

cussed in the IMF study, the labour share of skilled workers is also falling in some major economies. Lin and Tomaskovic-Devey (2013) and Onaran (2011, 2012) are closest to our analysis, but while these studies focus on a single country, the US and Austria respectively, we perform our analysis for selected OECD countries and are therefore able to account for country specific differences in industrial relations. Furthermore, we incorporate a broader range of explanatory variables.

### 3. Data and stylised facts

#### 3.1 Data

We have compiled a comprehensive database for nine OECD economies drawing on six publicly available international databases for sectoral data which we augmented by country level data.<sup>25</sup>

We measure the wage share as labour compensation as a ratio to value added with data obtained from the EU KLEMS database. Labour compensation includes the wage of self-employed workers, imputed based on the assumption that their wage is equal to the average hourly wage of the sector.<sup>26</sup> Since data from EU KLEMS is only available until 2009 we extrapolate through splicing. More specifically, we link the wage share from KLEMS with the growth rate of the wage share obtained from the OECD Structural Analysis database (OECD STAN).<sup>27</sup> Both series have a correlation of 0.91. We control for violent swings in the wage share by excluding years where the percentage change in the wage share exceeds 30% in absolute values, which mostly appear in Denmark, the UK and Sweden, but our results are robust to all these cleaning procedures.

In order to see how our results differ if we use the after-tax wage share as the dependent variable in our estimations we had to obtain measures for implicit tax rates on labour income, indicating the share of taxes paid out of wage income. The series are not readily available for many countries and for long periods; therefore we reconstructed the series using the technique proposed by Carey and Tchilinguirian (2000) with data from several sources of the OECD database.

We obtain measures of capital stock from the EU KLEMS database. Unfortunately only aggregated capital stock data is available at the 2-digit level.<sup>28</sup> We extrapolate capital stock from KLEMS using the growth rate of the same measure from STAN. At the 1-digit level we are able to disaggregate ICT and non-ICT capital. ICT and non-ICT capital is reported as services (measured as an index) rather than stock in the newer versions of KLEMS.

Our globalisation variables are obtained from the OECD. Import data disaggregated for intermediate import and other imports is from OECD

STAN Bilateral Trade Database by Industry and End-Use Category. We calculate the ratio of intermediate and other imports to domestic absorption, i. e. value added plus total exports minus total imports of the sector.<sup>29</sup>

FDI is taken from the OECD FDI statistics database and measures FDI positions (stocks) as assets minus liabilities of all parent companies to their affiliates.<sup>30</sup> We normalise the measure by the numbers of people engaged in the sector, which we consider to have advantage over other forms of normalization for two reasons: First, since we are interested in the effect of FDI on industrial relations, a normalisation by people engaged in the production process seems reasonable. Second, since FDI is measured as a stock it is preferable to normalise it by another stock variable and not a flow variable like value added or output.

Our measure of migration is the stock of foreign labour by nationality taken from the OECD and we splice it with the growth rate of foreign population for the years for which data is not available (in line with IMF, 2007).<sup>31</sup> We include it in our estimations as a ratio to total employment of the country.

Finally, for robustness tests we use an aggregate index of economic globalisation supplied by Dreher (2006) and updated in Dreher, et al. (2008), which combines *de facto* data from trade flows, FDI stocks, portfolio investment, income payments to foreign nationals with *de jure* measure of hidden import barriers, tariff rates, taxes on international trade and capital account restrictions.

Our only measures for labour market institutions available at the sectoral level is union density supplied by Ebbinghaus and Visser (2000) and Visser (2015). Data is only available on an aggregated level of sectoral classification and not available for each year. Therefore, we interpolate the series between available years and extrapolate data for service sectors using the growth rate of country-level union density. Similarly, we extrapolate manufacturing sectors using the growth rate of the total manufacturing union density or country-level union density when the latter series was not available. Due to the large amount of data created by extra- or interpolation we have reasons to doubt the reliability of this variable, although this is more relevant for earlier years before 1995 which are included only in a limited number of our estimations. However, it is important to note that such interpolation smoothens the data and thereby diminishes its ability to capture short-time adjustment in bargaining variables in reaction to certain political or economic events. Nevertheless, we think the results are indicative and important as this paper is the first attempt to analyse the impact of union density on sectoral wage share for several countries. We also check for robustness by using the country level aggregate union density variable supplied by the OECD. Our second measure of bargaining power is adjusted bargaining coverage<sup>32</sup> measuring the number of employees covered by collective (wage) bargaining agreements as a proportion of all

wage and salary earners in employment with the right to bargaining.<sup>33</sup> This variable is only available at the country level.

Furthermore, we account for social government spending defined as social transfers in kind from government to households measuring expenditure by government on market goods and services provided to households such as health care, housing, recreational and cultural services, education and social protection. This measure excludes social transfers in cash (reflecting welfare benefits), which we add to the previous measure for robustness tests. The variable is measured as percentage of GDP and obtained from the OECD National Accounts at a Glance database.

Furthermore we include the Gini-coefficient obtained from the “Standardized World Income Inequality Database”,<sup>34</sup> and top 1 percent income shares from the “World Wealth and Income Database”.<sup>35</sup>

Our country-level financialisation variables include interest and dividend payments and income of nonfinancial corporations as a ratio to total resources of nonfinancial corporations obtained from the OECD Non-financial Accounts by Sectors Database which is part of the Annual Accounts statistics. Furthermore we augment our analysis by a variable measuring household debt as percentage of GDP from the Bank of International Settlements Total Credit Statistics.

### 3.2 Stylised Facts

While the decline in the aggregate country-level labour share is a well-documented fact, there is only limited analysis of dynamics in functional income distribution at the sectoral level. We find that the trend observed in the aggregate country level wage share is mirrored at the sectoral level, albeit with important differences between manufacturing and services sectors as well as high (HS) and low skilled (LS) sector groups and across countries as can be seen in Figure 1 below for selected countries.

In Austria we observe one of the steepest declines in the wage share in comparison to other European countries. The wage share in value added of the sector is generally higher in the manufacturing industries than in services until the late 1990s, after which the wage share in manufacturing falls below the wage share in the service sectors. This pattern is unique to Austria – most other countries exhibit a higher wage share in low skilled service industries than in manufacturing as can be seen in France, Germany and the UK – and can well be related to imputed wages of owner entrepreneurs.

Within manufacturing sectors in Austria low skilled sectors maintained the highest share of wages in value added in the economy until the mid-1980s, but also exhibit the sharpest decline amongst all sector groups by 27 percentage-points from 85 percent to 58 percent between 1978 and