9b) we test for a common trend in a set of a random effects model with an autocorrelated error term[[23]](#footnote-24). Both regression models are run for each of the five versions of αj with results in Table 2. Overall, there is a statistically significant *downward trend* *for* *production-based labour shares*, independent of the way mixed income has been allocated, except for LSP1 under both specifications and LSP5 under the random effects specification. The unit of the β coefficient is percentage points per year, so the estimated average decline in the labour share over the period ranges from -0.129\*(2014-1995)=-2.45 percentage points for LSP3 (fixed effects model) to -0.057\*(2014-1995)=-1.08 percentage points for LSP1 (random effects model) when only statistically significant models are considered. While these values are most statistically highly significant, the magnitude of declines remains after all, contained. Time trends under the random effects model are also significant with the exception of LSP1 and LSP5 but even smaller in magnitude. Also, averages hide significant cross-country variation, as is apparent from Figure 2. It compares estimates of LSP5 between the beginning and the end of the period for individual countries. Of the 23 countries, 14 show a declining labour share and 9 countries show a rising share. Overall, however, our results confirm earlier examinations of production-based labour shares across countries, for instance OECD (2012) and OECD-ILO (2015) and forthcoming work by Schwellnus et al.

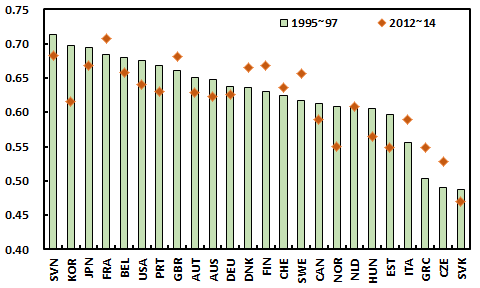
Table 2 Time trends in production-based labour shares, 1995 - 2014

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Time variable(βt) | LSP1 | LSP2 | LSP3 | LSP4 | LSP5 |
| Fixed effects model (9a) | 0.0006 | -0.086\*\*\* | -0.129\*\*\* | -0.116\*\*\* | -0.057\*\*\* |
|  | (0.015) | (0.013) | (0.013) | (0.019) | (0.016) |
|  |  |  |  |  |  |
| Random effects model | 0.004 | -0.078\*\* | -0.118\*\*\* | -0.113\* | -0.055 |
| with AR1 error term (9b) | (0.051) | (0.033) | (0.037) | (0.060) | (0.042) |

*Note:* Standard errors between brackets. One, two, and three asterisks indicate parameter significance at the 10, 5, and 1% level. Estimates based on 22 countries (see Figure 1 for list).

*Source:* Authors’ calculations*.*

Figure 2 Changes in production-based labour shares (LSP5)



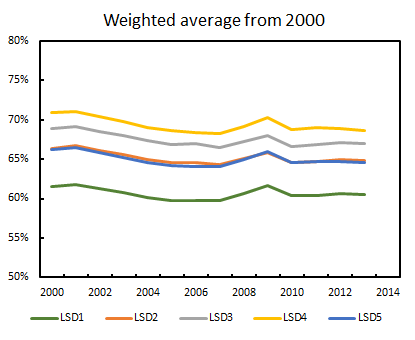
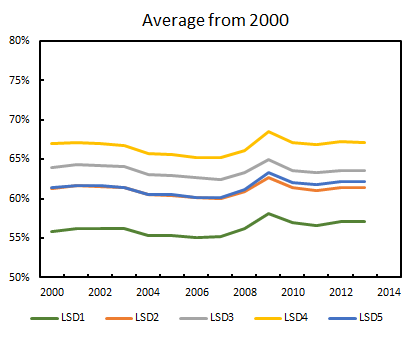
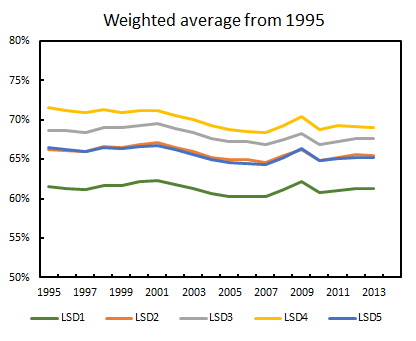
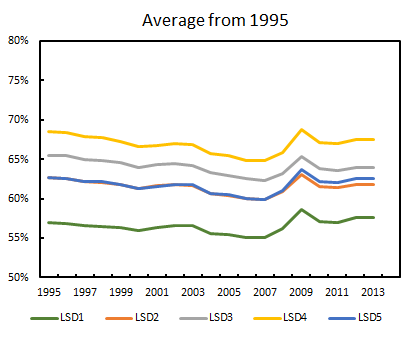
*Note:* End-years and starting years were averaged to allow for country differences in observations. Depending on data availability, adjacent three-year averages are used for a few countries.

*Source:* Authors’ calculations*.*

Turning to labour shares LSDj computed from an income perspective[[24]](#footnote-25), we find a different picture. Figure 3 immediately conveys a visual message of broad constancy of the labour shares on average, whether weighted or not. A more systematic statistical analysis in the form of a panel regression along the lines of equation (9) demonstrates indeed that the common time trend has become weaker overall. If coefficients were already moderate in size for the production-based labour share (Table 2), they are even smaller for the income-based variables (Table 3). The maximum cumulative decline of the income based labour share (LSD3) over the past 20 years is hardly noticeable with -0.090\*(2014-1995)=-1.71 percentage points. What is more, in four of the five cases under the random effects estimate, statistical significance disappears altogether[[25]](#footnote-26). Thus, on average, and in terms of a common trend across countries, there is no evidence of a pervasive decline of labour shares under an income-based measure. Similar to production-based labour shares, the allocation of mixed income matters for the levels of income-based labour shares except for LSD2 and LSD5 that are virtually identical. This result of a missing downward trend in income-based labour shares weakens the link that has been put forward between declining labour shares and rising inter-household income inequality as described in OECD (2012) or OECD-ILO (2015) [[26]](#footnote-27).

Two caveats are in place here: one of the reasons why we find only a small or no contraction in the labour share may be the period under study. Labour shares may be counter-cyclical (IMF, 2012) and until the onset of the crisis there was a downward trend in labour shares as shown in Figure 3. The trend was reversed afterwards. Now, many countries for which the upward trend in both income-based and production-based labour shares is most evident are countries that are still under a protracted period of crisis (e.g. Italy, Greece, France but also Finland and Denmark) and it is possible that, as growth resumes in these countries, the labour share will go down again. Ideally, longer term computations should thus be based on peak-to-peak comparisons to control for cyclical effects. Another caveat is that the picture may turn out differently if only the business sector is considered, in particular in conjunction with production-based labour shares. As mentioned earlier, the capital income of government producers is measured as depreciation. For the income-based measures of labour shares where income is measured net of depreciation it follows that government entities enter with a labour share equal to one. If their share in total net income increases this may be one of the reasons why no decline in the income based labour share is visible. There is indeed some evidence (OECD, 2012) that the negative trend is on average stronger when looking only at the business sector.

Figure 3 Average labour shares (income perspective)



*Note*: Data starting in 1995 comprise 22 countries of Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Japan, Korea, Netherlands, Norway, Portugal, Slovak Republic, Sweden, Switzerland, United States; data starting in 2000 also include 6 countries of Iceland, Ireland, Poland, Slovenia, Spain, United Kingdom.

*Sources*: Authors’ calculation based on OECD Annual National Accounts.

Table 3 Time trends in income-based labour shares, 1995 - 2014

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Time variable(βt) | LSD1 | LSD2 | LSD3 | LSD4 | LSD5 |
| Fixed effects model | 0.052\*\*\* | -0.031\*\* | -0.073\*\*\* | -0.052\*\*\* | 0.0002 |
|  | (0.016) | (0.014) | (0.014) | (0.019) | (0.017) |
|  |  |  |  |  |  |
| Random effects model | 0.027 | -0.050 | -0.090\*\* | -0.085 | -0.026 |
| with AR1 error term | (0.055) | (0.037) | (0.040) | (0.064) | (0.045) |

*Note:* Standard errors between brackets. One, two, and three asterisks indicate parameter significance at the 10, 5, and 1% level. Estimates based on 22 countries (see Figure 1 for list).

*Source:* Authors’ calculations*.*

What drives the differences between production-based and income-based labour shares? We consider the following decomposition of the changes of LSP and LSD (leaving out subscripts that refer to different allocations of mixed income for ease of notation):

(10) LSD = [wDLD/wPLP]∙[wPLP/VAB’]∙[VAB’/ VAB]∙[VAB/VAM]∙[VAM/NDIM]

= LSP∙[wDLD/wPLP]∙[VAB’/ VAB]∙[VAB/VAM]∙[VAM/NDIM]

=LSP∙γ1∙ γ2 ∙ γ3∙ γ4

where γ1 ≡ [wDLD/wPLP]: proportional attribution of net taxes on production TPRN to labour;

γ2 ≡ [VAB’/ VAB]: exclusion of owner-occupied housing;

γ3 ≡ [VAB/VAM]: valuation at basic prices rather than market prices;

γ4 ≡ [VAM/NDIM]: gross rather than net measure (depreciation effect).

The components on the right hand side of (10) indicate the various adjustments that are required to move from the labour share measures LSD (income perspective) to labour shares LSP (production perspective). Table 4 presents the results of the decomposition for the case of LSP5 and LSD5. It breaks down the percentage point change of the labour share LS2014P5-LS1995P5 into its additive components. This is achieved by transforming the percentage point difference into a logarithmic difference by applying a logarithmic mean[[27]](#footnote-28):

(11) LSD2014 –LSD1995 ≡∆ LSD = m(LSD2014, LSD1995)∆lnLSD

with ∆lnLSD = ∆ln LSP+∆ln γ1+∆ln γ2 +∆ln γ3+∆ln γ4.

Table 4 Explaining the gap in changes between LSP5 and LSD5 by country

Percentage points, cumulative over the period 1995-2014

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Time  period | Changes in production- based LS | + Effect of allocation of net taxes | + Effect of exclusion of owner-occupied housing | + Effect of valuation | + Effect of depreciation | Changes in income-based LS |
| m\*ΔlnLSP5 | m\*γ1 | m\*γ2 | m\*γ3 | m\*γ4 | =ΔLSD5 |
| Australia | 1995~2014 | -1.62 | -0.55 | -0.82 | **0.97** | 0.20 | -1.82 |
| Austria | 1996~2014 | -2.27 | -0.31 | -1.05 | -0.77 | **1.45** | -2.95 |
| Belgium | 1996~2014 | -2.28 | 1.16 | 0.86 | -0.53 | **3.27** | 2.47 |
| Canada | 1995~2014 | -4.10 | 0.97 | 0.00 | 1.17 | **1.55** | -0.41 |
| Czech Republic | 1996~2014 | 3.94 | 0.51 | **-0.62** | -0.40 | 0.24 | 3.67 |
| Denmark | 1996~2014 | 3.20 | **-0.60** | 0.03 | 0.01 | 0.50 | 3.14 |
| Estonia | 1996~2014 | -6.03 | 0.54 | -0.29 | **-0.74** | 0.31 | -6.22 |
| Finland | 1996~2014 | 3.97 | -0.44 | **-1.51** | -1.20 | 0.82 | 1.63 |
| France | 1995~2014 | 3.13 | 0.01 | -0.55 | -0.34 | **1.88** | 4.14 |
| Germany | 1996~2014 | -1.63 | -0.72 | -0.21 | -0.45 | **1.22** | -1.78 |
| Hungary | 1996~2014 | -6.21 | -0.15 | 0.43 | -0.27 | **-1.37** | -7.58 |
| Italy | 1996~2014 | 3.52 | -2.06 | -1.70 | -0.33 | **2.39** | 1.83 |
| Japan | 1995~2013 | -3.40 | -0.69 | **-1.48** | 0.16 | 1.14 | -4.27 |
| Korea | 1995~2014 | -6.30 | -0.02 | 0.11 | 0.35 | **5.62** | -0.24 |
| Netherlands | 1996~2014 | -0.18 | -0.24 | **1.09** | -0.43 | 0.36 | 0.60 |
| Norway | 1996~2014 | -5.65 | -0.28 | **3.52** | 1.69 | -0.77 | -1.50 |
| Portugal | 1996~2014 | -3.98 | -0.41 | **-2.66** | -0.52 | 1.38 | -6.20 |
| Slovak Republic | 1996~2014 | 0.75 | -0.39 | -0.09 | 0.45 | **-0.83** | -0.10 |
| Slovenia | 1997~2014 | -5.55 | -0.41 | 1.43 | 0.20 | **1.70** | -2.64 |
| Sweden | 1996~2014 | 5.13 | **-2.11** | 1.00 | 0.69 | 2.05 | 6.75 |
| Switzerland | 1996~2013 | 2.08 | **-0.93** | 0.00 | -0.05 | 0.64 | 1.75 |
| United Kingdom | 1998~2014 | 2.62 | 0.16 | **-1.91** | -0.38 | -0.51 | -0.03 |
| United States | 1998~2014 | -2.97 | -0.08 | -0.47 | 1.03 | **1.15** | -1.33 |
| Average |  | -1.04 | -0.31 | -0.21 | 0.01 | **1.06** | -0.48 |
| Average of absolute effects |  |  | 0.60 | **0.95** | 0.57 | **1.36** |  |

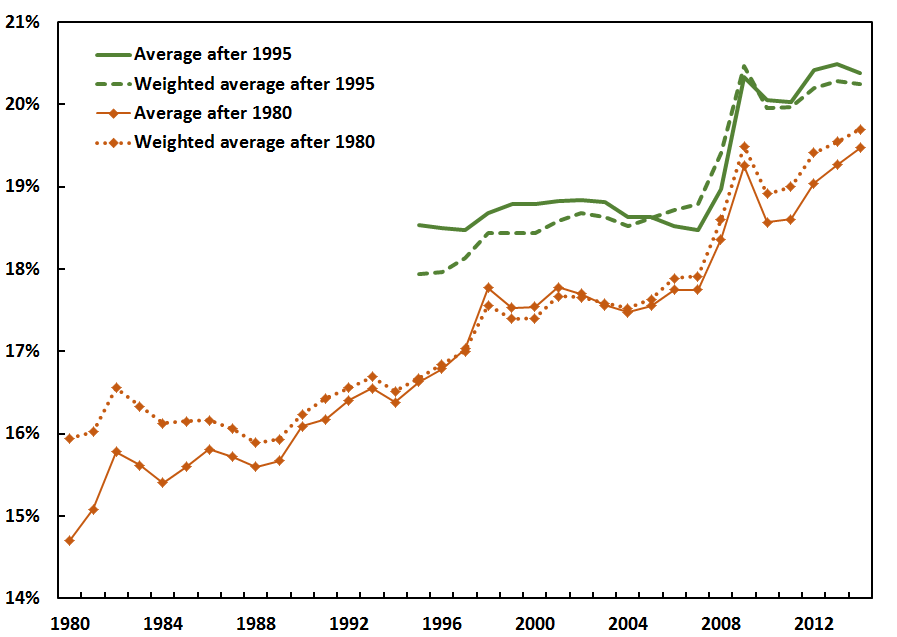
*Note: S*haded cells indicate the largest absolute component.

*Source:* Authors’ calculations*.*

It emerges from Table 4 that the most important element in this decomposition is the passage from a gross to a net measure of income and thus the role of depreciation (or consumption of fixed capital as it is labelled in the national accounts)[[28]](#footnote-29). On average, and in many individual countries, the share of depreciation in gross income has indeed seen a steady upward trend (Figure 4), driving a wedge between the growth of gross value added and net domestic income[[29]](#footnote-30). Rising average depreciation can be caused by more rapid wear and tear as well as obsolescence of certain capital goods or by a shifting composition of the capital stock towards a higher share of quickly depreciating assets. For instance, since the introduction of the 2008 SNA, intellectual property products (such as stocks of R&D) form part of measured capital. These assets depreciate quickly and their share in total assets has risen over time. Larger or more frequent replacement investments are required to keep the productive capacity of capital intact. Put differently, one reason for a rising capital share (falling labour share) from a production perspective may simply be the fact that more income is needed for potential replacement investment than in the past. Another important factor is cyclical effects – indeed, the strong uptake around 2007-08 is no coincidence: rather stable flows of depreciation met contracting output and so generated a fast rise in depreciation rates[[30]](#footnote-31). That said, the inclusion of a cyclical variable (output gap) in our regression analysis had no effect on the quality of the results. Whatever the precise reason for rising rates of depreciation, an increasing *net* return on capital has not been the source of rising capital shares. The *gross* return, on the other hand, may be rising to cover rising wear, tear and obsolescence of capital.

Table 4 also points to the importance of owner-occupied housing as an element that drives a wedge between production-based and income-based labour shares[[31]](#footnote-32). There is no clear pattern, however. In many countries, and on average, owner-occupied housing enters the de-composition with a negative sign, thus contributing to a decline (or reducing a rise) in LSP. This suggests that the imputed capital income associated with owner-occupied housing has increased less quickly than capital income in other parts of the economy. For about one third of countries, the effect is positive, contributing to a rise or reducing a decline in labour shares. Either way, the imputations are likely to reflect the influence of land prices in the following sense. While revaluations of assets such as land are not *as such* part of income, they affect rental prices and rents for dwellings: a widely-used method to value owner-occupied housing services is by imputing observed market rents for comparable dwellings. As market rents tend to move in tandem with land prices, changes in the latter will translate into values of owner-occupied rents. An alternative estimation technique is the user cost method. As user costs are computed as a proportion of asset values, there is again a direct link from land revaluation to the value of owner-occupied housing. Rising/falling land prices will thus raise/dampen the income from owner-occupied housing and this appears to be at least a partial explanation for movements in the production-based labour and capital shares.

Figure 4 Depreciation/Gross Value-Added



Note: data for Australia, Canada, France and Korea: 1981-2014; data for all 21 countries: 1995-2014.

*Source:* Authors’ calculation based on OECD Annual National Accounts.

## Conclusions

We revisit the recurring question of how best to measure the labour share in OECD economies by drawing a distinction between production-based and income-based perspectives. The former examines labour and capital in a reference framework of a production function in a market setting, the latter looks at labour and capital income measures that have macro-economic net income measures as a reference, thus including income generated by non-market production, taking account of depreciation and recognising taxes and subsidies as perceived by final consumers. The distinction is helpful in deciding on various measurement decisions and results in different observations on the development of the labour share. We find in particular:

* Confirmation of a statistically significant decline in the labour share when adopting a production perspective. While the decline is significant, it is rather small on average but with large variations between countries.
* A much lower or entirely insignificant decline in the labour share when adopting an income perspective. Given this evidence, it is hard to argue that changes in the functional income distribution – labour against capital – have been a driving force behind a rather pervasive trend towards more income inequality in OECD countries (OECD 2015). Rather, our analysis shows that there has been a change in the distribution *within* capital income components. To the extent that the gross income share of capital has risen (our production-related measure), this appears to have been a consequence of rising depreciation rates. A weakened link between the functional and the inter-household distribution of income is compatible with a rising inequality among wage earners, i.e., within the labour share. It may also be consistent with rising inequality within the capital share when rents on non-produced assets account for an increasing part of capital income as opposed to returns to produced capital (Stiglitz 2015). If the wealth distribution effect from appreciating land assets is persistent, and if the ultimate ownership structure between households of non-produced assets is different from the ultimate ownership structure of produced assets, this will translate into income distribution effects through a different distribution of property income associated with the different assets.
* Mixed income cannot be ignored in labour and capital share calculations. Given statistical practices, restricting the scope of observations to the corporate sector does not resolve the issue and comes at the price of ignoring about 1/3 of economy-wide income. How mixed income is allocated to labour and capital strongly affects results.

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**Appendix A. Description of variables and computation of labour income shares**

The analysis is based on data downloaded on August 3, 2016 from the Annual National Accounts part of the OECD.stat Database ( <http://stats.oecd.org/> ). Korean income data has been divided into operating surplus and mixed income by authors’ estimation.

**1) Item code used in computing labour income shares**

|  |  |  |
| --- | --- | --- |
| Item code | Variable | Description |
| ■ Based on Detailed Non-Financial Sector Accounts, in OECD Annual National Accounts | | |
| D1P | CE | Compensation of employees |
| D2P-D3R |  | Taxes(D2P) less subsidies(D3R) on production and imports |
| D21P-D31R | TPR | Taxes(D21P) less subsidies(D31R) on products |
| D29P-D39R | TPRN | Other taxes(D29P) less subsidies(D39R) on production |
| B2GR | GOS | Operating surplus, gross |
| B3GR | GVMIX | Mixed income, gross |
| K1MP | D | Consumption of fixed capital |
| B1GR | GDP, GVAM | GDP or Gross Value Added at market prices |
| ■ Sectoral code | | |
| S1 | S1 | Total Economy |
| S14+S15 | S14+S15 | Households and Non-profit institutions serving households (NPISHs) |
| ■ Based on Summary tables in Annual Labour Force Statistics | | |
|  | L | Civil employment rather than total employment due to data availability |
|  | LW | o Wage and salaried workers excluding soldiers |
|  | LNW | o Self-employment (=L-LW)  o It includes employers, own-account workers, contributing family workers, workers not classifiable by status according to ILO Labour Statistics |

**2) Variables derived from the above information**

|  |  |
| --- | --- |
| Variables | Description |
| GOSOOH | o Gross operating surplus derived from owner-occupied housing  o GOS(S14+S15). GOSOOH is considered as the same as gross operating surplus earned by households and NPISHs under the condition that gross operating surplus is separately compiled from gross mixed income in the S14+S15 sector. |
| VMIX | o VMIX, if mixed income is compiled in net terms as well as in gross terms.  o GVMIX–D\*GVMIX/(GOS+GVMIX), if VMIX is not identified separately. |
| GVAM | o CE+GOS+GVMIX+TPRN+TPR=GDP |
| GVAB | o CE+GOS+GVMIX+TPRN |
| GVAB’ | o CE+GOS+GVMIX+TPRN–GOSOOH |
| NDIM | o GVAM–D=GDP–D=CE+GOS+GVMIX+TPRn+TPR–D |

**3) Types of labour income shares**

|  |  |
| --- | --- |
| Type | Computation of labour income share with variables |
| LSP1 | o CE/(CE+GOS+GVMIX-GOSOOH) |
| LSP2 | o (CE+2/3\*VMIX)/(CE+GOS+GVMIX-GOSOOH) |
| LSP3 | o (CE+1\*VMIX)/(CE+GOS+GVMIX-GOSOOH) |
| LSP4 | o CE/LW\*(LW+1\*LNW)/(CE+GOS+GVMIX-GOSOOH) |
| LSP5 | o CE/LW\*(LW+0.5\*LNW)/(CE+GOS+GVMIX-GOSOOH) |
| LSD1 | o CE/NDIM |
| LSD2 | o (CE+2/3\*VMIX)/NDIM |
| LSD3 | o (CE+1\*VMIX)/NDIM |
| LSD4 | o CE/LW\*(LW+1\*LNW)/NDIM |
| LSD5 | o CE/LW\*(LW+0.5\*LNW)/NDIM |

**Appendix B. Data availability by country**

(For production-based labour shares)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | LSP1 | LSP2 | LSP3 | LSP4 | LSP5 | Compensation of Employees | Operating surplus + Mixed income, gross | GOSOOH | Mixed income, net | Wage and salaried workers excluding soldiers | Self employment |
|  |  |  |  |  | D1P(S1) | B2GR+B3GR(S1) | B2GR(S14+S15) | VMIX | LW | LNW |
| Australia | 1959~2014 | 1959~2014 | 1959~2014 | 1964~2014 | 1964~2014 | 1959~2014 | 1959~2014 | 1959~2014 | 1959~2014 | 1964~2014 | 1964~2014 |
| Austria | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1968~2014 | 1968~2014 |
| Belgium | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1956~2014 | 1956~2014 |
| Canada | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1956~2014 | 1956~2014 |
| Chile | N/A | N/A | N/A | N/A | N/A | 2003~2014 | 2003~2014 | N/A | N/A | 1996~2014 | 1996~2014 |
| Czech Republic | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1992~2014 | 1992~2014 |
| Denmark | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1960~2014 | 1960~2014 |
| Estonia | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1989~2014 | 1989~2014 |
| Finland | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1959~2014 | 1959~2014 |
| France | 1950~2014 | 1978~2014 | 1978~2014 | 1978~2014 | 1978~2014 | 1950~2014 | 1950~2014 | 1950~2014 | 1978~2014 | 1956~2014 | 1956~2014 |
| Germany | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1957~2014 | 1957~2014 |
| Greece | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1960~2014 | 1960~2014 |
| Hungary | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1992~2014 | 1992~2014 |
| Iceland | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 1964~2014 | 1964~2014 |
| Ireland | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1956~2014 | 1956~2014 |
| Israel | N/A | N/A | N/A | N/A | N/A | 2000~2014 | 2000~2014 | N/A | N/A | 1995~2014 | 1995~2014 |
| Italy | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1956~2014 | 1956~2014 |
| Japan | 1994~2014 | 1994~2014 | 1994~2014 | 1994~2013 | 1994~2013 | 1994~2014 | 1994~2014 | 1994~2014 | 1994~2014 | 1956~2013 | 1956~2013 |
| Korea | 1970~2014 | 1975~2014 | 1975~2014 | 1975~2014 | 1975~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1975~2014 | 1963~2014 | 1963~2014 |
| Luxembourg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1960~2014 | 1960~2014 |
| Mexico | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 1970~2014 | 1970~2014 |
| Netherlands | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1956~2014 | 1956~2014 |
| New Zealand | N/A | N/A | N/A | N/A | N/A | 1971~2014 | 1971~2014 | N/A | N/A | 1956~2014 | 1956~2014 |
| Norway | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1956~2014 | 1956~2014 |
| Poland | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 1956~2014 | 1956~2014 |
| Portugal | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1956~2014 | 1956~2014 |
| Slovak Republic | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1994~2014 | 1994~2014 |
| Slovenia | 1995~2014 | 1995~2014 | 1995~2014 | 1996~2014 | 1996~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1996~2014 | 1996~2014 |
| Spain | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1960~2014 | 1960~2014 |
| Sweden | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1963~2014 | 1963~2014 |
| Switzerland | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1991~2014 | 1991~2014 |
| Turkey | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1960~2014 | 1960~2014 |
| United Kingdom | 1995~2014 | 1997~2014 | 1997~2014 | 1997~2014 | 1997~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1997~2014 | 1956~2014 | 1956~2014 |
| United States | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1956~2014 | 1956~2014 |

(For income-based labour shares)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | LSD1 | LSD2 | LSD3 | LSD4 | LSD5 | Compensation of Employees | NDIM | Mixed income, net | Wage and salaried workers excluding soldiers | Self employment |
|  |  |  |  |  | D1P(S1) | NDIM | VMIX | LW | LNW |
| Australia | 1959~2014 | 1959~2014 | 1959~2014 | 1964~2014 | 1964~2014 | 1959~2014 | 1959~2014 | 1959~2014 | 1964~2014 | 1964~2014 |
| Austria | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1968~2014 | 1968~2014 |
| Belgium | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1956~2014 | 1956~2014 |
| Canada | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1981~2014 | 1956~2014 | 1956~2014 |
| Chile | N/A | N/A | N/A | N/A | N/A | 2003~2014 | N/A | N/A | 1996~2014 | 1996~2014 |
| Czech Republic | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1992~2014 | 1992~2014 |
| Denmark | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2013 | 1995~2013 | 1995~2014 | 1995~2014 | 1995~2014 | 1960~2014 | 1960~2013 |
| Estonia | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1989~2014 | 1989~2014 |
| Finland | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1959~2014 | 1959~2014 |
| France | 1978~2014 | 1978~2014 | 1978~2014 | 1978~2014 | 1978~2014 | 1950~2014 | 1978~2014 | 1978~2014 | 1956~2014 | 1956~2014 |
| Germany | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1957~2014 | 1957~2014 |
| Greece | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1960~2014 | 1960~2014 |
| Hungary | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1992~2014 | 1992~2014 |
| Iceland | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 2000~2013 | 1964~2014 | 1964~2014 |
| Ireland | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1956~2014 | 1956~2014 |
| Israel | 2000~2014 | N/A | N/A | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | N/A | 1995~2014 | 1995~2014 |
| Italy | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1956~2014 | 1956~2014 |
| Japan | 1994~2014 | 1994~2014 | 1994~2014 | 1994~2013 | 1994~2013 | 1994~2014 | 1994~2014 | 1994~2014 | 1956~2013 | 1956~2013 |
| Korea | 1970~2014 | 1975~2014 | 1975~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1975~2014 | 1963~2014 | 1963~2014 |
| Luxembourg | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1960~2014 | 1960~2014 |
| Mexico | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 2003~2013 | 1970~2014 | 1970~2014 |
| Netherlands | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2013 | 1995~2013 | 1995~2014 | 1995~2014 | 1995~2014 | 1956~2014 | 1956~2013 |
| New Zealand | 1971~2012 | N/A | N/A | 1986~2012 | 1986~2012 | 1971~2014 | 1971~2012 | N/A | 1956~2014 | 1956~2014 |
| Norway | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1978~2014 | 1995~2014 | 1956~2014 | 1956~2014 |
| Poland | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 2000~2014 | 1956~2014 | 1956~2014 |
| Portugal | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1956~2014 | 1956~2014 |
| Slovak Republic | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1994~2014 | 1994~2014 |
| Slovenia | 1995~2014 | 1995~2014 | 1995~2014 | 1996~2014 | 1996~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1996~2014 | 1996~2014 |
| Spain | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1999~2014 | 1960~2014 | 1960~2014 |
| Sweden | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1995~2014 | 1963~2014 | 1963~2014 |
| Switzerland | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1995~2013 | 1991~2014 | 1991~2014 |
| Turkey | N/A | N/A | N/A | N/A | N/A | N/A | N/A | N/A | 1960~2014 | 1960~2014 |
| United Kingdom | 1997~2014 | 1997~2014 | 1997~2014 | 1997~2014 | 1997~2014 | 1995~2014 | 1997~2014 | 1997~2014 | 1956~2014 | 1956~2014 |
| United States | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1970~2014 | 1956~2014 | 1956~2014 |

**Appendix C. Descriptive statistics for labour shares**

**1) LSP1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1959~2014 | 0.615 | 0.609 | 0.598 | 0.584 | 0.582 | 0.528 | 0.589 | 0.650 | (1982) | 0.517 | (1959) |
| France | 1950~2014 | 0.636 | 0.654 | 0.638 | 0.647 | 0.665 | 0.506 | 0.669 | 0.677 | (1982) | 0.495 | (1950) |
| Korea | 1970~2014 | 0.387 | 0.464 | 0.522 | 0.512 | 0.512 | 0.379 | 0.518 | 0.551 | (1996) | 0.357 | (1974) |
| United States | 1970~2014 | 0.662 | 0.653 | 0.655 | 0.646 | 0.623 | 0.673 | 0.618 | 0.679 | (1970) | 0.617 | (2013) |
| Austria | 1995~2014 | .. | .. | 0.597 | 0.567 | 0.579 | 0.601 | 0.585 | 0.607 | (1995) | 0.548 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.610 | 0.604 | 0.602 | 0.610 | 0.606 | 0.621 | (2002) | 0.588 | (2007) |
| Canada | 1981~2014 | .. | 0.589 | 0.595 | 0.562 | 0.560 | 0.598 | 0.562 | 0.626 | (1992) | 0.551 | (2008) |
| Czech Republic | 1995~2014 | .. | .. | 0.452 | 0.455 | 0.473 | 0.459 | 0.475 | 0.481 | (2013) | 0.440 | (2001) |
| Denmark | 1995~2014 | .. | .. | 0.613 | 0.627 | 0.637 | 0.605 | 0.634 | 0.667 | (2009) | 0.603 | (1995) |
| Estonia | 1995~2014 | .. | .. | 0.556 | 0.521 | 0.524 | 0.574 | 0.522 | 0.597 | (1995) | 0.499 | (2005) |
| Finland | 1995~2014 | .. | .. | 0.575 | 0.569 | 0.613 | 0.578 | 0.620 | 0.621 | (2012) | 0.555 | (2007) |
| Germany | 1995~2014 | .. | .. | 0.598 | 0.581 | 0.583 | 0.601 | 0.588 | 0.607 | (2000) | 0.552 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.360 | 0.405 | 0.437 | 0.354 | 0.427 | 0.454 | (2010) | 0.350 | (1996) |
| Hungary | 1995~2014 | .. | .. | 0.538 | 0.542 | 0.531 | 0.546 | 0.530 | 0.558 | (1995) | 0.524 | (1999) |
| Iceland | 2000~2013 | .. | .. | .. | 0.661 | 0.616 | 0.640 | 0.626 | 0.725 | (2007) | 0.566 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.467 | 0.468 | 0.455 | 0.458 | 0.446 | 0.522 | (2008) | 0.434 | (2002) |
| Israel | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Italy | 1995~2014 | .. | .. | 0.461 | 0.472 | 0.504 | 0.461 | 0.505 | 0.507 | (2012) | 0.455 | (2001) |
| Japan | 1994~2014 | .. | .. | 0.626 | 0.609 | 0.616 | 0.624 | 0.618 | 0.633 | (1998) | 0.591 | (2007) |
| Mexico | 2003~2013 | .. | .. | .. | 0.331 | 0.314 | 0.341 | 0.312 | 0.356 | (2003) | 0.309 | (2012) |
| Netherlands | 1995~2014 | .. | .. | 0.568 | 0.561 | 0.552 | 0.567 | 0.554 | 0.575 | (2000) | 0.543 | (2006) |
| New Zealand | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Norway | 1995~2014 | .. | .. | 0.593 | 0.520 | 0.527 | 0.580 | 0.529 | 0.622 | (1998) | 0.482 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.458 | 0.436 | 0.491 | 0.434 | 0.501 | (2001) | 0.432 | (2006) |
| Portugal | 1995~2014 | .. | .. | 0.560 | 0.568 | 0.560 | 0.558 | 0.554 | 0.575 | (2005) | 0.553 | (2014) |
| Slovak Republic | 1995~2014 | .. | .. | 0.476 | 0.438 | 0.429 | 0.472 | 0.430 | 0.491 | (1998) | 0.408 | (2008) |
| Slovenia | 1995~2014 | .. | .. | 0.644 | 0.620 | 0.624 | 0.659 | 0.618 | 0.678 | (1995) | 0.598 | (2007) |
| Spain | 1999~2014 | .. | .. | 0.562 | 0.567 | 0.576 | 0.561 | 0.569 | 0.589 | (2010) | 0.557 | (2002) |
| Sweden | 1995~2014 | .. | .. | 0.582 | 0.598 | 0.611 | 0.581 | 0.621 | 0.624 | (2013) | 0.563 | (1995) |
| Switzerland | 1995~2013 | .. | .. | 0.578 | 0.587 | 0.597 | 0.579 | 0.602 | 0.607 | (2013) | 0.569 | (2007) |
| United Kingdom | 1995~2014 | .. | .. | 0.602 | 0.640 | 0.632 | 0.588 | 0.625 | 0.657 | (2001) | 0.579 | (1996) |

Note: 1970s means an average over 1970 to 1979.

**2) LSP2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1959~2014 | 0.676 | 0.657 | 0.640 | 0.626 | 0.623 | 0.633 | 0.628 | 0.703 | (1974) | 0.605 | (2008) |
| France | 1978~2014 | 0.716 | 0.694 | 0.674 | 0.678 | 0.688 | 0.716 | 0.692 | 0.718 | (1981) | 0.657 | (1989) |
| Korea | 1975~2014 | 0.649 | 0.624 | 0.626 | 0.576 | 0.551 | 0.651 | 0.556 | 0.653 | (1975) | 0.544 | (2010) |
| United States | 1970~2014 | 0.709 | 0.695 | 0.699 | 0.693 | 0.670 | 0.719 | 0.667 | 0.724 | (1970) | 0.665 | (2013) |
| Austria | 1995~2014 | .. | .. | 0.638 | 0.603 | 0.614 | 0.642 | 0.619 | 0.649 | (1995) | 0.584 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.649 | 0.636 | 0.628 | 0.649 | 0.631 | 0.655 | (2001) | 0.618 | (2007) |
| Canada | 1981~2014 | .. | 0.643 | 0.651 | 0.614 | 0.610 | 0.650 | 0.610 | 0.681 | (1992) | 0.601 | (2008) |
| Czech Republic | 1995~2014 | .. | .. | 0.520 | 0.516 | 0.523 | 0.528 | 0.524 | 0.531 | (1997) | 0.505 | (2001) |
| Denmark | 1995~2014 | .. | .. | 0.646 | 0.648 | 0.654 | 0.642 | 0.651 | 0.681 | (2009) | 0.631 | (2000) |
| Estonia | 1995~2014 | .. | .. | 0.616 | 0.570 | 0.558 | 0.630 | 0.556 | 0.639 | (1995) | 0.547 | (2005) |
| Finland | 1995~2014 | .. | .. | 0.600 | 0.594 | 0.635 | 0.605 | 0.641 | 0.642 | (2012) | 0.582 | (2007) |
| Germany | 1995~2014 | .. | .. | 0.645 | 0.620 | 0.620 | 0.649 | 0.625 | 0.654 | (1995) | 0.592 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.549 | 0.566 | 0.559 | 0.547 | 0.548 | 0.583 | (2010) | 0.540 | (2013) |
| Hungary | 1995~2014 | .. | .. | 0.603 | 0.595 | 0.572 | 0.614 | 0.570 | 0.628 | (1995) | 0.564 | (2014) |
| Iceland | 2000~2013 | .. | .. | .. | 0.674 | 0.624 | 0.660 | 0.634 | 0.734 | (2007) | 0.574 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.523 | 0.513 | 0.489 | 0.513 | 0.479 | 0.563 | (2008) | 0.477 | (2014) |
| Israel | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Italy | 1995~2014 | .. | .. | 0.566 | 0.569 | 0.587 | 0.566 | 0.588 | 0.590 | (2009) | 0.557 | (2001) |
| Japan | 1994~2014 | .. | .. | 0.650 | 0.627 | 0.629 | 0.649 | 0.631 | 0.655 | (1998) | 0.608 | (2007) |
| Mexico | 2003~2013 | .. | .. | .. | 0.456 | 0.443 | 0.468 | 0.439 | 0.485 | (2003) | 0.434 | (2012) |
| Netherlands | 1995~2014 | .. | .. | 0.615 | 0.601 | 0.588 | 0.614 | 0.590 | 0.620 | (2000) | 0.584 | (2010) |
| New Zealand | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Norway | 1995~2014 | .. | .. | 0.600 | 0.525 | 0.531 | 0.587 | 0.534 | 0.628 | (1998) | 0.486 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.589 | 0.565 | 0.620 | 0.563 | 0.631 | (2001) | 0.559 | (2014) |
| Portugal | 1995~2014 | .. | .. | 0.636 | 0.633 | 0.615 | 0.634 | 0.610 | 0.639 | (2005) | 0.609 | (2012) |
| Slovak Republic | 1995~2014 | .. | .. | 0.537 | 0.525 | 0.523 | 0.532 | 0.523 | 0.553 | (1998) | 0.510 | (2004) |
| Slovenia | 1995~2014 | .. | .. | 0.688 | 0.661 | 0.656 | 0.701 | 0.650 | 0.718 | (1995) | 0.640 | (2014) |
| Spain | 1999~2014 | .. | .. | 0.644 | 0.637 | 0.619 | 0.642 | 0.612 | 0.644 | (1999) | 0.610 | (2014) |
| Sweden | 1995~2014 | .. | .. | 0.599 | 0.613 | 0.624 | 0.599 | 0.633 | 0.635 | (2013) | 0.583 | (1995) |
| Switzerland | 1995~2013 | .. | .. | 0.626 | 0.629 | 0.635 | 0.628 | 0.638 | 0.648 | (2002) | 0.612 | (2007) |
| United Kingdom | 1997~2014 | .. | .. | 0.644 | 0.671 | 0.666 | 0.644 | 0.659 | 0.687 | (2001) | 0.624 | (1997) |

Note: 1970s means an average over 1970 to 1979.

**3) LSP3**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1959~2014 | 0.707 | 0.681 | 0.661 | 0.646 | 0.643 | 0.685 | 0.647 | 0.729 | (1974) | 0.626 | (2008) |
| France | 1978~2014 | 0.740 | 0.714 | 0.691 | 0.694 | 0.700 | 0.740 | 0.704 | 0.740 | (1978) | 0.678 | (1989) |
| Korea | 1975~2014 | 0.774 | 0.704 | 0.679 | 0.609 | 0.571 | 0.786 | 0.575 | 0.798 | (1975) | 0.565 | (2010) |
| United States | 1970~2014 | 0.732 | 0.716 | 0.721 | 0.717 | 0.693 | 0.742 | 0.691 | 0.747 | (1970) | 0.690 | (2013) |
| Austria | 1995~2014 | .. | .. | 0.658 | 0.622 | 0.631 | 0.662 | 0.636 | 0.671 | (1995) | 0.602 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.669 | 0.652 | 0.640 | 0.669 | 0.644 | 0.673 | (2001) | 0.634 | (2007) |
| Canada | 1981~2014 | .. | 0.671 | 0.679 | 0.640 | 0.634 | 0.676 | 0.635 | 0.708 | (1992) | 0.626 | (2008) |
| Czech Republic | 1995~2014 | .. | .. | 0.554 | 0.546 | 0.548 | 0.562 | 0.548 | 0.565 | (1996) | 0.538 | (2001) |
| Denmark | 1995~2014 | .. | .. | 0.663 | 0.659 | 0.662 | 0.660 | 0.660 | 0.689 | (2009) | 0.644 | (2000) |
| Estonia | 1995~2014 | .. | .. | 0.646 | 0.594 | 0.575 | 0.658 | 0.573 | 0.662 | (1996) | 0.566 | (2011) |
| Finland | 1995~2014 | .. | .. | 0.613 | 0.607 | 0.646 | 0.618 | 0.652 | 0.653 | (2012) | 0.595 | (2007) |
| Germany | 1995~2014 | .. | .. | 0.668 | 0.640 | 0.638 | 0.673 | 0.643 | 0.678 | (1995) | 0.613 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.644 | 0.647 | 0.621 | 0.644 | 0.608 | 0.657 | (2003) | 0.601 | (2013) |
| Hungary | 1995~2014 | .. | .. | 0.636 | 0.622 | 0.592 | 0.648 | 0.590 | 0.663 | (1995) | 0.584 | (2014) |
| Iceland | 2000~2013 | .. | .. | .. | 0.681 | 0.628 | 0.670 | 0.638 | 0.739 | (2007) | 0.578 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.550 | 0.535 | 0.505 | 0.540 | 0.496 | 0.583 | (2008) | 0.494 | (2014) |
| Israel | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Italy | 1995~2014 | .. | .. | 0.618 | 0.617 | 0.629 | 0.619 | 0.629 | 0.633 | (2009) | 0.608 | (2001) |
| Japan | 1994~2014 | .. | .. | 0.662 | 0.636 | 0.636 | 0.662 | 0.638 | 0.666 | (1998) | 0.616 | (2007) |
| Mexico | 2003~2013 | .. | .. | .. | 0.519 | 0.508 | 0.532 | 0.503 | 0.549 | (2003) | 0.494 | (2008) |
| Netherlands | 1995~2014 | .. | .. | 0.638 | 0.622 | 0.606 | 0.637 | 0.608 | 0.642 | (2000) | 0.602 | (2010) |
| New Zealand | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Norway | 1995~2014 | .. | .. | 0.603 | 0.528 | 0.534 | 0.591 | 0.536 | 0.631 | (1998) | 0.489 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.654 | 0.630 | 0.685 | 0.627 | 0.696 | (2001) | 0.622 | (2014) |
| Portugal | 1995~2014 | .. | .. | 0.673 | 0.666 | 0.643 | 0.672 | 0.638 | 0.676 | (1996) | 0.637 | (2012) |
| Slovak Republic | 1995~2014 | .. | .. | 0.568 | 0.568 | 0.570 | 0.562 | 0.569 | 0.584 | (2009) | 0.542 | (1995) |
| Slovenia | 1995~2014 | .. | .. | 0.710 | 0.682 | 0.673 | 0.722 | 0.666 | 0.738 | (1995) | 0.657 | (2014) |
| Spain | 1999~2014 | .. | .. | 0.685 | 0.672 | 0.640 | 0.683 | 0.633 | 0.685 | (1999) | 0.631 | (2014) |
| Sweden | 1995~2014 | .. | .. | 0.608 | 0.621 | 0.630 | 0.608 | 0.639 | 0.641 | (2013) | 0.593 | (1995) |
| Switzerland | 1995~2013 | .. | .. | 0.650 | 0.651 | 0.653 | 0.652 | 0.657 | 0.669 | (2002) | 0.633 | (2007) |
| United Kingdom | 1997~2014 | .. | .. | 0.660 | 0.687 | 0.683 | 0.660 | 0.677 | 0.702 | (2001) | 0.641 | (1997) |

Note: 1970s means an average over 1970 to 1979.

**4) LSP4**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1964~2014 | 0.721 | 0.720 | 0.699 | 0.668 | 0.652 | 0.653 | 0.656 | 0.772 | (1982) | 0.636 | (2008) |
| France | 1978~2014 | 0.800 | 0.770 | 0.719 | 0.711 | 0.739 | 0.801 | 0.746 | 0.807 | (1981) | 0.704 | (2007) |
| Korea | 1975~2014 | 0.905 | 0.889 | 0.836 | 0.774 | 0.710 | 0.899 | 0.714 | 0.966 | (1982) | 0.703 | (2011) |
| United States | 1970~2014 | 0.733 | 0.719 | 0.716 | 0.697 | 0.668 | 0.748 | 0.662 | 0.756 | (1970) | 0.661 | (2013) |
| Austria | 1995~2014 | .. | .. | 0.694 | 0.653 | 0.668 | 0.700 | 0.674 | 0.710 | (1995) | 0.635 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.746 | 0.711 | 0.704 | 0.750 | 0.711 | 0.753 | (1996) | 0.690 | (2007) |
| Canada | 1981~2014 | .. | 0.653 | 0.666 | 0.622 | 0.616 | 0.661 | 0.616 | 0.697 | (1992) | 0.607 | (2008) |
| Czech Republic | 1995~2014 | .. | .. | 0.520 | 0.544 | 0.577 | 0.523 | 0.581 | 0.589 | (2012) | 0.511 | (1995) |
| Denmark | 1995~2014 | .. | .. | 0.677 | 0.689 | 0.700 | 0.668 | 0.696 | 0.735 | (2009) | 0.665 | (2000) |
| Estonia | 1995~2014 | .. | .. | 0.604 | 0.569 | 0.575 | 0.620 | 0.574 | 0.641 | (1995) | 0.542 | (2005) |
| Finland | 1995~2014 | .. | .. | 0.675 | 0.655 | 0.709 | 0.682 | 0.718 | 0.719 | (2012) | 0.636 | (2007) |
| Germany | 1995~2014 | .. | .. | 0.671 | 0.658 | 0.658 | 0.674 | 0.663 | 0.681 | (2000) | 0.628 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.649 | 0.645 | 0.683 | 0.652 | 0.671 | 0.701 | (2011) | 0.624 | (2004) |
| Hungary | 1995~2014 | .. | .. | 0.649 | 0.628 | 0.602 | 0.665 | 0.598 | 0.680 | (1995) | 0.588 | (2014) |
| Iceland | 2000~2013 | .. | .. | .. | 0.774 | 0.706 | 0.773 | 0.717 | 0.843 | (2006) | 0.643 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.580 | 0.568 | 0.548 | 0.564 | 0.538 | 0.630 | (2008) | 0.529 | (2002) |
| Israel | N/A | .. | .. | .. | .. | .. | .. | .. | .. | (1950) | .. | (1950) |
| Italy | 1995~2014 | .. | .. | 0.651 | 0.648 | 0.673 | 0.651 | 0.674 | 0.677 | (2012) | 0.633 | (2001) |
| Japan | 1994~2013 | .. | .. | 0.764 | 0.718 | 0.712 | 0.765 | 0.717 | 0.771 | (1995) | 0.688 | (2007) |
| Mexico | 2003~2013 | .. | .. | .. | 0.509 | 0.474 | 0.535 | 0.469 | 0.562 | (2003) | 0.466 | (2012) |
| Netherlands | 1995~2014 | .. | .. | 0.646 | 0.639 | 0.659 | 0.648 | 0.664 | 0.667 | (2014) | 0.622 | (2006) |
| New Zealand | N/A | .. | .. | .. | .. | .. | .. | .. | .. | (1950) | .. | (1950) |
| Norway | 1995~2014 | .. | .. | 0.649 | 0.564 | 0.568 | 0.636 | 0.571 | 0.678 | (1998) | 0.527 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.617 | 0.562 | 0.680 | 0.555 | 0.695 | (2001) | 0.552 | (2014) |
| Portugal | 1995~2014 | .. | .. | 0.784 | 0.769 | 0.717 | 0.780 | 0.705 | 0.795 | (1998) | 0.690 | (2014) |
| Slovak Republic | 1995~2014 | .. | .. | 0.511 | 0.495 | 0.508 | 0.504 | 0.509 | 0.528 | (1998) | 0.475 | (2008) |
| Slovenia | 1996~2014 | .. | .. | 0.778 | 0.735 | 0.753 | 0.785 | 0.747 | 0.798 | (1996) | 0.704 | (2008) |
| Spain | 1999~2014 | .. | .. | 0.714 | 0.695 | 0.697 | 0.706 | 0.692 | 0.714 | (1999) | 0.686 | (2003) |
| Sweden | 1995~2014 | .. | .. | 0.652 | 0.665 | 0.683 | 0.653 | 0.693 | 0.697 | (2013) | 0.634 | (1995) |
| Switzerland | 1995~2013 | .. | .. | 0.669 | 0.667 | 0.667 | 0.669 | 0.672 | 0.694 | (2002) | 0.646 | (2007) |
| United Kingdom | 1997~2014 | .. | .. | 0.710 | 0.738 | 0.743 | 0.710 | 0.738 | 0.758 | (2010) | 0.691 | (1997) |

Note: 1970s means an average over 1970 to 1979.

**5) LSP5**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1964~2014 | 0.668 | 0.664 | 0.648 | 0.626 | 0.617 | 0.601 | 0.622 | 0.711 | (1982) | 0.592 | (1964) |
| France | 1978~2014 | 0.733 | 0.712 | 0.679 | 0.679 | 0.702 | 0.735 | 0.708 | 0.742 | (1981) | 0.666 | (1989) |
| Korea | 1975~2014 | 0.653 | 0.676 | 0.679 | 0.643 | 0.611 | 0.639 | 0.616 | 0.713 | (1982) | 0.603 | (2010) |
| United States | 1970~2014 | 0.698 | 0.686 | 0.686 | 0.672 | 0.645 | 0.711 | 0.640 | 0.717 | (1970) | 0.639 | (2013) |
| Austria | 1995~2014 | .. | .. | 0.646 | 0.610 | 0.624 | 0.650 | 0.629 | 0.659 | (1995) | 0.591 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.678 | 0.658 | 0.653 | 0.680 | 0.658 | 0.682 | (1996) | 0.639 | (2007) |
| Canada | 1981~2014 | .. | 0.621 | 0.630 | 0.592 | 0.588 | 0.630 | 0.589 | 0.661 | (1992) | 0.579 | (2008) |
| Czech Republic | 1995~2014 | .. | .. | 0.486 | 0.500 | 0.525 | 0.491 | 0.528 | 0.535 | (2012) | 0.478 | (1998) |
| Denmark | 1995~2014 | .. | .. | 0.645 | 0.658 | 0.669 | 0.636 | 0.665 | 0.701 | (2009) | 0.635 | (2000) |
| Estonia | 1995~2014 | .. | .. | 0.580 | 0.545 | 0.549 | 0.597 | 0.548 | 0.619 | (1995) | 0.521 | (2005) |
| Finland | 1995~2014 | .. | .. | 0.625 | 0.612 | 0.661 | 0.630 | 0.669 | 0.670 | (2012) | 0.596 | (2007) |
| Germany | 1995~2014 | .. | .. | 0.635 | 0.619 | 0.621 | 0.637 | 0.626 | 0.644 | (2000) | 0.590 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.504 | 0.525 | 0.560 | 0.503 | 0.549 | 0.576 | (2010) | 0.498 | (1996) |
| Hungary | 1995~2014 | .. | .. | 0.594 | 0.585 | 0.566 | 0.605 | 0.564 | 0.619 | (1995) | 0.556 | (2014) |
| Iceland | 2000~2013 | .. | .. | .. | 0.717 | 0.661 | 0.707 | 0.672 | 0.783 | (2007) | 0.604 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.524 | 0.518 | 0.502 | 0.511 | 0.492 | 0.576 | (2008) | 0.481 | (2002) |
| Israel | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Italy | 1995~2014 | .. | .. | 0.556 | 0.560 | 0.588 | 0.556 | 0.590 | 0.592 | (2012) | 0.544 | (2001) |
| Japan | 1994~2013 | .. | .. | 0.695 | 0.663 | 0.663 | 0.694 | 0.668 | 0.701 | (1998) | 0.640 | (2007) |
| Mexico | 2003~2013 | .. | .. | .. | 0.420 | 0.394 | 0.438 | 0.390 | 0.459 | (2003) | 0.387 | (2012) |
| Netherlands | 1995~2014 | .. | .. | 0.607 | 0.600 | 0.605 | 0.608 | 0.609 | 0.613 | (1995) | 0.583 | (2006) |
| New Zealand | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Norway | 1995~2014 | .. | .. | 0.621 | 0.542 | 0.548 | 0.608 | 0.550 | 0.650 | (1998) | 0.504 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.538 | 0.499 | 0.585 | 0.494 | 0.598 | (2001) | 0.493 | (2014) |
| Portugal | 1995~2014 | .. | .. | 0.672 | 0.669 | 0.638 | 0.669 | 0.630 | 0.680 | (2003) | 0.622 | (2014) |
| Slovak Republic | 1995~2014 | .. | .. | 0.493 | 0.467 | 0.468 | 0.488 | 0.469 | 0.510 | (1998) | 0.442 | (2008) |
| Slovenia | 1996~2014 | .. | .. | 0.707 | 0.677 | 0.688 | 0.713 | 0.682 | 0.731 | (1996) | 0.654 | (2007) |
| Spain | 1999~2014 | .. | .. | 0.638 | 0.631 | 0.636 | 0.633 | 0.630 | 0.648 | (2010) | 0.622 | (2002) |
| Sweden | 1995~2014 | .. | .. | 0.617 | 0.631 | 0.647 | 0.617 | 0.657 | 0.661 | (2013) | 0.599 | (1995) |
| Switzerland | 1995~2013 | .. | .. | 0.623 | 0.627 | 0.632 | 0.624 | 0.637 | 0.650 | (2002) | 0.608 | (2007) |
| United Kingdom | 1997~2014 | .. | .. | 0.661 | 0.689 | 0.688 | 0.661 | 0.681 | 0.705 | (2001) | 0.641 | (1997) |

Note: 1970s means an average over 1970 to 1979.

**6) LSD1**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1959~2014 | 0.643 | 0.613 | 0.590 | 0.572 | 0.573 | 0.579 | 0.579 | 0.683 | (1974) | 0.558 | (2008) |
| France | 1978~2014 | 0.635 | 0.628 | 0.599 | 0.609 | 0.637 | 0.639 | 0.640 | 0.654 | (1982) | 0.587 | (1989) |
| Korea | 1970~2014 | 0.366 | 0.448 | 0.514 | 0.518 | 0.538 | 0.358 | 0.547 | 0.554 | (2014) | 0.342 | (1974) |
| United States | 1970~2014 | 0.655 | 0.656 | 0.650 | 0.653 | 0.633 | 0.658 | 0.632 | 0.674 | (1982) | 0.631 | (2013) |
| Austria | 1995~2014 | .. | .. | 0.592 | 0.564 | 0.576 | 0.596 | 0.581 | 0.607 | (1995) | 0.543 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.598 | 0.609 | 0.633 | 0.597 | 0.638 | 0.641 | (2013) | 0.595 | (1997) |
| Canada | 1981~2014 | .. | 0.613 | 0.609 | 0.588 | 0.605 | 0.629 | 0.609 | 0.643 | (1982) | 0.573 | (2005) |
| Czech Republic | 1995~2014 | .. | .. | 0.505 | 0.502 | 0.519 | 0.509 | 0.522 | 0.528 | (2013) | 0.493 | (2007) |
| Denmark | 1995~2014 | .. | .. | 0.605 | 0.622 | 0.635 | 0.599 | 0.630 | 0.675 | (2009) | 0.596 | (2000) |
| Estonia | 1995~2014 | .. | .. | 0.560 | 0.525 | 0.540 | 0.577 | 0.536 | 0.613 | (1995) | 0.502 | (2006) |
| Finland | 1995~2014 | .. | .. | 0.576 | 0.573 | 0.612 | 0.584 | 0.616 | 0.624 | (2009) | 0.560 | (2007) |
| Germany | 1995~2014 | .. | .. | 0.628 | 0.608 | 0.611 | 0.632 | 0.616 | 0.636 | (1995) | 0.573 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.342 | 0.390 | 0.421 | 0.337 | 0.412 | 0.437 | (2010) | 0.333 | (1996) |
| Hungary | 1995~2014 | .. | .. | 0.535 | 0.530 | 0.515 | 0.542 | 0.512 | 0.549 | (1995) | 0.503 | (2014) |
| Iceland | 2000~2013 | .. | .. | .. | 0.623 | 0.612 | 0.611 | 0.621 | 0.665 | (2007) | 0.573 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.446 | 0.454 | 0.460 | 0.437 | 0.452 | 0.513 | (2009) | 0.416 | (2002) |
| Israel | 2000~2014 | .. | .. | .. | 0.549 | 0.519 | 0.564 | 0.517 | 0.576 | (2001) | 0.515 | (2013) |
| Italy | 1995~2014 | .. | .. | 0.449 | 0.452 | 0.486 | 0.455 | 0.487 | 0.488 | (2012) | 0.433 | (2000) |
| Japan | 1994~2014 | .. | .. | 0.666 | 0.645 | 0.655 | 0.664 | 0.656 | 0.673 | (1998) | 0.626 | (2004) |
| Mexico | 2003~2013 | .. | .. | .. | 0.319 | 0.308 | 0.326 | 0.307 | 0.337 | (2003) | 0.304 | (2011) |
| Netherlands | 1995~2014 | .. | .. | 0.594 | 0.588 | 0.596 | 0.596 | 0.597 | 0.607 | (2009) | 0.563 | (2007) |
| New Zealand | 1971~2012 | 0.598 | 0.567 | 0.489 | 0.493 | 0.508 | 0.549 | 0.508 | 0.648 | (1975) | 0.469 | (2001) |
| Norway | 1995~2014 | .. | .. | 0.559 | 0.505 | 0.531 | 0.545 | 0.535 | 0.586 | (1998) | 0.464 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.445 | 0.421 | 0.480 | 0.421 | 0.491 | (2001) | 0.416 | (2011) |
| Portugal | 1995~2014 | .. | .. | 0.559 | 0.566 | 0.551 | 0.558 | 0.541 | 0.575 | (2009) | 0.533 | (2014) |
| Slovak Republic | 1995~2014 | .. | .. | 0.524 | 0.471 | 0.467 | 0.522 | 0.470 | 0.539 | (1997) | 0.432 | (2007) |
| Slovenia | 1995~2014 | .. | .. | 0.631 | 0.616 | 0.641 | 0.646 | 0.636 | 0.662 | (1995) | 0.594 | (2007) |
| Spain | 1999~2014 | .. | .. | 0.560 | 0.569 | 0.586 | 0.560 | 0.577 | 0.609 | (2009) | 0.558 | (2004) |
| Sweden | 1995~2014 | .. | .. | 0.519 | 0.542 | 0.566 | 0.524 | 0.576 | 0.578 | (2013) | 0.508 | (1998) |
| Switzerland | 1995~2013 | .. | .. | 0.707 | 0.720 | 0.730 | 0.712 | 0.736 | 0.751 | (2002) | 0.691 | (2007) |
| United Kingdom | 1997~2014 | .. | .. | 0.584 | 0.612 | 0.587 | 0.584 | 0.578 | 0.625 | (2001) | 0.564 | (2014) |

Note: 1970s means an average over 1970 to 1979.

**7) LSD2**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1959~2014 | 0.708 | 0.661 | 0.632 | 0.613 | 0.612 | 0.693 | 0.617 | 0.738 | (1974) | 0.600 | (2008) |
| France | 1978~2014 | 0.682 | 0.666 | 0.632 | 0.638 | 0.659 | 0.685 | 0.662 | 0.694 | (1981) | 0.622 | (1998) |
| Korea | 1975~2014 | 0.613 | 0.602 | 0.617 | 0.584 | 0.579 | 0.616 | 0.587 | 0.632 | (1996) | 0.563 | (2010) |
| United States | 1970~2014 | 0.701 | 0.699 | 0.693 | 0.700 | 0.680 | 0.704 | 0.682 | 0.721 | (2001) | 0.677 | (2010) |
| Austria | 1995~2014 | .. | .. | 0.632 | 0.600 | 0.611 | 0.637 | 0.615 | 0.650 | (1995) | 0.579 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.636 | 0.642 | 0.660 | 0.636 | 0.665 | 0.668 | (2013) | 0.627 | (2005) |
| Canada | 1981~2014 | .. | 0.670 | 0.667 | 0.643 | 0.658 | 0.683 | 0.661 | 0.696 | (1982) | 0.628 | (2005) |
| Czech Republic | 1995~2014 | .. | .. | 0.582 | 0.569 | 0.574 | 0.586 | 0.575 | 0.597 | (1997) | 0.554 | (2007) |
| Denmark | 1995~2014 | .. | .. | 0.638 | 0.644 | 0.652 | 0.635 | 0.647 | 0.690 | (2009) | 0.622 | (2000) |
| Estonia | 1995~2014 | .. | .. | 0.621 | 0.575 | 0.575 | 0.634 | 0.571 | 0.657 | (1995) | 0.547 | (2006) |
| Finland | 1995~2014 | .. | .. | 0.602 | 0.598 | 0.634 | 0.611 | 0.637 | 0.647 | (2009) | 0.586 | (2007) |
| Germany | 1995~2014 | .. | .. | 0.677 | 0.649 | 0.649 | 0.682 | 0.654 | 0.687 | (1995) | 0.614 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.523 | 0.545 | 0.539 | 0.521 | 0.528 | 0.562 | (2009) | 0.518 | (1996) |
| Hungary | 1995~2014 | .. | .. | 0.600 | 0.581 | 0.554 | 0.610 | 0.551 | 0.618 | (1995) | 0.542 | (2014) |
| Iceland | 2000~2013 | .. | .. | .. | 0.635 | 0.620 | 0.629 | 0.629 | 0.673 | (2007) | 0.581 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.499 | 0.497 | 0.494 | 0.489 | 0.485 | 0.550 | (2009) | 0.458 | (2002) |
| Israel | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Italy | 1995~2014 | .. | .. | 0.551 | 0.545 | 0.566 | 0.560 | 0.566 | 0.572 | (2009) | 0.532 | (2000) |
| Japan | 1994~2014 | .. | .. | 0.691 | 0.664 | 0.669 | 0.691 | 0.670 | 0.696 | (1998) | 0.644 | (2007) |
| Mexico | 2003~2013 | .. | .. | .. | 0.440 | 0.435 | 0.447 | 0.432 | 0.458 | (2003) | 0.427 | (2007) |
| Netherlands | 1995~2014 | .. | .. | 0.643 | 0.631 | 0.634 | 0.645 | 0.636 | 0.652 | (1995) | 0.604 | (2007) |
| New Zealand | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Norway | 1995~2014 | .. | .. | 0.565 | 0.510 | 0.535 | 0.552 | 0.540 | 0.592 | (1998) | 0.469 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.573 | 0.545 | 0.607 | 0.546 | 0.619 | (2001) | 0.540 | (2011) |
| Portugal | 1995~2014 | .. | .. | 0.634 | 0.631 | 0.605 | 0.635 | 0.595 | 0.641 | (2001) | 0.588 | (2014) |
| Slovak Republic | 1995~2014 | .. | .. | 0.591 | 0.565 | 0.569 | 0.588 | 0.572 | 0.606 | (1997) | 0.536 | (2007) |
| Slovenia | 1995~2014 | .. | .. | 0.674 | 0.657 | 0.674 | 0.687 | 0.669 | 0.701 | (1995) | 0.639 | (2007) |
| Spain | 1999~2014 | .. | .. | 0.642 | 0.639 | 0.630 | 0.642 | 0.620 | 0.655 | (2009) | 0.616 | (2014) |
| Sweden | 1995~2014 | .. | .. | 0.534 | 0.555 | 0.578 | 0.540 | 0.587 | 0.589 | (2013) | 0.523 | (1998) |
| Switzerland | 1995~2013 | .. | .. | 0.766 | 0.771 | 0.776 | 0.771 | 0.781 | 0.802 | (2002) | 0.742 | (2007) |
| United Kingdom | 1997~2014 | .. | .. | 0.615 | 0.642 | 0.618 | 0.615 | 0.610 | 0.654 | (2001) | 0.597 | (2014) |

Note: 1970s means an average over 1970 to 1979.

**8) LSD3**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1959~2014 | 0.740 | 0.686 | 0.653 | 0.633 | 0.632 | 0.751 | 0.637 | 0.766 | (1974) | 0.620 | (2008) |
| France | 1978~2014 | 0.706 | 0.686 | 0.649 | 0.653 | 0.671 | 0.708 | 0.673 | 0.713 | (1981) | 0.637 | (1998) |
| Korea | 1975~2014 | 0.731 | 0.679 | 0.668 | 0.616 | 0.600 | 0.744 | 0.608 | 0.760 | (1975) | 0.584 | (2010) |
| United States | 1970~2014 | 0.724 | 0.720 | 0.715 | 0.724 | 0.704 | 0.726 | 0.706 | 0.746 | (2001) | 0.699 | (2010) |
| Austria | 1995~2014 | .. | .. | 0.652 | 0.618 | 0.628 | 0.658 | 0.632 | 0.671 | (1995) | 0.597 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.655 | 0.658 | 0.673 | 0.655 | 0.678 | 0.681 | (2009) | 0.643 | (2005) |
| Canada | 1981~2014 | .. | 0.698 | 0.695 | 0.670 | 0.685 | 0.711 | 0.687 | 0.722 | (1982) | 0.656 | (2005) |
| Czech Republic | 1995~2014 | .. | .. | 0.620 | 0.603 | 0.602 | 0.624 | 0.602 | 0.634 | (1997) | 0.585 | (2007) |
| Denmark | 1995~2014 | .. | .. | 0.654 | 0.654 | 0.660 | 0.654 | 0.656 | 0.697 | (2009) | 0.634 | (2000) |
| Estonia | 1995~2014 | .. | .. | 0.651 | 0.599 | 0.593 | 0.662 | 0.588 | 0.679 | (1995) | 0.569 | (2006) |
| Finland | 1995~2014 | .. | .. | 0.615 | 0.611 | 0.645 | 0.624 | 0.648 | 0.658 | (2009) | 0.599 | (1998) |
| Germany | 1995~2014 | .. | .. | 0.702 | 0.670 | 0.669 | 0.707 | 0.673 | 0.712 | (1995) | 0.635 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.613 | 0.623 | 0.598 | 0.613 | 0.586 | 0.635 | (2003) | 0.581 | (2014) |
| Hungary | 1995~2014 | .. | .. | 0.632 | 0.607 | 0.574 | 0.643 | 0.570 | 0.652 | (1995) | 0.561 | (2014) |
| Iceland | 2000~2013 | .. | .. | .. | 0.642 | 0.624 | 0.639 | 0.633 | 0.678 | (2007) | 0.585 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.525 | 0.519 | 0.511 | 0.516 | 0.501 | 0.568 | (2009) | 0.480 | (2002) |
| Israel | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Italy | 1995~2014 | .. | .. | 0.601 | 0.591 | 0.606 | 0.612 | 0.606 | 0.615 | (2009) | 0.581 | (2000) |
| Japan | 1994~2014 | .. | .. | 0.704 | 0.673 | 0.676 | 0.704 | 0.677 | 0.710 | (1994) | 0.652 | (2007) |
| Mexico | 2003~2013 | .. | .. | .. | 0.501 | 0.498 | 0.507 | 0.494 | 0.522 | (2009) | 0.486 | (2007) |
| Netherlands | 1995~2014 | .. | .. | 0.667 | 0.652 | 0.654 | 0.669 | 0.656 | 0.676 | (1995) | 0.625 | (2007) |
| New Zealand | N/A | .. | .. | .. | .. | .. | .. | .. | .. |  | .. |  |
| Norway | 1995~2014 | .. | .. | 0.568 | 0.512 | 0.538 | 0.555 | 0.542 | 0.595 | (1998) | 0.471 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.636 | 0.608 | 0.670 | 0.608 | 0.683 | (2001) | 0.603 | (2011) |
| Portugal | 1995~2014 | .. | .. | 0.672 | 0.663 | 0.633 | 0.673 | 0.623 | 0.677 | (1996) | 0.615 | (2014) |
| Slovak Republic | 1995~2014 | .. | .. | 0.625 | 0.611 | 0.620 | 0.621 | 0.622 | 0.639 | (1997) | 0.588 | (2007) |
| Slovenia | 1995~2014 | .. | .. | 0.695 | 0.677 | 0.691 | 0.708 | 0.686 | 0.721 | (1995) | 0.661 | (2007) |
| Spain | 1999~2014 | .. | .. | 0.683 | 0.674 | 0.651 | 0.682 | 0.641 | 0.683 | (2002) | 0.637 | (2014) |
| Sweden | 1995~2014 | .. | .. | 0.542 | 0.562 | 0.584 | 0.548 | 0.593 | 0.594 | (2013) | 0.530 | (1998) |
| Switzerland | 1995~2013 | .. | .. | 0.795 | 0.797 | 0.799 | 0.801 | 0.803 | 0.828 | (2002) | 0.768 | (2007) |
| United Kingdom | 1997~2014 | .. | .. | 0.630 | 0.657 | 0.634 | 0.630 | 0.626 | 0.668 | (2009) | 0.614 | (2014) |

Note: 1970s means an average over 1970 to 1979.

**9) LSD4**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1964~2014 | 0.754 | 0.724 | 0.690 | 0.654 | 0.641 | 0.709 | 0.645 | 0.800 | (1974) | 0.631 | (2008) |
| France | 1978~2014 | 0.763 | 0.740 | 0.675 | 0.669 | 0.708 | 0.766 | 0.713 | 0.779 | (1981) | 0.654 | (1998) |
| Korea | 1970~2014 | 0.886 | 0.856 | 0.823 | 0.783 | 0.745 | 0.919 | 0.754 | 0.950 | (1973) | 0.729 | (2010) |
| United States | 1970~2014 | 0.725 | 0.723 | 0.710 | 0.705 | 0.679 | 0.732 | 0.677 | 0.746 | (1982) | 0.675 | (2013) |
| Austria | 1995~2014 | .. | .. | 0.688 | 0.650 | 0.665 | 0.695 | 0.669 | 0.711 | (1995) | 0.629 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.731 | 0.717 | 0.740 | 0.735 | 0.748 | 0.755 | (2013) | 0.701 | (2007) |
| Canada | 1981~2014 | .. | 0.679 | 0.682 | 0.651 | 0.665 | 0.695 | 0.667 | 0.711 | (1982) | 0.633 | (2005) |
| Czech Republic | 1995~2014 | .. | .. | 0.581 | 0.600 | 0.633 | 0.580 | 0.638 | 0.645 | (2012) | 0.565 | (1995) |
| Denmark | 1995~2013 | .. | .. | 0.668 | 0.684 | 0.698 | 0.661 | 0.696 | 0.744 | (2009) | 0.656 | (2000) |
| Estonia | 1995~2014 | .. | .. | 0.608 | 0.574 | 0.592 | 0.624 | 0.589 | 0.663 | (2009) | 0.546 | (2005) |
| Finland | 1995~2014 | .. | .. | 0.677 | 0.658 | 0.708 | 0.689 | 0.713 | 0.723 | (2009) | 0.641 | (2007) |
| Germany | 1995~2014 | .. | .. | 0.705 | 0.689 | 0.690 | 0.708 | 0.695 | 0.714 | (2000) | 0.651 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.618 | 0.621 | 0.658 | 0.621 | 0.647 | 0.676 | (2012) | 0.598 | (2001) |
| Hungary | 1995~2014 | .. | .. | 0.645 | 0.613 | 0.583 | 0.660 | 0.578 | 0.670 | (1995) | 0.565 | (2014) |
| Iceland | 2000~2013 | .. | .. | .. | 0.730 | 0.702 | 0.737 | 0.711 | 0.774 | (2006) | 0.651 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.553 | 0.550 | 0.555 | 0.538 | 0.545 | 0.622 | (2009) | 0.507 | (2002) |
| Israel | 2000~2014 | .. | .. | .. | 0.633 | 0.594 | 0.654 | 0.591 | 0.666 | (2001) | 0.589 | (2013) |
| Italy | 1995~2014 | .. | .. | 0.633 | 0.620 | 0.649 | 0.644 | 0.649 | 0.652 | (2012) | 0.606 | (2000) |
| Japan | 1994~2013 | .. | .. | 0.812 | 0.760 | 0.757 | 0.814 | 0.763 | 0.821 | (1994) | 0.729 | (2007) |
| Mexico | 2003~2013 | .. | .. | .. | 0.491 | 0.465 | 0.511 | 0.461 | 0.531 | (2003) | 0.458 | (2011) |
| Netherlands | 1995~2013 | .. | .. | 0.676 | 0.671 | 0.710 | 0.680 | 0.714 | 0.718 | (2013) | 0.645 | (2006) |
| New Zealand | 1986~2012 | 0.698 | 0.688 | 0.617 | 0.605 | 0.610 | 0.661 | 0.610 | 0.784 | (1980) | 0.585 | (2001) |
| Norway | 1995~2014 | .. | .. | 0.611 | 0.548 | 0.573 | 0.598 | 0.577 | 0.639 | (1998) | 0.508 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.601 | 0.542 | 0.665 | 0.538 | 0.682 | (2001) | 0.537 | (2014) |
| Portugal | 1995~2014 | .. | .. | 0.782 | 0.767 | 0.705 | 0.781 | 0.688 | 0.790 | (1998) | 0.666 | (2014) |
| Slovak Republic | 1995~2014 | .. | .. | 0.562 | 0.533 | 0.553 | 0.558 | 0.556 | 0.576 | (1997) | 0.498 | (2007) |
| Slovenia | 1996~2014 | .. | .. | 0.762 | 0.730 | 0.774 | 0.771 | 0.768 | 0.791 | (2010) | 0.706 | (2008) |
| Spain | 1999~2014 | .. | .. | 0.713 | 0.697 | 0.709 | 0.705 | 0.701 | 0.733 | (2009) | 0.681 | (2004) |
| Sweden | 1995~2014 | .. | .. | 0.582 | 0.602 | 0.632 | 0.588 | 0.643 | 0.646 | (2013) | 0.568 | (1998) |
| Switzerland | 1995~2013 | .. | .. | 0.819 | 0.818 | 0.816 | 0.823 | 0.822 | 0.860 | (2002) | 0.785 | (2007) |
| United Kingdom | 1997~2014 | .. | .. | 0.678 | 0.706 | 0.690 | 0.678 | 0.683 | 0.722 | (2009) | 0.666 | (1997) |

Note: 1970s means an average over 1970 to 1979.

**10) LSD5**

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Country | Data availability | Labour share averages | | | | | | | Max.(year) | | Min.(year) | |
| 1970s | 1980s | 1990s | 2000s | 2010s | Initial 3 yrs | Last 3 yrs |
| Australia | 1964~2014 | 0.699 | 0.669 | 0.640 | 0.613 | 0.607 | 0.653 | 0.612 | 0.742 | (1974) | 0.595 | (2008) |
| France | 1978~2014 | 0.699 | 0.684 | 0.637 | 0.639 | 0.672 | 0.703 | 0.676 | 0.717 | (1981) | 0.622 | (1998) |
| Korea | 1970~2014 | 0.626 | 0.652 | 0.669 | 0.651 | 0.641 | 0.639 | 0.650 | 0.697 | (1996) | 0.599 | (1975) |
| United States | 1970~2014 | 0.690 | 0.690 | 0.680 | 0.679 | 0.656 | 0.695 | 0.655 | 0.710 | (1982) | 0.653 | (2013) |
| Austria | 1995~2014 | .. | .. | 0.640 | 0.607 | 0.620 | 0.646 | 0.625 | 0.659 | (1995) | 0.586 | (2007) |
| Belgium | 1995~2014 | .. | .. | 0.665 | 0.663 | 0.687 | 0.666 | 0.693 | 0.698 | (2013) | 0.649 | (2005) |
| Canada | 1981~2014 | .. | 0.646 | 0.646 | 0.620 | 0.635 | 0.662 | 0.638 | 0.677 | (1982) | 0.603 | (2005) |
| Czech Republic | 1995~2014 | .. | .. | 0.543 | 0.551 | 0.576 | 0.545 | 0.580 | 0.586 | (2013) | 0.532 | (1995) |
| Denmark | 1995~2013 | .. | .. | 0.636 | 0.653 | 0.666 | 0.630 | 0.664 | 0.709 | (2009) | 0.626 | (2000) |
| Estonia | 1995~2014 | .. | .. | 0.584 | 0.550 | 0.566 | 0.601 | 0.563 | 0.636 | (1995) | 0.524 | (2005) |
| Finland | 1995~2014 | .. | .. | 0.626 | 0.616 | 0.660 | 0.637 | 0.665 | 0.674 | (2009) | 0.600 | (2007) |
| Germany | 1995~2014 | .. | .. | 0.666 | 0.649 | 0.650 | 0.670 | 0.656 | 0.675 | (2000) | 0.612 | (2007) |
| Greece | 1995~2014 | .. | .. | 0.480 | 0.505 | 0.539 | 0.479 | 0.530 | 0.555 | (2010) | 0.473 | (1996) |
| Hungary | 1995~2014 | .. | .. | 0.590 | 0.572 | 0.549 | 0.601 | 0.545 | 0.609 | (1995) | 0.534 | (2014) |
| Iceland | 2000~2013 | .. | .. | .. | 0.676 | 0.657 | 0.674 | 0.666 | 0.718 | (2007) | 0.612 | (2009) |
| Ireland | 1999~2014 | .. | .. | 0.500 | 0.502 | 0.507 | 0.488 | 0.498 | 0.567 | (2009) | 0.461 | (2002) |
| Israel | 2000~2014 | .. | .. | .. | 0.591 | 0.556 | 0.609 | 0.554 | 0.621 | (2001) | 0.552 | (2013) |
| Italy | 1995~2014 | .. | .. | 0.541 | 0.536 | 0.568 | 0.550 | 0.568 | 0.570 | (2012) | 0.520 | (2000) |
| Japan | 1994~2013 | .. | .. | 0.739 | 0.703 | 0.706 | 0.739 | 0.710 | 0.744 | (1998) | 0.678 | (2007) |
| Mexico | 2003~2013 | .. | .. | .. | 0.405 | 0.386 | 0.418 | 0.384 | 0.434 | (2003) | 0.381 | (2011) |
| Netherlands | 1995~2013 | .. | .. | 0.635 | 0.629 | 0.653 | 0.638 | 0.655 | 0.659 | (2012) | 0.604 | (2006) |
| New Zealand | 1986~2012 | 0.646 | 0.627 | 0.553 | 0.549 | 0.559 | 0.599 | 0.559 | 0.713 | (1980) | 0.527 | (2001) |
| Norway | 1995~2014 | .. | .. | 0.585 | 0.526 | 0.552 | 0.571 | 0.556 | 0.613 | (1998) | 0.486 | (2006) |
| Poland | 2000~2014 | .. | .. | .. | 0.523 | 0.481 | 0.572 | 0.480 | 0.587 | (2001) | 0.477 | (2011) |
| Portugal | 1995~2014 | .. | .. | 0.671 | 0.666 | 0.628 | 0.669 | 0.615 | 0.679 | (2003) | 0.599 | (2014) |
| Slovak Republic | 1995~2014 | .. | .. | 0.543 | 0.502 | 0.510 | 0.540 | 0.513 | 0.557 | (1997) | 0.465 | (2007) |
| Slovenia | 1996~2014 | .. | .. | 0.692 | 0.673 | 0.707 | 0.700 | 0.702 | 0.723 | (2010) | 0.650 | (2007) |
| Spain | 1999~2014 | .. | .. | 0.636 | 0.633 | 0.648 | 0.633 | 0.639 | 0.671 | (2009) | 0.620 | (2004) |
| Sweden | 1995~2014 | .. | .. | 0.550 | 0.572 | 0.599 | 0.556 | 0.610 | 0.612 | (2013) | 0.538 | (1998) |
| Switzerland | 1995~2013 | .. | .. | 0.763 | 0.769 | 0.773 | 0.767 | 0.779 | 0.805 | (2002) | 0.738 | (2007) |
| United Kingdom | 1997~2014 | .. | .. | 0.631 | 0.659 | 0.638 | 0.631 | 0.630 | 0.672 | (2009) | 0.617 | (2014) |

Note: 1970s means an average over 1970 to 1979.

**Appendix D. Econometric analysis – full set of results**

**1) Based on 22 countries (1995 – 2014)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fixed Effect Model (FEM) | | | | | | | | | | | |
|  | t | | | | Output gap | | | | Marginal R-squared2) | Conditional R-squared3) | AIC4) |
|  | Coef | P value1) | | Std.Error | Coef | P value1) | | Std.Error |
| LSD1 | 0.0529 | 0.0013 | \*\*\* | 0.0163 | -0.1592 | 0.0000 | \*\*\* | 0.0317 | 0.937 | NA | 1796.138 |
| LSD2 | -0.0312 | 0.0319 | \*\* | 0.0145 | -0.1221 | 0.0000 | \*\*\* | 0.0282 | 0.919 | NA | 1694.765 |
| LSD3 | -0.0732 | 0.0000 | \*\*\* | 0.0146 | -0.1036 | 0.0003 | \*\*\* | 0.0284 | 0.912 | NA | 1701.535 |
| LSD4 | -0.0525 | 0.0087 | \*\*\* | 0.0199 | -0.2248 | 0.0000 | \*\*\* | 0.0387 | 0.905 | NA | 1962.034 |
| LSD5 | 0.0002 | 0.9918 |  | 0.0172 | -0.1920 | 0.0000 | \*\*\* | 0.0334 | 0.914 | NA | 1836.261 |
| LSP1 | 0.0006 | 0.9698 |  | 0.0151 | -0.1117 | 0.0002 | \*\*\* | 0.0294 | 0.932 | NA | 1730.685 |
| LSP2 | -0.0864 | 0.0000 | \*\*\* | 0.0132 | -0.0687 | 0.0080 | \*\*\* | 0.0258 | 0.893 | NA | 1617.301 |
| LSP3 | -0.1299 | 0.0000 | \*\*\* | 0.0135 | -0.0471 | 0.0728 | \* | 0.0262 | 0.874 | NA | 1631.728 |
| LSP4 | -0.1160 | 0.0000 | \*\*\* | 0.0193 | -0.1707 | 0.0000 | \*\*\* | 0.0375 | 0.894 | NA | 1934.306 |
| LSP5 | -0.0579 | 0.0004 | \*\*\* | 0.0162 | -0.1414 | 0.0000 | \*\*\* | 0.0315 | 0.902 | NA | 1786.262 |
| Random Effect Model (REM) | | | | | | | | | | | |
|  | t | | | | Output gap | | | | Marginal R-squared2) | Conditional R-squared3) | AIC4) |
|  | Coef | P value1) | | Std.Error | Coef | P value1) | | Std.Error |
| LSD1 | 0.0528 | 0.0013 | \*\*\* | 0.0163 | -0.1589 | 0.0000 | \*\*\* | 0.0318 | 0.006 | 0.936 | 1902.275 |
| LSD2 | -0.0314 | 0.0314 | \*\* | 0.0145 | -0.1219 | 0.0000 | \*\*\* | 0.0283 | 0.004 | 0.919 | 1795.169 |
| LSD3 | -0.0734 | 0.0000 | \*\*\* | 0.0146 | -0.1036 | 0.0003 | \*\*\* | 0.0285 | 0.007 | 0.911 | 1799.703 |
| LSD4 | -0.0531 | 0.0087 | \*\*\* | 0.0201 | -0.2245 | 0.0000 | \*\*\* | 0.0391 | 0.009 | 0.905 | 2058.527 |
| LSD5 | -0.0002 | 0.9919 |  | 0.0174 | -0.1916 | 0.0000 | \*\*\* | 0.0337 | 0.007 | 0.915 | 1935.407 |
| LSP1 | 0.0004 | 0.9767 |  | 0.0152 | -0.1111 | 0.0002 | \*\*\* | 0.0295 | 0.002 | 0.932 | 1835.189 |
| LSP2 | -0.0866 | 0.0000 | \*\*\* | 0.0133 | -0.0681 | 0.0089 | \*\*\* | 0.0259 | 0.012 | 0.892 | 1710.689 |
| LSP3 | -0.1302 | 0.0000 | \*\*\* | 0.0135 | -0.0468 | 0.0763 | \* | 0.0263 | 0.028 | 0.872 | 1720.339 |
| LSP4 | -0.1166 | 0.0000 | \*\*\* | 0.0195 | -0.1700 | 0.0000 | \*\*\* | 0.0379 | 0.013 | 0.895 | 2028.231 |
| LSP5 | -0.0583 | 0.0004 | \*\*\* | 0.0165 | -0.1405 | 0.0000 | \*\*\* | 0.0319 | 0.007 | 0.902 | 1882.116 |
| Random Effect Model with AR(1) errors | | | | | | | | | | | |
|  | t | | | | Output gap | | | | Marginal R-squared2) | Conditional R-squared3) | AIC4) |
|  | Coef | P value1) | | Std.Error | Coef | P value1) | | Std.Error |
| LSD1 | 0.0270 | 0.6271 |  | 0.0556 | -0.2897 | 0.0000 | \*\*\* | 0.0261 | 0.013 | 0.013 | 1451.454 |
| LSD2 | -0.0500 | 0.1884 |  | 0.0379 | -0.2693 | 0.0000 | \*\*\* | 0.0253 | 0.018 | 0.825 | 1401.234 |
| LSD3 | -0.0908 | 0.0249 | \*\* | 0.0403 | -0.2634 | 0.0000 | \*\*\* | 0.0253 | 0.023 | 0.766 | 1399.606 |
| LSD4 | -0.0855 | 0.1863 |  | 0.0646 | -0.3836 | 0.0000 | \*\*\* | 0.0312 | 0.025 | 0.025 | 1588.598 |
| LSD5 | -0.0262 | 0.5638 |  | 0.0454 | -0.3329 | 0.0000 | \*\*\* | 0.0283 | 0.020 | 0.801 | 1499.467 |
| LSP1 | 0.0042 | 0.9349 |  | 0.0518 | -0.1942 | 0.0000 | \*\*\* | 0.0245 | 0.007 | 0.007 | 1394.260 |
| LSP2 | -0.0786 | 0.0208 | \*\* | 0.0338 | -0.1669 | 0.0000 | \*\*\* | 0.0235 | 0.018 | 0.776 | 1326.171 |
| LSP3 | -0.1185 | 0.0015 | \*\*\* | 0.0371 | -0.1568 | 0.0000 | \*\*\* | 0.0233 | 0.032 | 0.643 | 1318.100 |
| LSP4 | -0.1137 | 0.0627 | \* | 0.0609 | -0.2673 | 0.0000 | \*\*\* | 0.0296 | 0.019 | 0.020 | 1542.029 |
| LSP5 | -0.0557 | 0.1934 |  | 0.0427 | -0.2286 | 0.0000 | \*\*\* | 0.0268 | 0.014 | 0.767 | 1445.988 |

Notes 1) One, two, and three asterisks indicate parameter significance at the 10, 5, and 1% level.

2) Marginal R-squared = Var(Fixed effect) / Var(Total)

3) Conditional R-squared = (Var(Fixed effect)+Var(Random effect)) / Var(Total)

4) The smaller AIC, the better model

**2) Based on 28 countries (2000 – 2014)**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Fixed Effect Model (FEM) | | | | | | | | | | | |
|  | t | | | | Output gap | | | | Marginal R-squared2) | Conditional R-squared3) | AIC4) |
|  | Coef | P value1) | | Std.Error | Coef | P value1) | | Std.Error |
| LSD1 | 0.0905 | 0.0001 | \*\*\* | 0.0221 | -0.2031 | 0.0000 | \*\*\* | 0.0305 | 0.952 | NA | 1287.235 |
| LSD2 | 0.0113 | 0.5883 |  | 0.0209 | -0.1408 | 0.0000 | \*\*\* | 0.0288 | 0.933 | NA | 1249.608 |
| LSD3 | -0.0283 | 0.1850 |  | 0.0213 | -0.1097 | 0.0002 | \*\*\* | 0.0294 | 0.925 | NA | 1263.368 |
| LSD4 | 0.0345 | 0.2345 |  | 0.0289 | -0.2269 | 0.0000 | \*\*\* | 0.0397 | 0.916 | NA | 1456.687 |
| LSD5 | 0.0622 | 0.0118 | \*\* | 0.0245 | -0.2152 | 0.0000 | \*\*\* | 0.0337 | 0.929 | NA | 1348.386 |
| LSP1 | 0.0313 | 0.1030 |  | 0.0191 | -0.1570 | 0.0000 | \*\*\* | 0.0264 | 0.954 | NA | 1191.941 |
| LSP2 | -0.0509 | 0.0043 | \*\*\* | 0.0177 | -0.0891 | 0.0003 | \*\*\* | 0.0244 | 0.925 | NA | 1140.384 |
| LSP3 | -0.0920 | 0.0000 | \*\*\* | 0.0182 | -0.0552 | 0.0288 | \*\* | 0.0251 | 0.909 | NA | 1160.653 |
| LSP4 | -0.0375 | 0.1566 |  | 0.0264 | -0.1782 | 0.0000 | \*\*\* | 0.0362 | 0.917 | NA | 1396.186 |
| LSP5 | -0.0037 | 0.8640 |  | 0.0216 | -0.1681 | 0.0000 | \*\*\* | 0.0297 | 0.929 | NA | 1266.087 |
| Random Effect Model (REM) | | | | | | | | | | | |
|  | t | | | | Output gap | | | | Marginal R-squared2) | Conditional R-squared3) | AIC4) |
|  | Coef | P value1) | | Std.Error | Coef | P value1) | | Std.Error |
| LSD1 | 0.0906 | 0.0001 | \*\*\* | 0.0223 | -0.2024 | 0.0000 | \*\*\* | 0.0308 | 0.013 | 0.951 | 1393.804 |
| LSD2 | 0.0113 | 0.5965 |  | 0.0212 | -0.1403 | 0.0000 | \*\*\* | 0.0293 | 0.006 | 0.932 | 1348.629 |
| LSD3 | -0.0285 | 0.1915 |  | 0.0217 | -0.1095 | 0.0003 | \*\*\* | 0.0300 | 0.003 | 0.924 | 1359.798 |
| LSD4 | 0.0344 | 0.2467 |  | 0.0296 | -0.2260 | 0.0000 | \*\*\* | 0.0406 | 0.011 | 0.915 | 1550.279 |
| LSD5 | 0.0621 | 0.0151 | \*\* | 0.0254 | -0.2140 | 0.0000 | \*\*\* | 0.0349 | 0.014 | 0.929 | 1446.128 |
| LSP1 | 0.0314 | 0.1028 |  | 0.0192 | -0.1563 | 0.0000 | \*\*\* | 0.0265 | 0.007 | 0.954 | 1299.721 |
| LSP2 | -0.0508 | 0.0044 | \*\*\* | 0.0177 | -0.0885 | 0.0003 | \*\*\* | 0.0244 | 0.004 | 0.923 | 1236.425 |
| LSP3 | -0.0919 | 0.0000 | \*\*\* | 0.0182 | -0.0548 | 0.0300 | \*\* | 0.0251 | 0.007 | 0.907 | 1252.009 |
| LSP4 | -0.0373 | 0.1598 |  | 0.0265 | -0.1773 | 0.0000 | \*\*\* | 0.0364 | 0.007 | 0.914 | 1489.579 |
| LSP5 | -0.0035 | 0.8714 |  | 0.0219 | -0.1670 | 0.0000 | \*\*\* | 0.0300 | 0.008 | 0.927 | 1363.412 |
| Random Effect Model with AR(1) errors | | | | | | | | | | | |
|  | t | | | | Output gap | | | | Marginal R-squared2) | Conditional R-squared3) | AIC4) |
|  | Coef | P value1) | | Std.Error | Coef | P value1) | | Std.Error |
| LSD1 | 0.0430 | 0.4176 |  | 0.0530 | -0.3344 | 0.0000 | \*\*\* | 0.0268 | 0.021 | 0.835 | 1094.237 |
| LSD2 | -0.0327 | 0.5750 |  | 0.0582 | -0.3065 | 0.0000 | \*\*\* | 0.0256 | 0.022 | 0.023 | 1058.768 |
| LSD3 | -0.0700 | 0.2281 |  | 0.0579 | -0.2921 | 0.0000 | \*\*\* | 0.0256 | 0.022 | 0.023 | 1056.017 |
| LSD4 | -0.0504 | 0.4950 |  | 0.0738 | -0.4159 | 0.0000 | \*\*\* | 0.0326 | 0.028 | 0.029 | 1211.213 |
| LSD5 | -0.0043 | 0.9486 |  | 0.0661 | -0.3757 | 0.0000 | \*\*\* | 0.0290 | 0.027 | 0.028 | 1137.994 |
| LSP1 | 0.0117 | 0.8328 |  | 0.0554 | -0.2396 | 0.0000 | \*\*\* | 0.0240 | 0.012 | 0.012 | 1025.373 |
| LSP2 | -0.0631 | 0.2177 |  | 0.0511 | -0.2019 | 0.0000 | \*\*\* | 0.0227 | 0.016 | 0.016 | 975.074 |
| LSP3 | -0.1017 | 0.0169 | \*\* | 0.0423 | -0.1815 | 0.0000 | \*\*\* | 0.0228 | 0.018 | 0.734 | 966.079 |
| LSP4 | -0.0864 | 0.2034 |  | 0.0678 | -0.3041 | 0.0000 | \*\*\* | 0.0300 | 0.019 | 0.020 | 1155.270 |
| LSP5 | -0.0362 | 0.4677 |  | 0.0498 | -0.2693 | 0.0000 | \*\*\* | 0.0266 | 0.018 | 0.800 | 1070.972 |

Notes 1) One, two, and three asterisks indicate parameter significance at the 10, 5, and 1% level.

2) Marginal R-squared = Var(Fixed effect) / Var(Total)

3) Conditional R-squared = (Var(Fixed effect)+Var(Random effect)) / Var(Total)

4) The smaller AIC, the better model

**3) Hausman test to discriminate between Random and Fixed Effects Models**

H0 : Random effects model to be preferred to Fixed Effects Model

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Time range | Chi-sq | df | p-value1) |
| LSD1 | 1995~ | 0.0474 | 2 | 0.9766 |
| LSD2 | 1995~ | 0.0376 | 2 | 0.9814 |
| LSD3 | 1995~ | 0.0360 | 2 | 0.9822 |
| LSD4 | 1995~ | 0.0397 | 2 | 0.9803 |
| LSD5 | 1995~ | 0.0384 | 2 | 0.9810 |
| LSP1 | 1995~ | 0.0582 | 2 | 0.9713 |
| LSP2 | 1995~ | 0.0667 | 2 | 0.9672 |
| LSP3 | 1995~ | 0.0632 | 2 | 0.9689 |
| LSP4 | 1995~ | 0.0518 | 2 | 0.9744 |
| LSP5 | 1995~ | 0.0590 | 2 | 0.9709 |
| LSD1 | 2000~ | 0.0239 | 2 | 0.9881 |
| LSD2 | 2000~ | 0.0084 | 2 | 0.9958 |
| LSD3 | 2000~ | 0.0024 | 2 | 0.9988 |
| LSD4 | 2000~ | 0.0140 | 2 | 0.9930 |
| LSD5 | 2000~ | 0.0208 | 2 | 0.9897 |
| LSP1 | 2000~ | 0.0876 | 2 | 0.9571 |
| LSP2 | 2000~ | 0.1813 | 2 | 0.9133 |
| LSP3 | 2000~ | 0.9818 | 2 | 0.6121 |
| LSP4 | 2000~ | 0.0864 | 2 | 0.9577 |
| LSP5 | 2000~ | 0.0703 | 2 | 0.9655 |

Note: 1) If p-value is less than 0.05, which is the confidence level for the test, then we can reject the null hypothesis.

**4) Breusch-Godfrey/Wooldridge test for serial correlation**

H0 : No serial correlation in idiosyncratic errors

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Model | Time range | Chi-sq | df | p-value1) |
| LSD1 | 1995~ | 247.25 | 15 | 0.0000 |
| LSD2 | 1995~ | 221.18 | 15 | 0.0000 |
| LSD3 | 1995~ | 217.55 | 15 | 0.0000 |
| LSD4 | 1995~ | 245.11 | 15 | 0.0000 |
| LSD5 | 1995~ | 237.39 | 15 | 0.0000 |
| LSP1 | 1995~ | 251.17 | 15 | 0.0000 |
| LSP2 | 1995~ | 231.84 | 15 | 0.0000 |
| LSP3 | 1995~ | 234.91 | 15 | 0.0000 |
| LSP4 | 1995~ | 265.32 | 15 | 0.0000 |
| LSP5 | 1995~ | 251.06 | 15 | 0.0000 |
| LSD1 | 2000~ | 155.48 | 14 | 0.0000 |
| LSD2 | 2000~ | 158.38 | 14 | 0.0000 |
| LSD3 | 2000~ | 163.72 | 14 | 0.0000 |
| LSD4 | 2000~ | 171.27 | 14 | 0.0000 |
| LSD5 | 2000~ | 161.88 | 14 | 0.0000 |
| LSP1 | 2000~ | 152.96 | 14 | 0.0000 |
| LSP2 | 2000~ | 152.63 | 14 | 0.0000 |
| LSP3 | 2000~ | 159.40 | 14 | 0.0000 |
| LSP4 | 2000~ | 176.04 | 14 | 0.0000 |
| LSP5 | 2000~ | 160.72 | 14 | 0.0000 |

Note: 1) If p-value is less than 0.05, whch is the confidence level for the test, the null hypothesis is rejected.

1. See Bentolila and Saint-Paul (2003), Ellis and Smith (2007, 2010), EU (2007), IMF (2007), Atkinson (2009), Stockhammer, Onaran and Ederer (2009), ILO (2011, 2013), Guerriero (2012), OECD (2012), Karabarbounis and Neiman (2014). [↑](#footnote-ref-2)
2. Other work points to the increasing inequality among those receiving labour income with compensation of top income earners increasing and the position of bottom earners worsening (e.g. Saez and Veall, 2005; Atkinson et al., 2011). [↑](#footnote-ref-3)
3. Under perfect competition, the cost share of labour will also measure the production elasticity of labour, required for primal estimates of MFP. Basic references to productivity measurement include Solow (1957), Jorgenson and Griliches (1967), Balk (1998), OECD (2001), Diewert and Nakamura (2007). [↑](#footnote-ref-4)
4. Krueger (1999) reports that ‘the empirical determination of factor shares was the proximate cause for the founding of the National Bureau of Economic Research’ (p. 1). [↑](#footnote-ref-5)
5. EU (2007), IMF (2007), ILO (2011, 2013) and Stockhammer, Onaran and Ederer (2009) use GDP at market prices as the denominator for their labour share calculations; Bentolila and Saint-Paul (2003) and Ellis and Smith (2007, 2010) use GVA at basic prices. [↑](#footnote-ref-6)
6. Both taxes minus subsidies on products TPR, and other taxes minus subsidies on production TPRN comprise taxes on production and imports. [↑](#footnote-ref-7)
7. In some countries’ national accounts, Non-profit institutions serving households (NPISHs) are combined with households. As NPISHs only generate negligible gross operating surplus, any gross operating surplus of the combined sector would still be mostly attributable to owner-occupied housing. [↑](#footnote-ref-8)
8. Jorgenson and Schreyer (2013) argue for a measure of the cost of government-owned capital that includes a net return to capital, OECD (2009) discusses practical ways of its measurement. [↑](#footnote-ref-9)
9. The System of National Accounts distinguishes between unincorporated enterprises that are part of the household sector and unincorporated enterprises that resemble corporations in key aspects (e.g. complete set of accounts). These are called *quasi-corporations* and allocated to the corporate sector. In some countries, self-employed businesses with mixed income (and without explicit labour compensation) are treated as quasi corporations and are thus part of corporate sector. [↑](#footnote-ref-10)
10. Note that we here use the term “mixed income” for the corporate sector although the SNA reserves it for the households’ sector. Nevertheless, when self-employed workers are attached to the corporate sector, what the SNA calls “gross operating surplus” is actually similar to mixed income in the households’ sector because it mixes labour and capital income. [↑](#footnote-ref-11)
11. Preferably, this should be done at the industry level. [↑](#footnote-ref-12)
12. For instance, when self-employed workers in the agricultural sector are replaced by salaried workers in manufacturing in the course of economic development, the labour share would automatically increase if mixed income is ignored. [↑](#footnote-ref-13)
13. See for instance Stiglitz, Sen and Fitoussi (2009). [↑](#footnote-ref-14)
14. Rognlie (2015) makes a similar point: ‘Whether a gross or net measure is more appropriate depends on the question being asked: the allocation of gross value added between labor and gross capital more directly reflects the structure of production, while the allocation of net value added between labor and net capital reflects the ultimate command over resources that accrues to labor versus capital. […]” (p. 5). Along the same lines, Bridgman (2014) notes that ‘the literature has been motivated by welfare related questions such as inequality, so the net measure is the correct one’ (p.13). [↑](#footnote-ref-15)
15. If only gross mixed income GVMIX is available (this is the case in many countries), net mixed income is computed as VMIX = GVMIX – D \* GVMIX / (GOS + GVMIX); i.e. by applying the share of overall depreciation in profits and mixed income. As GVMIX contains a labour component, the overall depreciation share is likely to be understated. However, we prefer a possible downward bias for capital as the focus of the paper is on the declining labour share. [↑](#footnote-ref-16)
16. Note that in conjunction with taxes, ‘net’ refers to taxes minus subsidies. In conjunction with income, ‘net’ refers to gross measures minus depreciation. [↑](#footnote-ref-17)
17. A factor cost valuation has also been suggested by Atkinson (2009) and Pionnier and Guidetti (2015). [↑](#footnote-ref-18)
18. Essentially, micro-data on employees are classified by wage-relevant characteristics and regression analysis is used to evaluate the wage premium for each characteristic (education, industry, age etc.). As the same characteristics are known for the self-employed, an imputation can be made that yields the relevant compensation. [↑](#footnote-ref-19)
19. This was at least the case for Korea. When the relative wage rate of self-employed is estimated relative to per capita compensation of employee by a user cost approach, the value of 0.5 is a good approximation that empirically matches Korean income and wealth data (Cho et al. 2015b). Here the user cost approach implies searching for the value of αj in equation (4) and (6) which minimizes the gap between capital income derived from the national income account with a certain αj and the value of capital services derived from capital stock and a rate of return, etc., during 1970 to 2013. The computation entails the assumption of a constant real rate of return during the whole period. Land, as estimated in Cho et al. (2015a), is included in the asset boundary. [↑](#footnote-ref-20)
20. In Korea, the case of j=4 is regarded as overstating Korean labour income share as observed in Hong (2014), Joo and Jeon (2014), Lee (2015), Cho (2016). Pyo (2015) provides estimates of the Korean labour share for the years 1918 to 1935. In addition, Kim (2016) analyses which factors drive movements in the Korean labour share. This seems to be in support of the case j=5 although the authors recognize that the 50% figure is may not have been constant over time as assumed in the computations. [↑](#footnote-ref-21)
21. The model has been upgraded to include a cyclical factor from its original (Cho, Hwang and Schreyer, 2017) to accommodate comments from OECD researchers. Authors express gratitude for their valuable opinions. [↑](#footnote-ref-22)
22. Output gap data is sourced from the OECD.Stat Database. While, in principle, the business cyclical effect could enter in a country-specific way (αi rather than α in equation (9a) and (9b)), this would lead to multicollinearity problems as countries’ business cycles tend to be correlated. Hence a common cyclical factor was selected. [↑](#footnote-ref-23)
23. We introduce both specifications because a Hausman test indicates that the null hypothesis cannot be rejected that the random effect model is superior to the fixed effect model. Also we could not reject serial correlation in error terms. As a consequence we consider that the random effect model with AR1 error terms is the preferred specification. Test results and full presentation of the regressions can be found in Appendix D. [↑](#footnote-ref-24)
24. A word of caution is in place here: as assumptions about depreciation patterns tend to vary between countries, labour shares based on net income measures are less comparable across countries than labour shares based on gross income measures. [↑](#footnote-ref-25)
25. If 28 countries are analysed for data starting in 2000, statistical significance disappears in all five cases under random effects models and only LSP3 under fixed effects models with significance at 5% shows a rising labour share trend, as presented in Appendix D. [↑](#footnote-ref-26)
26. Of course, a labour share in net income that is approximately constant is in no way inconsistent with rising income inequality. For instance, wage income has become more unequally distributed even if the average growth of labour income has equalled capital income growth. The effects on total income inequality can be compounded when capital income grows faster than the wages of *low-income* workers, and even more so as the distribution of wealth is highly skewed. Thus, constant capital and labour shares may well be associated with growing income inequality. [↑](#footnote-ref-27)
27. For any two real numbers a, b>0, the logarithmic mean is defined as m(a,b)=(a-b)/ln(a/b) – for a discussion see Balk (2008) who attributes the origins of the logarithmic mean to unpublished work by Törnqvist in 1935 (Balk 2008, p. 134). [↑](#footnote-ref-28)
28. Bridgman (2014) and Zheng et al. (2015) arrive at a similar conclusion for United States. [↑](#footnote-ref-29)
29. Thus, in many countries, the increase in nominal net income is likely to have been even feebler than the increase in gross income (GDP) that has been a concern since the onset of the crisis. [↑](#footnote-ref-30)
30. Some caution is also called for regarding the quality of countries’ depreciation measures. While some countries can point to recent surveys to determine age profiles of assets and rates of depreciation, this is not the case for many other countries and assumed service lives may not be up to date (OECD, 2009). [↑](#footnote-ref-31)
31. This supports Rognlie’s (2015) finding for the United States “Overall, the net capital share has increased since 1948, but when disaggregated this increase comes entirely from the housing sector: the contribution to net capital income from all other sectors has been zero or slightly negative, as the fall and rise have offset each other.” [↑](#footnote-ref-32)