



**BE-PARADIS**

Working Paper wp.22.1

# **Income inequality in Belgium: what we know and do not know**

Ella-Marie Assal, Bart Capéau, Koen Decancq,  
André Decoster, Sarah Kuypers, Jonas Vanderkelen,  
Toon Vanheukelom, Gerlinde Verbist

November 2022





BE-PARADIS formulates a renewed and profound inquiry of existing and available data, concepts, and methods. This allows us:

- To highlight and quantify the relative importance of different drivers in the evolution of inequality and poverty.
- To align Belgium with the international research agenda and its output in the form of DINA's (Distributional National Accounts).
- To enlarge and deepen the conceptual framework of distributional analysis by going beyond mere household disposable income.

The project is funded by Belgian Science Policy, BELSPO.

**[www.beparadis.be](http://www.beparadis.be)**

**KU LEUVEN**

**ULB**



**University  
of Antwerp**

# INCOME INEQUALITY IN BELGIUM: WHAT WE KNOW AND DO NOT KNOW<sup>1</sup>

Ella-Marie Assal<sup>2</sup>, Bart Capéau<sup>3,4</sup>, Koen Decancq<sup>2</sup>, André Decoster<sup>3</sup>,  
Sarah Kuypers<sup>2</sup>, Jonas Vanderkelen<sup>3</sup>, Toon Vanheukelom<sup>3</sup>, Gerlinde Verbist<sup>2</sup>

November 2022

## Abstract

In this paper, we review the existing evidence about the evolution of income inequality in Belgium between 1985 and 2020. We include information from academic studies and publicly available databases that contain statistics on the evolution of market (or factor) income, gross or pre-tax income, taxable income or disposable income. This evidence relies on data from surveys, administrative tax register data or national accounts. Most sources document that income inequality in Belgium is rather stable over the period considered. Yet, an overall definitive conclusion about the evolution of inequality for different income concepts is hard to distil from the different sources, given missing information, inconsistent definitions over time and structural breaks between the underlying datasets.

---

<sup>1</sup> We gratefully acknowledge financial support from BELSPO in the BE-PARADIS project under contract number B2/191/P3/BE-PARADIS. We thank Christian Valenduc and Ludovic Dobbelaere for the delivery of data, and all participants of the BE-PARADIS workshop in Leuven (May 2022) for useful comments and suggestions. See [www.beparadis.be](http://www.beparadis.be) for more details on the project.

<sup>2</sup> Herman Deleeck Centre for Social Policy, University of Antwerp.

<sup>3</sup> Department of Economics, KU Leuven.

<sup>4</sup> ECARES, ULB

# 1. Introduction

Currently, topics related to income inequality and poverty are high on the academic and public agenda. During the last decade, we have witnessed a marked increase in the academic interest into the distribution of income and its evolution over time (see, e.g., Stiglitz, 2012; Deaton, 2013; Piketty, 2014; Atkinson, 2015; Milanovic, 2016), and in IMF (2014) inequality has been labelled ‘the defining challenge of our time’. According to the IMF, the presence of high inequality signals a lack of income mobility and opportunity, has important consequences for growth and macroeconomic stability and carries a risk of concentrating decision making in the hands of a few. This renewed interest in and research on the impact of income inequality was stimulated by the financial crisis of 2008-2009 and the ensuing recession.<sup>5</sup> The COVID-19 pandemic, and its potential impact on income inequality, has further fuelled the interest in this topic (see, e.g., Deaton, 2021; Stantcheva, 2022).

The academic literature indicates that in most OECD countries, after a period of decrease, income inequality has been on the rise again since the 1980’s. This is mainly attributed to an increasing income share of the top of the distribution combined with the increasing share of capital income in total income (e.g., OECD, 2015; Alvaredo et al., 2018; Milanovic, 2019; Piketty, 2020). Although there is often mention of welfare state retrenchment, most of the evidence indicates that welfare systems have increased redistributive efforts, yet have not been able to fully offset the increase in market income inequality (e.g., Kenworthy & Pontusson, 2005; Caminada et al., 2017; Jesuit & Mahler, 2017).<sup>6</sup> These patterns are found for many countries for which there are sufficient data available, although most of the literature focusses on the US, UK and France.

Belgium, however, often stands out as an exceptional case in comparative studies. Contrary to the rise in income inequality in most OECD countries, the OECD (2015) observes a rather stable and low level of income inequality in Belgium between the mid 1980’s and mid 2010’s. Also Horemans et al. (2011) conclude that Belgian income inequality has remained fairly stable between 1985 and 2007. Some observers have even considered Belgium as a prototype of inclusive growth.<sup>7</sup> However, a glance at newspaper articles and public statements by politicians, journalists and experts alike suggests that the prevailing sentiment in the Belgian society is quite different, indicating a broad feeling of increasing income inequality.<sup>8</sup> This sentiment is evidenced by findings from the ‘Risks that Matter Survey’ (OECD, 2021).

---

<sup>5</sup> Fitoussi & Saraceno (2010) pointed to growing inequality as the driving force of a structural lack of aggregate demand and Rajan (2010) saw it as the source of over-indebtedness. More recently, Eggertsson et al. (2019) pointed to rising income inequality as one of the explanations for the secular decline in the natural rate of interest.

<sup>6</sup> In contrast, OECD research concludes that redistribution decreased in most countries (Causa et al., 2018; Causa & Hermansen, 2019).

<sup>7</sup> See, e.g., Paul Krugman who wrote on the topic of ‘The Secret of Belgium’s Success’ (The New York Times, 2014).

<sup>8</sup> For a similar reading of the Belgian public debate see Cantillon et al. (2014) and Decoster et al. (2017). The most indicative example is probably the series published by the leading Flemish newspaper ‘De Standaard’ in 2014 under the heading ‘De kloof’ (‘The gap’), including contributions titled “Belgium does not escape rising income inequality” and “Top earners are tearing away from the rest”. Already in 2000 this newspaper wrote about the fact that the “Belgian income gap becomes larger” and in 2007 and 2008 they noted that “The gap between poor and rich increases (2007)/continues to increase (2008)”. In 2010, another Flemish newspaper ‘De Morgen’ reported that “The income gap keeps on rising”.

Understanding this ‘paradox’ is one of the central objectives of the BE-PARADIS project.<sup>9</sup> This review paper forms the starting point of this project by surveying the existing evidence about income inequality in Belgium. We only focus on published academic papers and publicly available databases with inequality statistics for Belgium. We investigate whether there is a consensus in the literature on the evolution of inequality in Belgium over the last four decades, and whether this consensus depends on the methodological choices that are being made.<sup>10</sup> We do not focus on how that evolution of inequality compares to other countries, but to have a point of comparison, we include a selection of inequality figures of other countries in Appendix.

The review is structured as follows. Since divergences in published results, if any, may be due to methodological choices, we start in Section 2 with a brief overview of essential methodological choices faced by empirical work on income inequality: the choice of the relevant income concept, the reference period, the reference unit, the underlying dataset, and the summary inequality measure. In Section 3 we review the existing evidence about the evolution of income inequality in Belgium structured according to the income concepts discussed in Section 2. Section 4 concludes our main findings.

## 2. Methods

We briefly discuss five methodological choices that are crucial to the empirical measurement of income inequality. The study of inequality has been dominated in recent decades by a micro-approach, using data at the level of households or individuals, be it from surveys or from administrative sources, such as personal income tax records. There is also a somewhat older perspective, the so-called functional distribution of income, which looks at the distribution from a more aggregated perspective, viz. as the distribution of the macro-aggregate ‘national income’ over the production factors labour and capital and expressed as the labour and capital share of national income. Recently, a new research avenue has been opened by connecting the macro and the micro-framework in the ‘Distributional National Accounts’ (DINA). Not surprisingly, several methodological choices to be made in any inequality analysis, are similar in both the micro and the macro-approach. This is certainly the case for the choice of the income concept, which we discuss in subsection 2.1, and for the choice of the reference period and reference unit, discussed in respectively subsections 2.3 and 2.4. It holds somewhat less for the choice of the underlying data (subsection 2.2) and the many possible summary measures of income inequality (subsection 2.5).

### 2.1 Income concept

We consider four different income concepts. Table 1 illustrates how these different concepts relate to each other in the Belgian context by indicating which income components are included in the different income concepts. Given the complexity of the tax and transfer system and the variation in use of terminology across different papers, the table only summarises the differences in a stylised and

---

<sup>9</sup> The acronym BE-PARADIS stands for ‘BElgian PARADox of Inequality Studies’, see [www.beparadis.be](http://www.beparadis.be) for more details on the project.

<sup>10</sup> Other reviews on the topic of inequality in Belgium are by Van Rie & Marx (2014) and Valenduc (2017).

simplified way. It also helps to avoid confusion in some of the labels which are often used differently in different papers.<sup>11</sup>

Table 1 Overview of income concepts and their components

|   | (1)<br>Market<br>income<br>(Factor<br>income) | (2)<br>Pre-tax income<br>(Gross income)<br>DINA      survey | (3)<br>Fiscal<br>income<br>(Taxable<br>income) | (4)<br>Disposable<br>income |
|---|---|---|--|-----------------------------|
| Employee labour cost<br>- <i>Employer social insurance contrib.</i><br>= Gross <b>employee income</b><br>- <i>Employee social insurance contrib.</i><br>= Gross taxable employee income<br>- <i>Professional expenses</i><br>= Net taxable employee income<br>- <i>Personal income tax</i><br>= Net employee income | •   |   |  |                             |
| Gross <b>self-employment (mixed) income</b><br>- <i>Social insurance contributions</i><br>= Gross taxable self-employment income<br>- <i>Professional expenses</i><br>= Net taxable self-employment income<br>- <i>Personal income tax</i><br>= Net self-employment income  | •   |   | •  |                             |
| Gross <b>capital income</b><br>- <i>Capital taxes &amp; personal income tax</i><br>= Net capital income   | •   | •   | •  | •                           |
| Gross <b>replacement income</b><br>- <i>Personal income tax</i><br>+ <i>Other social benefits (e.g. child benefits)</i><br>= Net replacement income & benefits  |   | •   | •  | •                           |

Notes The circles indicate which income components are included in each of the income concepts. We consider 'Market income' and 'factor income' as synonyms. But also 'pre-tax income' is sometimes used as synonymous to 'Market income'. In this table we use 'pre-tax income' for the concept used in the DINA-methodology in column (2) and also indicate the small difference with the similar concept in studies based on survey data, and often called there 'gross income'. With 'Taxable Income' we refer to the taxable character of income under the personal income tax system. The WID terminology for this taxable income concept is 'fiscal income'.

**Market income, or factor income,** is the total income from the production factors labour and capital *before* taxes or social security contributions are paid or any replacement income is received (such as

<sup>11</sup> The chosen labels for the different income concepts in Table 1 is – partly - inspired by the terminology used in the World Income Database (WID) (see <https://wid.world/codes-dictionary/#distributed-income> and Blanchet et al., 2022).

pensions, unemployment benefits). It consists of gross employee income, gross self-employed income and gross capital income. In the first column of Table 1 we show market income as used in the approach of the Distributional Accounts, which means that it is aligned with net national income in the national accounts. In some papers the word 'Pre-tax income' is used as synonymous to 'Market income'. However, in columns (2a) and (2b) of Table 1 we highlight subtle differences between two uses of the word 'pre-tax income' in studies relevant for Belgium.

**Pre-tax income** - in analysis based on household surveys often also labelled '**gross income**' - starts from market or factor income, but includes the 'insurance-based' benefits such as pensions and unemployment benefits (not the other benefits) as deferred labour income. With the elderly population having near-zero factor income, inequality of market or factor income is sensitive to the age structure of the population. 'Pre-tax income' reduces this sensitivity. Evidently, the reverse side of adding these replacement incomes is subtracting social security contributions which pay for these replacement incomes. And this is done in two versions. In the DINA-approach all social security contributions (both paid by employer and by employee) are subtracted from market income. In survey-based analysis however, one often uses the term 'pre-tax income' for the summation of gross employee income, gross capital income and gross replacement income, in which the major component 'gross employee income' still includes the social security contributions paid by the employee (represented in the sub-column 'survey' in column 2 of Table 1).

**Taxable income** refers to the income that is taxable under the (Belgian) personal income tax scheme. It can either be defined in 'gross' or in 'net' terms. Gross taxable income sums all taxable income components before any deduction of professional costs or other tax expenditures in the form of deductions of taxable income. Net taxable income is obtained from gross taxable income after these deductions have been applied.<sup>12</sup> Net taxable income is the income concept which enters the tax brackets of the personal income tax. In Table 1 we have indicated the components of net taxable income. In survey based studies the gross taxable income concepts are often based on concepts after taxes have been paid ('disposable income', see next paragraph). Their gross counterparts are then reconstructed backwards. Administrative databases such as IPCAL (see section 2.2) provide detailed information on gross taxable labour income and gross taxable replacement income. However, since capital income is mainly taxed at source, it does not appear on the tax declaration, and is absent from administrative data. This stands in contrast with survey information where, at least in principle, also taxable capital income should be available.

**Disposable income** is obtained by summing all market incomes and all transfers and benefits, including those that are not taxable, and subtracting social security contributions and the total of income taxes paid. It is income available for consumption expenditures and saving. This income concept is used by the statistical office of the European Union (Eurostat) to compute the official poverty and inequality figures for Belgium (and all other EU-countries).

---

<sup>12</sup> In section 3.3 we will show how (frequent) changes in the tax legislation concerning these deductions affects the wedge between gross and net taxable income, and hence complicates the interpretation of the evolution of taxable income and the inequality analysis based on this income concept. Differences in tax legislation across countries also hampers international comparisons.

## 2.2 Datasets

Different primary datasets are used in Belgian inequality analysis. Table 2 indicates that the choice of dataset depends on the income concept of interest. The aggregate information in the national accounts, for instance, can only be used to study the labour and capital share in national income. Datasets with information at the level of individuals or households can be derived from administrative registers, from surveys or from a combination of both.

Table 2 Overview of the main datasets used by the studies in this review

| Data-set | Type                          | Period                   | Market income | Pre-tax Income | Taxable income | Disposable income |
|----------|-------------------------------|--------------------------|---------------|----------------|----------------|-------------------|
| NA       | Admin. + Survey               | 1953 <sup>13</sup> - ... | •             |                |                |                   |
| SES      | Survey                        | 1999 - ...               |               | •              |                |                   |
| IPCAL    | Admin.                        | 1970 - ...               |               |                | •              |                   |
| SEP      | Survey                        | 1985, 1988, 1992, 1997   |               |                |                | •                 |
| ECHP     | Survey                        | 1994 - 2001              |               |                |                | •                 |
| SILC     | Admin. <sup>14</sup> + Survey | 2004 - ...               |               |                |                | •                 |

Note: The dataset acronyms stand for National Accounts (NA), Structure of Earnings Survey (SES), Impôt des Personnes Physiques Calculables (IPCAL), Socio-Economic Panel (SEP), European Community Household Panel (ECHP) and Statistics on Income and Living Conditions (SILC).

Data from **national accounts** are primarily used in inequality research to determine the labour and capital share of total national income. Recently, a new research agenda was set-up to distribute the national account aggregates over the population by inserting or linking distributional info at the micro-level into or with the macro aggregates, the so-called Distributional National Accounts (DINA).<sup>15</sup>

The **administrative dataset** IPCAL has mainly been exploited in inequality analysis performed by the Belgian Ministry of Finance.<sup>16</sup> The IPCAL dataset was the source for Belgian inequality data provided to the OECD for the 1980s. This tax register dataset contains all information provided by Belgian residents when declaring their taxable income. Administrative data on individual capital and income from capital is largely lacking, since Belgium does not have a comprehensive wealth register. Moreover, capital income is -largely- taxed at source and hence not included in tax returns. An alternative administrative dataset is the Datawarehouse Labour Market and Social Protection of the Crossroads Bank for Social

<sup>13</sup> In Belgium, the national accounts are available since 1953. However, due to changes in the accounting conventions (known as the ESA-standards), the NA's regularly have to be revised backwards to produce a coherent series. For the ESA-standard currently in use (ESA2010), the backward revision and adaptation to the latest standard has only been done up to 1995.

<sup>14</sup> Since 2019, several income variables in SILC are no longer surveyed but derived from administrative tax registers.

<sup>15</sup> Constructing DINA for Belgium is part of the BE-PARADIS research project, mentioned in footnote 1. Since 2017, there are first estimates of inequality indicators for Belgium, based on the DINA methodology, produced by the team of The World Inequality Database; see <https://wid.world/country/belgium/> and the discussion of these results in section 3.1. Since 2019, also the National Bank of Belgium is involved in the construction of DINA, along the methodological choices made in a joint OECD-Eurostat "Expert Group on Disparities in a National Accounts Framework" (see Zwijnenburg, 2019; Zwijnenburg et al. 2021 and <https://www.nbb.be/doc/dg/e/dq3/histo/neme1519.pdf> for a memo on the Belgian research project). At the time of writing no results have been published yet.

<sup>16</sup> IPCAL stands for "Impôt des Personnes Physiques Calculables" and originally also referred to the arithmetic microsimulation model to "calculate" this personal income tax at the level of the tax unit. Since then, the abbreviation "IPCAL" has mainly been used to indicate the underlying dataset.



Security which contains information from Social Security Agencies on personal characteristics, (in)activity status and related income components. To the best of our knowledge, this dataset has not yet been exploited for inequality analysis in Belgium.

Most Belgian inequality studies rely on representative **survey data** and cover the total population of Belgian residents.<sup>17</sup> Three – more or less consecutive – surveys, the Socio-Economic Panel (SEP), the European Community Household Panel (ECHP) and the Statistics on Income and Living Conditions (SILC), have been used to analyse the distribution of – mainly - disposable income. The SEP was conducted in 1985, 1988, 1992, and 1997, the ECHP ran yearly from 1994 to 2001, and the SILC started in 2004 and is still carried out every year.<sup>18</sup> As of 2019, only a minority of the income variables is being surveyed and administrative data are used for the majority of income variables in SILC. The Structure of Earnings Survey (SES) is used to analyse individual earnings. The survey provides accurate information on earnings of individuals employed in enterprises with at least 10 employees.

**Other survey datasets** that include information on the income distribution are, first, the Panel Study on Belgian Households (PSBH), which is used in one study on inequality (Proost et al., 1996) and is the original survey dataset from which the ECHP has been produced. It ran from 1992 to 2002.<sup>19</sup> Second, the Household Budget Survey (HBS), which focuses mainly on expenditure patterns, also contains a section on net (disposable) incomes.<sup>20</sup> Third, the Eurosystem Household Finance and Consumption Survey (HFCS) mainly focuses on mapping the distribution of net wealth and has been carried out in 2010, 2014, 2017, and 2020 with gross income information referring to the prior year. Fourth, the Survey of Health, Ageing and Retirement in Europe (SHARE) focusses on people aged 50 or older and has been carried out biennially since 2004. Fifth, in 2016 the Measuring Equivalent Incomes (MEqIn) survey was carried out to study multidimensional well-being in Belgium (see Capéau et al., 2018).

It is well documented that the income data from household surveys tend to suffer from under-representation at the tails of the income distribution, mainly due to unit non-response (Ravallion, 2022). Another important issue that hampers the representativeness of income data is item non-response (for survey data), and item non-inclusion (for administrative data). First, item non-response refers to income components which are not well-captured in income surveys, such as employer-provided fringe benefits (e.g., company cars, extra-legal pensions), (imputed) rent from owner-occupied housing, in-kind benefits received from public services (e.g., education, health care, social housing, childcare and elderly care), income from capital and capital gains. While the inclusion of the private use of company cars may only have a rather small (increasing) effect on inequality, taking account of in-kind benefits that individuals derive from the provision of publicly provided services

---

<sup>17</sup> Residents from institutional, or collective households are typically not included (e.g., inmates, elderly people in residential care etc.).

<sup>18</sup> For SEP, the survey year and income year are identical. This is not the case for ECHP and SILC where the incomes of year Y are surveyed in year Y+1. Combining and harmonising these datasets is part of the BE-PARADIS project. In a Technical Note, documenting the BE-PARADIS dataset we extensively document the datasets used in the BE-PARADIS-project (Assal et al., 2022).

<sup>19</sup> In the BE-PARADIS-project we opted to use the ECHP and not the PSBH, since it is the ECHP which is used by international organisation such as OECD or research institutes such as the Luxembourg Income Study (LIS) to chart inequality in Belgium during that period.

<sup>20</sup> The first versions of the Belgian HBS date back to the 19<sup>th</sup> century. In 1956 a first large scale and representative survey was held, repeated in 1977 and 1988. From 1995/96 till 2010 the survey was held yearly. Since then it is organised bi-annually.

generally has a large downward impact on inequality (see, e.g., OECD (2008); OECD (2011); and Verbist & Förster (2019) for international comparisons including Belgium). Including imputed rent also tends to have an equalising effect since it often increases the income of older persons. Second, in administrative data, the non-inclusion of certain income components is the consequence of the income sources being exempt from taxation or for which taxes are withheld at source. This is, for instance, the case for capital income, which generally increases inequality when included.

The primary datasets discussed above have been used as inputs for influential international secondary databases such as the Luxembourg Income Study (LIS) Database, the OECD Income Distribution Database (IDD), the Eurostat database, the macro-economic database of the European Commission (AMECO), the World Bank database, the World Inequality Database (WID) at the Paris School of Economics and the UNU-WIDER World Income Inequality Database (WIID). The Belgian data for the LIS Database are all based on the SEP, ECHP and SILC, but have distinct cleaning processes. WID presents the statistics based on the DINA. These DINA also use the three standard income datasets for Belgium, but besides its core feature of distributing total net national income from the National Accounts, the microdata are adjusted in other important ways, such as performing a top tail correction using tax register data.

### 2.3 Reference period

Income is a flow concept and, hence, one must choose a **reference period** over which this flow is measured. Most studies choose one month or one year (income from employment is sometimes also studied in terms of hourly wages). Although longer periods, such as the entire life cycle are theoretically possible (and attractive), we did not find studies taking a life cycle perspective using Belgian data. Once a reference period is fixed, one can choose to construct an income concept including income components related to (or ‘earned’ during) that reference period or received and paid during the reference period.

It should be noted that monthly income is generally not equal to yearly income divided by 12. This is probably most clearly so for disposable income. Indeed, it includes also income components which are received only once a year (such as education allowances which are received at the beginning of the school year). Also for taxes the reference period plays a role. When monthly incomes are used withholding taxes are deducted, while yearly incomes can either take into account the withholding tax or the final personal income tax.<sup>21</sup> Yet, also for the other income concepts the reference period matters. This is first because people can transition between activity statuses during the year, e.g., someone who is unemployed for 11 months and employed for 1 month will have a different income if surveyed about the 1 month employment compared to her yearly income. Yet, even for individuals employed for the full year there is a difference between monthly and yearly incomes due to the inclusion of for instance holiday allowances and end-of-year bonuses.

---

<sup>21</sup> An annual settlement compares the individual deducted withholding taxes with the total taxes that a tax unit has to pay. A tax adjustment is calculated and repaid/received with a delay. When choosing a calendar year as reference period, one has to choose how to take the “delayed” tax adjustment into account: one can take the tax adjustment into account related to the income earned during the reference year or the tax adjustment repaid/received during the reference year.

With regard to the survey data, the SEP asks for monthly incomes, while the ECHP and SILC ask for yearly incomes. Asking for monthly incomes has the benefit of being less prone to recall bias, while asking for yearly incomes gives a broader overview of all the income available to individuals or households. Most studies included in this review rely on a yearly reference period.

### 2.4 Reference unit

Next to selecting an income concept and reference period, any study of income inequality which goes beyond the functional distribution, needs to define the **reference unit**. Income inequality can be analysed at the level of the individual or at the household level, be it defined in a sociological way or as a tax unit. A tax unit consists of those people jointly filing a tax declaration. A tax unit consists of a single person or a (married or legally cohabiting) couple. A sociological household consists of all people who live under the same roof. One sociological household may consist of several tax units (e.g., two adults who are not married nor legally cohabiting are separate tax units, but may compose one sociological household).

Which reference unit is more appropriate depends on the research question at hand. However, for most considered studies in Belgium, the reference unit is connected to the choice of the income concept, see Table 3. Most databases or studies about the labour market take individuals as reference unit and focus on market income as income concept. The same holds for the pre-tax income concept, based on this labour income and on the individually paid social security contributions.<sup>22</sup> Tax register data, on the other hand, are collected by the tax authorities and are organised on the basis of tax units to measure taxable income. Household surveys, finally, are organised in sociological households and focus on disposable income. Often only the total income at the level of the sociological household is observed in household surveys.

Table 3: Overview of reference units used by the studies in this review

| Reference unit         | Market income | Pre-tax income | Taxable income | Disposable income |
|------------------------|---------------|----------------|----------------|-------------------|
| Individual             | ●             | ●              |                |                   |
| Tax unit               |               |                | ●              |                   |
| Sociological household |               |                |                | ●                 |

Note: The circles indicate which reference unit is connected to which income concept for most studies in Belgium.

Conceptually, however, researchers are mostly interested in measuring **inequality among individuals**, rather than households. At least two assumptions need to be made to convert an income distribution that is observed at the level of (sociological) households into a distribution of individuals. First, the most common assumption is that household members pool incomes and divide the total equally. This assumes away any intra-household inequality. Second, an assumption is made about how to correct for differences in household size and composition. This correction is done by dividing total household income by a so-called equivalence scale. Clearly, a household of four members needs more income

<sup>22</sup> Obviously the same caveat about a stylised and simplified presentation as the one made for Table 1 holds here. Some replacement incomes are not individual, but household oriented, and also some (limited) social security contributions are not levied at the level of the individual.

than a single person for its members to be able to reach the same material well-being as this single. The equivalence scales determine how much more income is needed. The most common equivalence scale used in research in the European Union is the modified OECD equivalence scale, which is the sum of 1 for the first adult, plus 0.5 for every person of 14 or older, other than the first adult, and 0.3 for every child younger than 14. A household of four members (two adults and two young children) thus obtains an equivalence scale of 2.1. That means that it is assumed that an income of 2,100 euro is needed for the members of this household to reach the same material well-being level as a single with an income of 1,000 euro. Some studies use alternative equivalence scales, such as the square root of household size (which is used by The Luxembourg Income Study Database, for instance).

## 2.5 Quantifying income inequality

Various measures have been used to summarise income inequality in Belgium. The Gini coefficient, income shares (and ratios thereof), and interdecile ratios are the most commonly used. All these measures take a relative perspective on inequality according to which an increase of all incomes with the same percentage leaves inequality unaltered.<sup>23</sup>

The most often used **inequality measure** is the Gini coefficient. This measure considers the pairwise income differences between all observations and expresses inequality in a number ranging between 0 (complete equality) and 1 (complete inequality). One of the properties of the Gini coefficient is that it is most sensitive to income differences in the densest part of the distribution, which in the case of income is around the middle. A generalisation of the Gini-coefficients to make it more sensitive to changes at the bottom or the top of the distribution exists (Weymark, 1981), but is rarely used in empirical studies. This stands in contrast with the use of inequality measures from either the Generalised Entropy class or from the Atkinson-family. In both cases these measures include a parameter that can be set to determine the sensitivity of the measure to changes in different parts of the distribution, and sensitivity analysis with respect to this parameter is more common. For the Generalised Entropy class of measures, one often sets the parameter to 1, which is originally known as the Theil coefficient. The choice of the value of the parameter for the Atkinson index, can be informed or inspired by the underlying normative perspective of this measure as the extent of inequality aversion. Indeed, the Atkinson-index can be interpreted as the share (between 0 and 1) of total income which could be sacrificed without reducing social welfare, if the remainder of the income would be distributed equally.

The **income share** is calculated as the share in total income that is held by a particular group. An often-used measure is the top 1 percent income share, which captures the income share that goes to the richest 1 percent of the population. The so-called Palma ratio is defined as the ratio of the income share of the richest 10% divided by the income share of the poorest 40%. Also other share ratios such as for instance the share of the top 20% over the share of the bottom 20% (S80/S20) are often used.

An **interdecile ratio** is a measure of dispersion that is often used to measure earnings inequality. It is computed as the ratio of specific quantile values. Quantile values are cutting points that divide the

---

<sup>23</sup> It would be interesting to complement this perspective with an alternative absolute perspective on inequality (according to which an increase of all incomes with the same monetary amount leaves inequality unaltered).

distribution in a number of parts with an equal number of observations, e.g., percentiles divide the distribution in 100 parts, deciles in 10 parts, quintiles in 5 parts,... Often used quantile values are, e.g., D9 for the value where the upper decile starts, D5 for the median and D1 for the value where the bottom decile ends. In describing earnings inequality one often uses the D9/D5 ratio, for example. Other interdecile ratios that are often used are the D9/D1 ratio or the D5/D1 ratio.

Besides the interdecile ratios, the OECD summarises dispersion in the earnings distribution by indicators of **low and high pay incidence**. The incidence of low pay is computed as the percentage of full-time employees earning less than two-thirds of median earnings of all full-time employees. The incidence of high pay, on the other hand, refers to the share of full-time employees earning more than one-and-a-half time median earnings.

### 3. Results

In this section, we bring together the existing evidence on income inequality in Belgium. On the one hand, we review the main findings from academic papers covering (the evolution of) income inequality in Belgium. On the other hand, we rely on publicly available databases which include figures on the income distribution in Belgium. The papers and publicly available data sources are often based on one of the primary datasets (as described in Section 2.2), possibly after some cross-country data harmonisation and/or outlier treatment. This section is organised by income concepts (as described in Table 1).

#### 3.1 Market or factor Income

The functional distribution of market income between labour and capital, as registered as an aggregate in the national accounts, is regularly produced. This contrasts with the distribution of market income at the household or individual level, which is - to the best of our knowledge – only documented by the OECD.<sup>24</sup>

Table 4 Overview of papers and databases, covering the distribution of market income

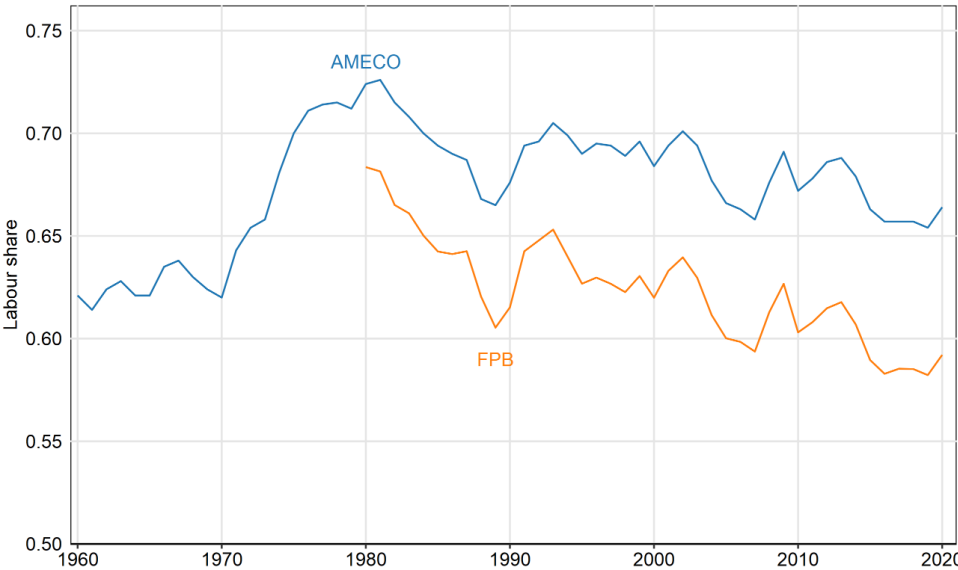
| Source                            | Database or paper | Period          | Summary measure |
|-----------------------------------|-------------------|-----------------|-----------------|
| AMECO                             | Database          | 1960-... (2020) | Labour share    |
| OECD Income Distribution Database | Database          | 2004-... (2019) | Gini            |
| Valenduc (2017)                   | Paper             | 1995-2015       | Labour share    |
| Federal Planning Bureau (2018)    | Paper             | 1980-2020       | Wage share      |

<sup>24</sup> Note that the Eurosystem Household Finance and Consumption Survey (HFCS) dataset, which is collected in 2010, 2014, 2017, and 2020, contains information on the distribution of wealth in Belgium (see Kuypers & Marx, 2020, 2017 and 2014), and that the recent publications in the World Inequality Database do take into account the distribution of capital income.

The labour share, which is measured as the share of income from labour in total national income, is valued in many different ways. In the AMECO macro-economic database, for instance, one finds a series of the so-called ‘adjusted’ labour share at factor costs, from 1960 onwards.<sup>25</sup>

Figure 1 shows its trend for Belgium. While the labour share in Belgium has increased sharply in the 1970s, from 62.0% to 71.2%, it shows a pronounced decrease from 72.4% to 66.5% since 1980.<sup>26</sup> The Federal Planning Bureau (FPB) periodically publishes another related labour share indicator in their economic outlook reports. This labour share is calculated as the cost of employment over the added value in the private sector.<sup>27</sup> Also this labour (or wage) share declined substantially from the 1980s onwards (Federal Planning Bureau, 2018). Figure 1 illustrates furthermore how the statement that the labour share in Belgium declines depends on the starting point of the time period considered.

Figure 1 Labour share in Belgium



Note: The ‘adjusted’ labour share in AMECO (ALCD2-variable) is equal to the share of a full-time equivalent compensation per employee to the gross domestic product per full-time equivalent employed person (employees + self-employed). The labour share of the Federal Planning Bureau is a ratio of cost of employment in the private sector divided by the value added in the private sector and is reproduced with the underlying data from Figure 19 on p. 44 in the economic outlook report of Federal Planning Bureau (2018).

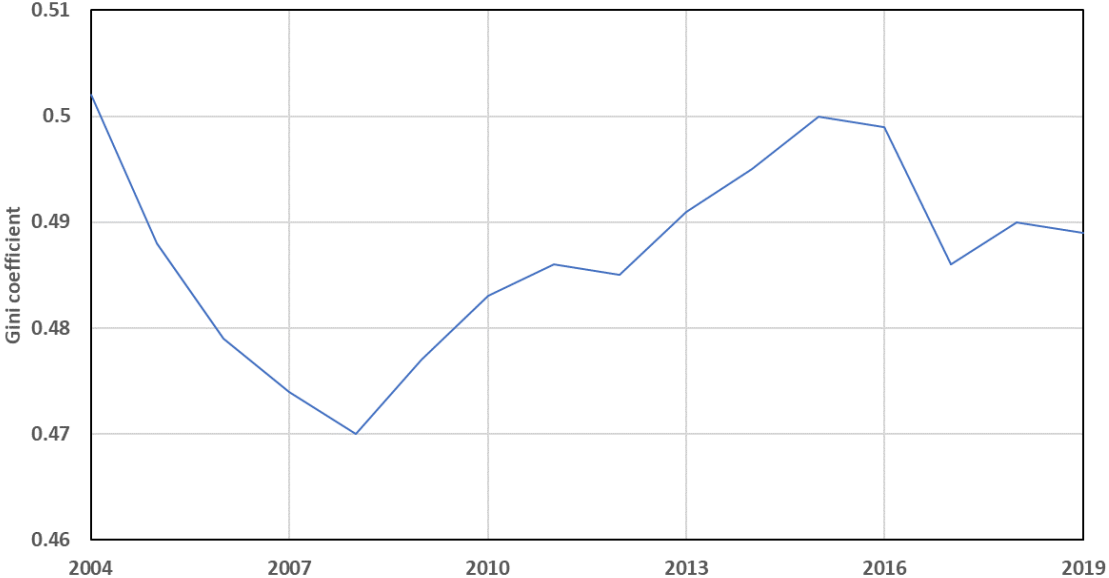
<sup>25</sup> Net national income can be decomposed into four components: compensation of employees (pure labour income), pure capital income (net of depreciation), net mixed income (income of self-employed) and production taxes. The ‘adjusted’ labour share (ALCD2-variable in AMECO) is corrected for self-employment income (i.e. mixed income). Because it is not obvious how to divide self-employment income into labour and capital income, the adjusted labour share excludes mixed income. It is defined as the share of a full-time equivalent compensation per employee to the gross domestic product per full-time equivalent employed person (employees + self-employed). In the World Inequality Database, the labour share is defined with respect to national income at factor price (that is, one deducts net taxes on products and production from national income) and mixed income is considered to be split into 70% from labour and 30% from capital. For other variations on the theme of labour share definitions, see Section 1 of Valenduc (2017).

<sup>26</sup> See Deleeck (2000), p. 3-4 and Valenduc (2017) for discussion.

<sup>27</sup> The value added in the private sector is based on a classification of industry branches as ‘market-oriented’ or public (like education or health care) and households (see Federal Planning Bureau (2021, p. 78)). The cost of employment takes into account the reductions of social security contributions that are granted to employers.

Figure 2 shows the distribution of market income across households as documented in the OECD Income Distribution Database (IDD). However, note that the definition of market income, as used in the OECD-IDD, slightly differs from how it is depicted in Table 1. It is called market income since no replacement incomes (such as pension or unemployment benefits) are included. The divergence comes from the construction of the labour market income component, which is - according to the OECD definition - after deduction of employer social insurance contributions and before deduction of employee social insurance contributions.

Figure 2 Gini of market income



Note: The market income concept used by OECD differs from the market income concept defined in Table 1. It is called market income since no replacement incomes are included. The divergence comes from the construction of the labour market income component, which is – by OECD - after deduction of employer social insurance contributions and before deduction of employee social insurance contributions.

The underlying dataset used by OECD is the EU-SILC which is available from 2004 onwards. The Gini of market income declines between 2004 and 2008 from 0.5 to 0.47 after which it increases again to 0.5 in 2015. After a brief decline from 2015 to 2017, the Gini was again on a higher level in 2018 and 2019. However, one has to be careful comparing the Gini before and after 2018 since from that year onwards, the EU-SILC market income concepts are mainly based on administrative data sources.

### 3.2 Gross or pre-tax income

The distribution of gross and pre-tax income is documented in respectively the OECD databases and the World Inequality Database (WID). These two income concepts differ slightly and are discussed in section 2.1 (column 2a and 2b in Table 1).

Gross income is mostly used for distributional analyses based on microdata while pre-tax income of WID is based on the DINA-methodology. The latter distributes the total net national income including capital income, after taking into account replacement incomes and social security contributions.

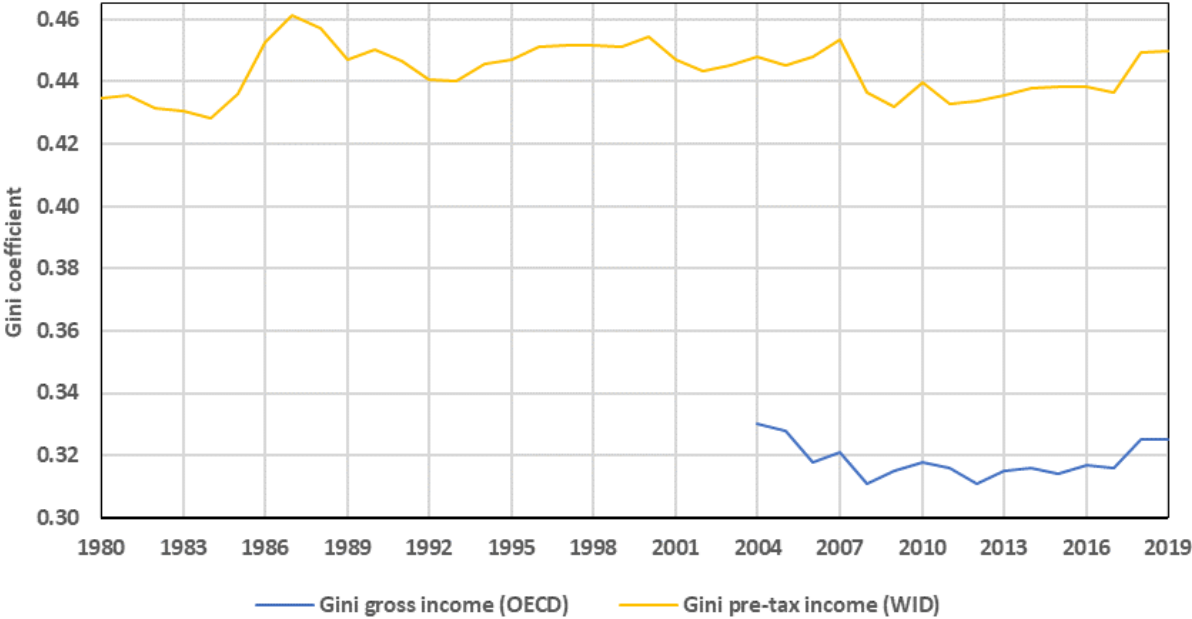
Capital income being invisible in the administrative personal income tax records because of the liberating withholding tax, pre-tax income differs from the taxable income concept underlying the analysis reviewed in the next section 3.3.

Table 5 Overview of papers and databases, covering the distribution of gross or pre-tax income

| Source                                       | Database or paper | Period          | Summary measure  |
|--|-------------------|-----------------|--|
| OECD Employment and Labour Market Statistics | Database          | 1999-... (2018) | Interdecile ratios, incidence of low and high pay, gender wage gap |
| OECD Income Distribution Database            | Database          | 2004-... (2019) | Gini   |
| World Inequality Database                    | Database          | 1980-... (2020) | Gini, income shares  |

In Figure 3 we display the inequality evolution in Belgium with Gini coefficients based on both gross income available in OECD database and the DINA pre-tax income concept available in the World Inequality Database.

Figure 3 Gini of gross and pre-tax income



Note: Pre-tax income according to the DINA-methodology, downloaded from the WID-website on Aug 24 2022.

Not surprisingly, the level of the Gini coefficient of pre-tax income is much higher than the level based on disposable income information which will be reviewed in Section 3.4.<sup>28</sup> But the striking feature of Figure 3 is that this Gini coefficient of pre-tax income does not show a clearly increasing trend. It fluctuates between 0.43 and 0.46. If anything can be concluded from this series, it is that the Gini of pre-tax income in Belgium is declining from 2007 up to 2017. As already mentioned, the increase after 2017 has to be interpreted carefully, since the distributional information used by WID is based on SILC,

<sup>28</sup> See appendix for Gini coefficients on this same pre-tax concept for some selected other countries.



in which the switch to administrative data sources since 2018 certainly has led to the inclusion of many small gross earnings. The Gini coefficient of gross income published in the OECD-IDD shows a similar pattern but at a remarkably lower level. Next to a difference in the composition of the income concept (see above), the major explanation will probably lie in the underrepresentation of capital income in EU-SILC - the underlying dataset of the OECD series - whereas this is corrected in the pre-tax income concept produced by WID in the DINA-framework. Note that the same caveat as the one mentioned above applies to the rise in the Gini of gross income from 2018 onwards as gross income in SILC is mainly based on administrative tax records since then.

In Figure 4, we zoom in on one component of gross income: the gross earnings of full-time employees<sup>29</sup>, defined as their income from labour before subtracting employee social security contributions and personal income taxes. The OECD Employment and Labour Market Statistics database provides several indicators of the dispersion in the distribution of earnings (based on the Structure of Earnings Survey).<sup>30</sup> The database provides three interdecile ratios (D9/D1, D9/D5 and D5/D1) since 1999 and the currently most recent available year is 2019. As can be seen in Figure 4, the three reported ratios remain fairly stable over time. While the interdecile ratio D9/D1 fluctuates around the value of 2.4, the D9/D5 ratio hovers around the value of 1.7 and the D5/D1 ratio around the value of 1.4. The evolution of the interdecile ratios suggests that the Belgian distribution of earnings has remained rather stable over time. Remarkably, however, the D5/D1 and D9/D1 ratio increased considerably the last few years (since 2015) to its highest level in 2019, while the D9/D5 ratio remains more or less stable. This suggests a slower earnings growth at the very bottom (D1) compared to the growth of median earnings (D5) and the growth of earnings at the top of the earnings distribution (D9). It remains to be seen whether this observation indicates a structural trend.

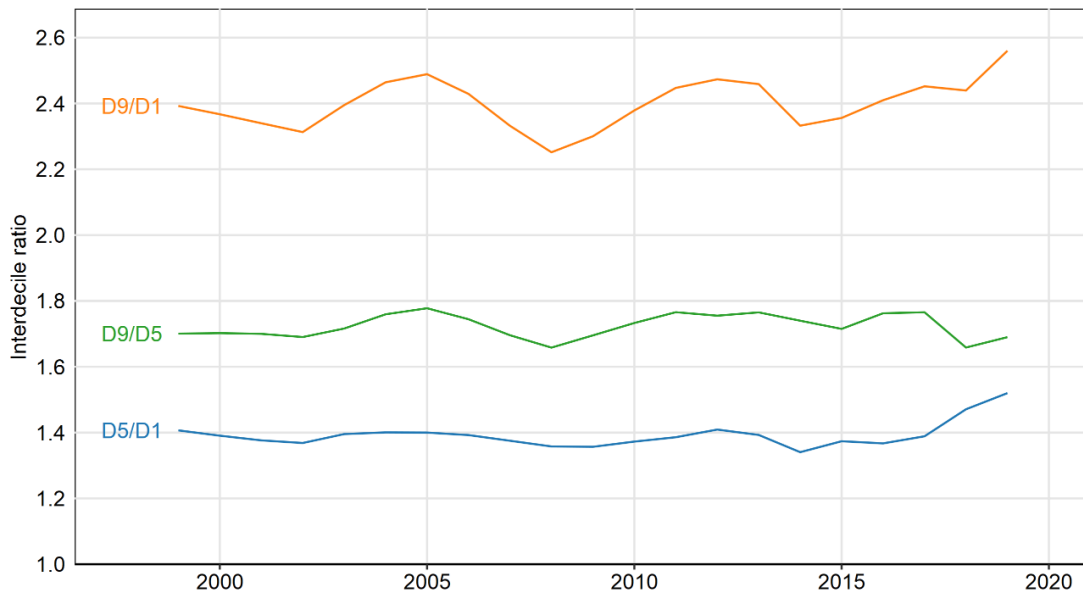
The OECD Employment and Labour Market Statistics database also contains indicators of the incidence of low and high pay, reproduced in Figure 5. It confirms the finding of Figure 4 that in recent years the bottom of the earnings distribution deviated sharply from the previous trend. Until 2017 Belgium had a low incidence of low pay, with a share of around five percent. This indicator has risen sharply in 2018 and 2019 up to nearly 12%. Note that this incidence of low pay is still below the OECD average of 14.4%. The incidence of high pay has been relatively stable at around 11% to 14%, which is also low compared to an OECD average of around 23%.

---

<sup>29</sup> Since the reference units are full-time employees, earnings are equivalent to wages.

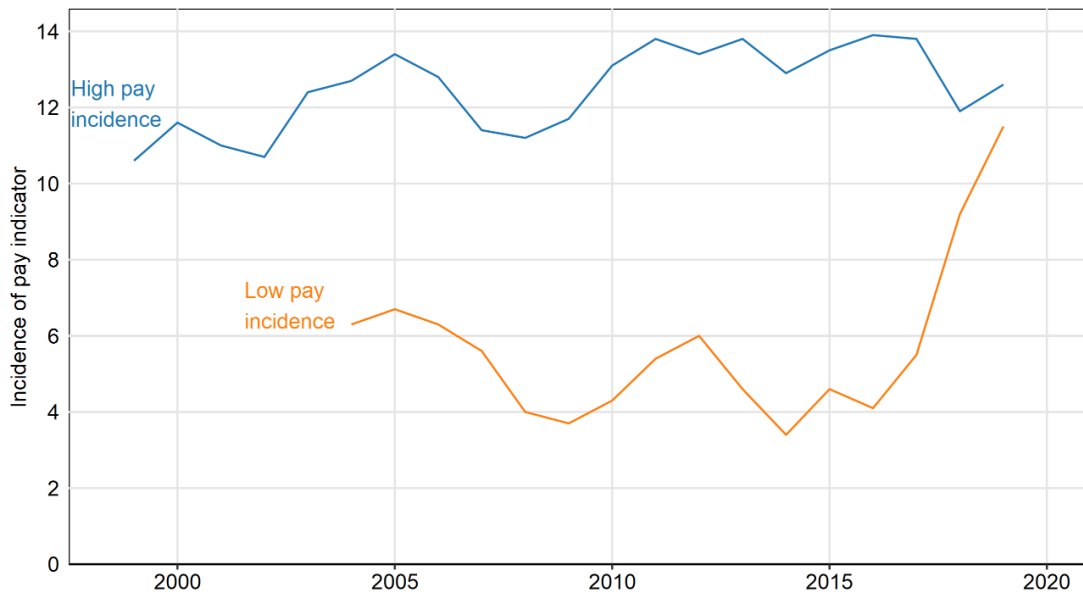
<sup>30</sup> The following sectors are covered in the Structure of Earnings Survey: manufacturing; construction; wholesale and retail trade; transportation and storage; accommodation and food service activities; information and communication; financial insurance activities (NACE Rev. 1 sections C-K) for the reference years 1999 - 2008 and, from reference year 2009 onwards, also real estate activities; professional, scientific and technical activities; administrative and support service activities (NACE Rev. 2 sections B-N). Other sectors, as for example the public sector and education sector (NACE Rev. 2 section O and P) are excluded.

Figure 4 Interdecile ratios for earnings



Note: the interdecile ratios are based on gross earnings of full-time employees. Source: OECD

Figure 5 Incidence of low and high pay

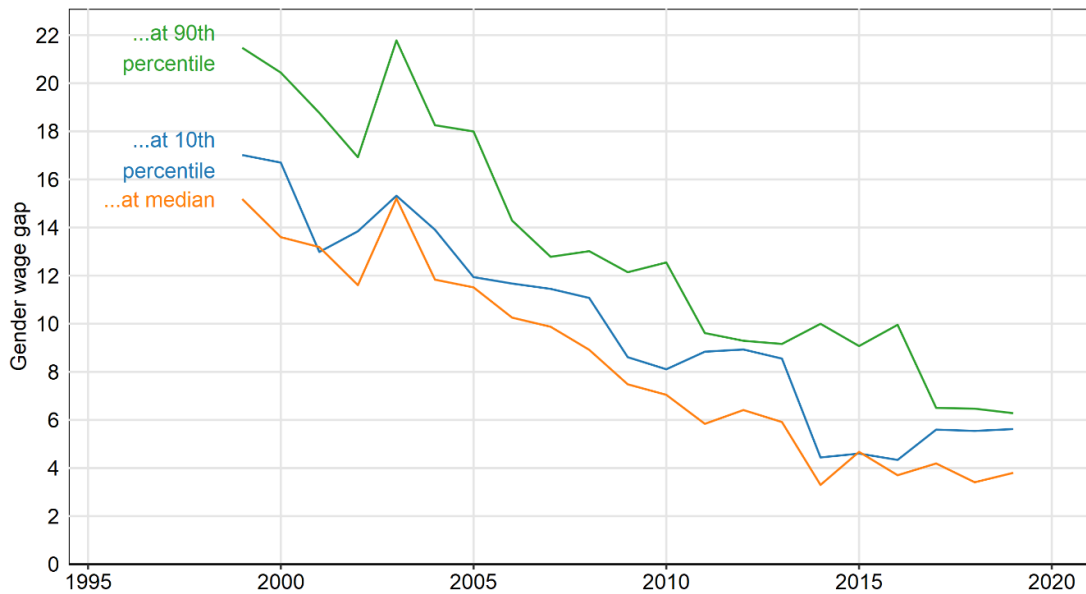


Note: the incidences are based on gross earnings of full-time employees. Source: OECD

The gap in earnings between male and female workers has reduced remarkably since 1999. Figure 6 shows the OECD gender wage gap at three quantile values (D1, D5, and D9). The OECD defines the gender wage gap as the difference between the earnings of male and female full-time employees and self-employed at a given quantile value relative to earnings of male full-time employees and self-employed at the same quantile value. As can be seen from the figure, the gender wage gap at the three quantile values has been reduced considerably over the last 20 years. Over the considered period, the

gender wage gap remains largest at the upper end of the earnings distribution (at D9) and is lowest at the median (at D5).<sup>31</sup>

Figure 6 Gender wage gap at D1, D5 and D9



Note: the gender wage gap is based on gross earnings of full-time employees and self-employed.

Source: OECD

### 3.3 Taxable income

A few studies have used administrative tax register (IPCAL) data to document income inequality in Belgium. These studies (OECD, 2012, Decoster et al., 2017 and Valenduc, 2017) focus on the taxable income concept (see Table 1) and rely on both gross taxable income (GTI) as well as on net taxable income (NTI). Also Statbel and recently WID publish inequality indicators based on taxable income on their websites. Net taxable income is the income concept which enters the tax brackets and is obtained from gross taxable income after deduction of professional costs and other tax deductions. Frequent changes in the Belgian tax legislation hamper the comparability over time.<sup>32</sup> Also GTI comes with its own caveats. First, since in Belgium most incomes from capital are not declared on the tax form, but taxed separately by a liberation withholding tax, this administrative base on incomes lack information on an important income concept. And second, the definition of what enters into GTI also changes over time.

<sup>31</sup> The Belgian Statistical Office (Statbel) publishes figures on the gender wage gap that are calculated in a slightly different way. The wage gap is based on hourly or full-time equivalents wages instead of earnings of full-time employees. These figures are in line with the OECD figures of a closing gender wage gap in Belgium, with an overall gender wage gap of 5.3 in 2020. See website of Statbel for more details on the calculation method: <https://statbel.fgov.be/en/themes/work-training/wages-and-labourcost/gender-pay-gap>

<sup>32</sup> An important example is the policy switch in 1992 in the favourable tax treatment of replacement incomes from the use of tax deductions (leading to a lower net taxable income) to the use of reductions of the tax liability (which, for given gross income now leads to a higher net taxable income). The tax deductions and reductions can be designed in such a way that for given gross taxable income, the disposable income after taxes remains the same.

Table 6 Overview of papers and database, covering the distribution of taxable income

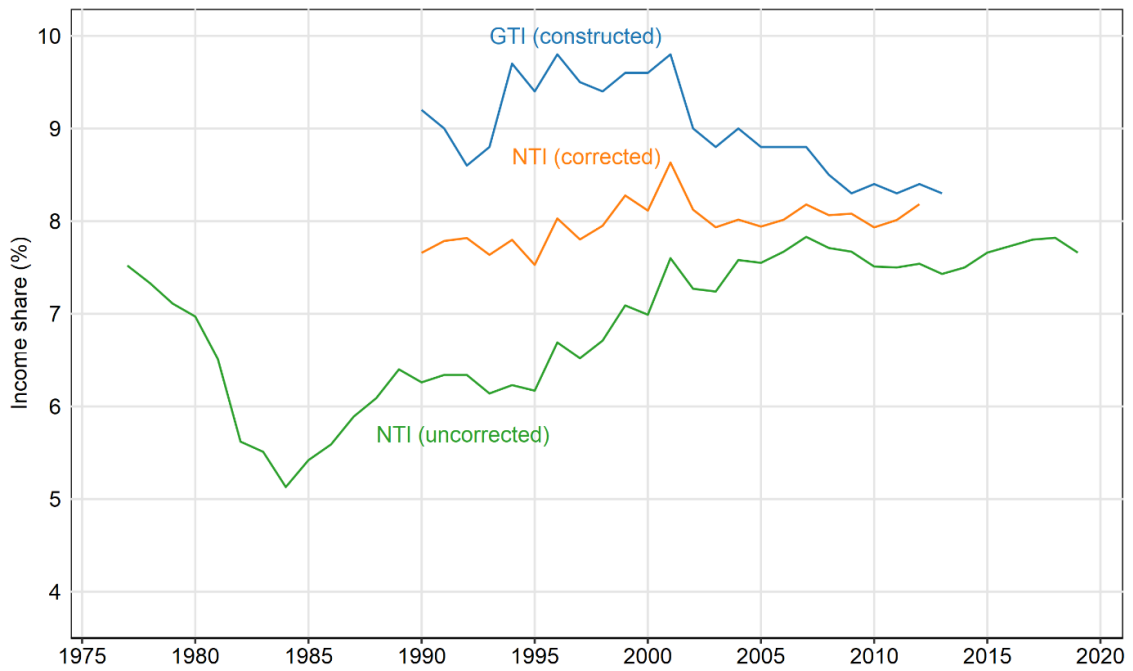
| Source                 | Database or paper | Year(s)         | Summary measure |
|------------------------|-------------------|-----------------|-----------------|
| Statbel                | Database          | 2005-... (2019) | Income shares   |
| Decoster et al. (2017) | Paper             | 1973-2014       | Income shares   |
| Valenduc (2017)        | Paper             | 1995-2015       | Gini            |

The unit of observation in the IPCAL tax register data is the tax unit (see Table 3). In principle, an administrative tax register dataset such as IPCAL has the advantage to include all Belgian residents. In reality, however, not all residents were included in the data before the 2000s. Notably those tax units with incomes too low to benefit from any tax reduction were not included. Because of the introduction of certain refundable tax credits, as well as the improved database management at the Ministry of Finance, the number of tax units in the data has grown over time to practically include the entire population of Belgian residents (see Decoster et al. 2017 and Valenduc, 2017 on this problem of unit non-inclusion). The gradual inclusion of these tax units (at the bottom of the distribution of taxable income) makes that comparisons of the distribution of taxable income over time are difficult and should be done with care, when no corrections for this unit non-inclusion are performed. Decoster et al. (2017) and Valenduc (2017) corrected the income distribution to analyse the evolution of the distribution of taxable income, both using a different methodology. Valenduc (2017) mimic the situation of the beginning of the period of his analysis (1982) by ignoring zero and low incomes in later periods, whereas Decoster et al. (2017) mimic the reference population of the last years by filling the bottom of the distribution of the earlier years with zero taxable incomes.

Figure 7 and Figure 8 focus on the findings about the top income shares of the distribution of net and gross taxable income (the share of total taxable income that goes to the 1 or 10 percent richest households) based on administrative data. The top share has received considerable interest in the academic literature and public debate as a measure of inequality in the wake of the seminal work by Atkinson & Piketty (2010) and Atkinson et al. (2011), which documented a sharp increase in top 1 percent income share since 1980 in the US (and other Anglo-Saxon countries). We present shares for several underlying income concepts. The most readily available concept is NTI, since published by Statbel yearly on their website. At first sight, also in Belgium, the top shares of net taxable income (NTI) display an increasing trend. In Figure 7 and Figure 8 the lines labelled 'uncorrected NTI' decreased between 1977 and 1982, but then gradually increased to their 1977-level by 2004 and then plateaued afterwards.

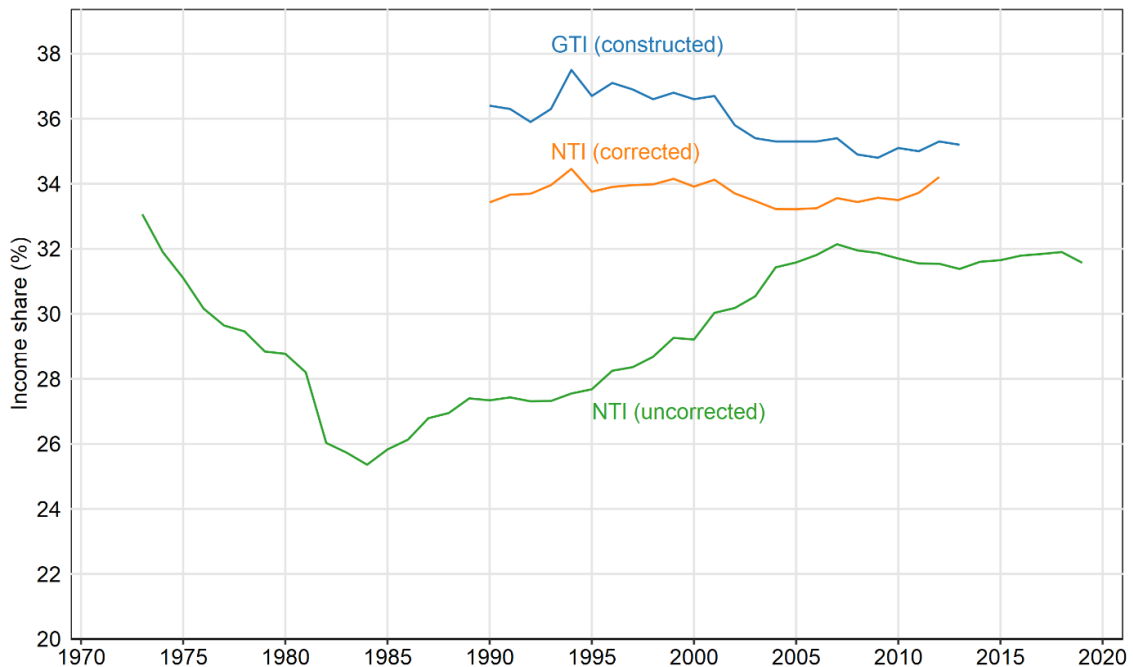
However, at least part of this increase seems to have to do with the issue of unit-non-inclusion, mentioned above. Indeed, Decoster et al. (2017) constructed an adjusted trend of NTI by removing the effect of the gradual inclusion of tax units with a low income (see the line 'NTI corrected' in Figure 7 and Figure 8). The corrected top shares of the net taxable income distribution are still showing an increasing, albeit much less sharply increasing, trend. With the help of Statbel, Decoster et al. (2017) also reconstructed gross taxable income. The top shares in this reconstructed gross taxable income are larger, but now even mildly decreasing from 1990 to 2013.

Figure 7 Top 1% share of net and gross taxable income (NTI and GTI)



Note: For the 'uncorrected NTI', the shares are taken from Decoster et al. (2017) until 2015 and from the website of the Belgian Statistical Office (Statbel) for 2016-2019. Shares for 'NTI corrected' and for 'GTI constructed' are taken from Decoster et al. (2017).

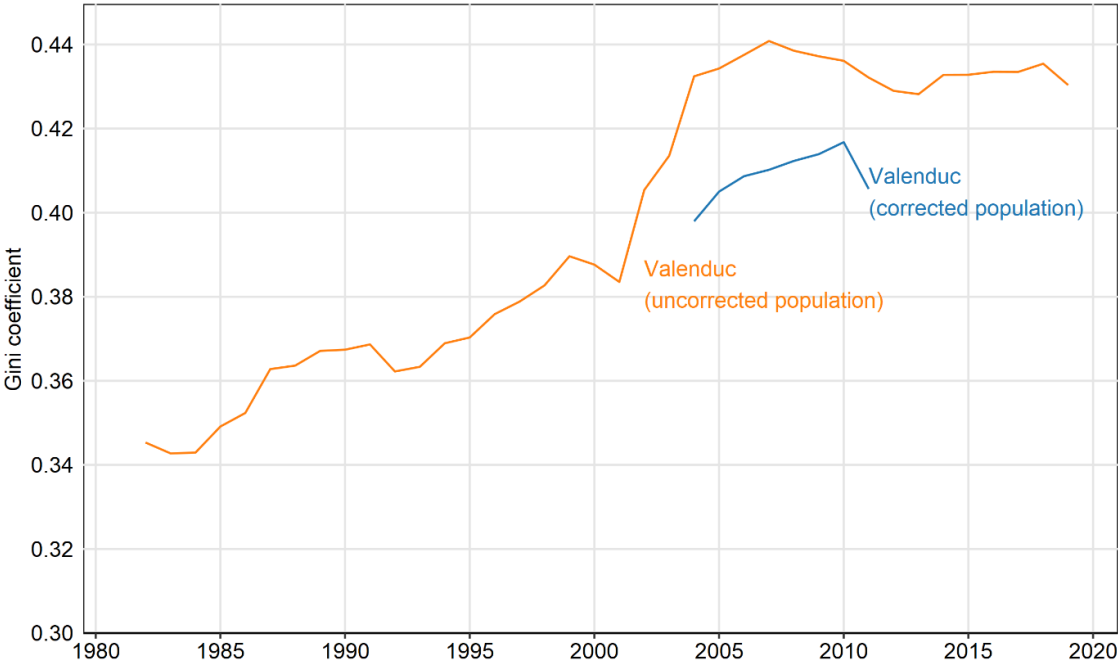
Figure 8 Top 10% share of net and gross taxable income (NTI and GTI)



Note: For the 'uncorrected NTI', the shares are taken from Decoster et al. (2017) until 2015 and from the website of the Belgian Statistical Office (Statbel) for 2016-2019. Shares for 'NTI corrected' and for 'GTI constructed' are taken from Decoster et al. (2017).

The administrative tax data have also been used to calculate Gini coefficients. Until some years ago, Statbel published a time series of Gini coefficients of net taxable income on its website. This Gini coefficient was calculated on the strictly positive incomes (not taking the many zero incomes into account) from 1990 onwards and showed an increasing trend. The graph is no longer available online, but can be found in, e.g., OECD (2012). Based on Valenduc (2017) we once more illustrate the sensitivity of the results for the issue of unit-non-inclusion in Figure 9. The series in Valenduc (2017) portrays the evolution of Gini coefficients of gross taxable income. It shows an increasing trend from 1982 until the early 2000s after which the Gini remained rather stable until 2014. To correct for the increasing number of tax returns the years before, Valenduc (2017) adjusted the income distribution of 2004-2009.<sup>33</sup> This adjustment shows that at least part of the increased level of the Gini during that period has to do with the gradual increase of tax units in the data.

Figure 9 Gini of gross taxable income



Note: The Gini coefficients are taken from Valenduc (2017). The Gini of the ‘corrected population’ is based on a mimicked population

Our conclusion about the evolution of inequality in Belgium based on these taxable income concepts is that one has to be very careful when using the underlying data at face value. The increasing trend of inequality found without corrections, mostly does not stand up to deeper analysis of changes in legislation, in non-reported income or in the registered population.

<sup>33</sup> The tax reduction for dependent children was turned into a refundable tax credit (the so-called “Reynders” reform).

### 3.4 Disposable income

Household disposable income received most attention in the income inequality literature on Belgium. Table 7 gives an overview of all studies and publicly available databases covered in this section on disposable income. All studies rely on one (or more) household surveys as data source (notably SEP, ECHP or SILC; see Table 2).<sup>34</sup> All studies and databases account for household size by applying an equivalence scale (generally the modified OECD equivalence scales). Within the WID DINA framework however it is now common to split all household incomes equally among the adults in the household, or among the partners in a couple.

In the reviewed studies or databases, inequality is mostly measured by the Gini coefficient, although some studies use the Theil measure, the Atkinson index, or interdecile ratios. We reproduce the most striking and relevant results of a selection of the papers listed in Table 7 in Figure 10 and Figure 11. Figure 10 shows the results obtained by published articles and working papers, and in Figure 11 we bring together Gini coefficients from publicly available databases. The results based on the Atkinson and Theil inequality indices can be found in Figure 12. Studies based on data from SEP are indicated with a circle, studies from ECHP are indicated with a square and studies from SILC are indicated with a diamond. Since the incomes of the previous year are surveyed for ECHP and SILC, the indicated years in the figures refers in some cases to the income year and in other cases to the survey year. Some papers and datasets use the income year as reference point, others the survey year. We do not harmonise these possible inconsistencies and replicate the years as how they were published.

Table 7 Overview of papers and databases covering the distribution of disposable income

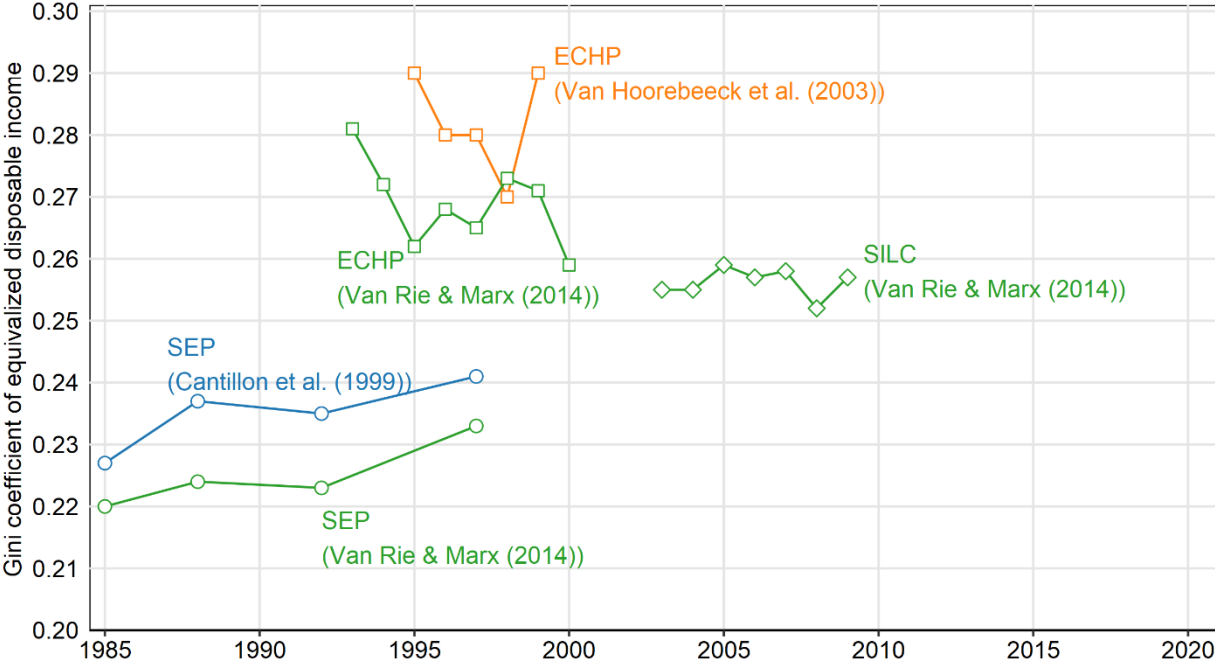
| Source                                  | Database or paper | Year(s)         | Summary measure  |
|---|-------------------|-----------------|--|
| Cantillon et al. (1993)                 | Paper             | 1985-1992       | Gini, Theil index  |
| Cantillon et al. (1999)                 | Paper             | 1985-1997       | Gini, Theil index, interdecile ratio (D9/D1, D9/D5)                                      |
| Van Hoorebeeck et al. (2003)            | Paper             | 1995-1999       | Gini, income share ratio (S80/S20)   |
| Horemans et al. (2011)                  | Paper             | 1985-2007       | Gini, Theil index, interdecile ratio (D9/D5)   |
| Cantillon et al. (2014)                 | Paper             | 1994-2010       | Gini   |
| Van Rie & Marx (2014)                   | Paper             | 1985-2009       | Gini, Theil index, interdecile ratio (D9/D5, D5/D1)                                      |
| Eurostat                                | Database          | 1995-... (2021) | Gini, income share ratio (S80/S20, S80/S50, S40/S100)                                    |
| OECD income Distribution Database (IDD) | Database          | 2004-... (2019) | Gini, interdecile ratio (D9/D1, D9/D5, D5/D1), income share ratio (Palma ratio, S80/S20) |
| Luxembourg Income Study (LIS)           | Database          | 1985-... (2019) | Gini, Atkinson index, interdecile ratio (D9/D5, D9/D1, D8/D2)                            |
| World Bank (WB)                         | Database          | 1985-... (2019) | Gini, MLD index  |
| World Inequality Database               | Database          | 1980-... (2020) | Gini, income shares  |

Note: Since the income year and the year of the survey differ for ECHP and SILC, the indicated year refers in some cases to the income year and in other cases to the survey year. In this paper, we do not harmonise these possible inconsistencies and duplicate the years as how they were published in the different papers and databases.

<sup>34</sup> To fit the disposable income series in the DINA-framework, WID complements the original survey data with several assumptions (such as interpolations) and corrections. See Blanchet et al. (2022).

The most striking feature of both Figure 10 and Figure 11 is the observation that the reliance on three different source datasets SEP, ECHP and SILC, complicates comparability across time. The largest changes in observed levels of inequality coincide with changes in the source dataset. This observation suggests that the changes are - at least to some degree - driven by differences in sampling and survey design, in weighting, in income definitions, or in differences in reference periods, rather than by real world changes. This finding complicates research on long-term trends in inequality in Belgium. Particularly striking is the difference between the Gini coefficients based on SEP and ECHP in the mid-nineties, when they were both conducted. Figure 10 shows that the Gini coefficient for 1997 in Van Rie & Marx (2014) is 3 percentage points higher using ECHP than when using SEP (0.265 versus 0.233).

Figure 10 Gini coefficient of equivalised disposable income in papers



Sources: Cantillon et al. (1999); Van Rie & Marx (2014); Van Hoorebeeck et al. (2003).

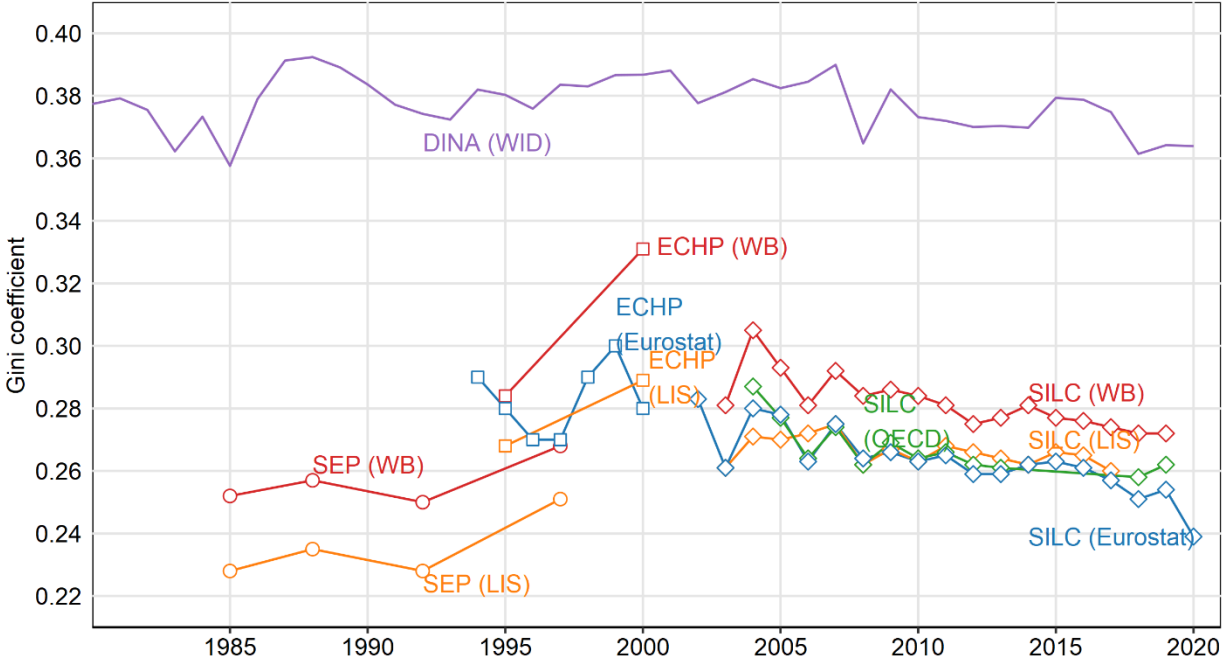
Van Hoorebeeck et al. (2003) provide an extensive comparison of the datasets SEP and ECHP (PSBH) and give several arguments why SEP is a more reliable source than the ECHP, even after an important correction in 2002 by Eurostat.<sup>35</sup> First, the evolution of inequality of disposable income tracks better the observed evolution of inequality of taxable incomes using tax data. Second, the nature of the surveys were different: the SEP puts a greater emphasis on, and thus devoted more consideration to, the gathering of income information, whereas for PSBH (the survey which forms the basis for the ECHP in Belgium) it was one aspect among many others. Third, in its first years, ECHP had a very high number of households with zero or extremely low incomes. While possible, the authors fail to attribute the significant drop to changes in policy or demographics. Lastly, the observed changes in the at-risk-of-

<sup>35</sup> Before a major revision of the ECHP in 2002, the discrepancy between SEP and ECHP was greater still, as inequality measures based on the ECHP were much higher: in 1997 the Gini coefficient based on SEP was 0.23 (Van Rie and Marx 2014), whereas according to the uncorrected ECHP this was 0.34 (Van Hoorebeeck et al 2003). In 2002 Eurostat conducted a major revision of the ECHP data, using a different procedure to impute missing incomes and to compute household weights. The change in methodology had a large impact, lowering the Gini coefficient to 0.28. A similar reduction of 6-8 base points was shown for the other years in the period 1995-1998 (Van Hoorebeeck et al 2003).



poverty group using SEP can be explained by macro-economic conditions and policy changes, whereas the changes using the ECHP cannot, leading the authors to trust the (changes in) incomes at the bottom of the distribution in SEP more. Also the high attrition in ECHP has been a major source of concern.

Figure 11 Gini coefficient of equivalised disposable income in databases



Source: WID; World Bank; LIS; OECD and Eurostat.

The SEP also differs from both ECHP and SILC in terms of the income reference period: the former reports on incomes from the previous month, the latter two on incomes from the previous year. This is not only conceptually different, but it also raises issues in terms of data quality, as pointed out by Cantillon et al (2003), exploiting a natural experiment in the data collection of the PSBH in 1993 and 1994. The PSBH (on which the ECHP data are based) only started to gather income information for the year prior to the survey year in the third round (1994). Before it only gathered incomes for the previous month. Based on the month-based incomes in 1993 and the year-based incomes in 1994, Cantillon et al. (2003) find significant differences between both datasets. First, contrary to expectations, annual household incomes were distributed more unequally than monthly incomes. Second, item non-response was higher for the yearly incomes and “a significant proportion of respondents who mentioned a monthly amount for a particular income component in 1993, did not report receiving such income in 1994 [for the previous year]” (Cantillon et al 2003, p.24), laying bare clear inconsistencies. This finding may partly explain the lower levels of inequality using the SEP data than those using ECHP and SILC.

Figure 10 and Figure 11 illustrate that inequality measured with data from ECHP is found to be consistently higher than inequality measured with data from SEP. Ex post, it is hard to judge whether analyses based on SEP underestimate inequality or analyses based on ECHP overestimate it, or whether the difference is due to methodological differences mentioned above. Given this finding there are two strategies that one can follow when describing the inequality trend in Belgium over a longer time span.

The first one consists of refraining from making comparisons of inequality levels across periods covered by different surveys, and limiting oneself to inequality evolutions within a given survey. Figure 10 illustrates that, even in that case, one still finds differences between papers using the same dataset (e.g., Cantillon et al. 1999 versus Van Rie & Marx 2014 using SEP for 1985-1997, and Van Hoorebeeck et al 2003 versus Van Rie & Marx, 2014 for ECHP). This can be attributed to different methodological choices, such as imputation procedures to complete missing values, outlier treatment, or the choice of the equivalence scale. The effect of these methodological choices tends to be small for studies that use data from SEP, but somewhat larger for the ones using ECHP. Both papers based on SEP report a modest increase of the Gini coefficient between 1985 and 1997. Cantillon et al. (1999) attribute this increase to a stagnation of incomes at the bottom of the income distribution. Based on the ECHP data, the Gini coefficient measured between 1993 and 2000 is found to be more capricious and does not show a clear trend. Finally, also papers and databases using SILC data reveal some contradictory results. Whereas in Figure 10 the results of Van Rie & Marx (2014) based on SILC show no clear change in the trend of the Gini coefficient for Belgium between 2003 and 2009, the Gini's reported by Eurostat, OECD and World Bank based on SILC are decreasing. That decline is continued between 2016 and 2020.

The second strategy is to comply with the need to make a statement on the evolution of inequality in Belgium over a longer time span than the ones covered within separate surveys. In that case, though, the decision whether to rely on SEP or on ECHP is a crucial one. Indeed, when one concludes that SEP underestimated inequality and chooses ECHP instead, an overall declining trend of the Gini coefficient of disposable income can be found. However, when one concludes that ECHP overestimated inequality, and relies on SEP for the second half of the eighties and the nineties, an inverted U-shape pattern can be found with an increasing trend up to the mid-2000s after which inequality again decreased up to 2020. One has to be careful interpreting the decrease during the last years published by EUROSTAT as part of the disposable income concept in SILC is since 2019 based on administrative income components. However, it is unsure whether the decrease can be attributed to the switch from surveyed to administrative data for the majority of income variables.<sup>36</sup>

Finally, in Figure 11 we also display the Gini coefficients of disposable income produced recently by WID and based on the DINA-methodology: total disposable income is corrected to be consistent with the national account totals while the distribution of (the corrected) disposable income is derived from the microdata (SEP, ECHP and SILC). To obtain a consistent series over time, WID implements several corrections and uses interpolations for years where no microdata are available. It is striking that the level of the Gini coefficients from WID are higher compared to the series based on the survey data, but more or less constant over time.

Not surprisingly, this sting in research on the evolution of Belgian inequality over a longer time span also re-emerges in the empirical application of growth incidence curves (GIC's) (Ravallion & Chen, 2003). With the elephant curve of Milanovic as one of the most exemplary applications (see Milanovic, 2012), a growth incidence curve has become an increasingly popular graphical device to analyse the evolution of the income distribution. GIC's display the incidence of growth across the income

---

<sup>36</sup> Statbel retrospectively added administrative income concepts to the SILC for several years (2009-2014). By doing so, they were able to compare inequality figures based on both surveyed and (partly) administrative income concepts. They found no clear impact on inequality of disposable income due to a switch to administrative data (De Schrijver, 2018).

distribution by showing annualised per capita growth rates of some income concept per quantile of the income distribution. For Belgium, Van Lancker (2018) shows growth rates of equivalised disposable income across the income distribution between 1985 and 2013. The first row of Table 8 illustrates that this paper obtains an upward sloping GIC, i.e. higher income growth for richer parts of the distribution than for poorer parts. The other rows of Table 8 illustrate how this contradicts with the findings of Marx & Verbist (2018) who portray a downward sloping GIC for the period of 1985 until 2013.

Table 8: Annual growth rate of real equivalised disposable household income by quintile

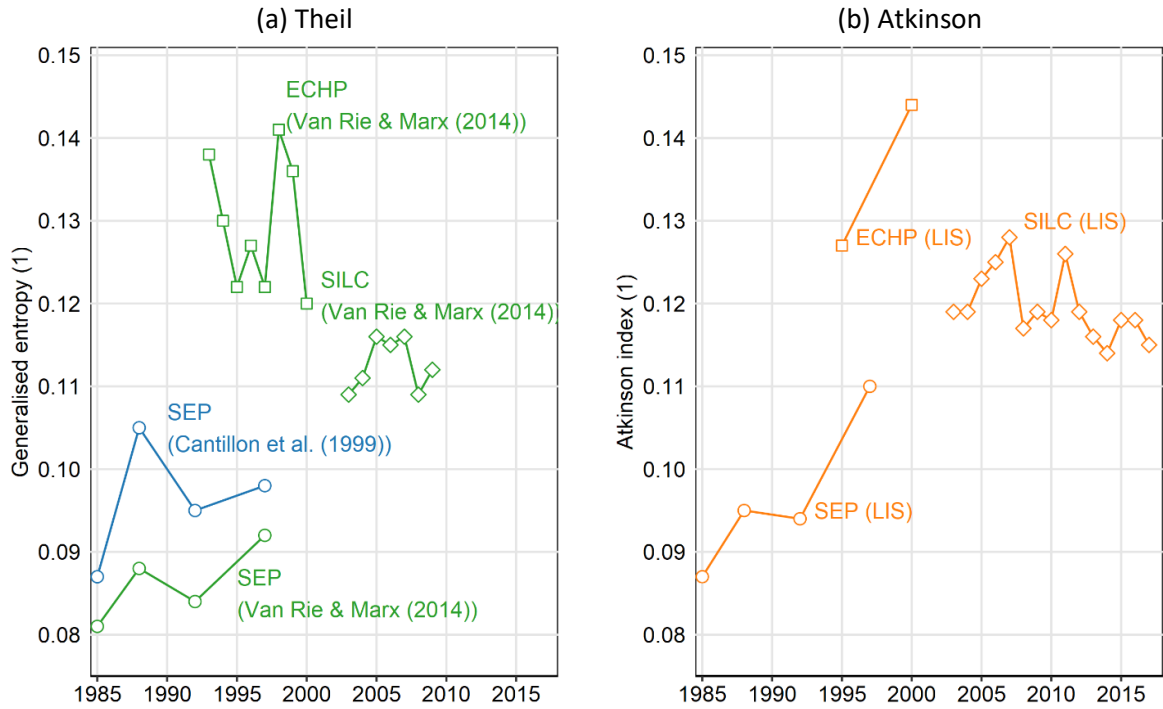
| Source                | Period   | Q1   | Q2   | Q3   | Q4   | Q5    |
|-----------------------|--|------|------|------|------|-------|
| Van Lancker (2018)    | 1985-2013  | 0.8% | 1.2% | 1.3% | 1.5% | 1.5%  |
| Marx & Verbist (2018) | 1985-1992  | 2.0% | 2.5% | 2.4% | 2.3% | 2.4%  |
|                       | 1992-1999  | 3.1% | 1.8% | 1.0% | 0.7% | 1.2%  |
|                       | 2003-2007  | 2.8% | 1.5% | 1.6% | 1.7% | 3.1%  |
|                       | 2007-2013  | 0.7% | 0.6% | 0.8% | 0.8% | -0.4% |
|                       | <i>1985-2013 as weighted average of subperiods in rows above</i> |      |      |      |      |       |
|                       | 1985-2013  | 2.1% | 1.6% | 1.5% | 1.4% | 1.5%  |

Note: Van Lancker (2018) calculated the growth rate over the whole period (1985-2013). To make his figures comparable with the ones of Marx & Verbist (2018), we transformed these growth rates to annual growth rates. In addition, Van Lancker (2018) calculated growth rates at the percentile-level while Marx & Verbist (2018) divide the population in five quintiles. The figures of Van Lancker shown in this table are the growth rates of the ‘middle percentile’ of each quintile, i.e. p10, p30, p50, p70 and p90.

The apparent contradiction is a telling example of the problem discussed above. Marx & Verbist (2018) calculate growth rates for each of the subperiods covered by different surveys separately, and then apply a weighted average of the growth rates of those periods to obtain an overall GIC. Their subperiod results follow those of Horemans et al. (2011): 1985-1992 using the socio-economic panel (SEP 1985-1992) with lower growth rates at the bottom, 1992-1999 using European Community Household Panel (ECHP 1993-2000) with pro-poor growth and 2003-2007 and 2007-2013 using the Survey of Income and Living Conditions (SILC 2004-2014) with comparable growth rates across the income distribution. Their ‘weighted average’ resulted in a higher annualised growth rate of equivalised disposable income for incomes in the bottom quintile (2.1%) compared to the growth rate of the second quintile (1.6%) and the third to fifth quintile (1.4%-1.5%). The upward sloping GIC of Van Lancker (2018) is obtained calculating income growth between 1985 and 2013 by connecting the first SEP with the latest available SILC, ignoring the comparability issues that exist across the different data sets.

Finally, we also briefly summarise results on the evolution of Belgian inequality in equivalised disposable income based on some other inequality indices. Figure 12 shows the Theil (left panel) and Atkinson index with inequality aversion parameter equal to 1 (right panel) reported by some papers and in the LIS-database. In Figure 13 we replicate the D9/D5 interdecile ratio of equivalised disposable income, found in the same sources. Both figures show a similar picture as the one obtained by using the Gini coefficient.

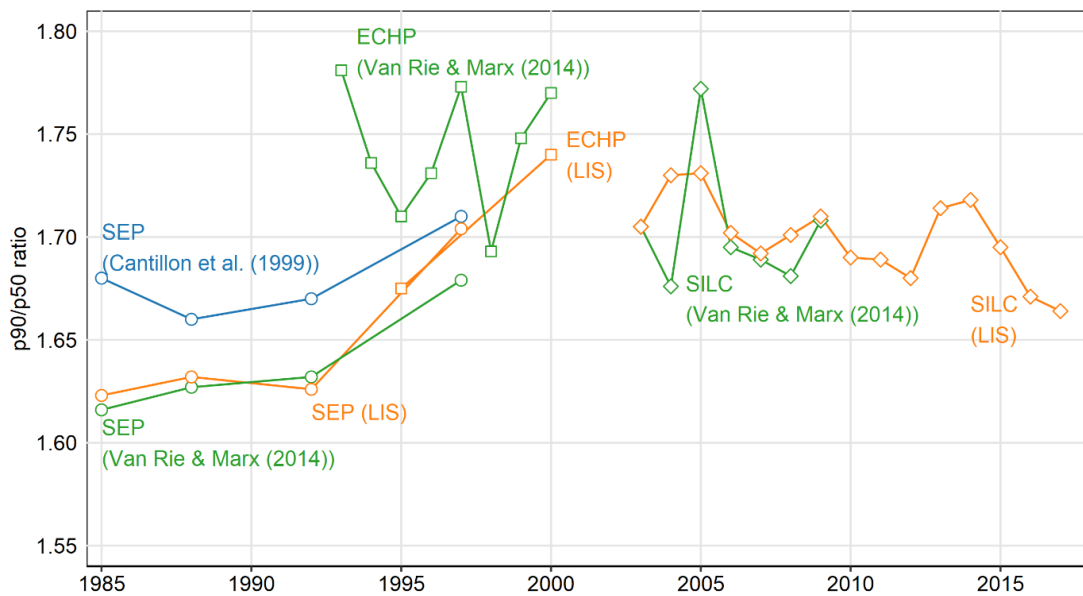
Figure 12 Theil index and Atkinson index of equivalised disposable income



Source: Cantillon et al. (1999), Van Rie & Marx (2014), LIS

As discussed above, inequality measured with data from ECHP is higher and more capricious than inequality measured with SEP and SILC. Based on SEP one finds a slight increase in inequality on all three indicators between 1985 and 1997. Based on SILC one finds a stable or mildly decreasing inequality pattern since 2005.

Figure 13 D9/D5 interdecile ratio for equivalised disposable income



Source: Cantillon et al. (1999), Van Rie & Marx (2014), LIS

## 4. Conclusion

In this paper, as a starting point for the BE-PARADIS project, we have reviewed the existing evidence from published academic studies and publicly available databases. We wanted to check whether we could find a smoking gun that pointed at an outspoken change of inequality in Belgium, and in that case would contradict the dominant narrative that income inequality in Belgium is low and stable over the considered period. We summarised the evidence for different income concepts: market or factor income, gross or pre-tax income, taxable income and equivalised disposable income.

There are no studies or databases that comprehensively document the distribution of market income in Belgium. Some information is available, however. First, the labour share captures the functional distribution of total market income between labour and capital income. Both the labour share published in the AMECO-database of the European Commission as the one calculated by the Federal Planning Bureau of Belgium irrefutably declined substantially from the 1980s onwards. One can put this decline into perspective, by framing this decline as a reversal of the sharp increase of the labour share in the 1970s, which makes the decision on the starting point of the analysis a crucial one. Second, there is distributional information available for one important element of market income: the earnings of employees. The interdecile ratios of full-time earnings suggest a compressed and stable distribution, with a remarkable reduction of the gender wage gap. However we did find a clear increase of the D9/D1-ratio and of the D5/D1-ratio since 2015. Also the incidence of low pay is on the rise since 2015. Hence, we do find indications that the growth of wages at the bottom of the distribution has not kept pace with average wage growth in recent years, and that this contrasts with the periods before 2015.

Along the dimension of income concepts, the transition from market income to household disposable income is made in three steps. First, we can study inequality in gross incomes after taking into account replacement incomes such as pensions and unemployment benefits, but before the operation of the personal tax system and the allocation of other benefits. First evidence produced within the DINA-framework again points at a stable income distribution – as measured by the Gini - of this pre-tax income concept.

Second, we can study the distribution of taxable income in the personal income tax system. Administrative databases with information on taxable income have become increasingly available. However, the overall picture about the trend in inequality of taxable income is blurred by the effect of the gradual inclusion of tax units with low incomes in the tax register data in Belgium since the early 2000s, and by the specific definition of the concept of ‘tax units’ (as compared to households or individuals). This inclusion of a time-varying number of low income households makes it difficult to compare inequality over time. Studies trying to correct for this effect suggest that the top 1 percent income share in Belgium remained rather stable or even decreased, contrary to findings in, e.g., Anglo-Saxon countries.

Third, and finally, one obtains income after the tax and benefit system has been fully operational. The distribution of this disposable income concept has most widely been studied and documented. This is done by analysing information from different household surveys such as SEP, ECHP, and SILC. Studies that use data from SEP (1985-1997) report a modest increase of inequality (measured by the Gini coefficient). Studies using ECHP (1992-2001) obtain more capricious results without a clear trend. Studies and databases using SILC (2004-2020) show a mildly decreasing inequality. An important

finding of our review is that, unfortunately, it is far from obvious how to connect these separate trends, as different datasets indicate a different level of inequality for overlapping years (notably for 1997 ECHP reports a considerably higher level of inequality compared to SEP). This observation suggests that the changes are - at least to some degree - driven by differences in survey design (i.e. differences in weighting, income definitions, sample design or reference periods), rather than by real world changes. This finding complicates research on long-term trends in inequality in Belgium.

## References

- Alvaredo, F., Chancel, L., Piketty, T., Saez, E., & Zucman, G. (2018). *World inequality report 2018*. WID.world.
- Atkinson, A. B. (2015). *Inequality. What can be done?* Harvard University Press.
- Atkinson, A. B., Piketty, T., & Saez, E. (2011). Top incomes in the long run of history. *Journal of Economic Literature*, 49(1), 3-71.
- Blanchet, T., Chancel, L., & Gethin, A. (2022). Why is Europe more equal than the United States? *American Economic Journal: Applied Economics*.
- Caminada, K., Wang, J., Goudswaard, K., & Wang, C. (2017). *Income inequality and fiscal redistribution in 47 LIS countries, 1967-2014*. LIS Working Paper No.724.
- Cantillon, B., De Lathouwer, L., Marx, I., Van Dam, R., & Van den Bosch, K. (1999). *Sociale indicatoren 1976-1997*. CSB Bericht No.99/05, Antwerpen: Herman Deleeck Centre for Social Policy, University of Antwerp.
- Cantillon, B., Marx, I., Proost, D., & Van Dam, R. (1993). *Sociale indicatoren: 1985-1992*. CSB Bericht No.93/10, Antwerpen: Herman Deleeck Centre for Social Policy, University of Antwerp.
- Cantillon, B., Van Dam, R., Van den Bosch, K., & Van Hoorebeeck, B. (2003). *The impact of the reference period on measures of household income from surveys*. Antwerpen: Herman Deleeck Centre for Social Policy, University of Antwerp.
- Cantillon, B., Van Mechelen, N., Frans, D., & Schuerman, N. (2014). *Het glazen plafond van de actieve welvaartsstaat: twee decennia ongelijkheid, armoede en beleid in België*. CSB Bericht No.14/02, Antwerpen: Herman Deleeck Centre for Social Policy, University of Antwerp.
- Capéau, B., Cherchye, L., Decancq, K., Decoster, A., De Rock, B., Maniquet, F., . . . Vermeulen, F. (2018). *Wat heet dan gelukkig zijn? Geluk, welvaart en welzijn van de Belgen*. Antwerpen: Garant.
- Causa, O., & Hermansen, M. (2019). *Income redistribution through taxes and transfers across OECD countries*. OECD Economics Department Working Papers No. 1453; Paris: OECD Publishing.
- Causa, O., Browne, J., & Vindics, A. (2018). *Income redistribution across OECD countries: main findings and policy implications*. OECD Economic Policy Paper No.23; Paris: OECD Publishing.

- De Schrijver, A. (2018). Fiscale gegevens in de enquête naar inkomens en levensomstandigheden (SILC): een pad voor de toekomst?
- Deaton, A. (2021). *COVID-19 and global income inequality*. National Bureau of Economic Research, Working Paper No.28392.
- Decoster, A., Dedobbeleer, K., & Maes, S. (2017). *Using fiscal data to estimate the evolution of top income shares in Belgium from 1990 to 2013*. KU Leuven, Department of Economics Discussion Paper No. 17.18.
- Decoster, A., Perelman, S., Vandelannoote, D., Vanheukelom, T., & Verbist, G. (2019). *Which way the pendulum swings? Equity and efficiency of three decades of tax-benefit reforms in Belgium*. CSB Working paper No. 19/07. Antwerp: Herman Deleeck Centre for Social Policy.
- Deleeck, H. (2000). *Sociale zekerheid en inkomensverdeling in België van 1966 naar 1999*. CSB Bericht No.20/05, Antwerpen: Herman Deleeck Centre for Social Policy, University of Antwerp.
- Eggertsson, G. B., Mehrotra, N. R., & Robbins, J. A. (2019). A model of secular stagnation: Theory and quantitative evaluation. *American Economic Journal: Macroeconomics*, 11(1), 1-48.
- Federal Planning Bureau. (2018). *Economische vooruitzichten 2018-2023*. Brussel.
- Federal Planning Bureau. (2021). *Economische vooruitzichten 2021-2026*. Brussel.
- Fitoussi, J., & Saraceno, F. (2010). *Inequality and macroeconomic performance*. OFCE - Centre de recherche en économie de Sciences Po, Document de Travail de l'OFCE No.2010-13.
- Horemans, J., Pintelon, O., & Vandebroucke, P. (2011). *Inkomens en inkomensverdeling op basis van Belgische enquêtegegevens: 1985-2007*. CSB Working Paper No. 11/02. Antwerp: Herman Deleeck Centre for Social Policy.
- IMF. (2014). *Fiscal policy and income inequality*. IMF Policy Paper.
- Jesuit, D., & Mahler, V. A. (2017). Fiscal redistribution in comparative perspective: Recent evidence from the Luxembourg Income Study (LIS) Data Centre. In M. Buggeln, M. Daunton, & A. Nützenadel, *The political economy of public finance: Taxation, state spending and debt since the 1970s* (pp. 177-198). Cambridge: Cambridge University Press.
- Kampelmann, S., & Rycx, F. (2013). Does institutional diversity account for pay rules in Germany and Belgium? *Socio-Economic Review*, 11(1), 131-157.
- Kenworthy, L., & Pontussen, J. (2005). Rising inequality and the politics of redistribution in affluent countries. *Perspectives on Politics*, 3(3), 449-471.
- Kuypers, S., & Marx, I. (2014). *De verdeling van de vermogens in België*. CSB Bericht 14/05, Centrum voor Sociaal Beleid Herman Deleeck, Universiteit Antwerpen.
- Kuypers, S., & Marx, I. (2017). *De vermogensverdeling in België: een actualisering*. CSB Bericht 17/06, Centrum voor Sociaal Beleid Herman Deleeck, Universiteit Antwerpen.
- Kuypers, S., & Marx, I. (2020). *De verdeling van de vermogens en schulden in België. Een actualisering op basis van de derde golf van het HFCS*. CSB Bericht 20/02, Centrum voor Sociaal Beleid Herman Deleeck, Universiteit Antwerpen.

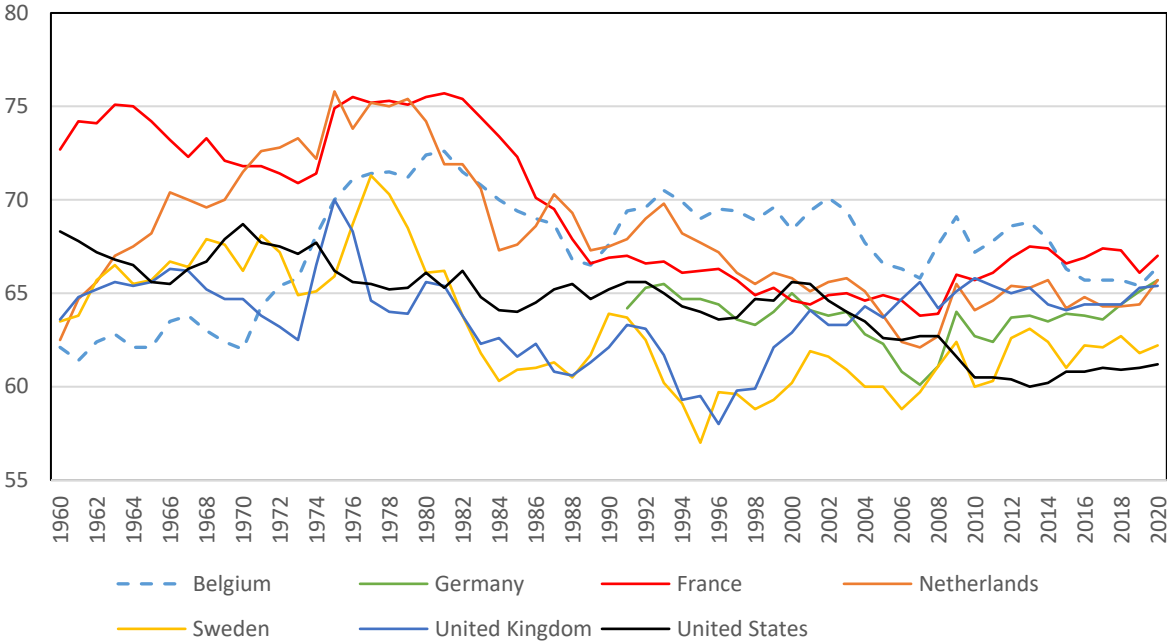
- Marx, I., & Verbist, G. (2018). Belgium, a poster child for inclusive growth? In B. Nolan, *Inequality and inclusive growth in rich countries. Shared challenges and contrasting fortunes* (pp. 75-97). Oxford: Oxford University Press.
- Milanovic, B. (2012). *Global income inequality by the numbers: in history and now*. Washington DC: World Bank Policy Research Working Paper No.6259.
- Milanovic, B. (2016). *Global inequality. A new approach for the age of globalization*. Harvard University Press.
- Milanovic, B. (2019). *Capitalism, alone*. Cambridge: The Belknap Press of Harvard University Press.
- OECD. (2008). *Growing Unequal? Income distribution and poverty in OECD countries*. Paris: OECD Publishing.
- OECD. (2011). *Divided we stand. Why inequality keeps rising*. Paris: OECD Publishing.
- OECD. (2012). *Quality review of the OECD database on household incomes and poverty and the OECD earnings database Part 3*. Paris: OECD Publishing.
- OECD. (2015). *In it together. Why less inequality benefits all*. Paris: OECD Publishing.
- OECD. (2021). *Does inequality matter? How people perceive economic disparities and social mobility*. Paris: OECD Publishing.
- Piketty, T. (2014). *Capital in the Twenty-First Century*. Harvard, USA: Harvard University Press.
- Piketty, T. (2020). *Capital and ideology*. Cambridge: Harvard University Press.
- Plasman, R., Rusinek, M., Rycx, F., & Tojerow, I. (2008). *Loonstructuur in België*. Working Paper No.08-04.RR, Brussels: DULBEA, Université Libre de Bruxelles.
- Proost, D., Van Dam, R., & Van den Bosch, K. (1996). *Valideringsstudie van twee Belgische inkomenssurveys*. CSB Bericht No.96/07, Antwerpen: Herman Deleeck Centre for Social Policy, University of Antwerp.
- Rajan, R. (2010). *Fault lines: How hidden fractures still threaten the world economy*. Princeton: Princeton University Press.
- Ravallion, M. (2022). Missing top income recipients. *Journal of Economic Inequality*, 20(1), 205-222.
- Ravallion, M., & Chen, S. (2003). Measuring pro-poor growth. *Economics Letters*, 78(1), 93-99.
- Stantcheva, S. (2022). *Inequalities in the times of a pandemic*. National Bureau of Economic Research, Working Paper No.29657.
- Valenduc, C. (1991). *Distribution et redistribution des revenus dans les années 80*. Brussels: Courier hebdomadaire CRISP No.1320.
- Valenduc, C. (2017). *Distribution et redistribution des revenus: évolution des inégalités en Belgique*. Courier hebdomadaire CRISP No.2346-2347, Brussels.
- Van Hoorebeek, B., Van den Bosch, K., Van Dam, R., & Cantillon, B. (2003). *Sociale indicatoren en ECHP-data. Is de armoede nu hoog maar dalend of laag maar stijgend?* CSB Bericht No.03/02, Antwerpen: Herman Deleeck Centre for Social Policy, University of Antwerp.



- Van Lancker, W. (2018). Is België wel zo'n paradijs van inkomensgelijkheid? *Samenleving & Politiek*, 25(4), 26-34.
- Van Rie, T., & Marx, I. (2014). Belgium: When growing background inequalities meet resilient institutions. In B. Nolan, W. Salverda, D. Checchi, I. Marx, A. McKnight, I. G. Tóth, & H. G. van de Werfhorst, *Changing Inequalities and Societal Impacts in Rich Countries: Thirty countries' experiences* (pp. 126-151). Oxford: Oxford University Press.
- Verbist, G., & Förster, M. (2019). Accounting for public services in distributive analysis. In K. Decancq, & P. Van Kerm, *What drives inequality?* (pp. 69-87). Bingley: Emerald Publishing.
- Weymark, J. A. (1981). Generalized gini inequality indices. *Mathematical Social Sciences*, 1(4), 409-430.
- Zwijnenburg, J. (2019). Unequal distributions: EG DNA versus DINA approach. *American Economic Review, Papers and Proceedings*, 109, 296-301.
- Zwijnenburg, J., Bournot, S., Grahn, D., & Guidetti, E. (2021). *Distribution of household income, consumption and saving in line with national accounts - Methodology and results from the 2020 collection round*. Paris: Working Paper No. 108, OECD Publishing, Statistics and Data Directorate.

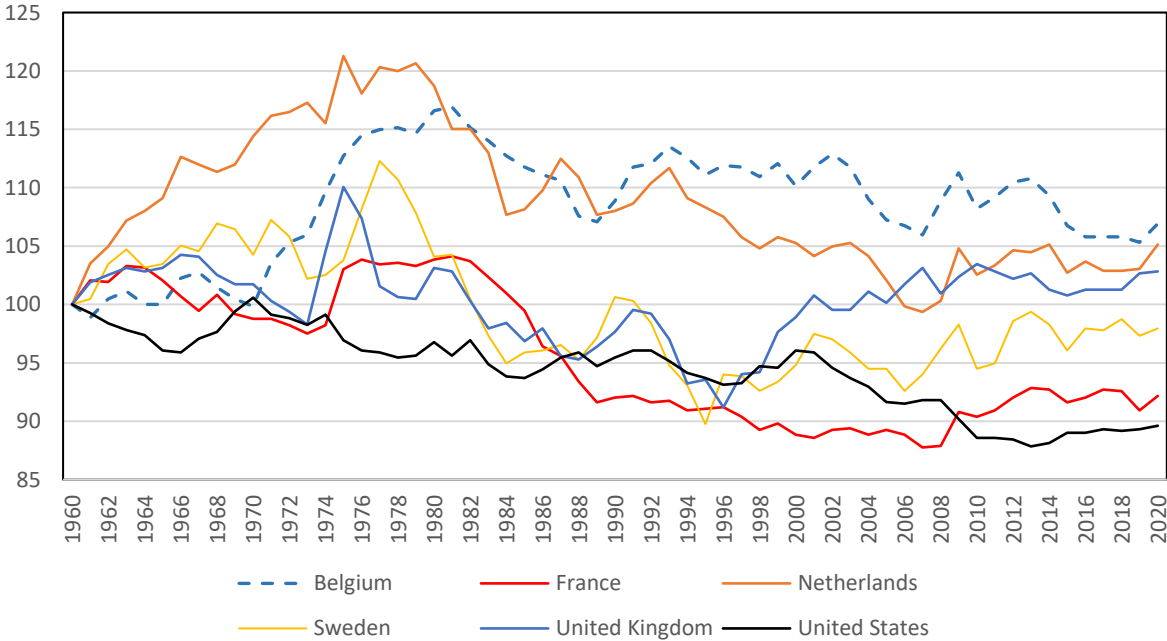
5. Appendix: figures and data for country comparisons

Figure 14 Labour share



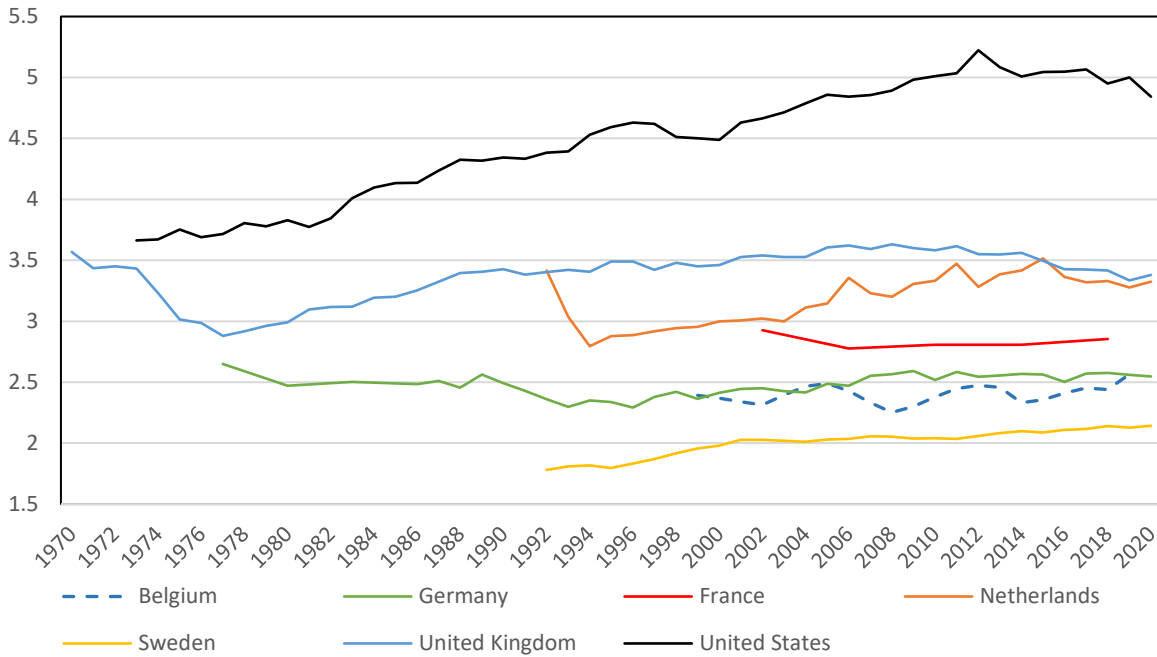
Source: AMECO, the adjusted labour share (ALCD2-variable).

Figure 15 Evolution of labour share



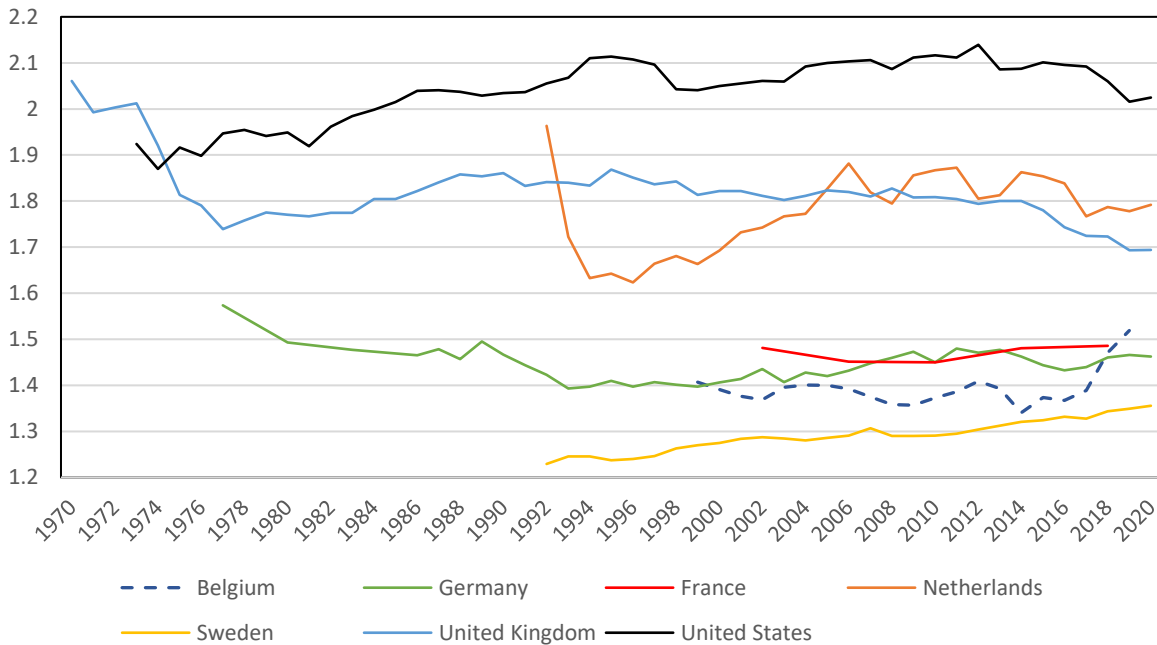
Note: The evolution of the labour share with 1960 as starting point (1960 = 100). Germany is not included.  
 Source: AMECO, the adjusted labour share (ALCD2-variable).

Figure 16 Interdecile ratio for earnings (D9/D1)



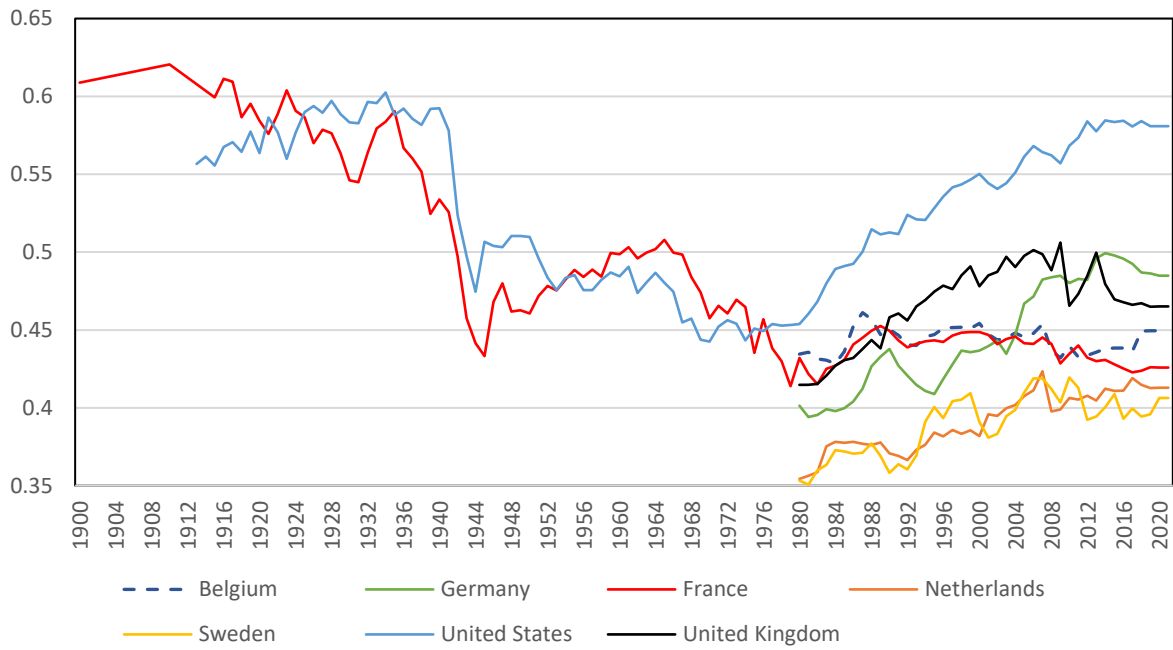
Note: The interdecile ratio D9/D1 is the ratio of the decile limits of the 9th decile (D9) over the 1st decile (D1).  
 Source: OECD, based on earnings of full-time employees.

Figure 17 Interdecile ratio for earnings (D5/D1)



Note: The interdecile ratio D5/D1 is the ratio of the decile limits of the 5th decile (D5) over the 1st decile (D1).  
 Source: OECD, based on earnings of full-time employees.

Figure 18 Gini of pre-tax income based on DINA-methodology



Note: Pre-tax income according to the DINA-methodology.

Source: WID, downloaded from WID-website on 24 Augustus 2022.

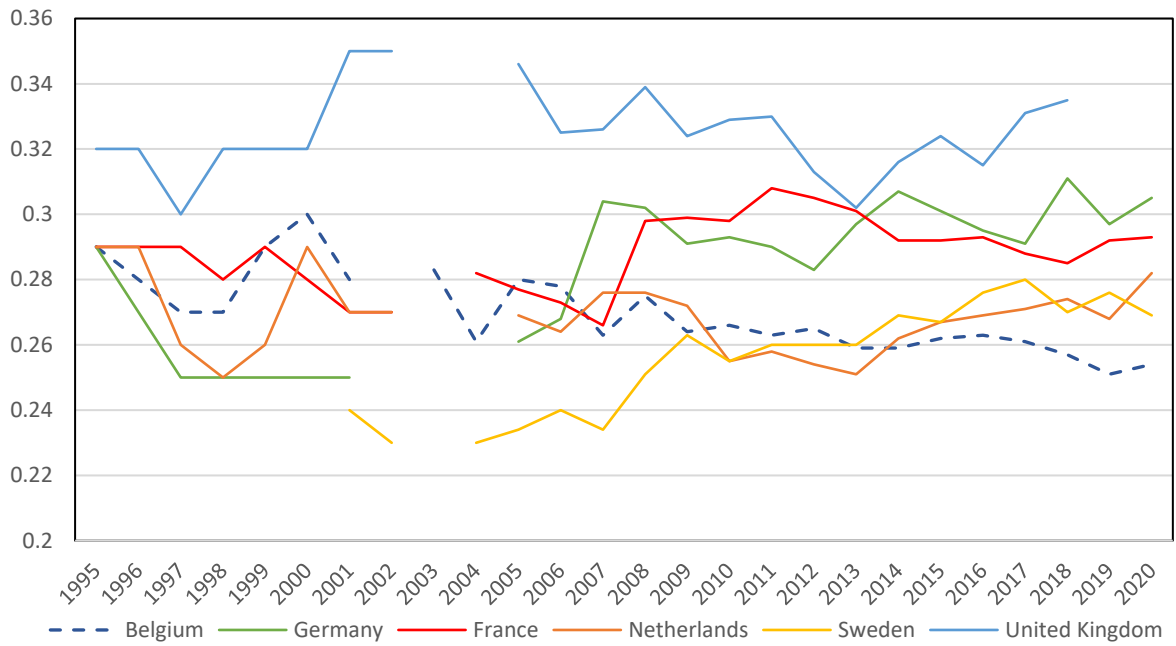
Table 9 Gini of pre-tax income based on DINA-methodology

|      | BE   | GER  | FR   | NL   | SW   | UK   | USA  |
|------|------|------|------|------|------|------|------|
| 1980 | 0.43 | 0.40 | 0.43 | 0.35 | 0.35 | 0.41 | 0.45 |
| 1981 | 0.44 | 0.39 | 0.42 | 0.36 | 0.35 | 0.41 | 0.46 |
| 1982 | 0.43 | 0.40 | 0.42 | 0.36 | 0.36 | 0.42 | 0.47 |
| 1983 | 0.43 | 0.40 | 0.43 | 0.38 | 0.36 | 0.42 | 0.48 |
| 1984 | 0.43 | 0.40 | 0.43 | 0.38 | 0.37 | 0.43 | 0.49 |
| 1985 | 0.44 | 0.40 | 0.43 | 0.38 | 0.37 | 0.43 | 0.49 |
| 1986 | 0.45 | 0.40 | 0.44 | 0.38 | 0.37 | 0.43 | 0.49 |
| 1987 | 0.46 | 0.41 | 0.44 | 0.38 | 0.37 | 0.44 | 0.50 |
| 1988 | 0.46 | 0.43 | 0.45 | 0.38 | 0.38 | 0.44 | 0.51 |
| 1989 | 0.45 | 0.43 | 0.45 | 0.38 | 0.37 | 0.44 | 0.51 |
| 1990 | 0.45 | 0.44 | 0.45 | 0.37 | 0.36 | 0.46 | 0.51 |
| 1991 | 0.45 | 0.43 | 0.44 | 0.37 | 0.36 | 0.46 | 0.51 |
| 1992 | 0.44 | 0.42 | 0.44 | 0.37 | 0.36 | 0.46 | 0.52 |
| 1993 | 0.44 | 0.41 | 0.44 | 0.37 | 0.37 | 0.47 | 0.52 |
| 1994 | 0.45 | 0.41 | 0.44 | 0.38 | 0.39 | 0.47 | 0.52 |
| 1995 | 0.45 | 0.41 | 0.44 | 0.38 | 0.40 | 0.47 | 0.53 |
| 1996 | 0.45 | 0.42 | 0.44 | 0.38 | 0.39 | 0.48 | 0.54 |
| 1997 | 0.45 | 0.43 | 0.45 | 0.39 | 0.40 | 0.48 | 0.54 |
| 1998 | 0.45 | 0.44 | 0.45 | 0.38 | 0.41 | 0.49 | 0.54 |
| 1999 | 0.45 | 0.44 | 0.45 | 0.39 | 0.41 | 0.49 | 0.55 |
| 2000 | 0.45 | 0.44 | 0.45 | 0.38 | 0.39 | 0.48 | 0.55 |
| 2001 | 0.45 | 0.44 | 0.45 | 0.40 | 0.38 | 0.49 | 0.54 |
| 2002 | 0.44 | 0.44 | 0.44 | 0.39 | 0.38 | 0.49 | 0.54 |
| 2003 | 0.45 | 0.43 | 0.44 | 0.40 | 0.39 | 0.50 | 0.54 |
| 2004 | 0.45 | 0.45 | 0.45 | 0.40 | 0.40 | 0.49 | 0.55 |
| 2005 | 0.45 | 0.47 | 0.44 | 0.41 | 0.41 | 0.50 | 0.56 |
| 2006 | 0.45 | 0.47 | 0.44 | 0.41 | 0.42 | 0.50 | 0.57 |
| 2007 | 0.45 | 0.48 | 0.45 | 0.42 | 0.42 | 0.50 | 0.56 |
| 2008 | 0.44 | 0.48 | 0.44 | 0.40 | 0.41 | 0.49 | 0.56 |
| 2009 | 0.43 | 0.48 | 0.43 | 0.40 | 0.40 | 0.51 | 0.56 |
| 2010 | 0.44 | 0.48 | 0.43 | 0.41 | 0.42 | 0.47 | 0.57 |
| 2011 | 0.43 | 0.48 | 0.44 | 0.41 | 0.41 | 0.47 | 0.57 |
| 2012 | 0.43 | 0.48 | 0.43 | 0.41 | 0.39 | 0.48 | 0.58 |
| 2013 | 0.44 | 0.50 | 0.43 | 0.40 | 0.39 | 0.50 | 0.58 |
| 2014 | 0.44 | 0.50 | 0.43 | 0.41 | 0.40 | 0.48 | 0.58 |
| 2015 | 0.44 | 0.50 | 0.43 | 0.41 | 0.41 | 0.47 | 0.58 |
| 2016 | 0.44 | 0.50 | 0.43 | 0.41 | 0.39 | 0.47 | 0.58 |
| 2017 | 0.44 | 0.49 | 0.42 | 0.42 | 0.40 | 0.47 | 0.58 |
| 2018 | 0.45 | 0.49 | 0.42 | 0.41 | 0.39 | 0.47 | 0.58 |
| 2019 | 0.45 | 0.49 | 0.43 | 0.41 | 0.40 | 0.46 | 0.58 |
| 2020 | 0.45 | 0.48 | 0.43 | 0.41 | 0.41 | 0.47 | 0.58 |

Note: Pre-tax income according to the DINA-methodology.

Source: WID, downloaded from WID-website on 24 Augustus 2022.

Figure 19 Gini of equivalised disposable income



Note: United States are not included.

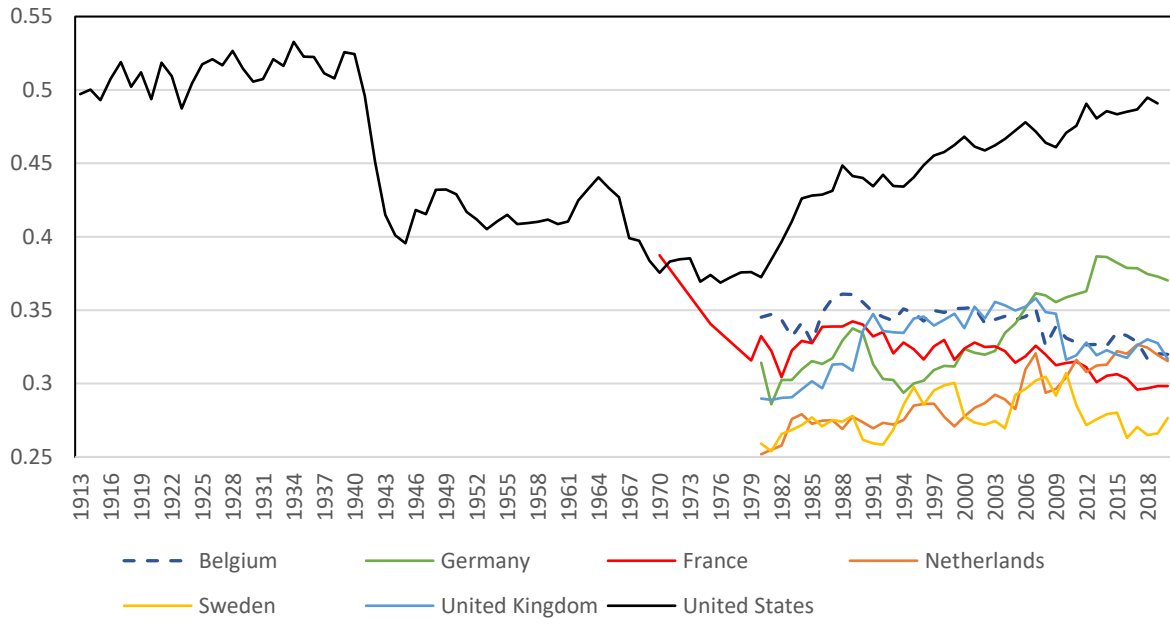
Source: EUROSTAT, based on survey data (for Belgium: SEP, ECHP and SILC).

Table 10 Gini of equivalised disposable income

|      | <b>BE</b> | <b>GER</b> | <b>FR</b> | <b>NL</b> | <b>SW</b> | <b>UK</b> |
|------|-----------|------------|-----------|-----------|-----------|-----------|
| 1995 | 0.29      | 0.29       | 0.29      | 0.29      |           | 0.32      |
| 1996 | 0.28      | 0.27       | 0.29      | 0.29      |           | 0.32      |
| 1997 | 0.27      | 0.25       | 0.29      | 0.26      | 0.21      | 0.30      |
| 1998 | 0.27      | 0.25       | 0.28      | 0.25      |           | 0.32      |
| 1999 | 0.29      | 0.25       | 0.29      | 0.26      | 0.22      | 0.32      |
| 2000 | 0.30      | 0.25       | 0.28      | 0.29      |           | 0.32      |
| 2001 | 0.28      | 0.25       | 0.27      | 0.27      | 0.24      | 0.35      |
| 2002 |           |            | 0.27      | 0.27      | 0.23      | 0.35      |
| 2003 | 0.28      |            |           |           |           |           |
| 2004 | 0.26      |            | 0.28      |           | 0.23      |           |
| 2005 | 0.28      | 0.26       | 0.28      | 0.27      | 0.23      | 0.35      |
| 2006 | 0.28      | 0.27       | 0.27      | 0.26      | 0.24      | 0.33      |
| 2007 | 0.26      | 0.30       | 0.27      | 0.28      | 0.23      | 0.33      |
| 2008 | 0.28      | 0.30       | 0.30      | 0.28      | 0.25      | 0.34      |
| 2009 | 0.26      | 0.29       | 0.30      | 0.27      | 0.26      | 0.32      |
| 2010 | 0.27      | 0.29       | 0.30      | 0.26      | 0.26      | 0.33      |
| 2011 | 0.26      | 0.29       | 0.31      | 0.26      | 0.26      | 0.33      |
| 2012 | 0.27      | 0.28       | 0.31      | 0.25      | 0.26      | 0.31      |
| 2013 | 0.26      | 0.30       | 0.30      | 0.25      | 0.26      | 0.30      |
| 2014 | 0.26      | 0.31       | 0.29      | 0.26      | 0.27      | 0.32      |
| 2015 | 0.26      | 0.30       | 0.29      | 0.27      | 0.27      | 0.32      |
| 2016 | 0.26      | 0.30       | 0.29      | 0.27      | 0.28      | 0.32      |
| 2017 | 0.26      | 0.29       | 0.29      | 0.27      | 0.28      | 0.33      |
| 2018 | 0.26      | 0.31       | 0.29      | 0.27      | 0.27      | 0.34      |
| 2019 | 0.25      | 0.30       | 0.29      | 0.27      | 0.28      |           |
| 2020 | 0.25      | 0.31       | 0.29      | 0.28      | 0.27      |           |

Source: EUROSTAT, based on survey data (for Belgium: SEP, ECHP and SILC).

Figure 20 Gini of post-tax disposable income according to DINA-methodology



Note: Post-tax disposable income according to the DINA-methodology.

Source: WID, downloaded from WID-website on 24 Augustus 2022



Table 11 Gini of post-tax disposable income based on DINA-methodology

|      | BE   | FR   | GER  | NL   | SW   | UK   | USA  |
|------|------|------|------|------|------|------|------|
| 1980 | 0.35 | 0.33 | 0.31 | 0.25 | 0.26 | 0.29 | 0.37 |
| 1981 | 0.35 | 0.32 | 0.29 | 0.25 | 0.25 | 0.29 | 0.38 |
| 1982 | 0.34 | 0.30 | 0.30 | 0.26 | 0.27 | 0.29 | 0.40 |
| 1983 | 0.33 | 0.32 | 0.30 | 0.28 | 0.27 | 0.29 | 0.41 |
| 1984 | 0.34 | 0.33 | 0.31 | 0.28 | 0.27 | 0.30 | 0.43 |
| 1985 | 0.33 | 0.33 | 0.32 | 0.27 | 0.28 | 0.30 | 0.43 |
| 1986 | 0.35 | 0.34 | 0.31 | 0.27 | 0.27 | 0.30 | 0.43 |
| 1987 | 0.36 | 0.34 | 0.32 | 0.27 | 0.28 | 0.31 | 0.43 |
| 1988 | 0.36 | 0.34 | 0.33 | 0.27 | 0.27 | 0.31 | 0.45 |
| 1989 | 0.36 | 0.34 | 0.34 | 0.28 | 0.28 | 0.31 | 0.44 |
| 1990 | 0.36 | 0.34 | 0.33 | 0.27 | 0.26 | 0.34 | 0.44 |
| 1991 | 0.35 | 0.33 | 0.31 | 0.27 | 0.26 | 0.35 | 0.43 |
| 1992 | 0.35 | 0.34 | 0.30 | 0.27 | 0.26 | 0.34 | 0.44 |
| 1993 | 0.34 | 0.32 | 0.30 | 0.27 | 0.27 | 0.33 | 0.43 |
| 1994 | 0.35 | 0.33 | 0.29 | 0.28 | 0.29 | 0.33 | 0.43 |
| 1995 | 0.35 | 0.32 | 0.30 | 0.28 | 0.30 | 0.34 | 0.44 |
| 1996 | 0.34 | 0.32 | 0.30 | 0.29 | 0.29 | 0.35 | 0.45 |
| 1997 | 0.35 | 0.33 | 0.31 | 0.29 | 0.30 | 0.34 | 0.46 |
| 1998 | 0.35 | 0.33 | 0.31 | 0.28 | 0.30 | 0.34 | 0.46 |
| 1999 | 0.35 | 0.32 | 0.31 | 0.27 | 0.30 | 0.35 | 0.46 |
| 2000 | 0.35 | 0.32 | 0.32 | 0.28 | 0.28 | 0.34 | 0.47 |
| 2001 | 0.35 | 0.33 | 0.32 | 0.28 | 0.27 | 0.35 | 0.46 |
| 2002 | 0.34 | 0.32 | 0.32 | 0.29 | 0.27 | 0.34 | 0.46 |
| 2003 | 0.34 | 0.33 | 0.32 | 0.29 | 0.27 | 0.36 | 0.46 |
| 2004 | 0.35 | 0.32 | 0.33 | 0.29 | 0.27 | 0.35 | 0.47 |
| 2005 | 0.34 | 0.31 | 0.34 | 0.28 | 0.29 | 0.35 | 0.47 |
| 2006 | 0.35 | 0.32 | 0.35 | 0.31 | 0.30 | 0.35 | 0.48 |
| 2007 | 0.35 | 0.33 | 0.36 | 0.32 | 0.30 | 0.36 | 0.47 |
| 2008 | 0.33 | 0.32 | 0.36 | 0.29 | 0.30 | 0.35 | 0.46 |
| 2009 | 0.34 | 0.31 | 0.36 | 0.30 | 0.29 | 0.35 | 0.46 |
| 2010 | 0.33 | 0.31 | 0.36 | 0.30 | 0.31 | 0.32 | 0.47 |
| 2011 | 0.33 | 0.31 | 0.36 | 0.32 | 0.29 | 0.32 | 0.48 |
| 2012 | 0.33 | 0.31 | 0.36 | 0.31 | 0.27 | 0.33 | 0.49 |
| 2013 | 0.33 | 0.30 | 0.39 | 0.31 | 0.28 | 0.32 | 0.48 |
| 2014 | 0.33 | 0.31 | 0.39 | 0.31 | 0.28 | 0.32 | 0.49 |
| 2015 | 0.34 | 0.31 | 0.38 | 0.32 | 0.28 | 0.32 | 0.48 |
| 2016 | 0.33 | 0.30 | 0.38 | 0.32 | 0.26 | 0.32 | 0.49 |
| 2017 | 0.33 | 0.30 | 0.38 | 0.33 | 0.27 | 0.33 | 0.49 |
| 2018 | 0.32 | 0.30 | 0.37 | 0.32 | 0.27 | 0.33 | 0.49 |
| 2019 | 0.32 | 0.30 | 0.37 | 0.32 | 0.27 | 0.33 | 0.49 |
| 2020 | 0.32 | 0.30 | 0.37 | 0.32 | 0.28 | 0.32 |      |

Note: Post-tax disposable income according to the DINA-methodology.

Source: WID, downloaded from WID-website on 24 Augustus 2022.