



## Inequality Matters



### Income redistribution across different income groups across OECD countries

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*Disclaimer: The views expressed here are those of the authors and do not necessarily reflect those of the institutions they represent.*

Many OECD countries have been facing a prolonged period of low growth and stagnating income of the poorest. While the extent, timing and characteristics of rising inequalities vary across countries, one common feature is rising wage dispersion and in a number of countries increasing job polarisation. This challenges governments' fiscal redistribution, all the more so in a context where new forms of work are calling into question the effectiveness of traditional social safety nets and population ageing is putting pressure on public finances. Yet tax and transfer systems are fundamental pillars of an inclusive growth policy agenda that aims at sharing the benefits of growth more equally and securing decent living standards for those in most need.

In order to deliver evidence-based analysis on redistribution, we need to first document and take stock of the extent to which tax and transfer systems mitigate market income inequality today, and how this has changed over a period of rising globalisation, technological change and pressure from population ageing. This is what we achieve in a recent paper (Causa and Hermansen, 2018) by delivering a comprehensive assessment of income redistribution to the working-age population, covering OECD countries over the last two decades.<sup>1</sup> Redistribution is quantified as the relative reduction in market income inequality achieved by personal income taxes, employees' social security contributions and cash transfers, based on household-level micro data from the OECD and the LIS.

Taxes and transfers reduce market income inequality by slightly more than 25 per cent on average across the OECD; yet this average figure masks a great deal of heterogeneity ranging from 40 per cent in Ireland to around 5 per cent in Chile. The level of redistribution is also highly variable in countries exhibiting similar levels of market income inequality: for example, market income inequality stands at around 38 Gini points in both Japan and Norway, but disposable income inequality stands at around 27 points in Norway compared to 32 points in Japan.

Since the mid-1990s, the redistributive effect of taxes and transfers has declined, on average and in the majority of OECD countries for which data are available. The trend towards less redistribution was most pronounced over the pre-crisis period (1995-2007), and was temporarily reversed during the first period of the crisis (2007-2010), reflecting the cushioning impact of automatic stabilisers and fiscal discretionary measures. Trends in redistribution were more heterogeneous over the most recent decade, with increases in around half of OECD countries, in particular those hardest hit by the crisis.

How different income groups are affected by observed levels and changes in redistribution is a question of considerable policy relevance that cannot be properly captured by relying on the Gini coefficient which is known to be relatively less sensitive to changes

occurring at the tails of the distribution. One way to shed light on this issue is to calculate relative changes in income shares accruing to different income groups before and after taxes and transfers, analogous to the redistribution measure based on the Gini coefficient. For the purpose of this analysis, households are grouped in high (last quintile), low (first quintile) and middle (middle three quintiles) income households. For example, in Denmark 2.7% of total market income earned by the working-age population accrued to the bottom quintile in 2013, while 9.6% of total disposable income accrued to the bottom quintile, hence the difference due to redistribution by taxes and transfers is equal to 7 percentage points. For the middle quintiles, this difference is equal to 0.2 percentage points. Conversely, redistribution by taxes and transfers tends to reduce the share of income accruing to the top quintile so this difference is negative, equal to -7.2 percentage points in Denmark. By construction, the differences in income shares across the considered groups sum to zero. This analysis is relatively crude and simplistic yet informative of the different patterns of redistribution across OECD countries, in particular as regards the differential treatment of the middle class (Figure 1):

Figure 1 supports that in most OECD countries the middle class is better off after redistribution through taxes and transfers as the change in its income share is positive and substantial. However, departures from the average are sizeable:

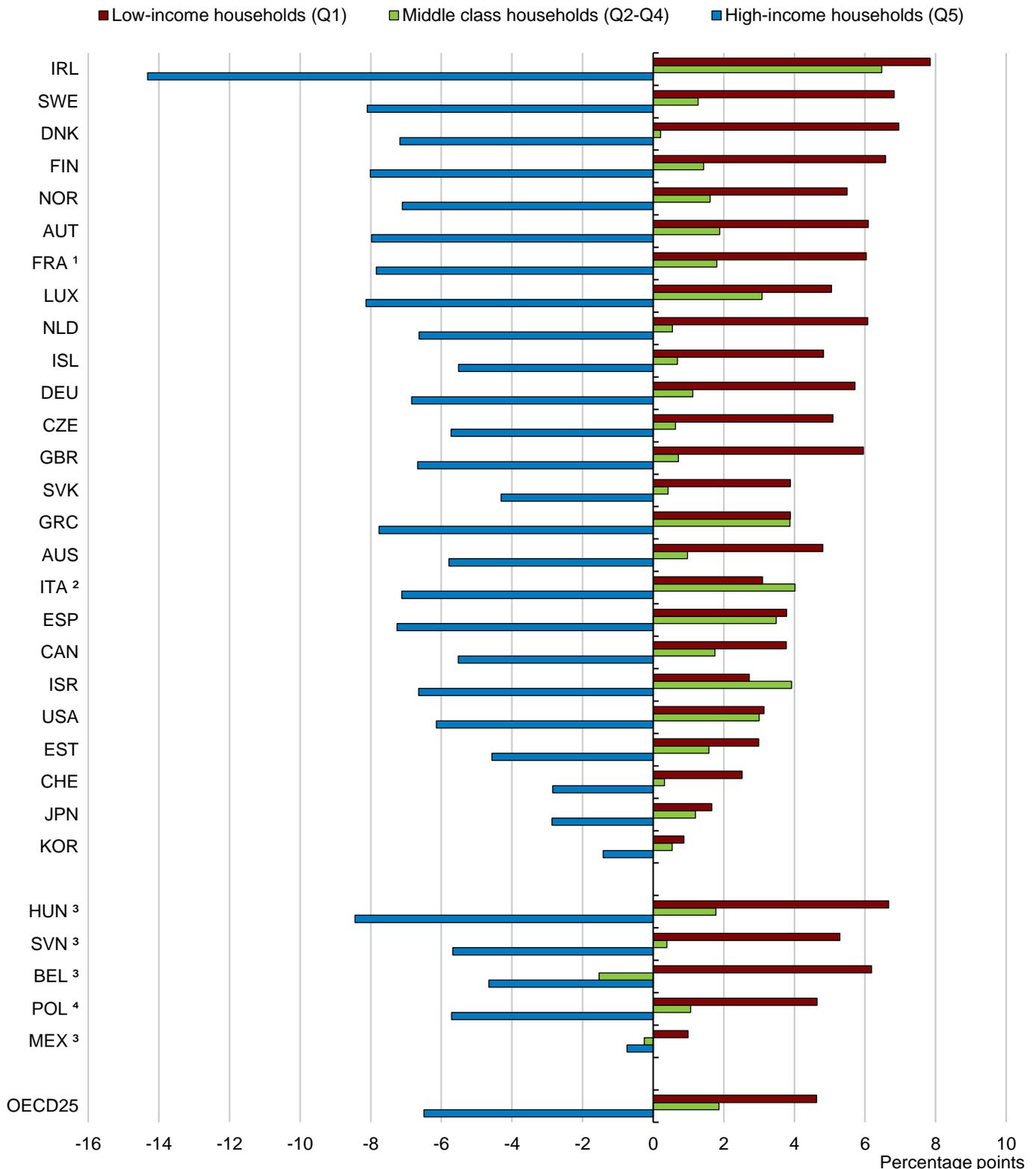
- In a few countries, middle class households tend to gain in equal proportion or more from redistribution than low income households. This only happens among relatively low redistributive countries such as Israel, the United States and Italy, as well as Greece and Spain.
- In most countries, middle class households tend to gain from redistribution but less so than low income households. This applies to most redistributive countries such as Ireland but also least redistributive ones such as Japan.

In a number of OECD countries, the middle class is neither better nor worse off after redistribution through taxes and transfers as the change in its income share is close to zero. In such cases, the change in the income share accruing to high and low-income households tend to roughly offset each other. This pattern is observed both in high-redistribution countries such as Denmark, where the rise in the income share accruing to low-income households and the corresponding decline in the income share accruing to high-income households is relatively important; as well as in low-redistribution countries such as Switzerland, where the rise in the income share accruing to low-income households and the corresponding decline in the income share accruing to high-income households are relatively limited.

Tracking changes in pre-post redistribution income shares for low, middle and high-income households over the last two decades allows for a better understanding and qualification of the broad redistribution trends documented in the previous section. For the purpose of this exercise, households in the three middle quintiles are from here on treated separately as lower-middle class, middle class and higher-middle class (Figure 2). The following insights emerge:

**Figure 1. Across the OECD, the middle class is either better off or not worse off after redistribution**

Difference between household disposable income share and market income share for the working-age population, 2013 or latest available year



<sup>1</sup> Social security contributions not available for France.

<sup>2</sup> For Italy taxes and social security contributions are based on imputed values (see LIS documentation).

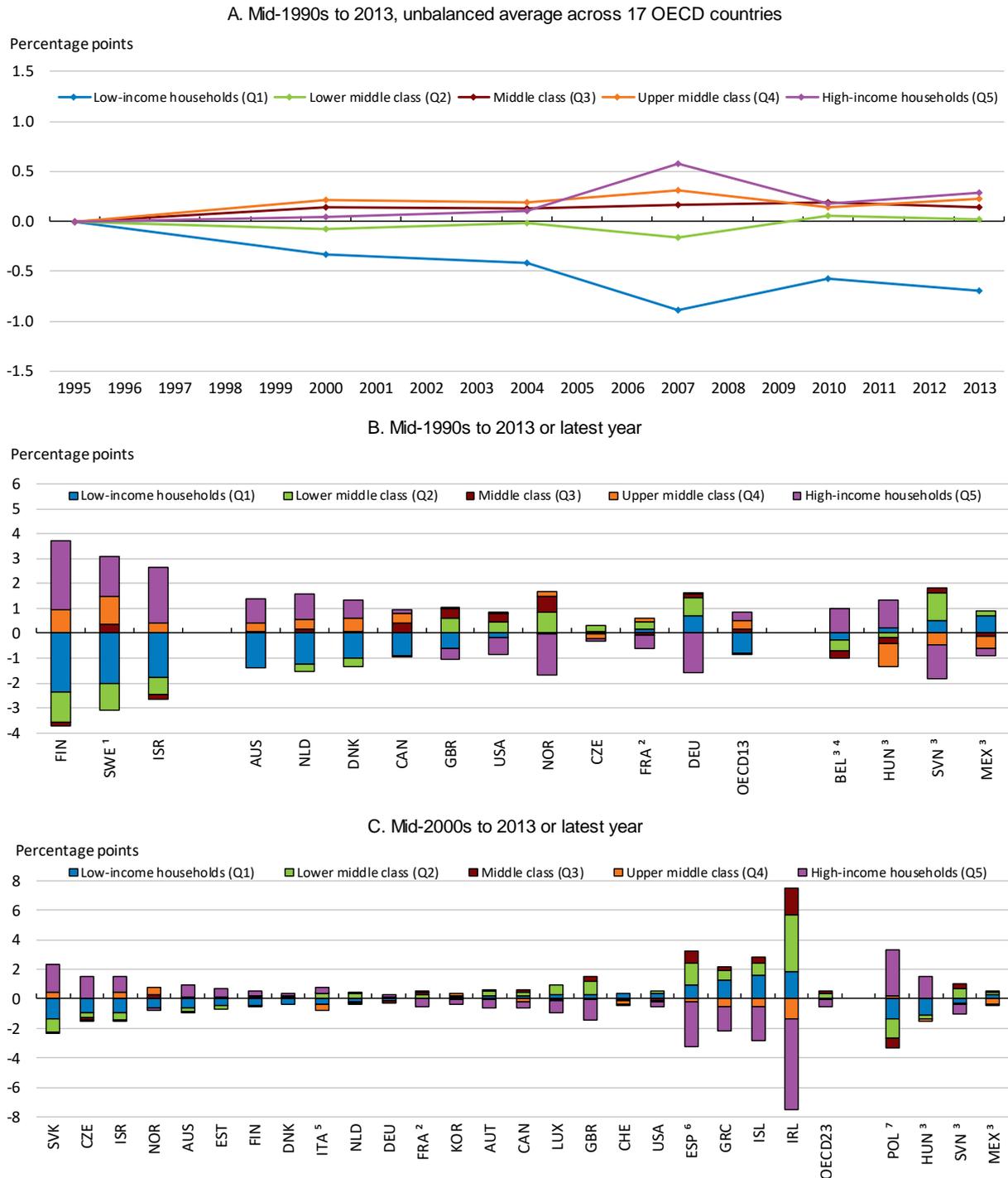
<sup>3</sup> Households incomes reported net of personal income taxes in the data (net country).

<sup>4</sup> Information on personal income taxes and social security contributions are incomplete for Poland.

Note: Income shares are calculated for equivalised household market and disposable incomes, with individuals ranked by the respective income distribution. The figure shows the difference between income shares after and before personal income taxes and transfers. Countries are ranked from the most to the least redistributive according to the standard measure based on Gini coefficients. Data refer to 2000 for Belgium; 2005 for Sweden; 2008 for Japan; 2010 for Australia, Canada, France, Iceland and Ireland; 2012 for Hungary, Israel, Korea, Mexico and Slovenia; 2014 for Italy; and 2013 for the rest.

Source: OECD staff calculations based on Luxembourg Income Study (LIS) Database.

**Figure 2. Redistribution to low-income households has declined markedly across OECD countries**  
Change in household disposable income share less market income share for the working-age population



<sup>1</sup> Sweden only available for 1995-2005.  
<sup>2</sup> Social security contributions not available for France.  
<sup>3</sup> Households incomes reported net of personal income taxes in the data (net country).  
<sup>4</sup> Belgium only available for 1995-2000.  
<sup>5</sup> For Italy taxes and social security contributions are based on imputed values (see LIS documentation).  
<sup>6</sup> Changes over time for Spain should be interpreted cautiously due to a change in methodology (use of administrative sources for the latest year).  
<sup>7</sup> Information on personal income taxes and social security contributions are incomplete for Poland.

Note: An increase (decrease) for a particular quintile implies an increase (decrease) in redistribution to the quintile in the sense that the share of total disposable income accruing to the quintile increases relative to the share of total market income accruing to the quintile. For each year, changes across quintiles sum to zero. Income shares are calculated for equivalised household market and disposable incomes, with individuals ranked by the respective distribution. For Panel A the unbalanced average is based on 17 OECD countries (Australia, Austria, Canada, Czech Republic, Denmark, Estonia, Finland, Germany, Israel, Italy, Luxembourg, the Netherlands, Norway, Slovak Republic, Switzerland, the United Kingdom and the United States) and constructed by first computing the average change between two consecutive periods, then cumulating the period averages from mid-1990s to 2013. Only countries with observations for more than half of the included time periods are included. Panel B data refer to 1993-2013 for the Netherlands; 1994-2010 for Canada and France; 1994-2012 for Hungary; 1994-2013 for Germany, the United Kingdom and the United States; 1995-2000 for Belgium; 1995-2005 for Sweden; 1995-2013 for Australia; 1995-2013 for Denmark, Finland and Norway; 1996-2013 for Mexico; 1996-2013 for Czech Republic; 1997-2012 for Israel and Slovenia. For Panel C data refer to 2003-2010 for Australia; 2004-2010 for Canada, Iceland and Ireland; 2004-2012 for Mexico and Slovenia; 2004-2014 for Italy; 2005-2010 for France; 2005-2012 for Hungary and Israel; 2006-2012 for Korea; 2007-2013 for Spain and Greece; and 2004-2013 for the rest.

Source: OECD staff calculations based on Luxembourg Income Study (LIS) Database.

- Low-income households, that is, the bottom 20 per cent, have lost the most from changes in redistribution over the last two decades: the change in income share pre and post-tax transfers has been declining on average and among most OECD countries. Households in the second quintile have been also losing from redistribution in a number of countries, although comparatively much less than those in the first quintile so that on average the change in their income share has not evolved over the last two decades. The decline in redistribution towards low-income households took place essentially between the mid-1990s and the onset of the crisis: during the first phase of the crisis the decline reversed, as observed for overall redistribution, a reflection of the cushioning effect of automatic stabilisers and temporary income support measures.
- Upper-middle class and high-income households, that is, the top 40 per cent, have gained the most from changes in redistribution: the change in income share pre and post-tax transfers accruing to the top 40 per cent has been increasing on average across the OECD and in a majority of OECD countries (for this group, the change means a less negative difference between the income share based on market and disposable income, respectively). This pattern was most pronounced between the mid-2000s and the onset of the crisis; it temporarily stopped during the first phase of the crisis.
- Middle class households, that is, those between the top and bottom 40 per cent, have been little affected from changes in redistribution, on average and in the vast majority of OECD countries.

Overall, this analysis shows that in many OECD countries the bottom 20 per cent, hence poor households (based on a relative poverty criterion) have been the primary losers from the decline in redistribution through the last two decades. However, this broad picture does not equally apply to all countries and in all periods. In particular, it does not apply to Greece, Ireland, Spain and Portugal over the latest decade, a likely reflection of the strong and sustained increase in unemployment which implied rising measured redistribution to low-income groups. It also reflects strong policy reactions to limit income hardship and rising poverty in the first stage of the crisis through various cash-transfers schemes. Again, an exception to this is Italy where, despite the prolonged labour market

crisis, all households except the top 20 per cent have been losing from changes in redistribution and poor households have been losing the most.

One underlying policy issue is that designing well-targeted transfers towards low-income groups is challenging. This reflects various obstacles associated with means- or income-testing such as considerable non-take up and high administration costs, but also that targeted transfers can be distortive by creating low-income traps. In our study (Causa and Hermansen, 2018) we provide some evidence on the interplay between different combinations of average transfer rates - that is the size of the transfer system - and the degree of targeting of the transfer system. In short, this evidence suggests that observed transfer rates are in many OECD countries too low for targeting to have a major impact. By design, targeted transfers are smaller in size than e.g. insurance transfers or universal transfers, so that their impact on overall inequality is limited in most countries. Still, such transfers play a key role in ensuring income adequacy among vulnerable groups and securing minimum living standards. From a broader perspective and to conclude, tax and transfer reforms should be designed within an array of complementary policy instruments to address equity and efficiency objectives, taking into account country-specific context, constraints and social preferences. For example, well-designed “springboard” packages should combine tax and transfer policies to make work pay and boost jobs with policies to improve employability, skill adaptability and wage prospects. In other words, to raise job quality for less-skilled and at-risk individuals such as disadvantaged youth and immigrants, but also for older workers facing displacement in declining sectors.

<sup>1</sup> Relevant work in this area include Immervoll and Richardson (2011); OECD (2008, 2011, 2015); Joumard et al. (2012); Lindert (2017).

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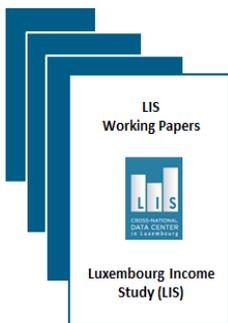
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**Focus on 'Income inequality, redistributive preferences and the extent of redistribution: An empirical application of optimal tax approach' [🔗](#) - LIS WP No. 743 by Hannu Tanninen [✉](#) (University of Eastern Finland), Matti Tuomala [✉](#) (University of Tampere, Finland), and Elina Tuominen [✉](#) (University of Tampere, Finland)**

The optimal tax framework, developed by James Mirrlees, has dominated the economics of redistributive taxation for the past 40 years. However, this notable branch of theoretical literature has not been utilised in empirical applications seeking to explain the observed patterns of redistribution. A considerable body of this empirical literature builds on models where the key element is the political mechanism – the median voter theory – through which greater inherent inequality leads to greater redistribution. Empirical evidence for such a political mechanism has been, at best, mixed. Here, we take a novel approach to this empirical question and build on the redistributive taxation literature.

We empirically examine the relationship between the extent of redistribution and the components of the Mirrlees framework, with a focus on inherent inequality and government's redistributive preferences. We constructed our income distribution variables from the Luxembourg Income Study (LIS) database, which provides information on both factor and disposable incomes. To describe income inequality and redistribution, we used the Gini coefficients and the P90/P50 percentile ratios. Measuring government's redistributive preferences is far less straightforward, but there is good reason to believe that changes in those preferences have been episodic, rather than continuous. Our redistributive preference measure was constructed using the optimal tax formula, for which we collected data from various sources. Instead of relying solely on linear specifications in our empirical models, we also utilised penalized spline methods to allow nonlinearities in a flexible manner, because pre-specified functional forms are not easy to justify in empirical investigations of the optimal tax framework.

We studied 14 advanced countries over approximately four decades and found a positive relationship between inherent (factor-income) inequality and the extent of redistribution. We also found a statistically significant association between our redistributive preference measure and the extent of redistribution. These empirical results are qualitatively in line with the Mirrlees model. However, further work is still needed to better understand the changes in the extent of redistribution over time.

**Data News**



**Data releases**

**Luxembourg Income Study (LIS)**

**Australia** [🔗](#)

LIS is delighted to announce that two more data points have been added to the LIS Database, namely AU04 (Wave VI) and AU14 (Wave IX). The AU04 dataset is based on the Survey of Income and Housing (SIH, wave 2003-04) and the Household Expenditure Survey (HES, wave 2003-04) carried out by the **Australian Bureau of Statistics (ABS)**, while the AU14 dataset is based only on the Survey of Income and Housing (SIH, wave 2013-14). As a result, only the AU04 data include expenditure data (similarly to the already available AU10 dataset).

**Georgia** [🔗](#)

One new dataset from Georgia, GE16 (Wave X) has been added to the LIS Database. The dataset is based on the 2016 wave of the Integrated Household Survey (IHS) carried out by the **National Statistics Office of Georgia**.

**Serbia** [🔗](#)

One new dataset from Serbia, RS16 (Wave X) has been added to the LIS Database. The dataset is based on the 2016 wave of the Household Budget Survey carried out by the **Statistical Office of the Republic of Serbia**.

**Luxembourg Wealth Study (LWS)**

**Australia** [🔗](#)

Two more data points have been added to the LWS Database, namely AU04 (Wave VI) and AU14 (Wave IX). The datasets are based on the same data used for the LIS Database (see Australia LIS).

**Data revisions**

**Luxembourg Income Study (LIS)**

**Australia** [🔗](#) - AU08 and AU10 have been revised in order to include the newly available figures for imputed rent based on the new methodology used by ABS, see [here](#) for a detailed description.

**Serbia** [🔗](#) - RS06, RS10 and RS13; the main changes concern the annualisation of occasional labour income, the split of wages into basic and supplements, and the recovery of some missing observations in the consumption variables.

**Luxembourg Wealth Study (LWS)**

**Australia** [🔗](#) - AU10 - see revision note for Australia LIS.

**LIS/LWS Data Release Schedule**

	Winter 2018	Spring 2019	Summer 2019
<b>LIS Database</b>			
Colombia	CO16		
Finland		FI16	
Japan	JP10/13		
Mexico			MX16
Peru			PE16
Russia	RU11/13/14/15/16		
South Africa		ZA15/17	
United Kingdom		UK16	
<b>LWS Database</b>			
Canada	CA16		
Japan	JP04/09/11/14		
Spain		ES02/05/08/11/14	
South Africa		ZA15/17	
United Kingdom		UK13/15	

Highlights



**A la recherche of the roots of US inequality “exceptionalism”**

Branko Milanovic ✉, (Graduate Center, CUNY)

It has been long argued that American income inequality was, in the past 40 years or so, exceptionally high compared to other OECD countries. The latest results available by Luxembourg Income Study that harmonizes income concepts across countries show inequality in disposable (per capita) income in the US to be 41 Gini points, that is, higher than in any other similarly rich country (Germany’s Gini is 32, British 35, Italian 35, Dutch 28). So, this part is not controversial.

What is more controversial is technical (as opposed to substantive) explanation for this “exceptionalism”. Some people have argued that US market income inequality (that is, inequality before government redistribution through social transfers and direct taxes) is not much higher than elsewhere and that the entire explanation has to do with an insufficiently redistributive state. In simple terms, the argument is that the market generates same inequality in the US and Sweden, but Sweden redistributes much more through pensions, unemployment benefits, social assistance etc., and also taxes the rich more, so in the end disposable (after transfers and taxes) income inequality in Sweden is less than in the United States.

Janet Gornick, Nathaniel Johnson and I have recently looked at this more carefully. Without going through all explanations (which can be found in the paper [here](#)), we conclude that this is not entirely true: US market income inequality is generally greater than in other rich countries and the American state redistributes less. So, we argue, both the underlying (market) inequality is high and redistribution is relatively weak.

But one can go further than that, and ask the following question: what part of redistribution is “weak”: is it that US transfers are small and not sufficiently pro-poor, or is it that US direct taxes are not sufficiently progressive?

Now, I look at that issue in the following way. I define as “poor” the bottom 40% of individuals when people are ranked by their market income inclusive of government-paid pensions (social security in the US) which can be regarded as deferred wages. I then look at how the income share of these very same people varies as we include other social transfers and finally as we deduct direct taxes. (Note that this calculation can be done only if you have access to micro data, as is the case with LIS data, because you need to “fix” these people and look at their income and income share as they go through the process of redistribution.) We expect that the share of the “poor” increases as the state moves in to redistribute income. Indeed, in 2016 (the latest year for which we have US data), the “poor” received 11.7% of overall market income, but their share went up to 13.4% of income when we include all social transfers, and increased further to 15.8% when we include taxes too. (Note again that these are the same people throughout). The gain for the “poor” is thus 1.7 percentage points from social transfers (13.4-11.7) and an additional 2.4 percentage points from taxes (15.8-13.4).

We can write it out:

In the US, the “poor” gain 1.7 points thanks to social transfers and 2.4 points thanks to taxes.

So, the government really “works” in the United States: it improves the position of the poorest people through government transfers and direct taxes. But the question is, does it work well enough?

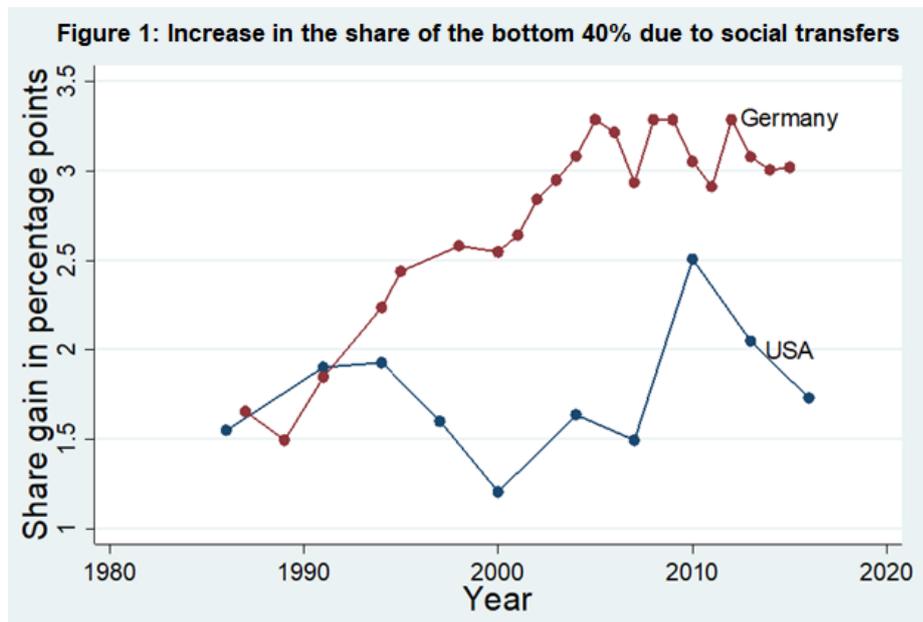
One good comparator is Germany. We control for different age distributions in the two countries and the fact that people retire earlier in Germany by treating government pensions as deferred wages. But that still leaves (as mentioned above) other social transfers like unemployment benefits, family benefits (if any), welfare etc. So, in Germany in 2015, the “poor” (defined the same way as in the US) earned 15.3% of all market income. Their share went up to 18.3% when all social transfers are included, and further to 21.3% when we include direct taxes as well. Thus the “poor” in Germany gained 3 percentage points from social transfers (18.3-15.3) and 3 percentage points from taxes (21.3-18.3).

For Germany, we write:

The “poor” gain 3 points thanks to transfers and then an additional 3 points thanks to taxes.

Thus, not only is the starting point of the “poor” in Germany more favorable than in the United States (15.3% of market income vs. only 11.7%) but they gain more from both social transfers and direct taxes.

The results over time are shown in two graphs below. The “poor” always gain from redistribution but US gains are always smaller than German gains. What is noticeable is that the gains from social transfers were about the same in the US and Germany until 1995, then increased in both countries. In the US they were at their peak in 2010 when unemployment benefits were extended by Obama and afterwards, since US welfare is very modest, they rapidly went down. Even more interesting is the evolution of the gains from direct taxes. Here we see that the American “poor” gain throughout less than the “poor” in Germany and that the level of gains does not seem to change much in the US.



Source: Luxembourg Income Study (LIS) Database.

In conclusion, when we try to find the roots of lower pro-poor redistribution in the US we can find them both in more modest social transfers and in less progressive direct taxation. Combined with our earlier finding of relatively high market income inequality in the US, this means that American income inequality is “exceptional” because (a) underlying market income inequality is high, (b) social transfers are modest, and (c) direct taxes are not sufficiently progressive.

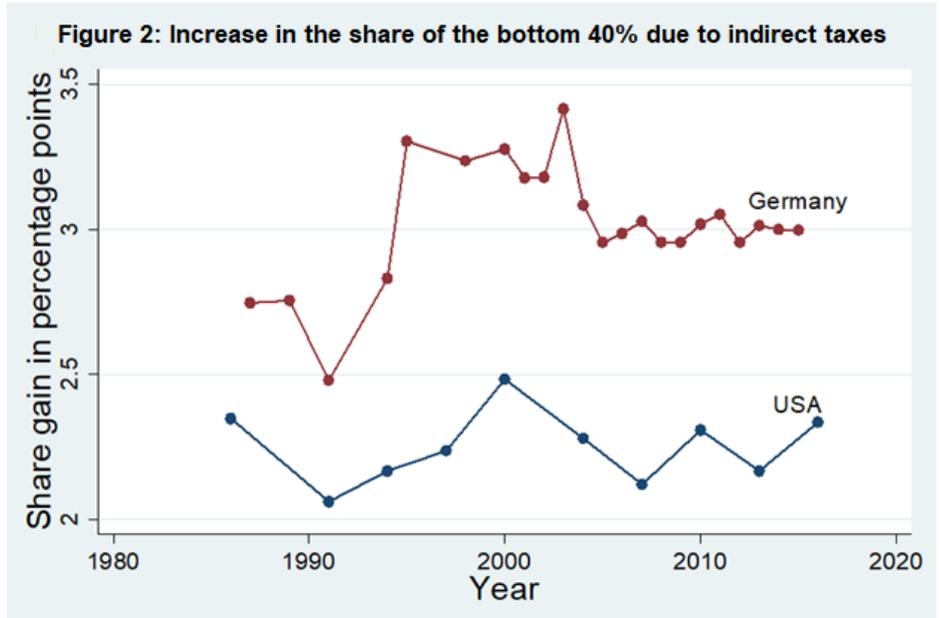
The policy implication is that reduction in US income inequality is unlikely to be achieved through one of these three channels alone but through a combination of “improvements” in each of them. For example, through more accessible education and higher minimum wage to reduce the underlying market income inequality; through introduction of family benefits or more generous welfare; and finally through higher tax rates for the rich and higher taxation of capital incomes. Although this might seem like an extremely ambitious policy agenda, I think it is more reasonable to think that incremental changes in all three

**Rural income growth makes China more equal**

Jörg Neugschwender ✉, (LIS)

China is a remarkable case for studies on growth and inequality. In May 2016, an article in *The Economist* shed some light on long-term trends within the last 35 years. The article concludes that “[r]ising rural incomes are making China more equal”. Further, this scenario is attributed to the argument of the inverted U-shaped Kuznets curve. Simon Kuznets (1955) argued that the transformation from rural to industrialised economies is strongly linked to increases in inequality at first, but then followed by an inequality reducing effect when GDP grows further. By using the LIS data, I will try to shed some light on this on the following question. Is it true that China reached its peak of inequality and actually is on a downward trend?

The argument on steep income inequality increases and recently slightly reversed trends are also supported by various scientific studies on the Chinese economy. Shi (2016) provides evidence on Gini coefficients that do suggest that inequality first sharply increased from a level below 0.3 in the early 1980s to a level of 0.491 in 2008.1 In the following years, the Gini stabilised and started to slightly decrease. Shi (2016) mentions various mechanisms which may have influenced this reversed trend. Not only rural-to-urban migration further increased substantially (thus reducing inequality), but also wage increases among unskilled workers



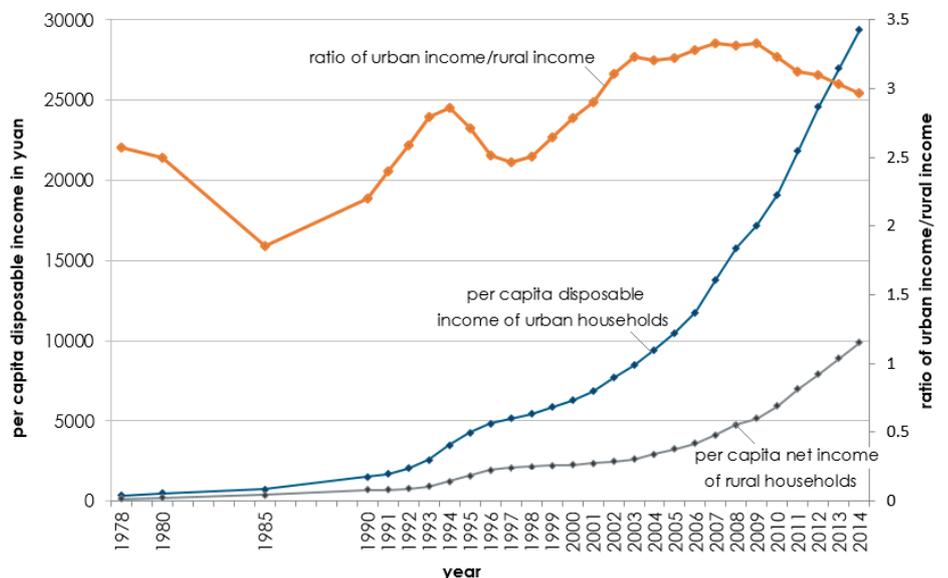
Source: Luxembourg Income Study (LIS) Database.

channels are easier to pass legislatively than a much more substantial change in any one of them alone. But it also means that if one wants to seriously grapple with high inequality in the United States, only a combination of different policies will do.

recently exceeded those of skilled urban workers. The latter is particularly beneficial for migrant workers, as consequently also remittances from urban to rural areas substantially increased.

Figure 1 provides an update of Shi’s (2016) numbers – annual statistics on per capita disposable income that are released by the NBS. China’s Statistical Yearbook reports these statistics separately by urban and rural areas (shown in annual yuan on the left-hand y-axis). The numbers are also expressed as ratio between urban and rural areas (right-hand y-axis). The figure reveals that, besides the rapid increase of per capita incomes in both rural and urban China,

**Fig. 1. China - per capita disposable income - urban vs. rural areas (1978-2014)**

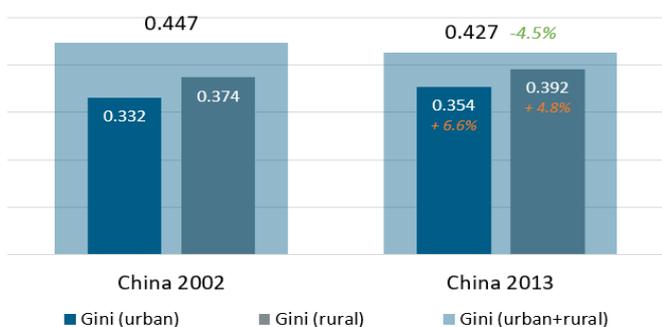


Source: NBS, China Statistical Yearbook 2015, <http://www.stats.gov.cn/tjsj/ndsj/2015/indexeh.htm>, item 6-6, accessed 18-Apr-2018.

income increases in rural areas substantially lagged behind the stronger increases in urban areas. But the ratio peaked in 2009, and started to gradually decline ever since. Zhang (2016) provides urban-to-rural ratios equally for consumption; the numbers suggest that the ratio already shows a downward trend since 2003. Concluding from these findings, yes, indeed, it seems very plausible that the trend in decreasing inequality between urban and rural areas might be well connected to an ongoing trend in decreasing Gini levels.

As these statistics are based on rather aggregated numbers, I will now extend these analyses and further break down these findings. In order to do so, I used the recently added / revised Chinese microdata from the Luxembourg Income Study (LIS) Database. So far, LIS included two waves of data from the Chinese Household Income Survey (CHIP), China 2002 and 2013, carried out by the Chinese Institute for Income Distribution (CIID) with assistance from the National Bureau of Statistics of China (NBS). Particularly, the full integration of income and expenditure variables in the China 2013 dataset has improved the consistency of these data.

**Fig. 2. China - Gini coefficients - total/urban/rural (2002 and 2013)**  
-- per capita disposable household income (DHI) --



Source: Luxembourg Income Study (LIS) Database.

Figure 2 reports Gini coefficients for urban and rural areas separately for 2002 and 2013. It is worth mentioning that, not surprisingly, due to the high discrepancy in level of development between urban and rural areas, overall inequality exceeds significantly individual inequalities whether within urban or within rural areas. From 2002 to 2013, the overall Gini for China shows a slight decline. In contrast to this, both urban and rural areas show increases in inequality. These findings are in line with findings by Shi (2016), who (for the period 2007-2013) similarly concludes that inequality increased both within urban and within rural areas, while overall inequality went down. Particularly for rural areas this seems very plausible, given the impact of remittances to rural areas, which might have an inequality increasing effect.

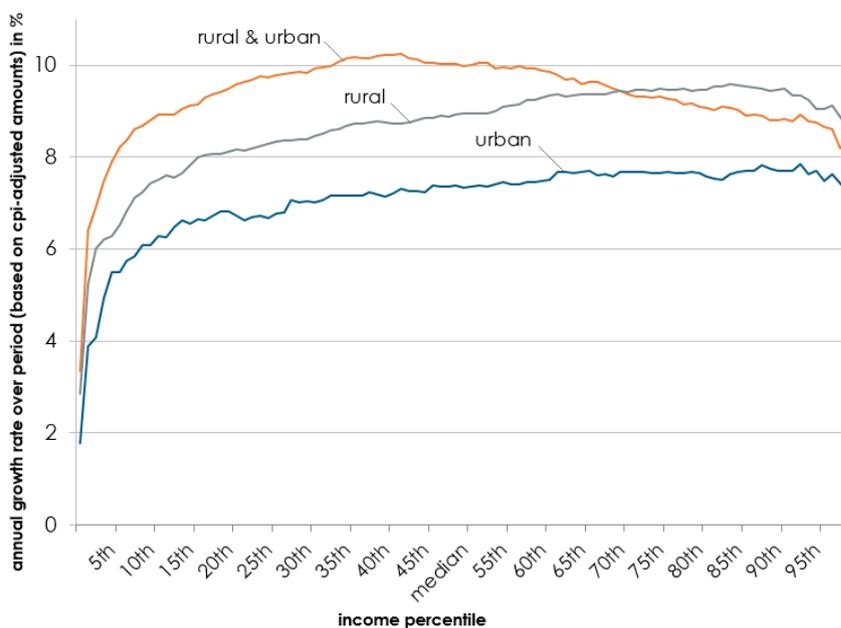
Driven by these striking findings on increasing inequality within rural and urban areas, I calculated also growth incidence curves (GICs) for the percentiles of the Chinese society (a similar exercise on the country-level (which is based on the same LIS data) has been carried out in a [blogpost by Branko Milanovic](#) earlier this year). Like Shi (2016), Milanovic attributes the strongest annualised increases in per capita income in the 30th to 60th percentiles to a pattern of higher wage increases among low-

skilled labour as compared to high-skilled labour. Nonetheless, the growth incidence curves separately for rural and urban areas reveal an interesting contradictory aspect. Within both rural and urban areas, the highest growth rates over this period are to be found between the 80th to 90th percentile. Worth mentioning are also the lowest increases at the bottom of the income distribution, which mirrors the different pace of societal change and social inclusion in the Chinese society.

Last but not least, a critical note needs to be added when studying these numbers. Although the CHIP data (which are the basis for the LIS data) are considered by the research community as a fairly accessible second-best source (in contrast to the non-accessible NBS data), the data need to be interpreted with caution. Shi and Sicular (2014) acknowledge that recent developments of income growth among the rich, their underrepresentation in the sampling, and their underreporting of income may have contributed to a lower representativeness of the survey data over time, particularly among the rich. Similarly, Zhou and Song (2016) consider capital as one of the most unequal income source. The authors argue that the increase in capital income has recently been stronger than the wage increases, which pushed inequality up, but may not be fully reflected in the data. Looking at the growth rates by percentiles, which do not show a huge increase at the top, this concern is shared also in this note. At the same time, Shi and Sicular present the integration of subsamples of the NBS in the CHIP sampling design as its core strength<sup>2</sup>; although the CHIP is not sampling all Chinese provinces, the data are considered to be still representative for the whole of China.

To conclude, yes, given the recent inequality decreasing trends, there seems to be some connection between the evolution of China's inequality and the inverted U-shaped Kuznets curve argument. However, as also summarised by a recent article by Policardo et al. (2018), this pattern needs to be seen also as reflecting increased policy efforts to alleviate poverty risk and foster inclusion. Similarly, Shi and Sicular (2014) attribute the decreases in inequality and poverty also to the strengthened policy efforts to build a more inclusive social protection for farmers.

**Fig. 3. China - Growth Incidence Curves - total/urban vs. rural area (2002-2013)**  
-- annualised growth rate of per capita disposable income --



Source: Luxembourg Income Study (LIS) Database.

For further interest, I recommend you to also read [Kanbur et al. \(2017\)](#); the scholars provide three things: First, a table-style overview of studies which analysed inequality trends in China. Second, a decomposition analysis of inequality by urban vs. rural sectors (they apply three decompositions (1) the inequality within each of the two sectors, (2) the gap between the means of the two sectoral distributions, and (3) the population share of each sector). And third, manifold other statistics which explain the “great Chinese inequality turnaround”.

<sup>1</sup> The numbers were taken from Ravallion and Chen (2007), who calculated them using the income data from the NBS urban and rural household surveys. The Gini coefficients for 2003–14 are from NBS (2015).

<sup>2</sup> The CHIP urban and rural survey samples are subsets of the NBS urban and rural household survey. In recent rounds, the CHIP integrated data collected by the NBS, and the CHIP collected additional information through an independent survey. Although the sampling in CHIP is not carried out in all provinces, the CHIP samples cover all of China’s major regions – applying weights, CHIP is thought to be representative for the whole of China (see more in detail Shi and Sicular (2014)).

## Routine Task Intensity and Offshorability for the LIS

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### Introduction

In the contemporary period, globalization and technological change are among the most important drivers of income, inequality, and labor market dynamics. Both technological change and globalization are thought to reduce the demand for “low-skill” occupations, and increase the demand for “high-skill” occupations, which has implications for the structure of income and employment, the prevalence of poverty and the shape of the income distribution. New conceptualizations of what it means to be “low-skill” and “high-skill” has greatly advanced research on occupational stratification.

We recently created a new dataset on the “offshorability” (OFFS) and “routine-task intensity” (RTI) of occupations for use with the Luxembourg Income Study Database. These data characterize the susceptibility of occupational characteristics to offshoring and technological change, following the work of David Autor, Alan Blinder and Goos, Manning and Salomons (2014). Because these data are linked to the two-digit International Standard Classification of Occupations (ISCO-88) and only a subset of countries report ISCO-88 occupations to the LIS, we recoded 23 country-specific occupational schemes (74 LIS country-years) to the two-digit ISCO-88 scheme. All together, we produce individual level RTI and OFFS scores for 38 LIS countries and 160 LIS country-years. This recording effort also greatly expanded coverage of all LIS variables based on ISCO-88 (e.g. the OCCa and OCCb variables).

In a recent paper, we assess both the validity of these recodes and the utility of these data for substantive questions of interest to LIS users (Mahutga, Curran and Roberts, 2018). First, we compare average labor-income ratios predicted by recoded ISCO-88 occupational categories to those predicted by reported ISCO-88 occupational categories within countries that transitioned from country-specific to ISCO-88 codes over time. Second, we analyze the association between OFFS and RTI with work hours and labor incomes in the global North and South. In the remainder of this short

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Zhang, Y. (2016), Urbanization, Inequality, and Poverty in the People’s Republic of China, ADBI Working Paper No. 584, Asian Development Bank Institute.

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note, we briefly describe the data, suggest these data can be trusted, and scratch the surface with respect to how we can use them in tandem with the rich LIS data. We ask future users of these data to cite Mahutga et al. 2018.

### The data

RTI and OFFS are occupational level variables linked to ISCO-88 at the two-digit level.

The intuition behind RTI is that routine, manual, non-interactive (i.e. do not involve face-to-face interaction) job tasks are the most susceptible to automation. Conversely, non-routine/cognitive/interactive jobs are the least susceptible to automation. RTI thus captures the degree to which occupations are routine-task intensive. Our data originate in work by Autor and Dorn (2013), as mapped on to ISCO-88 according to Goos et al. (2014). This work quantifies jobs as non-routine/cognitive, routine/cognitive, routine/manual, non-routine/manual and non-routine/interactive. Jobs with high RTI scores are high on either cognitive or manual routine tasks, and low on either cognitive, manual or both types of non-routine tasks. The RTI index now available to LIS users is linked to two-digit ISCO-88 occupations, and 0/1 standardized.

The intuition behind OFFS is that offshorable jobs are not “place bound,” and can be done in the global South without a loss of quality. We implement Goos et al.’s (2014) operationalize of Blinder and Krueger’s (2013) measure. To produce these data, Blinder and Krueger employed export coders to assign an industry, Standard Occupational Classification (SOC) and OFFS score (from 1 to 5) to a random sample of respondents to the 2003 National Assessment of Adult Literacy. A score of 1 corresponds to “not offshorable” and a score of 5 corresponds to “easily offshorable with only minor (or no) difficulties or loss of quality.” Goos et al. cross-walked the SOC scores to ISCO-88, and we implement this 0/1 standardized variable in the LIS.

### Why we can trust these data

Recoding the 23 country-specific occupational codes was herculean, and presents a potential source of measurement error. Thus, we took steps to ensure that our recodes were valid. We identified all of the countries that transitioned from a country-specific occupational

scheme to ISCO-88 within the LIS data. We then used our recoded ISCO-88 categories to predict occupation-specific labor income ratios, and compared these predicted values to those predicted by ISCO-88 categories as reported by the same country in the closest year to the recode. We also compared income ratios predicted by country-reported ISCO-88 categories across the closest two years of similar distance to those in our recode comparison. This second set of comparisons give us a baseline rate at which occupation-specific mean labor incomes change over time. As detailed in the paper, our analyses suggest that our recodes are valid.

It was sometimes the case that the mix of occupations in a particular country-specific code did not map perfectly onto one ISCO-88 code. In these cases, we developed a weighting scheme to assign a country-specific occupational code an RTI/OFFS score that was proportional to the mix of ISCO-88 categories embodied within it (see Mahutga et al. 2018 and auxiliary files at <http://matthewcm.ucr.edu> for detailed information). The validity exercise described above is conservative in light of this weighting scheme (see Mahutga et al. 2018: 89).

To ensure the substantive validity of these data, we replicated work by Goos et al. (2014) linking both to polarization in work hours. We also show that both RTI and OFFS contribute to *income* polarization directly. Consistent with the natural intuition that RTI and OFFS should impact labor markets differently in the global North and South, we find that both contribute to work hour and income polarization in the North, but not in the South.

### Why we should and how we can use these data

We contend that RTI and OFFS can provide additional explanatory power to a vast array of social-science models of income and employment, and can illuminate *any theory for which income or*

*employment are key explananda*. We encourage users to consider the degree to which national (e.g. labor-market institutions and unions) and world-level (e.g. value-chains and production networks) phenomena moderate the impacts of RTI and OFFS on incomes and employment. Our paper elaborates on these themes (Mahutga et al., 2018).

Users can access these data in one of two ways. Users who wish to make use of assembled RTI and OFFS scores used in Mahutga et al. (2018), as well as new ISCO-88, occ1a and occ1b covariates that result from our recode (plus a few country-waves added after the writing of this text), can find them on the [LIS website](#) and [here](#). We also provide user guide and codebook for the variables included in these data, as well as a very large document detailing the recoding particulars for each country-year recoded.

Users who wish to work with (or augment) our original script may find it on <http://matthewcm.ucr.edu/data.html> or by [emailing](#) the lead author. This script can be used to recode additional datasets as they come online in the LIS Database.

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## News, Events and Updates



### JID special issue from the 2017 LIS/LWS user conference

The Special Issue *Comparative wealth and income research* edited by Daniele Checchi and Janet Gornick is now available online (**Vol 26, No 2 (2018)**). The articles included in this special issue of the *Journal of Income Distribution* are a selection of papers originally presented at the first **LIS-LWS Users Conference**. Taken as a whole, these articles constitute an interesting overview of the ways in which the research community uses the LIS-LWS Databases, which provide researchers access to microdata on income and wealth, respectively.

There will be a special issue from the **2018 LIS User conference** dedicated to *the legacy of Tony Atkinson in inequality analysis*, edited by Andrea Brandolini, Daniele Checchi and Timothy Smeeding. The special issue will include papers that have applied or further elaborated one of Tony Atkinson's many ideas about inequality analysis on topics such as: welfare state analysis, inequality and poverty, the redistributive effect of taxation, and other related subjects. A selection of the papers will be published in Spring 2019.

### Book on Wealth and Homeownership

In almost every country, wealth is predominantly constituted by housing equity, but what are the possible risks and how does wealth accumulation vary across countries? In this timely book, **Mariacristina Rossi** (Associate Professor of Economics, University of Torino) and **Eva Sierminska** (LISER Research Fellow), extending previous works issued in **LIS Working Papers No. 654**, just published a new book called **Wealth and Homeownership – Women, Men and Families**.

They analyse the complex relationship between gender, wealth and homeownership. By providing a conceptual framework to insert homeownership and housing decisions within an economic rationale, the authors explore how gender and family types have shaped wealth accumulation and homeownership.

### New complementary database: Routine Task Intensity and Offshorability for the LIS

LIS recently added to its **complementary databases** section a new dataset on the **offshorability** (OFFS) and **routine-task intensity** (RTI) of occupations for use with the Luxembourg Income Study Database. This dataset, created by Matthew C Mahutga (University of California, Riverside), Michaela Curran (University of California, Riverside), and Anthony Roberts (California State University, Los Angeles), allows LIS users to retrieve very detailed and standardized occupation categories, following the international two-digit coding of the ISCO-88 standard. For their analyses, the authors recoded additionally 23 country-specific occupational schemes (74 LIS country-years), so that currently in total 38 LIS countries (160 LIS country-years) could be analyzed using the detailed two-digit ISCO-88 level. First analyses by Mahutga et al. (2018) reveal that both **routine-task intensity** and **offshorability** contribute to income polarization, particularly in the global North, but not in the South yet.

Users can access these data in one of two ways. Users who wish to make use of assembled RTI and OFFS scores used in Mahutga et al. (2018), as well as new ISCO-88, occ1a and occ1b covariates that result from their recode, can find them on the LIS **website** and **here**. The authors also provide a user guide and codebook for the variables included in these data, as well as a very large document detailing the recoding particulars for each country-year recoded. Users who wish to work with (or augment) the original script may find it **here** or by **emailing** the lead author. This script can be used to recode additional datasets as they come online in the LIS.

Mahutga, Matthew C., Michaela Curran and Anthony Roberts (2018), "Job Tasks and the Comparative Structure of Income and Employment: Routine Task Intensity and Offshorability for the LIS", *International Journal of Comparative Sociology* 59(2): 81-109. Free access to the LIS working paper **here**.

### Visiting scholars at LIS

This September LIS welcomed one visiting scholar to work onsite with the LIS data, namely Miri Endeweld who applied through the **InGRID-2 project**.

Miri is the Head of the Economic Research Department at the National Insurance Institute of Israel. During her stay at LIS, Miri was using the LIS Database to examine the level of poverty and inequality in different countries and among different minorities within countries, in order to understand the relationship or impact of heterogeneity in the population on levels of poverty and polarization and their trends over time. The aim of the study is to examine if there is a connection between welfare regime and poverty among minorities, and to enable policy recommendations to deal with high levels of poverty and inequality among minorities.

### LISER International workshop "What drives inequality"

An associated workshop will be convened at LISER (Belval, Esch-sur-Alzette, Luxembourg) on October 18-19 2018. Keynote speakers are Ben Ansell (Oxford University), Francisco Ferreira (World Bank) and Andreas Peichl (University of Munich). The programme and the selected papers are available **here**. Registrations are open until September 30.

### ECSR Thematic Workshop "Wealth Inequality and Mobility"

*December 6-7, 2018 at Maison des Sciences Humaines (MSH), Belval Campus, University of Luxembourg*

In this multidisciplinary two-day workshop organized by the Institute for Research on Socio-Economic Inequality (IRSEI) at the University of Luxembourg (in partnership with LIS/LWS), close to forty papers & posters will present cutting-edge wealth studies in sociology, economics, social policy and related disciplines. The workshop seeks to explore the new role of wealth in social mobility, family transmission, opportunity, stratification and class analysis. The University can arrange free access to a small number of persons interested in attending the two-day workshop.

For more information on the workshop and an expression of interest to participate, please contact Sabine Demazy (**wealthinequality@uni.lu**) or/and visit this **webpage**.

## Call for papers. Research on Economic Inequality Vol. 27: “Why inequality differs so much across countries?”

Volume editors: *Koen Decanq (University of Antwerp) and Philippe Van Kerm (LISER and University of Luxembourg).*

The 2019 edition of the annual Research on Economic Inequality series has special interest in the question “Why inequality differs so much across countries?”. While income inequality trends have been extensively researched, much less is known about the driving forces behind international differences in inequality.

Against this background, the volume editors invite papers discussing the role of labour markets, taxation, social protection and redistributive policies are solicited, as well as papers studying the

role of deeper drivers such as political institutions, norms and attitudes and preferences for redistribution. Advancements to methodology and discussion of the cross-country comparability of inequality measures are also welcome. While the main discussion may be about income inequality, contributions about wealth, consumption or other forms of inequalities are also sought.

Deadline for submission is November 15 2018. Final manuscripts of selected papers will be due on April 1 2019.

For information about the Research on Economic Inequality series, visit this [website](#). You can submit a paper, through this [link](#) or [contact](#) the organizers for more information.