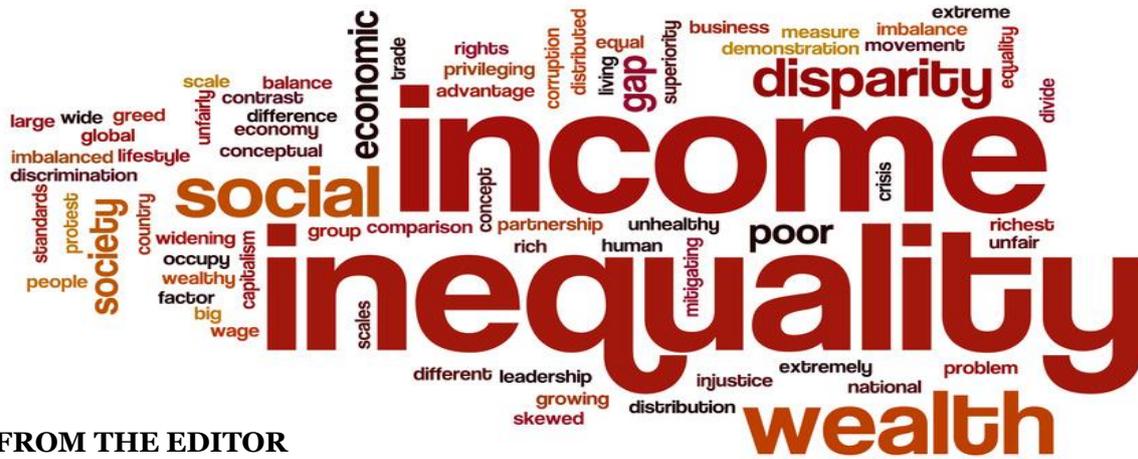


# Inequality Matters

Quarterly updates on inequality research, LIS micro data releases, and other developments at LIS



## MESSAGE FROM THE EDITOR

Dear readers,

It is time to announce the Luxembourgish summer updates! The *LIS Database* has been further extended for Germany; two more recent data points (DE17 and DE18) and further annual data from DE84 to DE99 have been added. The series now provides 35 consecutive years. With the addition of four Dutch datasets (NL15 to NL18), LIS closed the *Wave X* and *XI* data gaps for the Netherlands. Additional data were also added for Lithuania (LT18), Mexico (MX05 and MX06), Russia (RU18) and the United States (US19).

Also LIS' wealth database continues growing again. One dataset from Slovenia (SI17) and one dataset from Spain (ES17) have been added to our *LWS Database*.

We are grateful for continued collaboration with the *Economic Research Forum (ERF)*, which allowed for another addition to the *ERF-LIS Database*. Egypt – EG17 is now available in the harmonised *ERF-LIS Database*, accessible through LISSY.

In the *Inequality Matters* articles Petra Sauer (LISER / LIS / Vienna University of Economics and Business) and Philippe Van Kerm (LISER and University of Luxembourg) present some work from the ongoing (LIS)<sup>2</sup>ER project; using the LIS data they describe how the distribution of labour incomes earned by tertiary and non-tertiary educated workers compare. Their key concern is to analyse, what educational expansion potentially implies for labour income inequality.

The second article in *Inequality Matters* by Lorena Zardo Trindade (LIS) analyses consumption expenditure patterns across Europe. Zardo Trindade provides an investigation on how the household consumption expenditure shares change across EU countries, and whether there is convergence of consumption expenditure behaviour among them over time; a particular focus is placed on cross-national differences among low-income households.

LIS is happy to invite you to the 2021 [LIS Virtual Summer Lecture](#) on the topic of "Extraordinary times, extraordinary measures: A Review of Methods to Address Data Deprivation in Developing Countries" by Professor Peter Lanjouw (Vrije Universiteit Amsterdam).

Enjoy reading!

Jörg Neugschwender

## IN THIS ISSUE

<b>Higher Education Expansion and Inequality in Labour Incomes: The Importance of a Gendered Perspective</b>	1
by Petra Sauer and Philippe Van Kerm	
<b>A Brief Look at Consumption Expenditure Patterns of (Low-Income) Households in Europe</b>	5
by Lorena Zardo Trindade	
<b>Data News / Data Release Schedule</b>	9
<b>Working Papers &amp; Publications</b>	11
<b>News, Events and Updates</b>	12

View all the newsletter issues at: [www.lisdatacenter.org/newsletter](http://www.lisdatacenter.org/newsletter)

Subscribe [here](#) to our mailing list to receive the newsletter and news from LIS!

Interested in contributing to the *Inequality Matters* policy/research briefs? Please contact us at : [neugschwender@lisdatacenter.org](mailto:neugschwender@lisdatacenter.org)

## Higher Education Expansion and Inequality in Labour Incomes: The Importance of a Gendered Perspective

Petra Sauer , (Luxembourg Institute of Socio-economic Research (LISER) / Luxembourg Income Study (LIS) /  
Research Institute Economics of Inequality (INEQ), Vienna University of Economics and Business)

Philippe Van Kerm , (Luxembourg Institute of Socio-economic Research (LISER) and University of Luxembourg)

Tertiary education has been expanding in the second half of the 20<sup>th</sup> century worldwide, and particularly in high-income countries. While higher educational achievement leads to higher earnings for individuals --- and is without much of a doubt a “good thing” --- what it implies for the overall distribution of labour income is, however, no simple story. It is not at all clear whether educational expansion has been fuelling the growth in income inequality that has been observed in many countries over the last decades or whether, on the contrary, it played a mitigating role.

In a study conducted within the framework of the (LIS)<sup>2</sup>ER project<sup>1</sup> we examined LIS data for 27 countries between 1995 and 2015 to describe how the distribution of labour incomes earned by tertiary and non-tertiary educated workers compare and, accordingly, what educational expansion potentially implies for labour income inequality. It turns out that the effect of tertiary education expansion is gender-specific, highlighting trade-offs between different dimensions of inequality.

### Empirical regularities in educational expansion

Figure 1 shows estimates around 1995 and 2015 of the share of men and women aged between 31 and 65 with tertiary education in 27 high-income countries for which we have data in LIS.<sup>2</sup> This unveils some empirical regularity.

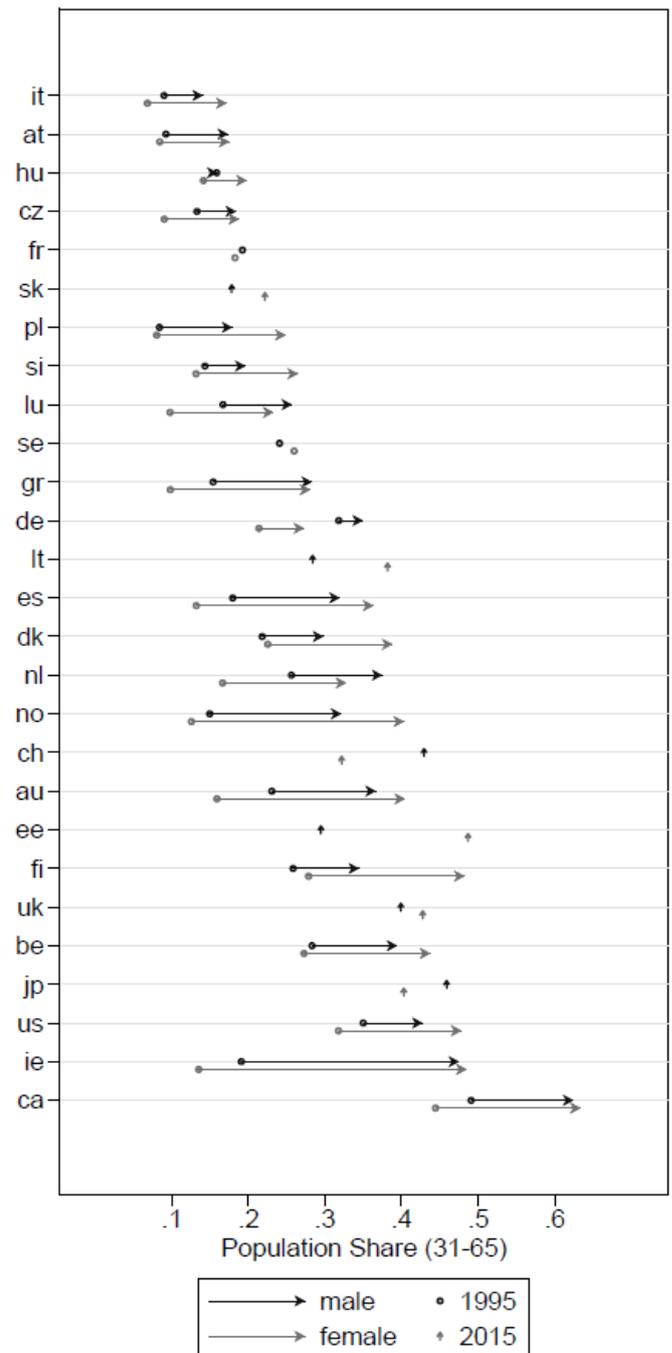
Tertiary education expanded in all countries. However, there is substantial variation in both the level and the growth of tertiary education attainment. In 1995, just 7% of individuals reported tertiary education in Italy against 47% in Canada. The range further widened over time and extends from 8% in Italy to 63% in Canada in 2015. While Canada has the highest share of tertiary educated in our series, Ireland experienced the largest expansion with increases in the proportion of tertiary graduates by 28 and 35 percentage points for males and females respectively. By contrast, Italy not only has the smallest proportion of tertiary educated in both time periods, but is also among the countries - with Austria, Germany, Hungary and the Czech Republic – which recorded relatively little change over time.

Figure 1 also makes it clear that women have outpaced men with regard to their educational attainment. In 1995 it was only in Northern European countries (Denmark, Finland and Sweden) that women had higher shares of tertiary education graduates. By 2015, women have higher rates of tertiary education than men in all countries, except Germany, Greece, Japan, Luxembourg and the Netherlands.

### The “Paradox of Progress”

Plotting the educational expansion measures against the Gini coefficient of labour income,<sup>3</sup> Figure 2 illustrates what Bourguignon *et al.* (2004) called “*The Paradox of Progress*”: Tertiary education expanded over 20 years, but at the same time inequality in labour incomes increased in almost all countries – with variations. The rise in inequality was relatively small in some Nordic countries but reveals quite large in countries such as Germany, Austria and Italy, which only experienced modest increases in the share of tertiary education

**Fig. 1. Educational Attainment 1995 – 2015**

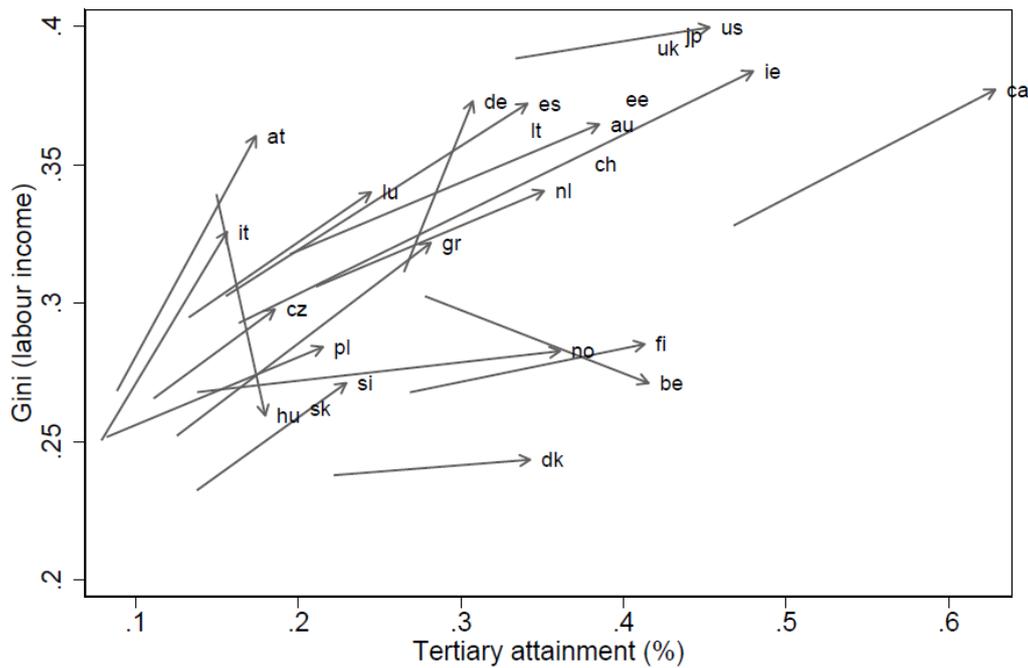


Notes: This figure has been generated with Stata; the syntax to generate this figure and the underlying data table are available for download [here](#).

Source: Luxembourg Income Study (LIS) Database.

graduates. Only in Belgium and Hungary do we see a decline in the Gini coefficient.

Fig. 2. Labour Income Inequality vs. Tertiary Attainment



Notes: This figure has been generated with Stata; the syntax to generate this figure and the underlying data table are available for download [here](#).

Source: Luxembourg Income Study (LIS) Database.

### Education and labour income inequality

Since the 1990s, policy recommendations based on the implications of the human capital model and skill-biased technological change – prominently depicted in the exposition of Goldin and Katz (2010) about a “Race Between Education and Technology” – have seen the cure for rising income inequality in increasing educational attainment. The inequality-reducing force of educational expansion is derived from the expectation that increasing the supply of graduates reduces the relative return to tertiary education in the context of high demand due to technological change. At the same time, as economists have noted, expansion may have also generated an increase in the demand for higher education by fostering further technological change biased towards skilled workers (Acemoglu 2002). This, on the contrary, must have pushed the returns to education upwards – an inequality-increasing force.

Sociological research, which has accounted for processes of social structuring, has provided evidence of other forms of potentially adverse inequality outcomes from educational expansion (Attewell and Newman 2010). If it is the wealthy who are overrepresented in the tertiary segment of the education structure, policies encouraging the expansion of higher education – intentionally or unintentionally – may have disproportionately benefited them; for example if the greater political support of their interests allows status groups to retain their comparative advantage by ensuring that credentials from prestigious Universities retain their distinctiveness and/or by sorting children from disadvantaged socio-economic backgrounds into low-level/low-quality tracks. Research has shown that inequalities by background have indeed strengthened at the tertiary level (Blanden and Macmillan 2016).

The implications of these sorting mechanisms may be aggravated if labour markets do not fully absorb the rising number of graduates – an argument that has been put forward by the literature arguing

overeducation to be increasingly prevalent in high-income countries (Bar-Haim, Chauvel, and Hartung 2019). Thus, even if the return to tertiary education might decline on average, income losses and gains can be unequally distributed among increasing numbers of tertiary education graduates.

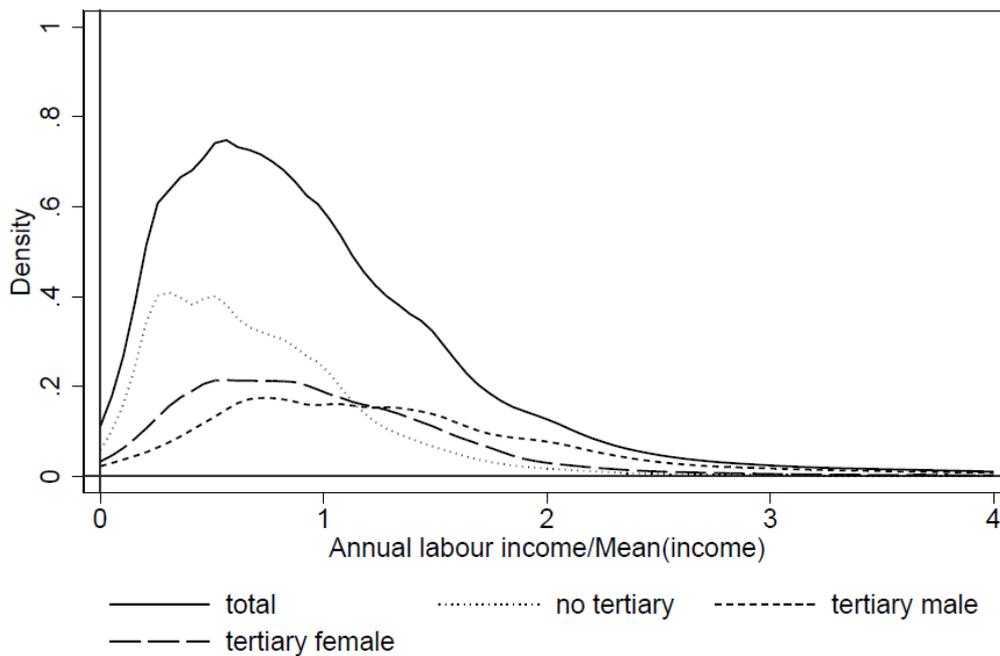
### The distributive impact of higher education expansion

How educational achievements shape the distribution of labour income depends on three factors. Considering two educational groups (tertiary and non-tertiary) the first factor concerns the difference in incomes *between* the two groups of workers and how much more highly educated workers earn on average. The second is the income distribution *within* each group. The third is, simply, the share of the population in each group.

Figure 3 illustrates how these three factors interact to mechanically shape the relationship between educational attainment and the aggregate income distribution. For Ireland in 2015, it shows the (unconditional) density function of labour incomes together with the densities conditional on not being tertiary educated, on being a tertiary educated man and on being a tertiary educated woman. Each conditional density has been multiplied by the share of the group in the population so the three lines for the conditional densities add up to the unconditional density.

An immediate way to think about how educational expansion can affect the overall distribution of labour income is by considering a shift of density mass from the lower education distribution to the higher education distribution. The impact of varying the relative shares of the three groups depends on the locations and size of the underlying densities relative to each other (Jenkins and Van Kerm 2005). Since the densities of tertiary educated workers – and especially of *male* tertiary educated workers – are concentrated towards higher incomes, an increase in their share would move the unconditional

Fig. 3. (Un)conditional Densities, Ireland 2015



Source: Luxembourg Income Study (LIS) Database.

density higher up, all else being equal. An increase in the share of *female* tertiary educated workers would not be so strong since their density is generally not located as high up as men's and is closer to the density of the non-tertiary educated.

The effect of such density shifts on various inequality measures (or other distributive indicators) is what a technique known as Recentered Influence Function (RIF) regression captures (Firpo, Fortin, and Lemieux 2009; Choe and Van Kerm 2018). We therefore used RIF regressions to project the impact that (marginally) increasing the share of tertiary educated workers, on average and separately for men and women, would have on the Gini coefficient in all 27 countries and for the two time points we have data for. The results are shown in Figure 4. The estimates are scaled such that they can be interpreted as the predicted impact on the Gini coefficient of a 10 percentage point increase in the population share of tertiary educated workers, and a corresponding 10 percentage point decrease in the proportion of non-tertiary educated workers.

Again taking Ireland in 2015 as example, given the locations of the conditional densities relative to each other, increasing the share of tertiary graduates by 10 percentage points would mechanically reduce the Gini by 0.9%. However, this aggregate impact hides important differences by gender. Increasing female attainment would reduce the Gini by up to 3%, while increasing male attainment would increase the Gini by 0.5%. With -7% and +1.4%, respectively, the impact of both, males and females, were also of opposed signs but were larger in 1995.

The empirical regularity of results across countries is remarkable, even if magnitudes differ. Distributive effects ignoring gender tend to be small; they are not significantly different from zero in 11 countries. But these conceal large gender differences. The impact on the Gini coefficient of increasing tertiary attainment of men is positive and significant but the impact of increasing tertiary attainment of women is negative and significant. These estimates shrink towards zero over time for both genders.

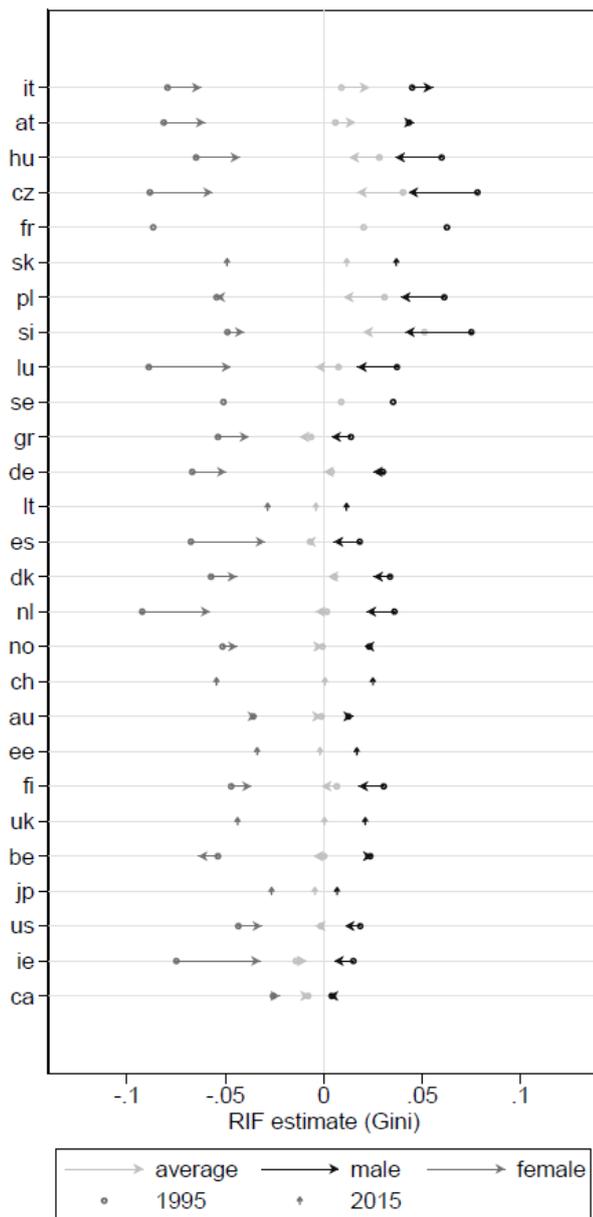
What explains the opposite signs for men and women is the shape of education- and gender-specific income distributions: mechanically, the more tertiary educated men and women contribute to the tails of the distribution (at the top and/or the bottom), the more unequally incomes are distributed among them, and the larger the positive effect is on the Gini coefficient. It is thus the lower income levels of women relative to men and their small contribution to the upper end of the distribution (exemplified in Figure 3) that explains the diverging distributive estimates by gender.

#### Discussion and policy implications

Our results suggest that no such thing as an *average* distributive effect exists, but that the impact on labour income inequality may be dependent on whether educational expansion mostly comes from men or women. Note that one can read these results as yet another piece of evidence of the earnings disadvantage of women, since they are driven by the fact that tertiary educated men and women shape the bottom, top and middle part of labour income distributions differently: tertiary educated women are located in the middle and the bottom while tertiary educated men mostly form the upper tail.

Many factors that have been extensively discussed in the literature on gender wage or earnings gaps continue to be relevant at the highest educational level and can thus help to explain these results. Besides lower employment rates and working hours this includes, among other things, occupational segregation. Empirical evidence from Bar-Haim *et al.* (2018) who also used LIS data suggests that employment status and occupation have become increasingly important components of gender earnings gaps in high-income countries, while the role of educational attainment has declined. Recent evidence for the US (Addison, Chen, and Ozturk 2020) indicates that the type of job men and women do differs, as women are more likely to work in occupations which require a lower skill set as compared to the level they had attained through their college education, and that this occupational skill mis-match explains a substantial share of the gender wage gap.

Fig. 4. Distributive Effect 1995 – 2015



Source: Luxembourg Income Study (LIS) Database.

Not very many studies have had a focus on the differential position of women, and the tertiary educated in particular, in different segments of the income distribution. Looking at the bottom, extensive evidence has revealed the higher prevalence of poverty among women, but with little treatment of the higher educated in this respect. Looking at the top, research points to the existence of a “glass ceiling” so that wage gaps are most pronounced in the upper tail (Arulampalam, Booth, and Bryan 2007). Nonetheless, according to the very recent evidence of Burkhauser *et al.* (2020), over the last decades women have made up an increasing share of top 1% income earners in the UK, and their rising educational attainment is the major factor in the explanation of this trend.

Our results also indicate that considering vertical and horizontal inequalities simultaneously can provide valuable insights. Taking the gender-specific nature of the effects of educational expansion into account highlights potential policy trade-offs. Taken at face value, our results suggest that policies aimed at reducing overall income inequality might entail expanding female higher education, as long as

it leaves the location and dispersion of their labour incomes constant. This conflicts with policy goals aiming to improve the labour market prospects of tertiary educated women. Conversely, a focus on gender equality would entail trying to close the earnings gap at the top but this may be at the cost of increasing overall labour income inequality. This is a reminder that taking account of potential conflicting policy goals between different dimensions of inequality is important in pursuing wider social equity aims.

- 1 The (LIS)2ER initiative intends to intensify inter-institutional collaboration between LIS and LISER. It is facilitated by the funding support of the Luxembourg Ministry for Higher Education and Research (MESR).
- 2 The classification of tertiary education follows ISCED 2011 mappings (<http://uis.unesco.org/en/isced-mappings>). For each country we pool surveys over a five-year window around 1995 and 2015 respectively. The number of surveys varies across countries. We do not observe all countries in both time periods, either because no survey is available for the time window or because no comparable data on educational attainment or labour income is available (Switzerland, France and Sweden are only observed around 1995; Estonia, Japan, Lithuania, Slovakia and the UK are only observed around 2015.)
- 3 Labour income includes income from dependent employment or self-employed work. Zero and top 1% incomes are excluded. The sample contains people aged 31-64 who pursued any employment activity in the current period.

References

Acemoglu, D. (2002). “Technical Change, Inequality, and the Labor Market.” *Journal of Economic Literature* 40 (1): 7–72.

Addison, J. T.; Chen, L.; Ozturk, O. D. (2020). “Occupational Skill Mismatch: Differences by Gender and Cohort.” *ILR Review* 73 (3): 730–67. <https://doi.org/10.1177/0019793919873864>.

Arulampalam, W.; Booth, A. L.; Bryan, M. L. (2007). “Is There a Glass Ceiling over Europe? Exploring the Gender Pay Gap across the Wage Distribution.” *ILR Review* 60 (2): 163–86. <https://doi.org/10.1177/001979390706000201>.

Attewell, P. and Newman, K. S. (2010). *Growing Gaps: Educational Inequality around the World*. Growing Gaps. New York: Oxford University Press. <https://oxford.universitypressscholarship.com/view/10.1093/acprof:oso/9780199732180.001.0001/acprof-9780199732180>.

Bar-Haim, E.; Chauvel, L.; Gornick, J. C.; Hartung, A. (2018). “The Persistence of the Gender Earnings Gap: Cohort Trends and the Role of Education in Twelve Countries.” 737. LIS Working Paper Series.

Bar-Haim, E.; Chauvel, L.; Hartung, A. (2019). “More Necessary and Less Sufficient: An Age-Period-Cohort Approach to Overeducation from a Comparative Perspective.” *Higher Education* 78 (3): 479–99. <https://doi.org/10.1007/s10734-018-0353-z>.

Blanden, J. and Macmillan, L. (2016). “Educational Inequality, Educational Expansion and Intergenerational Mobility.” *Journal of Social Policy* 45 (4): 589–614. <https://doi.org/10.1017/S004727941600026X>.

Bourguignon, F.; Ferreira, F. H. G.; Lustig, N. (eds.) (2004). *The Microeconomics of Income Distribution Dynamics in East Asia and Latin America*. Washington, DC: [New York]: World Bank ; Oxford University Press.

Burkhauser, R. V.; Hérault, N.; Jenkins, S. P.; Wilkins, R. (2020). “What Accounts for the Rising Share of Women in the Top 1%?” IZA DP No. 13359.

Choe, C. and Van Kerm, P. (2018). “Foreign Workers and the Wage Distribution: What Does the Influence Function Reveal?” *Econometrics* 6 (3): 41. <https://doi.org/10.3390/econometrics6030041>.

Firpo, S.; Fortin, N.; Lemieux, T. (2009). “Unconditional Quantile Regressions.” *Econometrica* 77 (3): 953–73. <https://doi.org/10.3982/ECTA6822>.

Goldin, C. and Katz, L. F. (2010). *The Race between Education and Technology*. Illustrated Edition. Cambridge, Massachusetts London, England: Belknap Press: An Imprint of Harvard University Press.

Jenkins, S. P. and Van Kerm, P. (2005). “Accounting for Income Distribution Trends: A Density Function Decomposition Approach.” *The Journal of Economic Inequality* 3 (1): 43–61. <https://doi.org/10.1007/s10888-004-8309-1>.

## A Brief Look at Consumption Expenditure Patterns of (Low-Income) Households in Europe

Lorena Zardo Trindade ✉, (LIS)

The European Union (EU) has long considered economic and institutional convergence as important goals. Since its establishment, the regional integration of EU markets has continued to widen and deepen, thereby acting as an important force of socio-economic convergence among the member countries (Ridao-Cano & Bodewig, 2019). In this regard, the concept of convergence has been a central element in EU policy and a topic of both social and academic interest. Since the seminal papers of Abramovitz (1986) and Barro and Sala-i-Martin (1992), the occurrence of convergence is commonly analysed – particularly in the context of the EU integration process – in terms of indicators such as GDP per capita, labour productivity and household disposable income. Despite this extensive analysis, however, little attention is paid to household consumption expenditure and its structure.

Studying the patterns and disparities of household consumption expenditure structures provides insights into general consumption behaviour and is thus an important source of information on people's living conditions and the choices and restrictions that are related to these conditions. When people make decisions regarding what to consume, and how much they want to borrow or save, they do not only consider their current income, but also how much savings they have accumulated and how much they expect to earn over the rest of their lifetime. In this way, the household consumption expenditure decisions that are made over a given period, can provide more information about people's living standards than data about income viewed in isolation. This can serve to better inform us about how unequal a society really is.

In this note, an investigation is provided on how the household consumption expenditure shares change across EU countries, and whether there is convergence of consumption expenditure behaviour among them over time. The investigation includes an overview of how convergence trends change when only lower-income households are considered.<sup>1</sup> Using a sigma-convergence indicator, the dispersion of household consumption expenditure shares among EU countries was measured<sup>2</sup> over two periods of five years: 2005–2010 and 2010–2015. Estimates were based on Eurostat HBS data on household consumption expenditures shares at the national level. Consumption expenditures were distributed across seven categories: food and drinks, clothing and footwear, housing, transport, communication, restaurants, hotel, recreation and culture, and others.<sup>3</sup>

Before statistically examining the dispersion of household consumption expenditure shares, it is useful to have a preliminary look at the data for each country in 2005, 2010 and 2015 (see Table 1 attached below the article). Overall, the largest consumption share refers to expenditures on **housing, food and drinks** and **restaurant, hotel, recreation and culture**. Naturally, there are deviations between the countries: for example, Romania, Bulgaria, Greece, Estonia, Latvia and Lithuania appear to devote a much larger share of their consumption on food than other countries over time. In contrast, share of food consumption in Finland and Denmark is less than half the size of the Romanian one. Housing seems to be more homogeneous across countries, even though household in Malta appears to spend less than half the share of Hungary's on **housing**. Sweden and Austria are the ones which spend the most in **restaurant,**

**hotel, recreation and culture**, while Romania and Bulgaria spend less than four percent. Budget limitations due to lower levels of income are reflected in the structure of households' consumption expenditure as the share of essential goods and services (**housing and food and drinks**) increase considerably across all countries.

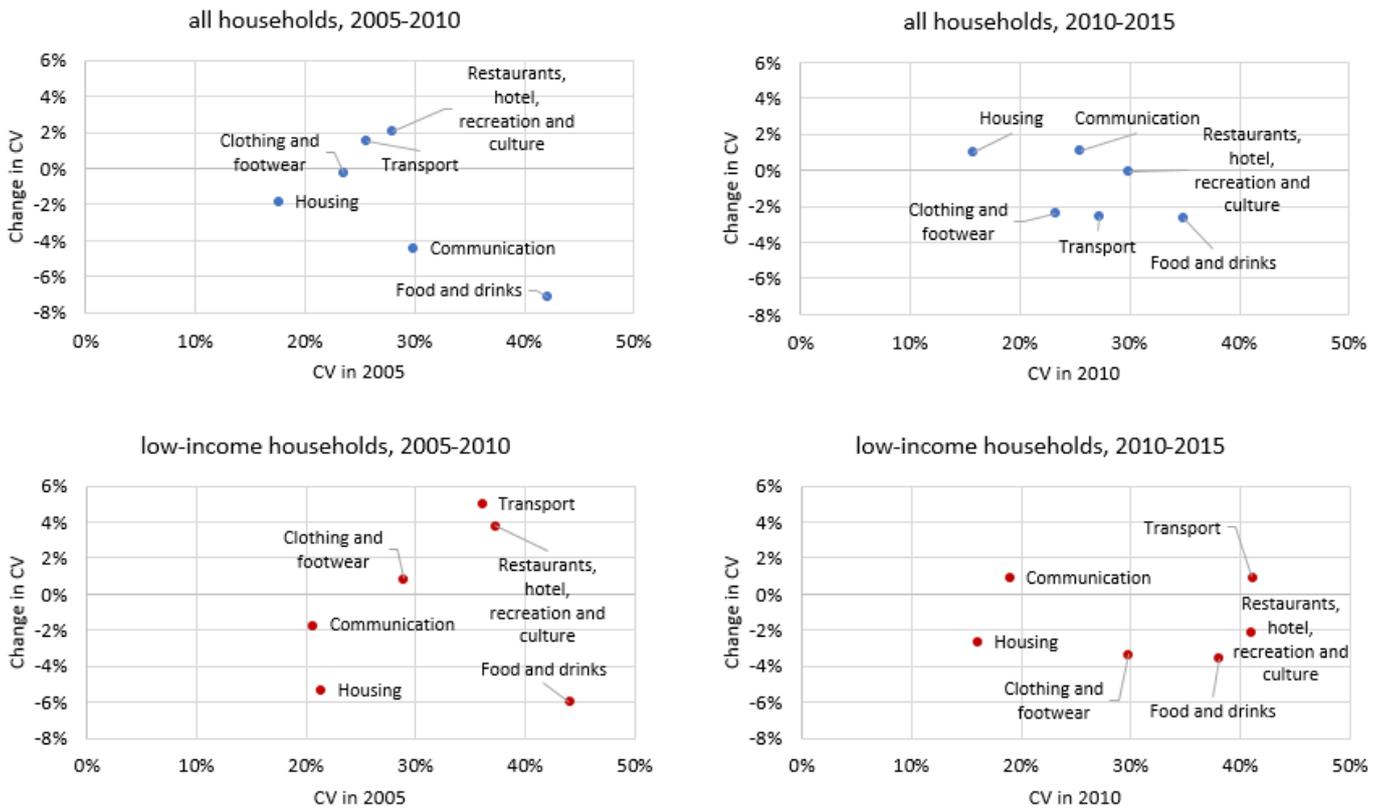
The above overview indicates that differences in expenditure between EU countries exist and can be large at times. Nevertheless, these shares are not very revealing as they stand since differences in prices may explain a large share of the above deviations. In addition, the lack of identical expenditure structure is not to be expected among countries. Therefore, our main focus is not discussing whether there are differences in shares, but whether these shares are becoming more similar among countries over time. For this purpose, sigma-convergence was analysed using the coefficient of variation (CV). Figure 1 shows the development of the measure as calculated for EU countries, and as a comparison between all and low-income households, for the period of 2005–2015.

Figure 1 shows that expenditure convergence was more prevalent than divergence for the period of 2005–2010. The CV of household consumption expenditure shares decreased for **food and drinks, communication, housing and clothing and footwear** until 2010. The highest decrease has been registered for **food and drinks**. This was related with the initial value of the CV measured in the base year 2005, when **food and drinks** registered the highest level of disparities, while **housing and clothing and footwear** had relatively lower levels of disparities (expressed by low levels of the CV). Convergence remained predominant after 2010, but the CV decreased for different shares: **food and drinks, transport, clothing and footwear and restaurants, hotel, recreation and culture**. **Food and drinks** continued to register the highest decrease, alongside **transport**.

Similar evolution with higher disparities (expressed by higher levels of the CV) was observed in the case of low-income households. For the period of 2005–2010, convergence prevailed with the CV of household consumption expenditure shares decreasing for **food and drinks, housing and communication**. The highest decrease was again registered for **food and drinks**, followed shortly by **housing**. Expenditure convergence also remained predominant for the period of 2010–2015, but the CV decreased for **food and drinks, clothing and footwear, housing and restaurants, hotel, recreation and culture**. This time, **food and drinks, clothing and footwear and housing** registered the highest decrease.

The period-data analysed, which included the great recession period (from 2008 to 2012), presented an opportunity to observe the changing consumption patterns of Europeans when facing an economic shock. A common consequence of periods of recession is the inability of many consumers to maintain their previous levels of consumption. There is consensus among researchers that consumers' level of expenditure is severely affected by a recession. Many consumers may, among others, change their consumption patterns by replacing the purchase of luxury goods with that of necessities, buying less of certain non-essential goods, driving less and switching to public transport, and abandoning or reducing an ostentatious social life. Consequently, long-term trends of convergence were only verified for expenditures on **food and drinks, clothing and footwear** (for all

**Fig. 1. Changes in the CV for household consumption expenditures shares: EU countries, 2005-2010, 2010-2015**



Note: The CV is the ratio of the standard deviation to the mean, and it is generally expressed as a percentage. It is the most commonly used indicator for sigma convergence and is calculated as the ratio between the standard deviation and the mean of all units of observations. The higher the CV, the greater the level of dispersion around the mean. As it does not have units, it allows for a comparison between the distribution of values whose scales of measurement are not comparable.

Source: Authors' own calculations based on household consumption expenditure data derived from Eurostat.

households) and **housing** (for low-income households). The higher level of disparities shown by low-income households seems to confirm that consumption expenditure patterns can highlight differences in living standards in Europe, as budget limitations due to lower levels of income are reflected in the structure of households' consumption expenditure. However, it is important to point out that these results must be interpreted with great caution due to the use of national averages for countries.

- 1 Households that belong to the bottom 20 percent of the households ranked by income.
- 2 We considered the EU-27 (2007–2013) list of member states: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Germany, Greece, Spain, Finland, France, Hungary, Ireland, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Sweden, and the United Kingdom. At the time of this analysis, consumption expenditure by income quintiles was not available for Italy (for 2010 and 2015) and Luxembourg (for 2010).

- 3 **Food and drinks** includes expenditures on food, non-alcoholic beverages, alcoholic beverages, tobacco, and narcotics. **Housing** includes expenditures on housing, water, electricity, gas/heating and other fuels, combined with furnishings, household equipment and routine household maintenance. **Others** includes expenditure on health, education and miscellaneous goods and services. The level of expenditure on education and health is influenced by national education and health policies that vary significantly across countries with respect to tuition fees payments and the degree to which governments finance health and education. Figures could thus be misleading in such cases. Because of that, sigma-convergence was not investigated for **others**.

**References**

Abramovitz, M. (1986). Catching up, forging ahead and falling behind, *J. Econ. Hist.*, 46 (2), 385–406.

Barro, R.J. and Sala-i-Martin, X. (1992). Convergence, *J. Polit. Econ.*, 100 (2), 223–251.

Ridao-Cano, C. and Bodewig, C. (2019). How Can Europe Upgrade Its "Convergence Machine"? *Intereconomics Review of European Economic Policy*, Volume 54, Number 1, pp. 11–18. DOI: 10.1007/s10272-019-0784-5

Table 1. Structure of consumption expenditure by consumption purpose: in Europe, percent (continuing)

		all household							low-income households						
		<i>Food and drinks</i>	<i>Clothing and footwear</i>	<i>Housing</i>	<i>Transport</i>	<i>Communication</i>	<i>Rest., hotel, recr. and culture</i>	<i>Others</i>	<i>Food and drinks</i>	<i>Clothing and footwear</i>	<i>Housing</i>	<i>Transport</i>	<i>Communication</i>	<i>Rest., hotel, recr. and culture</i>	<i>Others</i>
EU-27	2005	19	6	33	12	3	14	13	25	5	37	8	4	10	11
EU-27	2010	19	5	34	12	3	14	13	22	4	42	8	4	11	11
EU-27	2015	18	5	35	12	3	14	13	18	3	38	6	3	9	10
Belgium	2005	16	5	31	13	3	16	17	19	4	37	10	3	11	16
Belgium	2010	15	5	33	13	3	16	16	17	3	41	8	4	12	15
Belgium	2015	15	5	35	13	3	15	16	16	3	45	8	4	10	14
Bulgaria	2005	35	3	38	5	5	7	8	47	2	35	2	3	4	7
Bulgaria	2010	33	3	40	5	4	7	8	44	1	38	2	3	3	10
Bulgaria	2015	31	4	37	7	4	9	9	38	2	42	2	3	3	10
Czech Republic	2005	24	6	27	11	5	16	13	27	6	26	9	5	15	12
Czech Republic	2010	23	5	29	11	5	16	11	25	3	40	4	5	13	10
Czech Republic	2015	24	5	29	11	4	16	11	26	4	38	5	5	12	10
Denmark	2005	15	5	36	14	2	15	12	18	5	40	10	4	14	10
Denmark	2010	15	5	37	12	2	17	12	16	4	46	7	3	15	11
Denmark	2015	14	4	38	13	3	15	13	15	4	47	6	3	14	11
Germany	2005	13	5	35	13	3	15	16	18	5	40	9	4	13	11
Germany	2010	13	4	35	14	3	15	16	17	4	45	8	4	12	11
Germany	2015	13	5	38	13	3	15	13	17	4	47	7	4	12	10
Estonia	2005	25	6	35	10	6	10	9	35	4	34	6	6	7	8
Estonia	2010	26	4	35	10	5	11	9	37	3	38	5	5	7	6
Estonia	2015	27	5	24	13	5	15	11	36	4	32	4	5	9	12
Ireland	2005	18	5	31	12	3	16	15	26	5	35	8	4	12	11
Ireland	2010	15	5	31	13	4	17	15	17	4	41	9	4	15	10
Ireland	2015	14	4	36	13	4	15	15	17	3	44	8	5	11	12
Greece	2005	19	7	30	10	4	13	17	26	7	31	8	4	11	14
Greece	2010	19	6	33	11	3	14	15	26	4	37	6	3	11	12
Greece	2015	22	5	32	10	4	13	15	27	4	37	6	4	11	13
Spain	2005	20	7	35	11	3	16	9	29	7	31	10	3	13	7
Spain	2010	17	6	35	12	3	16	12	22	5	40	9	4	10	10
Spain	2015	17	5	36	12	3	15	12	22	4	42	9	3	9	10
France	2005	16	7	32	14	3	12	17	18	7	37	10	4	9	15
France	2010	18	4	32	14	3	13	16	19	4	36	10	4	11	15
France	2015	17	4	34	13	2	13	17	18	4	38	10	4	11	15
Cyprus	2005	17	8	28	15	3	14	16	29	6	30	10	3	8	14
Cyprus	2010	14	7	32	14	4	14	16	24	4	40	9	4	7	14
Cyprus	2015	17	6	31	12	4	13	17	26	4	38	10	4	7	12
Latvia	2005	32	7	22	11	6	12	10	44	6	20	8	5	8	9
Latvia	2010	29	5	27	11	5	10	12	34	4	36	5	5	6	12
Latvia	2015	27	6	28	12	4	12	12	32	3	37	4	4	7	13

**Table 1. Structure of consumption expenditure by consumption purpose: in Europe, percent (continued)**

		all household							low-income households						
		<i>Food and drinks</i>	<i>Clothing and footwear</i>	<i>Housing</i>	<i>Transport</i>	<i>Communication</i>	<i>Rest., hotel, recr. and culture</i>	<i>Others</i>	<i>Food and drinks</i>	<i>Clothing and footwear</i>	<i>Housing</i>	<i>Transport</i>	<i>Communication</i>	<i>Rest., hotel, recr. and culture</i>	<i>Others</i>
Lithuania	2005	37	8	23	8	5	9	10	50	6	23	5	4	5	8
Lithuania	2010	32	7	33	8	4	8	9	38	5	37	5	3	4	9
Lithuania	2015	28	5	38	8	3	8	10	37	3	37	4	3	5	11
Hungary	2005	26	5	24	14	7	12	12	34	4	31	7	5	8	11
Hungary	2010	21	3	43	9	5	10	10	24	2	48	5	4	7	10
Hungary	2015	23	3	40	9	6	8	11	27	2	49	4	5	5	10
Malta	2005	24	8	20	17	3	17	11	38	8	20	9	3	12	9
Malta	2010	25	7	17	14	4	15	18	33	6	17	8	5	13	19
Malta	2015	22	8	16	14	4	16	19	29	6	23	9	5	13	16
Netherlands	2005	13	6	32	11	3	17	19	15	6	34	8	3	15	19
Netherlands	2010	12	5	34	12	3	17	18	12	4	40	9	4	14	17
Netherlands	2015	14	5	36	13	3	14	17	15	4	43	7	4	11	17
Austria	2005	16	6	29	16	3	18	13	19	6	29	15	3	16	12
Austria	2010	15	6	31	15	2	19	14	18	5	35	11	2	15	13
Austria	2015	14	5	33	14	2	18	14	17	4	39	9	2	16	13
Poland	2005	28	5	36	8	5	8	11	33	3	42	4	4	6	9
Poland	2010	25	5	37	9	4	10	10	28	3	46	4	4	6	9
Poland	2015	23	5	38	8	4	10	12	26	3	46	4	4	8	10
Portugal	2005	18	4	31	13	3	17	14	25	3	36	6	3	12	16
Portugal	2010	15	4	33	15	3	16	14	19	3	41	8	4	10	15
Portugal	2015	16	4	36	14	3	13	15	20	2	42	8	4	9	15
Romania	2005	50	6	19	7	5	5	8	65	4	17	3	3	4	5
Romania	2010	37	4	39	5	4	4	7	47	3	38	1	3	3	5
Romania	2015	36	5	39	5	4	4	7	43	2	41	1	3	3	6
Slovenia	2005	19	7	29	16	4	14	12	25	4	34	8	4	10	10
Slovenia	2010	16	6	36	13	4	13	12	20	4	46	7	5	9	11
Slovenia	2015	16	6	31	18	5	12	13	20	4	42	10	5	8	11
Slovakia	2005	27	6	35	8	4	10	10	33	4	38	6	4	7	8
Slovakia	2010	25	5	38	7	5	12	7	26	3	52	2	4	6	7
Slovakia	2015	22	5	36	11	5	11	11	26	3	47	5	5	8	8
Finland	2005	15	4	32	16	3	15	15	19	3	36	12	4	13	13
Finland	2010	15	3	32	18	3	15	15	18	3	40	10	3	13	13
Finland	2015	14	3	36	16	3	14	15	17	3	42	10	3	12	12
Sweden	2005	12	5	36	13	3	16	8	14	5	39	9	4	17	7
Sweden	2010	15	5	39	12	3	18	8	16	3	43	10	4	17	7
Sweden	2015	14	4	38	14	3	18	9	15	3	42	9	4	18	9
United Kingdom	2005	12	5	36	14	3	20	10	16	5	45	8	3	15	7
United Kingdom	2010	15	6	26	15	3	23	12	17	3	46	8	3	15	8
United Kingdom	2015	15	5	26	15	3	24	11	17	3	46	8	3	15	8

Source: Authors' own calculations based on household consumption expenditure data derived from Eurostat.

## Data News / Data Release Schedule



LIS is happy to announce the following data updates:

**Egypt – EG17** added to the ERLIS Database (1 new dataset and 4 revised)

**Germany** – Annualisation of the country series from 1984-2018 for the LIS Database (11 new datasets and 24 revised)

**Lithuania – LT18** added to the LIS Database (1 new dataset)

**Mexico – MX05/MX06** added to the LIS Database (2 new datasets and 15 revised)

**Netherlands** – Partial annualisation of the country series from 2015-18 for the LIS Database (4 new datasets and 1 revised)

**Russia – RU18** added to the LIS Database (1 new datasets and 1 revised)

**Slovenia – SI17** added to the LWS Database (1 new dataset and 1 revised)

**Spain – ES17** added to the LWS Database (1 new dataset and 5 revised)

**United States – US19** added to the LIS Database (1 new dataset and 18 revised)

**Denmark – DK16**, information in the section education is now available.

### Data Releases and Revisions– Luxembourg Income Study (LIS)

#### Germany

The latest available version of the German Socio-Economic Panel (SOEP) – SOEP-Core v36eu (survey years 1985 to 2019) – provided by the [German Institute for Economic Research \(DIW\)](#) has been harmonised for the LIS Database. The German LIS series is now annual from **DE84 to DE18**, including various new data points (**DE86 DE88 DE90 DE92 DE93 DE96 DE97 DE99 DE17 DE18**). Besides the adoption of the latest updates by the data provider improving data quality and consistency, the LIS series underwent two major changes. The respondent weight has been implemented in this new version; this weight is 0 for non-respondents, but adjustments by DIW have been carried out in such a way that the response sample is representative for the total German society from **DE91** onwards, and for West Germany until **DE90**. The education module now provides detailed information on highest education level completed (*educ\_c*), separating out general and vocational degrees, as well as various tertiary level degrees.

#### Lithuania

One more dataset, **LT18** (Wave XI), from the Lithuanian Survey of Income and Living Conditions (SILC) carried out by [Statistics Lithuania](#) is now available in the LIS Database. As a result, the annual Lithuanian data now cover the period 2009-2018 in the LIS Database.

#### Mexico

Two more datasets, **MX05** (Wave VI) and **MX06** (Wave VII), have been added to the Mexican data series in the LIS Database. The datasets are from the Household Income and Expenditure Survey (ENIGH) provided by the [National Statistical Institute \(INEGI\)](#). Various consistency revisions for the Mexican data series were carried out. For **MX08 to MX18** the sections of self-employment incomes and household's loan repayments were revised; also new variable contents for the country-specific variable *immigr\_c* (country of residency 5 years prior the interview) are now available. For **MX84 to MX04** revisions refer mostly to the conversion to current currency in *net1* (net hourly wage) (**MX84, MX89, and MX92**), and consistency revisions in *own* (owned/rented housing).

#### Netherlands

Four more datasets (**NL15, NL16, NL17, and NL18**) from the Dutch Survey on Income and Living Conditions (SILC) provided by [Statistics Netherlands](#) have been added to the LIS Database. A minor revision to **NL13** has been applied to the incomes section, with negligible impact on LIS Key Figures.

#### Russia

One new dataset from Russia **RU18** (Wave XI) has been added to the LIS Database. The dataset is based on the 2019 Survey of the Population Income and participation in Social programs (PIS) carried out by the [Federal State Statistics Service \(Rosstat\)](#). A minor revision to **RU17** has been applied to the incomes section, with negligible impact on LIS Key Figures. With this latest addition the Russian data series in LIS is now annual from **RU13 to RU18**.

#### United States

One more dataset, **US19** (Wave XI), has been added to the annual series of CPS-ASEC data in the LIS Database. The CPS-ASEC data is provided by the [Bureau of Labor Statistics \(BLS\) / U.S. Census Bureau](#). With this release, LIS also provides data on industry following the latest ISIC revision in variable *indd1* (industry (21-category ISIC 4), main job) for the years **US08 to US19**; this slightly affects the recoding of the less detailed industry classifications *indb1* (industry (9-category recode)) and *inda1* (industry (3-category recode)) that follow now the ISIC rev. 4 industry grouping provided in *indd1*. Likewise, in **US10 to US19** occupation coding now follows-ISCO-08 standards in the LIS occupation variables *occb1* (occupation (10-category ISCO)) and *occa1* (occupation (3-category recode)). Additionally, a consistency correction for occupation has been carried out for the datasets **US02 to US18**.

Additionally, variables *ctrybrth* (country of birth) and *immigr* (immigrant (dummy)) are now available also for **US93**.

**Data Releases – Luxembourg Wealth Study (LWS)**

**Slovenia**

One more dataset, **SI17** (Wave X), has been added to the *LWS Database*. The dataset is based on the Slovenian Household Finance and Consumption Survey (HFCS) acquired from **Bank of Slovenia**. Minor technical consistency revisions have been carried out to dataset **SI14**.

**Spain**

One more dataset, **ES17** (Wave X), based on the Survey of Household Finances (EFF) acquired from **Bank of Spain** has been added to the *LWS Database*. Various consistency revisions for the earlier datasets **ES02** to **ES14** have been carried out. A few more variables are available in the behavioral variables section.

**Data Releases – ERF-LIS Database**

**Egypt**

Based on the Memorandum of Understanding between LIS and the Economic Research Forum (ERF), LIS is delighted to announce the inclusion of one more dataset from Egypt. **EG17**, is based on the **ERF Harmonised Household Income and Expenditure Surveys (HHIES)** version of the Household Income, Expenditure and Consumption Survey (HIECS) carried out by the **Central Agency for Public Mobilization and Statistics (CAPMAS)**. Consistency revisions in industry coding have been carried out for the earlier datasets **EG99** to **EG15**.

**LIS/LWS Data Release Schedule**

	Autumn 2021	Winter 2021
<b>LIS Database</b>		
Australia	AU16/18	
Austria	Annual data AT03-AT18	
Canada		CA18/19
Egypt		EG18
Georgia		Annual data GE09-GE19
Iceland		Annual data IS03-IS17
Japan		JP14/15/16
Jordan	JO10/16	
Luxembourg	LU15/16/17/18	
Mali	ML14/17/19	
Paraguay		Annual data PY97-PY20
Switzerland	CH18	
Vietnam	VN92/97/01/03/05/07/09	
Uruguay	Annual data	
<b>LWS Database</b>		
Chile	CL07/12/14/17	
Japan		JP14/15/16

## Working Papers & Publications



### Focus on

**Immigrant Misallocation** [🔗](#) LIS WP No.809 by **Serdar Birinci** [✉](#) (St. Louis Fed), **Fernando Leibovici** [✉](#) (St. Louis Fed), and **Kurt See** [✉](#) (Bank of Canada)

Birinci, Leibovici, and See quantify the barriers that impede the integration of immigrants into foreign labor markets and investigate their aggregate implications. The authors develop a model of occupational choice with natives and immigrants of multiple types whose decisions are subject to wedges which distort their allocation across occupations. They estimate the model to match salient features of U.S. and cross-country individual-level data and find that there are sizable GDP gains from removing the wedges faced by immigrants in U.S. labor markets, accounting for approximately one-fifth of the overall economic contribution of immigrants to the U.S. economy. These effects arise from both increased flows from non-participation to predominantly manual jobs as well as from reallocation within the market sector that raises productivity in nonroutine cognitive jobs. The authors contrast their findings for the U.S. with estimates for 11 high-income countries and document substantial differences in the magnitude of immigrant wedges across countries. They find differences in the distribution of immigrant wedges across occupations lead to substantial variation in the gains from removing immigrant misallocation, even among countries with similar average degrees of distortions.

### LIS working papers series

#### LIS working papers series - No. 809 [🔗](#)

**Immigrant Misallocation**

by *Serdar Birinci, Fernando Leibovici, Kurt See*

#### LIS working papers series - No. 810 [🔗](#)

**Comparing the Immigrant-Native Pay Gap: A Novel Evidence from Home and Host Countries**

by *Andrej Cupak, Pavel Ciaian, d'Artis Kancs*

#### LIS working papers series - No. 811 [🔗](#)

**Sustainable Earnings: How Can Herd-behaviour on Financial Accumulation Feed into a Resilient Economic System?**

by *Aurelie Charles, Damiano Sguotti*

Published: *Sustainability*, 13, no.5776, (2021).

<https://doi.org/10.3390/su13115776>

#### LIS working papers series - No. 812 [🔗](#)

**Shocks, Institutions and Secular Changes in Employment of Older Individuals**

by *Richard Rogerson, Johanna Wallenius*

Published: *NBER Macroeconomics Annual* 2021, volume 36, University of Chicago Press, 2021.

<http://www.nber.org/chapters/c14552>

### LWS working papers series

#### LWS working papers series - No. 35 [🔗](#)

**Inheritance Taxation in Comparative Perspective**

by *Manuel Schechtel*

## News, Events and Updates

### LIS Virtual Summer Lecture 2021

#### Lecture Abstract

How can developing countries measure and assess the impact of COVID-19 pandemic shocks on distributional outcomes, while data collection is costly – often involving many millions of dollars per household survey? In this lecture, *Professor Peter Lanjouw* sheds some light on alternative data collection procedures; namely via survey-to-survey (S2S) imputation techniques. These techniques can help to promote the expansion of high-frequency poverty data in developing countries – a particularly pressing need in light of scarce resources and massive informational needs in the aftermath of the COVID-19 pandemic.

**Lecture:** Extraordinary times, extraordinary measures: A Review of Methods to Address Data Deprivation in Developing Countries

**By:** *Professor Peter Lanjouw (Vrije Universiteit Amsterdam)*

**Discussant:** *Professor Philippe Van Kerm (Luxemburg Institute of Socio-economic Research (LISER)/ University of Luxembourg)*

**Time:** Tuesday, July 6th, 2021 [Luxembourg Local Time: 17:30-18:30].

**Registration:** Please fill this [form](#).

Note: those who have been accepted in the 2021 LIS Virtual Summer Workshop, do not need to register for the Summer Lecture as it is part of the workshop schedule.

### Visiting scholars at LIS

This month, LIS welcomed two visiting scholars who came to work onsite with the LIS Databases, in the framework of the InGRID-2 project; namely Filip Chybalski and Edyta Marcinkiewicz (Lodz University of Technology, Poland). During their stay at LIS premises they will be using the wealth data to determine if wealth accumulation, and housing wealth in particular, could provide a source of additional pension income. The research visit is a part of the scientific project aiming at exploring the relationships between housing and pension systems, with a special emphasis on pension system design concerning different public-private mixes and their performance (primarily generosity, which reflects the capability of pension system to reduce poverty and inequality in the elderly population).

### The Stone Center – Incoming Postdocs

The Stone Center will welcome its third cohort of postdoctoral scholars in September 2021. The two incoming scholars, each appointed for a term of two years, were selected from a pool of several hundred applicants. Ignacio Flores was selected for a postdoctoral position that focuses specifically on high-end wealth inequality, and Rafia Zafar for a position dedicated to research focused more generally on inequality and mobility.

**Flores** is currently a postdoctoral researcher at INSEAD's James M. and Cathleen D. Stone Centre for the Study of Wealth Inequality. He is also coordinator for Latin America and the Caribbean at the World Inequality Database. Flores earned his PhD in Economics from Paris 1 Panthéon-Sorbonne University. His research focuses on the historical evolution of wealth and income inequality, with particular interest in their relationships with the environment, the political sphere, and institutions.

Zafar is an economist whose research investigates intergenerational mobility in developing countries. Her research is also focused on exploring better methodology and econometric techniques to accurately estimate intergenerational mobility. Zafar's recent work estimates intergenerational mobility in Indonesia using consumption expenditure as a measure of a household's economic status. Her research on mobility also concerns policy reforms such as the impact of primary school construction on education mobility. In May 2021, she received her PhD from Fordham University in Econometrics and Quantitative Economics.