

Executive Summary

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- The Europe 2020 strategy for smart, sustainable and inclusive growth set a target of lifting more than 20 million people out of poverty, but European Union countries have struggled to make progress towards the target.
- We demonstrate both theoretically and empirically that the 'poverty' indicator in the Europe 2020 strategy essentially measures income inequality, not poverty.
- Our illustrative calculations show that even after taking into account the positive impact expected economic growth should have on material deprivation and low work intensity, the Gini coefficient of income inequality would have to fall by four points in each EU country if the Europe 2020 'poverty' target is to be reached. This would be a huge decline.
- Enormous differences between 'poverty' thresholds adopted by different EU countries make the EU-wide 'poverty' aggregate pointless.
- Even though 24 percent of EU citizens are deemed to be poor or socially excluded, we find that social issues receive little attention in the European Semester, which is supposed to support the achievement of Europe 2020 targets.
- The few relevant recommendations that have been made targeted poverty, employability and social exclusion, which are important goals. There have been no specific measures to reduce income inequality.
- The political agreement between EU member states clearly expressed the goal of reducing poverty, not inequality. It was a grave mistake to base the Europe 2020 poverty target on an indicator of income inequality and to speak about 'poverty reduction' in relation to that indicator.
- The European Council should meet again to discuss what social goals to pursue, and to adopt corresponding indicators and strategy.
specific basket of goods and services as the threshold. Beyond headcount, the calculation of poverty gaps and other indicators that show the depth and severity of poverty would be important.
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1. Introduction

Europe 2020 – A strategy for smart, sustainable and inclusive growth was adopted in 2010 as the European Union’s landmark economic and social policy strategy. It formulated EU-wide targets for employment, research and development, climate/energy, education and poverty reduction/social inclusion. Progress towards the targets is encouraged and monitored throughout the European Semester, the EU’s yearly cycle of economic policy coordination.

The ‘poverty’ target set by the European Commission (2010) aims to lift “*over 20 million people out of poverty*” between 2008 and 2020 in the EU27¹. Progress to date against this target has been disappointing. Rather than declining, the number of people classified as at risk of poverty or social exclusion increased by 6.3 million from 2008-12, after which it fell by 4.7 million from 2012-15, leading to a figure in 2015 that was still above the 2008 value by about 1.6 million people. The EU’s apparent failure to reduce poverty has received great attention, with calls from many quarters for more effective measures.

Why is it so hard to reach the Europe 2020 ‘poverty’ target? What does the poverty indicator actually measure? What kind of social developments would enable the achievement of the Europe 2020 ‘poverty’ target? How effective is the European Semester in promoting progress towards the Europe 2020 ‘poverty’ target? In this policy contribution we answer these questions.

2. The Europe 2020 strategy poverty indicator

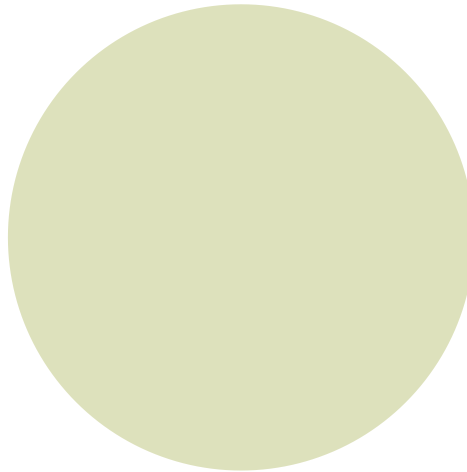
Historical precedents

There is a long-standing literature on social indicators, which have been used in various ways by the European Union and the preceding European Communities². The Lisbon Strategy, adopted in March 2000 by the EU heads of state and government, aimed to make Europe “*the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion*” by 2010³. This strategy included six specific indicators for social cohesion, in addition to various indicators of employment, innovation and research, economic reform and general economic r.444 siouou (p)g e Lh462p

of this baseline: “

Figure 1: People 'at risk of poverty or social exclusion' in the EU27 in 2015 (millions)

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Source: Eurostat (2016), 'At Risk of Poverty or Social Exclusion' (2014), http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1&code=sdg_8_10_1.
 Eurostat (2020), 'At Risk of Poverty or Social Exclusion' (2015), http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&plugin=1&code=sdg_8_10_1.

What are poverty, inequality and social exclusion?

There is an extremely voluminous body of academic and policy research on poverty, inequality and social exclusion⁶. These concepts are defined in many different ways.

A standard definition of poverty is whether “households or individuals have sufficient resources or abilities to meet their daily needs”, as argued by the World Bank⁷. This definition is in line with the everyday use of the word poverty⁸. Such a definition is sometimes considered as an ‘absolute measure of poverty’. Poverty has non-monetary aspects, such as health, education and subjective perceptions.

Relative poverty is usually defined as having little in terms of a specific aspect (like income, wealth, health, or education) compared to other members of society. The way individuals perceive their position relative to other people can be an important aspect of their welfare.

Inequality refers to the extent to which a specific aspect (like income) is distributed unevenly among the population. Similarly to the concept of relative poverty, in unequal societies poorer individuals might perceive that they have fewer means than richer individuals, which might affect their life satisfaction irrespective of their actual living standards.

A reasonable definition of social exclusion is “the failure of society to provide certain individuals and groups with those rights and benefits normally available to its members, such as employment, adequate housing, health care, education and training”⁹. The Commission of European Communities (1992) explained the difficulties in measuring social exclusion, which has different manifestations, such as homeless people on the streets, the marginalisation of the very long-term unemployed, persistent poverty in certain rural areas, and the rejection of refugees and minorities.

6 See, for example, Sen (1999), Sen and Foster (2001), Sen and Foster (2002), Sen and Foster (2003), Sen and Foster (2004), Sen and Foster (2005), Sen and Foster (2006), Sen and Foster (2007), Sen and Foster (2008), Sen and Foster (2009), Sen and Foster (2010), Sen and Foster (2011), Sen and Foster (2012), Sen and Foster (2013), Sen and Foster (2014), Sen and Foster (2015), Sen and Foster (2016), Sen and Foster (2017), Sen and Foster (2018), Sen and Foster (2019), Sen and Foster (2020).

7 See, for example, World Bank (2014), <http://go.worldbank.org/0C60K5UK40>.

8 See, for example, Collins (2012), <http://www.collinsdictionary.com/dictionary/english/poverty> (“the condition of being extremely poor,” and “having little money and/or few possessions”).

9 <https://www.collinsdictionary.com/dictionary/english/social-exclusion>.

the simple definitions offered above underline that there are many overlaps between these concepts:

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deprivation rate is therefore a useful indicator of poverty in the European context¹⁰. It might also reflect social exclusion if poor people face difficulties in terms of social integration.

People living in households with very low work intensity might face a significant risk of exclusion from the labour market, potentially leading to social exclusion too.

The 'at risk of poverty' indicator essentially measures income inequality
e main

Figure 2: The theoretical association between the Gini coefficient of income inequality and the 'at risk of poverty' rate when income distribution is log-normal



In reality, actual income distributions differ from parametrised statistical distributions and therefore the association between the two indicators is not deterministic, but there is a

3. How to meet the Europe 2020 'poverty' target?

In its stock-taking report, the European Commission (2014) concluded that the recent economic crisis was primarily responsible for the divergence of the 'at risk of poverty or social exclusion' indicator from its target. While it is sadly true that the crisis increased unemployment and (properly measured) poverty, a more fundamental reason for the dismal performance is that the indicator used is more an indicator of income inequality than an indicator of poverty.

In order to check the likelihood that the Europe 2020 'poverty' target will be met, we split the indicator into two parts:

1. All people considered 'at risk of poverty' by the respective indicator, that is, people with incomes below 60 percent of the national equivalised median income, irrespective of whether or not these people are also materially deprived, or whether they live in households with low work intensity;
2. People not 'at risk of poverty,' who are severely materially deprived and/or live in households with low work intensity, but have income above the 60 percent of the median of the national equivalised income.

We expect that the 'not-at-risk-of poverty' component will be reduced as the economy grows and negative output gaps close. Our econometric analysis strongly confirms this (see the Annex).

Table 1 shows that the 'not at risk of poverty' component increased significantly from 2008-12, from 35.0 million to 39.2 million, a development in which the crisis likely played a role. However, with the gradual return of economic growth to Europe, this component declined from 39.2 million in 2012 to 31.7 million in 2015, and is well below its 2008 value. Given our estimated regression parameters and European Commission and IMF forecasts for 2016-20, we project that about 5.5 million fewer people will belong to this category by 2020.

Table 1: Illustrative scenario for the 'at risk of poverty or social exclusion' indicator to meet the Europe 2020 target (EU27, million people)

	2008	2012	2015	2020
A	115.9	122.2	117.5	95.9
A	80.9	83.0	85.9	69.8
N	35.0	39.2	31.7	26.1
B	96.2	116.2		
E	115.9	20		

In contrast, the at-risk-of-poverty component, which as we have argued is an indicator of income inequality, increased from 2008-12 and from 2012-15, meaning that this component increased even during the recent period of economic recovery, in line with the increase in income inequality within many EU countries.

Given our projection for the 'not at risk of poverty' component, we illustratively calculate that the at-risk-of-poverty component should be reduced by 16.1 million between 2015 and 2020 in order to achieve the Europe 2020 target (see all details of the calculations in the Annex). Therefore, our calculation for the at-risk-of-poverty component is not a projection, just an illustration.

Given the strong association between the at-risk-of-poverty rate and the Gini coefficient of income inequality, we translate the necessary reduction in the at-risk-of-poverty rate to





Figure 6: The Gini coefficient of income inequality, the 'at risk of poverty' rate and the severe material deprivation rate in selected countries

Annex 2: Calculating the reduction in the Gini coefficient of income inequality that would be consistent with reaching the Europe 2020 'poverty' target

We split the Europe 2020 indicator of 'at risk of poverty or social exclusion' into two parts:

1. All people considered 'at risk of poverty' by the respective indicator, that is, people with income below 60 percent of the national equivalised median income, irrespective of whether these people are also materially deprived or not or whether they live in households with low work intensity or not;
2. People not 'at risk of poverty', who are severally materially deprived and/or live in households with low work intensity, but have income above the 60 percent of the median of the national equivalised income.

For these two groups of people we make the following projections:

- 'Not at risk of poverty' component: we estimate regressions for the determinants of this component in 2003-2015 and then use European Commission (2016-18) and IMF (2019-20) forecasts to project how much reduction is expected in this component by 2020.
- 'At risk of poverty' component: given our projection for the 'not at risk of poverty' component, we illustratively calculate how much reduction in the at-risk-of-poverty component is needed to achieve the Europe 2020 target. Therefore, our calculation for the 'at risk of poverty' component is not a projection, just an illustration.

Given the strong association between the 'at risk of poverty' rate and the Gini coefficient of income inequality (Annex 1), we then calculate the Gini reduction which is consistent with reaching the Europe 2020 'poverty' target.

Our hypothesis is that the non-at-risk-of poverty component is expected to be reduced when:

- the economy grows (partly because growth typically creates jobs and thereby the long-term unemployed have a better chance of finding work, and partly because even if inequality widens with growth, the poorer segments of the society may receive a higher income and thereby material deprivation can be reduced); and
- Negative output gaps close (because when the economy is below potential, unemployment is higher than normal, which directly influences the spectre of living in households with low work intensity, while lower income due to weak economic conditions and unemployment increases material deprivation).

In order to test these hypotheses, we estimate regressions, both in a panel framework involving the first 27 EU member states and in a single equation framework for each member states separately. Regression results strongly confirm the hypotheses.

We use two functional forms: a linear form and a log-linear form. The panel versions of these two forms are the following:

Where Δ is the difference between 'at risk of poverty or social exclusion' rate and the 'at risk of poverty' rate (both expressed as a percent of population) of country i in time t , α is the general intercept, β is the country-specific fixed effect, γ is time-specific fixed effect, $\ln y_{it}$ is mean income in country i in time t (expressed in constant-price purchasing power standards²¹), $\ln \Delta_{it}$ is the output gap country i in time t (expressed as a percent of potential output), θ are parameters to be estimated, and ϵ_{it} is the error term.

The log-linear version ensures that the fitted and forecast values are always positive, as they should be.

For our projections, we use the country-specific regression to allow for different sensitivity

For our projections to 2016-20, we make the following assumptions:

- Mean income growth in constant-price PPS in 2016-20: we approximate with the growth rate of real GDP per capita as it is projected by the European Commission November 2016 forecast for 2016-18 and the IMF October 2016 forecast for 2019-20.
- Output gap: we use the European Commission November 2016 forecast for 2016-18 and then estimate a simple autoregression to project the output gap for 2019-20.
- Population: we approximate with the growth rate of population as it is projected by the European Commission November 2016 forecast for 2016-18 and the IMF October 2016 forecast for 2019-20.

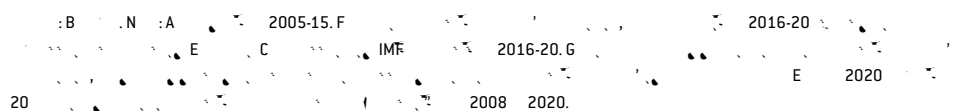
Mean income and output gap projections allow to project the ‘not at risk of poverty’ rate up to 2020. Figure 7 shows that the projections look sensible. There are only a few countries for which projections may look somewhat unrealistic, such as the in the case of Romania, where projected fall in the ‘not at risk of poverty’ rate may perhaps be too large, and Ireland²³, for which a bounce back is projected after a large drop in 2014-15.

Population projections allow translating the rate projections into number of people projections: in the EU27, 5.5 million people with income over the 60 percent of national median equivalised income are projected to be lifted from material deprivation and/or living in low work intensity households between 2015-20.

Given the projected decline in the ‘not at risk of poverty’ components of the ‘at risk of poverty or social exclusion’ indicator, we calculate the needed reduction in the ‘at risk of poverty’ component, which amounts to 16.1 million people (see Table 1). Given population projections, the necessary decline of 16.1 million in the number of people regarded to be ‘at risk of poverty’ is equivalent to a 3.4 points decline in the ‘at risk of poverty’ rate in each EU country.

This is in turn consistent with a 3.9 points decline in the Gini coefficient of income inequality in each EU country, using the empirical association revealed by . Table 1 in the main text presented the number of such people in four key dates, 2008, 2012, 2015 and 2020, while Figure 8 reports the annual developments.

Figure 8: The ‘at risk of poverty’ and ‘not at risk of poverty’ components of the ‘at risk of poverty or social exclusion’ indicator in the EU27, 2005-20 (million people)



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Annex 3: Deriving income poverty indicators from the EU-wide distribution of income

A large number of income poverty indicators have been proposed in the literature. Many require access to household-level data that we do not have. We therefore derive two indicators of poverty, which can be constructed using publicly-available data from Eurostat:

- **Headcount:** share of people living on less than 2, 5, 10 or 20 euros a day (at constant 2007 purchasing power standards).
- **Poverty gap:** the total combined shortfall of income less than 2, 5, 10 or 20 euros a day (at constant 2007 purchasing power standards) as a share of GDP. This is obtained by adding up all the shortfalls of the poor, eg for all people with income less than 2 euros a day, we add up the gaps between 2 euros and their actual income.

As highlighted by Marx *et al* (2015), based on the seminal works of Amartya Sen, a head-count poverty target may provide a perverse incentive to policymakers to target those who are below but close to the poverty threshold (because those people can be lifted over the poverty threshold in a much easier way than the very poor). A poverty gap target may provide incentives to consider all the poor, including those who are very poor²⁴.

Beyond calculating these indicators, the next step is to consider the implications of these indicators for policy. This is done in the next section.

information about income shares²⁵. For example, Table 4 shows the income shares of the lowest five percentiles of Belgium in 2011 as published by Eurostat and as approximated by our regression:

Table 4: Income shares of the lowest five percentiles, Belgium, 2011

Percentile	Eurostat	Approximation
1st		
2nd		
3rd		
4th		
5th		

Belgium's 2011 data, four of our approximations of the lowest five percentiles income shares correspond to Eurostat data after rounding, while our approximation for the second percentile does not correspond.

Therefore, our approximation for each country is burdened with a measurement error, which can be larger when the poverty threshold is close to the very bottom of the income distribution. Likely, the measurement error is smaller when the threshold is not too close to the bottom of the income distribution, given that more information is available to approximate those incomes. And for the EU as whole, the measurement error is likely smaller than for individual countries also for low income threshold levels, given the large income differences across countries. For example, very few people, if any, is at the bottom one percent of the EU-wide income distribution from Luxembourg, while six percent of Romanian citizens belong there, whose income is already measured with a reasonable degree of precision.

According to our calculations, less than one percent of EU citizens live on less than 2 euros a day (at 2007 PPS; Figure 9). The shares of people living on less than 5, 10 and 20 such euros are about 2 percent, 6 percent and 19 percent, respectively. The 2015 shares are all below the 2007 shares, yet there was a temporary increase in the early 2010s. The poverty gap indicator suggests that the combined income shortfall of people living on less than 2 or 5 PPS euro is very small as a share of EU27 GDP, while the poverty gap for 10 PPS euro is about 0.4 percent of EU27 GDP, and the poverty gap at 20 PPS euro is about 2.1 percent of EU GDP in 2015. The dynamics of poverty gap is similar to the dynamics of the head count, but, for example, in the case of the 5 euro threshold, the headcount fell more than the poverty gap between 2007-15, while for the 20 euro threshold the opposite result holds.

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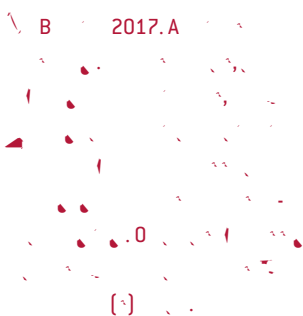
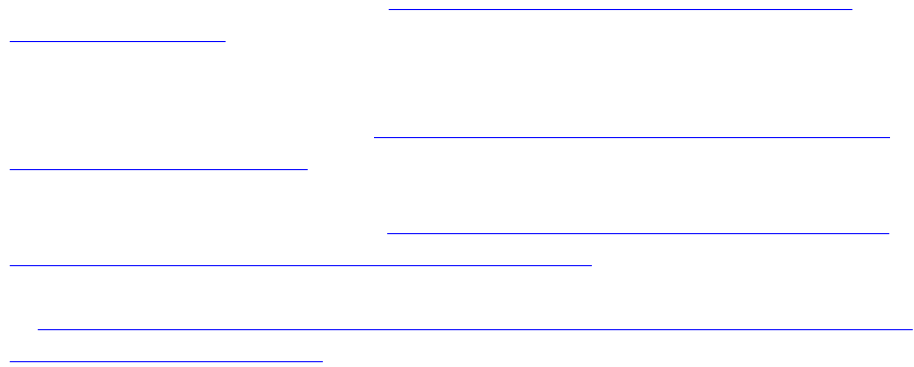
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