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INEQUALITY IN LABOUR INCOME – WHAT ARE ITS DRIVERS AND HOW CAN IT BE REDUCED?



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INEQUALITY IN LABOUR INCOME – WHAT ARE ITS DRIVERS AND HOW CAN IT BE REDUCED?

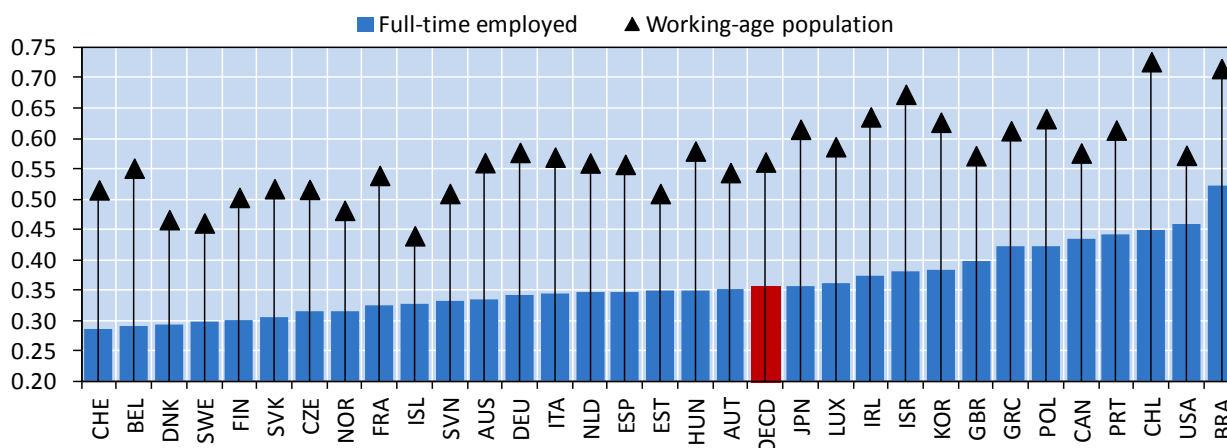
Many OECD countries have seen rising inequality over the past decade. Much of this rise has reflected a widening dispersion of labour income. The analysis presented in this note investigates the determinants of labour income inequality and suggests the following:

- Technological change widens the dispersion of income among full-time workers, though the size of the effect is difficult to gauge.
- Globalisation raises income inequality among full-time workers, but primarily if unions are weak or if employment protection is lax.
- Higher upper-secondary and tertiary education attainment is associated with a narrower distribution of labour income among full-time workers. A more equitable distribution of educational opportunities also contributes to a more equitable distribution of labour income.
- A smaller gap in employment protection between temporary and permanent work contracts is associated with a narrower income distribution. On average across countries, the latter type of contract is associated with an income penalty of around 25%.
- Immigrants underperform natives in terms of their income, even for similar levels of education.
- Women’s labour income is considerably lower than that of men. Much, but not all of the income gap is due to women’s shorter working hours, which in past OECD work have been found to reflect in part taxation issues and the lack of affordable childcare.

Countries differ in both the level and recent trends in labour income inequality

1. Inequality in individual labour income among the working-age population is driven by three key factors: *i*) the dispersion of hourly earnings among those who have a full-time job; *ii*) the dispersion of hours worked; and *iii*) the non-employment rate. OECD countries differ widely in the dispersion of labour income among full-time workers, with the United States, Chile and Portugal being the most unequal countries and Switzerland, Belgium and Denmark being the most equal ones (Figure 1). Inequality is higher in all countries when extending the analysis to part-time workers or the entire working-age population (*i.e.* also including the unemployed and the inactive), reflecting the large income differentials between these groups and full-time workers.

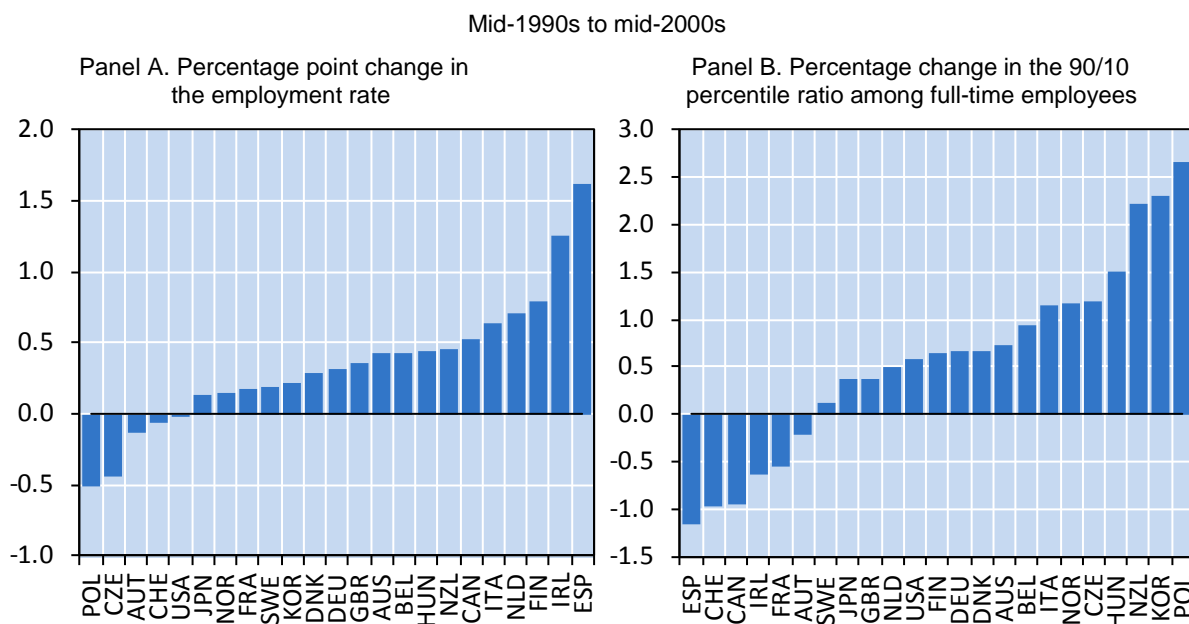
Figure 1. Labour income inequality varies across countries and with the population group considered
Gini index, 2008



Note: The Gini index measures inequality and ranges from zero (perfect equality) to one (one individual receives all income).
Source: Based on Koske, I., Fournier, J.-M. and I. Wanner (2012), “[Less Income Inequality and More Growth – Are they Compatible? Part 2. The Distribution of Labour Income](#)”, OECD Economics Department Working Paper, No. 925.

2. The evolution of labour income inequality among the full-time employed also differs widely across countries. In many OECD countries it increased markedly over the past decade, but it remained broadly unchanged or even declined in others (Figure 2). In about half of the countries where inequality among full-time workers rose between the mid-1990s and the mid-2000s, the increase was concentrated in the upper half of the income distribution. In many countries, the rise in inequality among those who have a job was accompanied by a rise in employment, so that inequality among the working-age population rose by less.

Figure 2. **Employment rose but income inequality among full-time employees widened in many countries**



Note: For the employment rate the annual change between 1995 and 2005 is shown. For the percentile ratio, the mid-1990s refer to 1993 for Belgium, to 1994 for Canada, to 1996 for Denmark and the Czech Republic, to 1997 for Ireland and Norway, and to 1995 for all other countries; the mid-2000s refer to 2004 for Poland and to 2005 for all other countries.

Source: National household and enterprise surveys.

3. High and growing labour income inequality is not unavoidable and partly depends on policy choices. This note identifies a number of policy and other drivers of labour market inequality based on new analysis of the dispersion of labour income among those who have a job (see Box 1). The determinants of non-employment, which is another driver of labour income inequality among the entire working-age population, have been studied elsewhere and are therefore not covered here (see in particular the OECD Jobs Strategy). Moreover, the OECD Economics Department Policy Note No. 9 looks at the role of taxes and transfers for disposable income inequality. The remainder of this note first looks at some broad drivers of inequality such as technological change, globalisation and working time, and then turns to policy influences.

Box 1. Investigating the determinants of labour income inequality

This policy note draws on two types of datasets to assess the effect of macroeconomic developments and structural policies on income inequality:

- Country-level data for 22 OECD countries over the period 1981 to 2008. The analysis looks at the effect on labour income inequality of a wide range of factors, including, among others, measures of globalisation and technological change, the share of the population with post-secondary education, and indicators of labour market policies and institutions (the overall level of employment protection, the level of protection of regular and temporary work, the unemployment benefit replacement rate, the ratio of the minimum to the median wage, and union density).
- Household survey data from 32 countries in or around 2008. The analysis investigates the effect on individual part-time and full-time workers' income of various factors such as the number of working hours, gender, age and the education level. In addition, the role of the sector of work, the type of work contract (temporary versus permanent), union membership and the country of birth is explored for those countries for which the necessary data are available.

Technological change and globalisation play some role in driving income inequality

4. New empirical analysis indicates that technological change has contributed to a rise in income inequality among full-time workers, even though the size of the effect is difficult to pin down. The impact on inequality might reflect that technological change reduces the demand for medium-skilled (medium-income) workers who carry out routine tasks that can also be accomplished by computers, while increasing the demand for low- and high-skilled workers who tend to focus on respectively abstract and manual non-routine tasks that are harder to replace by machines. If the demand shifts are not offset by equal shifts in the composition of labour supply (*e.g.* by a large enough rise in tertiary education attainment and therefore in the supply of high-skilled workers), technological progress can reduce the income of medium-skilled workers relative to that of both the high- and low-skilled ones.

5. Globalisation may also widen the dispersion of labour income, for example through greater outsourcing of tasks from richer to poorer countries. To the extent that these tasks are not skill intensive from the perspective of the rich country, but they are from the perspective of the poor country, labour demand will become more skill intensive in both poorer and richer countries, thus increasing inequality in both groups of countries. Another channel for trade to increase labour income inequality operates if firms differ in their profitability and low-income workers work disproportionately in low-productivity firms that are battered by import competition. The positive link between globalisation and inequality implied by these two channels is supported by a growing body of studies of individual firms, but it is more difficult to establish a robust link at the country level. New empirical evidence suggests that trade raises the dispersion of income among full-time workers only when unions have little clout or when employment protection is lax. However, trade seems to have more negative employment effects in the presence of strong unions.

Part-time work is an important driver of labour income inequality

6. Differences in the average number of hours worked are an important determinant of countries' income inequality among workers. And cross-country differences in the average number of hours worked are again likely to reflect differences in the share of part-time employment. Removing policies and practices that distort workers' choice of working hours should reduce income inequality among workers.

More education seems to narrow the distribution of income in most countries

7. More education may reduce or boost income inequality, depending on where on the education ladder the increase takes place and how well the population was educated at the outset. Specifically:

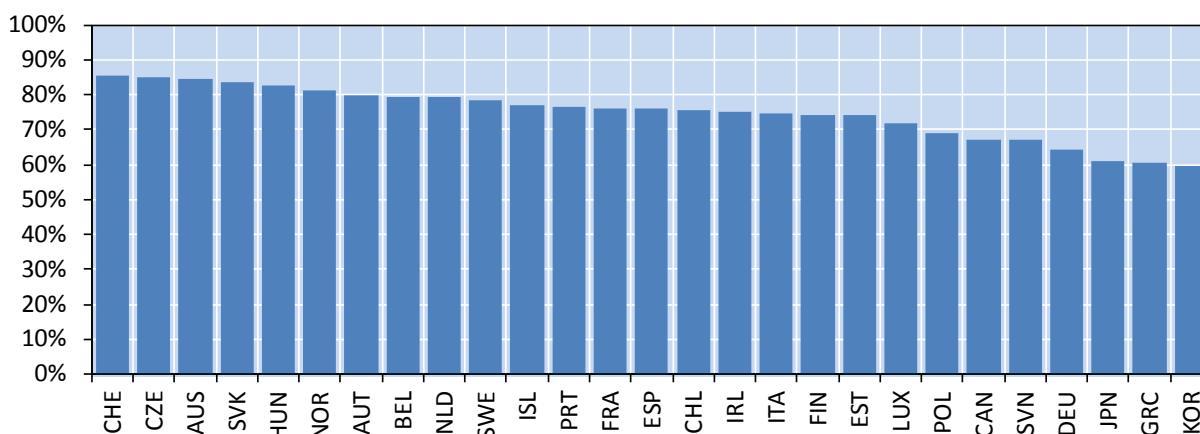
- New analysis shows that in most countries a rise in the share of workers with upper-secondary education is associated with a decline in the dispersion of labour income among full- and part-time workers.
- Encouraging more students to pursue tertiary studies has a more ambiguous effect on labour income inequality. While such reforms may widen income dispersion by increasing the share of high-income earners, these direct effects on inequality may be more than offset by a decline in the relative income of better-educated workers.
- Ensuring greater equity in educational attainment, for example by providing high-quality basic education for all and making educational outcomes less dependent on personal and social circumstances, unambiguously helps to reduce labour income inequality among workers.

Poorly designed job protection increases labour income inequality among workers

8. Evidence at the household level suggests that employees on temporary contracts generally earn less than otherwise similar employees on permanent ones – a loss that comes on top of the intrinsic lack of job stability. On average across countries, workers on temporary contracts earn 25% less than workers on permanent contracts (Figure 3), even if the workers have similar working hours, education, age and gender. The income penalty is particularly high at the bottom of the income distribution, while the incomes of high-income employees are less dependent on the type of work contract. Consequently, a general rise in the share of workers with a temporary contract (distributed evenly across the population) should be associated with a rise in income inequality. Consistent with this, evidence at the country level indicates that a larger gap between employment protection on regular and temporary contracts is associated with a greater dispersion of labour income among full-time employees.

Figure 3. **Workers on temporary contracts earn less than those on permanent contracts**

Median income of workers with a temporary contract as a share of median income of workers with a permanent contract for workers with broadly similar characteristics, 2008 or latest available year



Note: The estimates control for gender, age, education and hours worked and refer to full- and part-time workers.

Source: Based on Fournier, J.-M. and I. Koske (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 7. The Drivers of Labour Earnings Inequality – An Analysis Based on Conditional and Unconditional Quantile Regressions](#)", *OECD Economics Department Working Paper*, No. 930.

Higher union membership tends to be associated with lower income inequality

9. The influence of unions on labour income inequality among workers is a priori ambiguous and depends on two factors: *i*) the number of workers who are covered by collective agreements – be it through union membership or through administrative extensions of collective agreements – and *ii*) the influence of unions on the level and dispersion of income between union and non-union members (or workers not covered by collective agreements). New empirical evidence indicates the following:

- The income of union members is generally higher and less dispersed than that of other workers of similar age, education and gender. The lower dispersion of income among union members may reflect that unions push for greater income equality among their members, but also that the incentives to join a union may vary across the income distribution.
- The effect of union membership on labour income inequality among the employed varies by country. In Australia, Canada, Switzerland and the United States union membership appears to raise the income of low-income workers the most, meaning that unions are beneficial for equality among the employed. In Chile and Japan, union membership seems to boost incomes the most for medium-income workers and in Korea it benefits all workers more or less equally and therefore has no noticeable impact on inequality among the employed.

10. The impact of unions on inequality among all individuals of working age is even more complex as the employment effects need to be taken into account. These depend on various factors, in particular the power of unions and the level of centralisation and coordination of wage bargaining.

Higher minimum wages tend to be associated with a more compressed income distribution

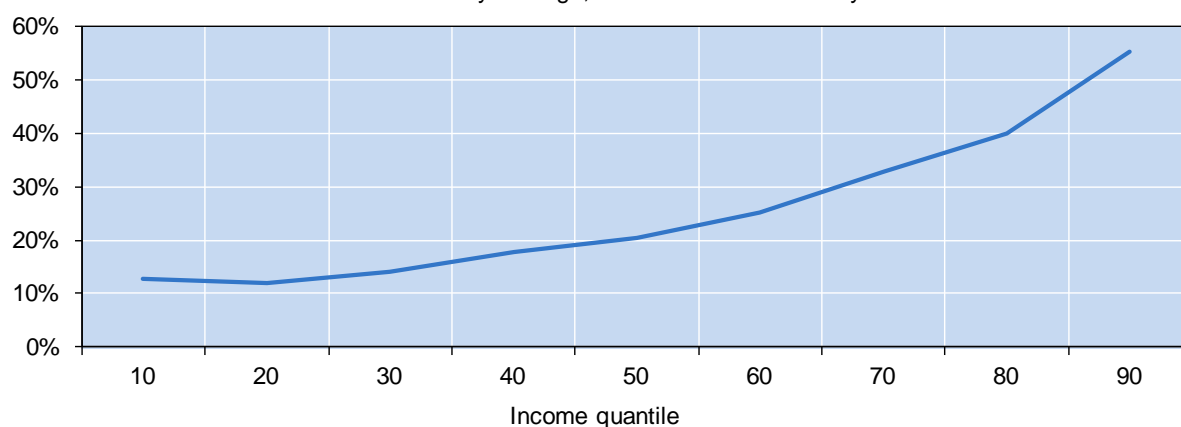
11. A rise in the minimum wage raises the income of those at the bottom of the income distribution, thereby contributing to greater income equality. This positive link between the level of the minimum wage (as a ratio of the median wage) and income equality is supported by the existing empirical literature and by new analysis of country-level data. However, if minimum wages are set too high they may limit the job market opportunities for young and low-skilled workers, thus at least partly offsetting the inequality-reducing effect through lower employment of these groups.

The sectoral composition of economies seems to matter little

12. Analysis of household-level data shows that in general, an economy's sectoral composition matters little for the distribution of labour income. One exception is financial intermediation. In countries with a higher share of this sector in total employment labour income tends to be distributed more unevenly as the gain from working in this sector is higher for high-income workers (Figure 4). Still, the overall contribution of this share to cross-country differences in inequality is rather small.

Figure 4. **Workers in the financial sector enjoy an income premium, particular at the top**

Income premium of working in financial intermediation rather than in manufacturing, cross-country average, 2008 or latest available year



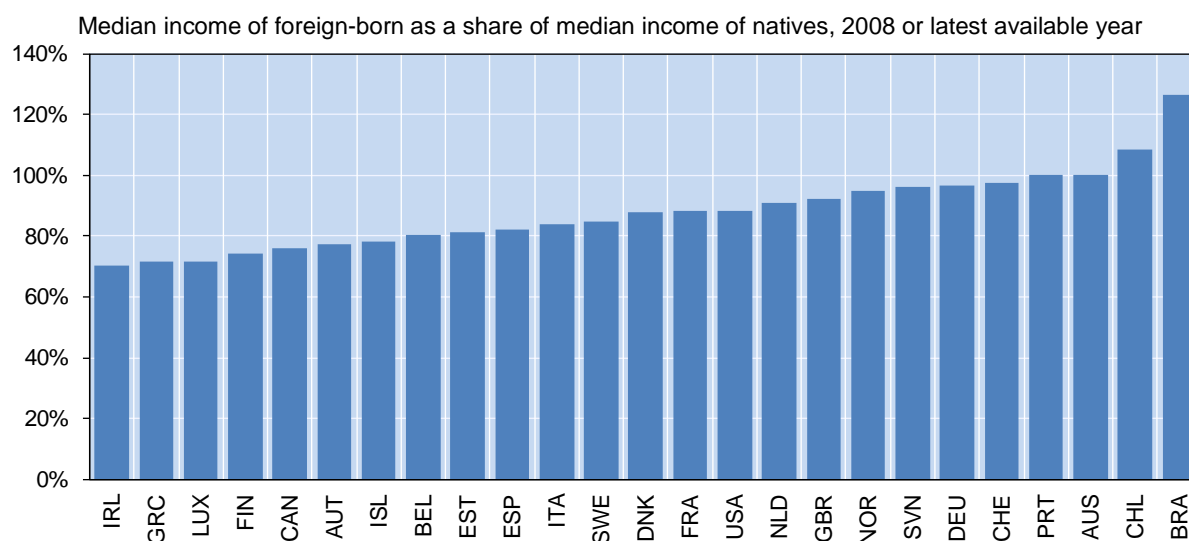
Note: The estimates control for gender, age, education and hours worked and refer to full- and part-time workers.

Source: Based on Fournier, J.-M. and I. Koske (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 7. The Drivers of Labour Earnings Inequality – An Analysis Based on Conditional and Unconditional Quantile Regressions](#)", *OECD Economics Department Working Paper*, No. 930.

In most OECD countries immigrants underperform natives in terms of their labour income

13. In about two-thirds of OECD countries, foreign-born workers (workers who are born outside of the EU in the case of EU countries) earn significantly less than natives, even for similar levels of education (Figure 5). On average across these countries, the income penalty amounts to about 19% for the median worker. This gap could reflect firms' difficulties in properly assessing qualifications obtained in a foreign country, the fact that at least some of the immigrants may have acquired their skills in a lower-quality educational environment, immigrants' lack of work experience in the host country, their lack of language skills, or discrimination. In six OECD countries (Australia, Germany, Norway, Portugal, Slovenia and Switzerland), there is no significant income gap between natives and foreigners after accounting for differences in education, and in Chile as well as Brazil, foreign-born workers even earn more than their native counterparts. The cross-country differences in the income gap may reflect in part differences in the structure of the immigrant population (in terms of country of origin, timing of immigration or motivation) and differences in countries' policy settings, such as the availability of language courses and transparent systems of recognising foreign qualifications.

Figure 5. **Countries differ on the income of immigrants relative to natives**



Note: The estimates control for gender, age, education and hours worked and refer to full- and part-time workers.

Source: Based on Fournier, J.-M. and I. Koske (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 7. The Drivers of Labour Earnings Inequality – An Analysis Based on Conditional and Unconditional Quantile Regressions](#)", *OECD Economics Department Working Paper*, No. 930.

Addressing the gender income gap could reduce inequality

14. Despite some decline over past decades, gender differences in labour income are still striking in most OECD countries. Women are less likely to be employed than men and those who work typically earn less than their male counterparts. Women's shorter working hours (which partly reflect that they take on more caring obligations for children and elderly relatives than men) play an important role in explaining the income relative to men. However, even after fully accounting for differences in working hours and education between men and women, a significant income gap remains, reaching over 25% for the median worker in many OECD countries. Possible reasons include career breaks around child-birth, a financially less favourable choice of occupation or sector of employment, but also discrimination. Policies that address these issues – for example, improvements in the availability of formal care for children and the elderly – therefore may help to reduce labour income inequality.

Suggested further reading

The main papers providing the background to this note are:

Fournier, J.-M. and I. Koske (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 7. The Drivers of Labour Earnings Inequality – An Analysis Based on Conditional and Unconditional Quantile Regressions](#)", *OECD Economics Department Working Papers*, No. 930.

Koske, I., Fournier, J.-M. and I. Wanner (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 2. The Distribution of Labour Income](#)", *OECD Economics Department Working Papers*, No. 925.

Additional related papers include:

Fredriksen, K. (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 6. The Distribution of Wealth](#)", *OECD Economics Department Working Paper*, No. 929.

Hoeller, P. (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 4. Top Incomes](#)", *OECD Economics Department Working Paper*, No. 927.

Hoeller, P., I. Joumard, M. Pisu and D. Bloch (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 1. Mapping Income Inequality Across the OECD](#)", *OECD Economics Department Working Paper*, No. 924.

Joumard, I., M. Pisu and D. Bloch (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 3. Income Redistribution via Taxes and Transfers across OECD Countries](#)", *OECD Economics Department Working Paper*, No. 926.

Kierzenkowski, R. and I. Koske (2012), "Less Income Inequality and More Growth – Are They Compatible? Part 8. The Drivers of Labour Income Inequality – A Review of the Recent Literature", *OECD Economics Department Working Paper*, No. 931.

OECD (2006), [Boosting Jobs and Incomes – Policy Lessons from Reassessing the OECD Jobs Strategy](#), OECD Publishing.

OECD (2011), [Divided We Stand: Why Inequality Keeps Rising](#), OECD Publishing.

OECD (2012), "Income Inequality and Growth: The Role of Taxes and Transfers", *OECD Economics Department Policy Note*, No. 9.

Pisu, M. (2012), "[Less Income Inequality and More Growth – Are They Compatible? Part 5. Poverty in OECD Countries](#)", *OECD Economics Department Working Paper*, No. 928.

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