

LIS

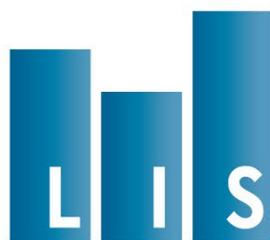
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Income Distribution in Sweden in a Comparative Perspective: Evidence from New LIS-data

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Income distribution in Sweden in a comparative perspective:
evidence from new LIS-data¹

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Abstract

This report employs recently available Swedish data in the LIS-database. With previous data back to 1967 and new data through 2021, we exploit the rich information in LIS to study the evolution of the Swedish income distribution in a broad comparative perspective. We start by discussing the differences in the definitions of disposable income between the national Swedish sources and LIS. Then we point at the shifts that are likely to appear in the LIS-series because of changes in the underlying Swedish data.

We find that the rise in inequality in Sweden from the early 1980s to around 2013 is substantial, much larger than in most other countries and is driven by rising inequality in both the lower and the upper half of the distribution. The period since 2013 is characterized by more stable income inequality in Sweden as well as in most other countries.

We also find that the level of income (adjusted for purchasing power) has risen more in Sweden than in most other countries since the early 1980s. This rise is particularly strong at the median and the top of the distribution but can to some extent also be found at the bottom of the distribution.

Our analysis of drivers of rising income inequality suggests that capital income has been more important in Sweden than in other countries. The sharp rise in the share of foreign-born in the population is not a major driver of rising income inequality. The decline in the gap between pre- and post-tax and transfer income in Sweden cannot be found in other countries and appears as a driver of rising income inequality.

Key-words: income distribution, disposable income, cross-national comparisons.

JEL-codes: H53, I32, I38.

¹ We presented preliminary results from this study at the Ecineq conference in Aix-en-Provence in July 2023, and we thank several participants for useful comments. When working with this study, we have learnt much from communications with Thomas Helgeson and Johan Lindberg at Statistics Sweden and Jörg Neugschwender at LIS. We plan to revise the study in the spring of 2025 when we expect updates of the Swedish data in LIS.

Income distribution has been an important issue in Swedish public-policy discussions for a very long time. The evolution of income inequality is also followed closely in the political process, for example with an annual report from the Ministry of Finance (Swed.

Fördelningspolitisk redogörelse) as a part of the revised annual budget proposal that is published each spring.

The public discussion about income inequality has often a cross-national perspective, and it has been noted that Sweden has moved from being one of the most equal countries – and possibly even the most equal one -- to being more like several other European countries.

The cross-national perspective has been implemented with data from several resources, including the OECD and EU-SILC. However, comparative studies of Sweden's income distribution were for a long time hindered by the fact that Sweden stopped delivering data to the LIS data base (formerly known as the Luxembourg Income Study) in 2005. But in 2023 Sweden changed its policy and micro data at LIS are now available to describe and analyze the Swedish income distribution in a broad comparative perspective.

The purpose of this paper is to use these new LIS-data and perform an up-to-date cross-national comparative analysis of the evolution of Sweden's income distribution through the most recent year, which is 2021. The first year for Sweden is as early as 1967, but the starting year for most other countries is later. We focus on annual disposable income with the household as the unit of income, the individual as the unit of analysis and the use of equivalence scales to account for differences in household size. This income measure has become the gold standard in international data sets such as the one offered by LIS. It is also the standard measure applied by Statistics Sweden (SCB) in its official income distribution data and by the Ministry of Finance in its policy evaluations, although (as explained below) the exact definitions differ somewhat.

We continue In Section 1 by presenting the data in more detail. We explain the (relatively minor) differences between the definitions of disposable income in LIS and in national Swedish statistics. We also discuss the shifts that will show up in LIS-data for Sweden due to various institutional changes over time. Next in Section 2, we present a descriptive overview of the evolution of income distribution in Sweden and other LIS-countries. We continue in Section 3 with an analysis of some potentially important drivers that can explain why the

evolution of Swedish income distribution differs from other countries. Section 4 offers a summary of the main conclusions and a discussion of the results.

1. Income definitions by LIS and SCB

1a. Principles: differences and similarities

Although, both LIS and SCB strive to create a measure of annual disposable income (with the household as the unit of income, the individual as the unit of analysis, and adjustment of the household's income with equivalence scales), there are several choices to be made, and LIS and SCB have in some cases made different ones.² This is not surprising since LIS focuses on achieving comparability across a large set of countries, while SCB focuses on how the Ministry of Finance uses the data in its policy analyses.

Realized capital gains. A major difference is the treatment of realized capital gains. Such gains are directly available in data sources based on individual tax declarations, whereas they are generally not available for countries whose data come from surveys. Therefore, LIS excludes this income component as well as the taxes paid on this type of income. In contrast, SCB's default measure of disposable income includes such capital gains. However, SCB regularly also reports disposable income exclusive of such capital gains (net of the taxes paid on them).

A limitation, however, is that the Swedish data do not allow the identification of gross income from realized capital gains and the taxes paid on these gains up until 1990 during which period Sweden applied a uniform tax system. In 1991, the system changed to a dual one with separate tax rates for capital income and other sources of income. As a consequence, it became possible to identify the net income from such gains. We discuss more below how the inclusion of realized capital gains up to 1990 will create a shift in LIS' time series for Sweden.

Study loans. The Swedish system to support university students is primarily based on study loans that are paid back when the students enter the labour market. SCB has decided to consider such loans as positive transfers and repayment of the loans (including the interest paid) as negative transfers. LIS, however, considers such loans as just loans and they are

²For more information on LIS, see <https://www.lisdatacenter.org>.

thus not part of disposable income. The choice between these two principles is not likely to have a large impact on overall inequality, which is our main focus, but may have an impact on, e.g., poverty rates among people around the age of 20.

Private pensions. SCB treats the saving into private pension funds as a negative transfer and the receipt including the return on the saving, which is a capital income earned over several years, as a positive transfer. LIS applies another principle and treats such saving as a transaction. A basic motivation for this treatment of private savings for pensions by LIS is that such savings are voluntary, which has been the case in Sweden.

For a long time over the period of our study, a certain amount of saving in such private insurance funds has been deductible from income taxation, whereas the receipt of the pension during adulthood has been counted as taxable income. The deductible amount has gradually declined over time and was completely eliminated from income year 2016 and onwards, except for some groups of self-employed persons. However, pensions are still paid out for those with historical savings in such schemes. As shown by Björklund, Jäntti & Robling (2019), this saving has been most popular among people with high disposable income. The receipt of the pension has also been much higher among people with high disposable income.

Interest payments. An issue in income distribution measurement is how to treat payment of interest on loans. SCB has decided to treat such payments as expenditure (often on housing) and does therefore not deduct such payments from interest received on bank accounts and related assets. But interest payments have an indirect impact on tax payments in SCBs data. The reason is that such payments are deductible when taxable income is computed and thus tax payments are reduced. LIS applies the same principle for interest payments.

Household concept: shared residence. Starting for the income year 2021 and with adjustments of data back to 2011, SCB introduced a new household type for the case when children have separated parents (or parents who do not live together for other reasons). Over time, it has become more common that such children share their time between the two parents, so called shared residence. If, in such cases, statistics treat the children as living with one parent, three errors occur. First, the economic standard of the child will be determined by the income of both parents and not only by the income of the custodial

parent. Second, the parent, who by statistics is considered as the only custodial one (most often the mother), gets a too high financial burden by conventional equivalence scales. Third, the parent, who by statistics is not considered as a custodial one (most often the father), gets a too low financial burden by conventional equivalence scales. The official income data presented by SCB from 2021 employs new information on shared residence and accounts for these three errors that appear when shared residence is not taken into account. SCB (2021) explains how this is done and reports the consequences of the corrections made.³ The impact on overall inequality, which is the object of our study, is very small, but the income level of various types of households with children changes in non-trivial magnitudes.

LIS has not introduced household types that account for shared residence, so there will be a discrepancy between the current official statistics published by SCB and the LIS data. As just explained, the discrepancy will be negligible when the focus is on overall inequality.

Imputed rents from owner-occupied housing. General theoretical arguments speak in favor of making such income part of disposable income. However, in most countries it is hard to estimate such imputed rents in a reliable way. Therefore, neither SCB nor LIS includes this income component in their measures of disposable income. The available studies, which have attempted to quantify this income component and added it to disposable income, have found that standard inequality measures are reduced. This reduction is particularly visible for elderly persons, who often own their housing and have few remaining loans (see, e.g., Frick et al. (2010), List (2023), Törmälehto & Sauli (2017), and Björklund (2023) for a discussion in the Swedish context). However, for our cross-national and long-run analysis, the impact of excluding this source of income is not likely to be substantial.

Real estate tax. There are arguments in favor of treating such a tax as either a direct or an indirect tax. SCB has decided to treat it as a direct tax and thus such tax payments are parts of the overall taxes that are deducted from gross income to compute disposable income.

³ SCB does not have direct data on shared residence in any register for the whole population. Instead, SCB applies survey data on shared residence and estimate a statistical regression model that explains shared residence. The parameters of this estimated model are then used to predict shared residence for data of the whole population.

LIS, however, applies the other principle and treats the real estate tax as an indirect tax and thus as an expenditure.

Equivalence scales. We follow the tradition from LIS and apply the so-called square-root scale to account for the financial burden of the household, i.e., we divide total household income by the square root of the number of persons in the household to define the economic standard of each household member. SCB, the Ministry of Finance and most applied researchers in Sweden have applied another scale for a long time.⁴

Despite these differences, both the level and the changes over time in overall income inequality are quite similar between the Swedish official statistics (when realized capital gains are excluded) and LIS. The figure in Appendix A, where we report the Gini-coefficient for three measures of inequality for the national series, the LIS series and EU-SILC, confirm that the differences are small. Therefore, the picture of the specific Swedish income distribution that is presented in this report should be familiar to those who have followed the Swedish discussion closely.

1b. Shifts in the Swedish series in LIS

The measurement of the concept of disposable income that we focus on requires two types of data. One is data on incomes, taxes and transfers on all individuals in the population of interest, generally the total population of all persons registered to live in the country. The second is data on the household to which each individual belongs and in which the members' total incomes are considered as equally shared. Thus, there will be shifts in the series of disposable income if there are changes in any of the definitions of income or household, or in the measurement of these variables.

For several reasons, there will be some shifts in the LIS-series for Sweden. One reason for such shifts is that the basic Swedish data delivered to LIS stem from various sources. Another reason is that there are changes in the household and income variables used in a specific data source. We now start by discussing the three different Swedish data sources on which LIS data are based. Then we continue to discuss the changes in the variables.

⁴ Since 2021, when children with shared residence were treated separately the Swedish scale is as follows: single person 1.0, a cohabiting couple 1.51, additional adults 0.60, first child 0-19 years old 0.52, second and additional child 0.42, first child with shared residence 0.38, second and additional child with shared residence 0.28.

The 1967 observation. LIS has an observation for Sweden for the income year 1967. The underlying data come from the Level of Living Surveys administered by the Swedish Institute for Social Research (SOFI) at Stockholm University. This data source has many similarities with the income distribution data sets that SCB developed with start for the income year 1975. For example, in both data sources the household composition was determined by means of interview questions (home visits in the Level of Living Survey and telephone interviews by SCB) and the basic income variables came from registers based on tax assessments. However, some important transfers were not taxable up to 1973 so the information, for example about unemployment and sickness benefits came from interviews in the 1968 version of the Level of Living Survey, whereas in SCB-data from 1975 onwards this information came from the authorities that paid the benefits. It is not clear how reliable interview information is for such benefits. Therefore, quite some caution is called for when interpreting the 1967 LIS-observation for Sweden.

For the period 1975-2012, LIS-data are based on SCB's Household Income Survey (*HINK* and later *HEK*), the source of Sweden's official income statistics during the period (up through 2013). This survey was based on telephone interviews to define the household and registers to get income, taxes and transfers. From 2011 and onwards, SCB could allocate individuals to households by means of new register data of the whole population. The interviews to construct the HEK-data continued for 2011, 2012 and 2013, so for these years data from both sources are available and comparisons have been made, see SCB (2016). SCB moved to using register data of the whole population as its official income statistics from 2014 onwards. On its website, SCB nowadays presents series back to 2011 based on the register data of the whole population.

From 2013 and onwards, LIS-data stem from the Swedish EU-SILC survey, which is based on interviews to define the household in the same way as in the HEK-data. There is, however, a difference in how the two surveys have defined their target populations. Whereas HEK included persons who were registered to live in Sweden at both the beginning and at the end of the calendar year, EU-SILC only requires that the persons were registered to live in Sweden at the end of the calendar year. To examine this difference between the two surveys, we have two sources at our disposal. One is SCB (2016) that examines the effects of moving from the HEK-survey to register data of the total population (the TRIF). The second

is unpublished data provided to us by Statistics Sweden that compares EU-SILC data with the register data of the whole population. The first source shows that the differences between HEK and TRIF are small and negligible when it comes to overall inequality (Gini), decile-group shares and relative poverty measures. Further, the second source shows that the same differences between EU-SILC and TRIF are small and negligible as well. Thus, we conclude that the move from HEK to EU-SILC between 2012 and 2013 does not cause a substantial shift in our measures of disposable income inequality. However, when we examine the evolution of the level of disposable income, we have to consider a shift in the LIS-series between 2012 and 2013. The data from SCB shows that both mean and median disposable income from EU-SILC is around eight percent lower than in the TRIF. Further, there is no similar gap between HEK and TRIF.

We now continue to discuss changes in the income and household variables used to compute disposable income.

New household concept from 1991. SCB introduced a new household concept with effect in the data for 1991 and 1995 and onwards. (Note that the new household definition is not available for the years 1992-94). The change was from a “family-based” definition (*familjeenhet*) to a “household based” one (*hushållsenhet*). The main difference is the treatment of adolescents who live with their parents. The family-based definition is based on how the tax system defines a family and thus treats children of ages 19 and over living with their parents as separate household units, whereas the new household-based definition treats them as belonging to the parental household.

The family-based definition requires less information and is also available for all years from 1991 and onwards. Thus, SCB reports data with both household types. Using these data for 1991, 1995 and 1996, we found that the change had a negligible impact on the level of disposable and factor income. Overall inequality, as measured by the Gini, fell by some 1.5 to 2.3 units (percentage points) for both income measures. This inequality-reducing impact was strongest in the lower part of the distribution. The relative poverty rate using disposable income fell by 1.8 to 2.3 percentage points (from close to 10 percent), whereas the income share of the top-5 percent group fell by 0.1 to 0.8 percentage points (from 12-13 percent). Our available information suggests quite clearly that this change made the Swedish household concept more comparable to those applied in most other countries, and

especially in the other Nordic countries. Thus, our presumption is that Swedish measures of inequality, and in particular lower-half inequality, would have been lower prior to 1995 with a more comparable household concept.

The 1991 tax reform. As mentioned above, one part of the tax reform was the change from a uniform to a dual tax system with separate tax rates for capital income. Because of the tax rules up to 1990, it is not possible to eliminate realized capital gains (and the taxes paid on these gains). Thus, LIS includes such gains up to 1990, but not from 1991 and onwards. Because such gains are concentrated to the top of the income distribution, this change will create a decline in measured inequality and particularly so for the gap between the top and the median. Unfortunately, it is difficult to assess the magnitude of this shift in the inequality series. It is not possible to use the difference between income with and without capital gains from 1991 and onwards to assess this magnitude. The reason is that the tax reform also radically changed to rules for taxation of realized gains. As explained in more details by Björklund & Waldenström (2021, pp. 3-4), the tax system basically changed from taxing the real capital gains with a high tax rate to taxing the nominal capital gains with a low tax rate.

The comprehensive tax reform also involved a broadening of the tax base in several ways. Labour income was broadened when various fringe benefits became taxable income. Further, the taxes for capital income became paid at source; for bank accounts by the bank instead of by the saving individual after having reported the gross interest income to the tax authority. Some tax-free modes of saving (Swed. *allemanssparandet*) became taxable at the same time.

SCB has made an effort to recalculate gross income and disposable income for 1989 and 1990 according to the new rules that became effective in 1991. These revised estimates for 1989 and 1990 are still reported by SCB in their historical tables. The results suggest that the mean of disposable and factor income increased by some 5-7 percent due to the changes in the tax rules. The Gini rose by close to two units (percentage points), and this rise can primarily be attributed to rising income in the top of the distribution. The relative poverty rate rose by 0.6 and 0.3 percentage points from a level between 8 and 9 percent. The income share of the top-decile group rose by some 1.5 percentage points from a level around 20, and the income share of the top-1 percent of the distribution rose by 1.2

percentage points from a level of 3.5 percent. Note, however, that all these estimates refer to an income concept that includes realized capital gains.

It is possible that this change due to broadening of the income concept in the tax rules more or less counteract the impact of the exclusion of the realized capital from 1991 onwards. Thus, the net effect of these two opposing definitional changes concentrated to the upper half of the distribution need not be substantial.

To sum up, there are some shifts in the LIS-data, which we have to consider when we interpret the evolution of income distribution in Sweden. First, the 1967-observation must be treated with care. Then the observations for 1975, 1981 and 1987 follow and we expect both inequality and the level of disposable income to be measured without any shifts. The move from 1987 to 1992 (and 1993 and 1994) involves two changes in the income variables. These changes appear on the upper half of the distribution and may counteract each other. With this assumption, we have a consistent series from 1975 to 1994. Next, the change in the household definition from 1994 to 1995 caused a reduction of overall and lower-half inequality. Finally, the move from the HEK-data to the EU-SILC from 2012 to 2013 has likely not caused any shifts in measures of inequality but a downward shift in the level of disposable income. We will interpret our results with these shifts in mind.

2. The evolution of income distribution in Sweden in a comparative perspective

We apply the same equivalence scale as LIS, namely the square root scale that attaches the total household income divided by the square root of the number of members of the household to each household member. However, we treat potential outliers, namely extremely low and high values of disposable income, in a slightly different way than LIS does.⁵

⁵ In their key figures, LIS censors incomes in the bottom and the top. LIS defines extreme observations in the bottom as an income below P25 minus three times the log of the inter-quartile range (P75-P25). Such low-income observations are replaced by the value at this limit. Further, LIS defines extreme observations at the top as an income above P75 plus three times the log of the inter-quartile range. Such high-income observations are replaced by the value at this limit. We have instead chosen the approach to truncate, i.e., eliminate extreme observations. We eliminate observations in the bottom if disposable income is negative. We eliminate observations in the top if the observation exceeds LIS upper limit. Our approach makes it possible to implement some of the decompositions that we perform in Section 3.

We use the established Gini-coefficient as a measure of overall inequality. As a complement, we report ratios between the top, the middle and the bottom of the distribution. Here we depart slightly from the tradition of using percentiles. Instead, we use the mean income of the top decile group (m10), the mean income of the bottom decile group (m1) and the median (p50). The ratio m10/m1 becomes an overall inequality measure that complements the Gini. The ratios m10/p50 and p50/m1 becomes inequality measures at the upper and lower halves of the distribution. We use the log of these ratios so that the sum of the two latter ratios equals the former one. The reason why we prefer the decile-group means rather than the 10th and 90th percentiles is that we can capture some of the very high income growth at the very top of the distribution that has been documented in Swedish data, see e.g. Finanspolitiska rådet (2024, section 4.2).

In the main text, we report inequality measures for Sweden compared to five countries with comparatively equal income distributions, namely Belgium, Denmark, Finland, Netherlands and Norway. In Appendix B, we report corresponding figures for comparisons with three sets of other countries.

We start with Ginis in Figure 1 and complement with logged ratios in Figure 2.⁶ The well-known long-run rise in Swedish inequality started in the early 1980s and continued until the 2012 observation. Taken at face values, the rise was from around 0.20 in 1982 to just above 0.28 for the Gini and from around 1.4 to 1.9 points for the logged ratio ($\ln m_{10}/\ln m_1$).

However, if we consider that the 1994-95 shift to lower inequality due to the change in household definition may be in the magnitude 0.015-0.02 for the Gini, the total increase will be around 0.10. This is indeed a considerable increase in overall inequality over a period of around 30 years. The rise in inequality has been quite smooth over the period, except for a hump during 2000-2002. Thus, one can look at this 30-years long period as an episode with more or less constantly rising inequality.

Looking back before the early 1980s, our two observations suggest falling inequality from the late 1960s. As noted above, the 1967-observation shall be interpreted with care. The magnitude is quite high, but other dimensions of inequality also fell from the 1960s to the

⁶All our LIS estimates were derived in September 2024 (Luxembourg Income Study, 2024).

early 1980s. In particular, this was a period of dramatically falling wage inequality, see e.g. Edin & Holmlund. (1995).

Looking at the last period starting in 2013 and lasting until 2021, the data show a clear stabilization of inequality. The Ginis are in a range with differences below 0.01 and with the highest value in 2017 and the lowest in 2016.

Next, we look at the contribution of lower- and upper-half inequality to these changes over time in Figure 2. (Note that here we abstain from using the 1967-observation.) Of primary interest is the long episode with constantly rising overall inequality from the early 1980s to around 2013. Here the shift in data from 1994 to 1995 is particularly visible for lower-half inequality. Looking at the evolution from 1995 to 2013, the overall log ratio increased by around 0.50 log points, or from below 1.5 to almost 2.0. Both lower-half and upper-half inequality has contributed to this rise, but the contribution of the former exceeds the contribution of the latter. Looking at the evolution from 1981 to 1994, the overall log ratio increased by some 0.30 log points, with quite equal contributions from lower- and upper-half inequality. If we look to the period with falling inequality from 1975 to 1981, the contributions from the two halves of the distribution are also quite similar. The period 2013-2021 with stable overall inequality is also a period with stability in the distribution's both halves. Finally, we note that the hump during 2000-2002, which is clearly visible in both our overall inequality measures, is primarily driven by upper-half inequality.

How then, does Sweden's record look in a comparative perspective? We compare Sweden with five high-equality countries (Belgium, Denmark, Finland, the Netherlands and Norway) in Figure 1 and 2. It is natural to ask how these countries compared to Sweden in the first half of the 1980s when inequality reached its lowest levels in Sweden. Unfortunately, we cannot make this comparison with good precision since complete observations for these and other LIS-countries are not available; Norway has observations for 1979 and 1986, the Netherlands for 1983 and 1987, Belgium for 1985 and 1988, Finland for 1987 and 1991, and Denmark 1987 and 1992). Finland's 1987 observation is quite close to Sweden's lowest observation for 1981 and a comparison of Sweden and Finland in 1987 shows very small difference in terms of overall inequality. Actually, in this year inequality in Finland was somewhat lower than in Sweden according to the logged ratio between the top and the bottom and somewhat higher according to the Gini. However, the general impression from

the two figures is that overall inequality in Sweden was lower than in the other countries during the first half of the 1980s. This conclusion becomes stronger if one considers that the household concept used in Swedish data at this time raised overall inequality by some 0.01-0.02 Gini-points. Finally, a look at upper-half and lower-half inequality in Figure 2 reveals that both contributed to this favorable egalitarian outcome for Sweden in the early 1980s.

Next, we look at the evolution of inequality from the early 1980s up to around 2013 in this comparative perspective. According to both measures of overall inequality, Sweden had become a more unequal country than the five other ones. Inequality rose in the other countries as well, but not as much as in Sweden. Further, both lower- and upper-half inequality have risen more in Sweden than in the other countries and both dimensions of inequality are higher in Sweden than in the other countries in 2013.

The period since 2013 with more stable income distribution in Sweden has not changed the country's relative position in terms of income inequality. Although some observations are still missing for some of the other countries, stability seems to be the main pattern also in the other five countries.

In Appendix B, we report comparisons of Sweden and three other sets of countries. Figure B1 and B4 show our comparison of Sweden and five European continental countries (Austria, France, Germany, Italy and Spain). Both measures of overall inequality show that Sweden's position as a country with much lower inequality has changed to one with similar inequality as Austria and quite close to Germany and France. The gap to Italy and Spain is still some 0.05 Gini points around 2020, but was twice as large some 30 years earlier. Changes in both lower-half and upper-half inequality have contributed to these substantial changes over time.

Next, we show our comparison of Sweden and four Eastern European countries (Czechia, Estonia, Hungary and Romania) in Figure B2 and B5. These countries became members of LIS at a later stage so the comparisons start in the 1990s. Here it is interesting to note that Czechia's first observation in 1992 is almost identical to Sweden's in 1981 in terms of overall inequality. Then inequality in Czechia increased markedly to 1997, but at the end of the period this country had somewhat lower overall inequality than Sweden. It is also

interesting to note that this development in Czechia can be attributed to lower lower-half inequality and not to lower upper-half inequality.

However, the rise in Swedish inequality is clear also when comparing with these Eastern European countries. At the end of the period, overall inequality in Sweden is at about the same level as in Hungary, whereas Sweden's inequality remains at a clearly lower level than in Estonia and Romania at the end of the period.

Finally, we show our comparison of Sweden and four Anglosphere countries (Australia, Canada, Great Britain and the US) in Figure B3 and B6. These countries are known for their high inequality and at the end of our observation period their inequality remain at clearly higher levels than in Sweden. This conclusion follows from both our measures of overall inequality. When looking at lower- and upper-level inequality in Figure B6, we can see that it is primarily lower inequality in top that contributes to Sweden's lower overall inequality compared to Australia, Canada and Britain.

<Figure 1 here>

<Figure 2 here>

We now continue to look at the evolution of the level of disposable income in a comparative perspective. We compute real levels for each country and then apply a PPP-adjustment to dollars of the prize level in 2017. Figure 3 reports the log of such income levels in the first decile group (m1), at the median (P50) and in the top-decile group (m10) for Sweden and the same high-equality countries as in previous figures.

Sweden has generally had lower levels of real disposable income than these five other countries. However, at both the median and in the top decile group, Sweden's relative growth rate exceeds the other countries', except possibly Norway's in the top-decile group. The level of real disposable income in the first decile group has grown in Sweden at approximately the same rate as in the other high-equality countries. In the figure, there is a visible decline in the level of income from 2012 to 2013. This dip may very well reflect the change of data source for the Swedish LIS-series (see the discussion above). Taking this shift in data into account, one can find a small narrowing to the other high-equality countries also in the bottom of the distribution.

In Figures B7-B9 in Appendix B, we show the same comparisons between Sweden and the three other sets of countries. Our comparison with the European continental countries show a relative improvement for Sweden in all parts of the distribution but particularly so for the top-decile group and at the median. Compared to the Eastern European countries, Sweden kept its distance in terms of income level in the whole distribution. Finally, compared to the Anglosphere group, Sweden started below their income levels in all parts of the distribution but thanks to a relatively stronger income growth over the whole period, the gap has disappeared in the bottom and become smaller at the median and in the top.

<Figure 3 here>

3. Driving forces

3.1 Previous research

The rise in income inequality in Sweden since the 1980s is well known in both national and international policy discussions. Thus, several reports have discussed and analyzed possible underlying driving forces. Three forces dominate this discussion.

First, several reports have noted that capital income has become a more important income source in the top of the Swedish income distribution and thus appears as a driver of rising upper-half inequality. Although, most Swedish reports have found this pattern for an income measure that includes realized capital gains (e.g. Björklund and Jäntti 2011), the pattern also appears when such gains are excluded (e.g. Finanspolitiska rådet 2024).

Second, immigration to Sweden has been high with a rising share of foreign-born persons in the population. Further, many waves of immigration have been dominated by low-skilled refugees with slow integration into the labour market. Thus, one can expect a composition effect of the rising share of immigrants in the population. It is also possible that the inflow of foreign-born workers has put downward pressure on the wages of low-skilled native workers. A few previous studies have focused on the first of these mechanisms and the results suggest that these effects are quite small and not a major explanation of rising income inequality.

Third, the period since the 1980s has seen several changes in taxes and transfers. For example, tax reforms in the late 1980s and early 1990s lowered marginal tax rates and the

progressivity of the tax system. Further, replacement rates in the major social insurance systems were reduced in the late 1990s and after the Great Recession in 2008-09 as responses to the macro-economic difficulties. Both Pareliussen et al. (2018) and Karimi et al. (2024) report a falling gap between income inequality pre and post taxes and transfers.

In the next three sections, we extend the analysis of these driving forces to a comparative perspective using LIS-data.

3.2 Capital income in the top

In Figure 4, we report capital incomes' share of disposable income in the top-decile group for Sweden and the other five high-equality countries. Ideally, we would have preferred to use capital income net of the taxes paid on these incomes but that would require information about tax rates applied on such incomes that is not available in the LIS-data. Yet, the ratio that we apply is likely to give an indication of the importance of this potential driver of disposable-income inequality.

<Figure 4 here>

For Sweden, this ratio has risen quite markedly over time. First, there is a gradual increase from the 1980s to around year 2000 when capital income had reached some 10 percent of disposable income. Then there is a sharper rise after year 2005, and the last three observations are close to 20 percent. In a comparative perspective, Sweden share the sharp rise of capital incomes' share with Norway and Finland but not with Belgium, Denmark and the Netherlands.

In Figures B10-B12 in Appendix B, we report our comparisons with the other three sets of countries. The comparison with the other European continental countries shows that these countries have not experienced the same strong increase as Sweden. The level of capital's share at the end of the period is about the same in France, but this country has had a high share of capital income in the top more or less the whole period that we cover with LIS-data. Next, Sweden deviates sharply from all the Eastern European countries both in terms of level and trend. Finally, when we compare Sweden with the Anglosphere countries, it is clear that Sweden has moved from being a country with a low capital share in the top to sharing a high capital share with these countries except Great Britain.

Although Sweden shares the pattern of rising capital income in the top of the disposable-income distribution with Finland and Norway, the general comparative pattern is that capital income has been a driver of rising upper-half inequality and thus also contributed to Sweden's comparatively strong rise in overall income inequality. It then becomes important to investigate the content of capital income in more detail. Unfortunately, LIS-data do not allow a meaningful decomposition of this income source. Instead, we use data from Statistics Sweden to show how the content of capital income has changed over time.

In Figure 5, we show total capital income and three important components of such income as shares of disposable income for the overall mean (left) and the top-decile group. The components are (i) dividends from closely held corporations, (ii) traditional capital returns such as interest on bank accounts, dividends (other than from closely held corporations) and income from housing rentals, and (iii) imputed income from certain assets. It is clear from Figure 5 that the rise of the capital share in the top is not driven by traditional capital returns. This source of capital income has rather become less important over time. The main driver of the rising importance of capital income in the top is instead dividends from closely held corporations. When Sweden in 1991 moved from a uniform to a dual tax system with separate taxation of labour earnings (including taxable transfers) and capital income, some rules were also introduced to prevent income sharing in such companies from labour earnings to capital income. However, these rules have become less binding, especially from 2006 and onwards. Research by Alstadsaeter et al. (2016) suggest that this rising dividend income to a large extent represents income shifting. Thus, the rise of capital's share in the income statistics does not necessarily represent rising capital income in a fundamental economic sense.

<Figure 5 here>

Figure 5 also shows the share of disposable income that comes from imputed income from certain assets. The most important part of this income comes from a new savings scheme called investment savings account (Swed. *investeringsfondskonto*, *ISK*) and introduced in 2012. In such an account, the individual can collect various financial assets such as shares of and ownership in mutual funds. Taxation of assets in an ISK-account is not based on the actual return but instead according to a calculated standard revenue from the assets. This

standard revenue is based on the government loan rate. Savings in ISK-accounts have become increasingly popular in Sweden since 2012. But since the underlying interest rate that determine the standard revenue from the accounts has been very low up to 2021, this source of capital income has not yet become important according to the official income statistics. This may very well change in the upcoming years and movement of savings from traditional mutual funds to ISK-accounts may also move capital income from being counted as realized capital gains (and not included in LIS income concept) to being counted as imputed capital income (and included in LIS income concept).

3.3 Immigration

Several reports have discussed and analyzed the possibility that a rising share of immigrants in the Swedish population has been a driving force behind rising income inequality. For example, Robling (2015) applied a reweighting approach to examine the impact of the compositional change in the Swedish population due to rising shares of foreign-born persons in the population. For the period 1980-2011, he found only small effects, less than ten percent of the rise in income inequality could be accounted for by this compositional change. Karimi et al. (2024) reached similar conclusions using another method for the period 1990-2021.

We now apply LIS-data through 2021 to study how a rising share of immigrants has changed the Swedish income distribution compared to other countries. The exact definition of an immigrant is key to such an analysis. One aspect of the definition is that LIS only provides information about the distinction between being native- and foreign-born. Thus, it is not possible to distinguish between the inflow of refugees from poor countries and (often high-skilled) immigrants from richer countries.

Another aspect of the definition follows from the use of the household as the unit of income and the individual as the unit of analysis. We have considered three different definitions. The first definition treats each member of a household as an immigrant if the head and the spouse in the household are immigrants. An implication of this definition is that children born in Sweden by parents born abroad are counted as immigrants. The second definition is based on the status of each person in the household, so one person (for example a child) is

counted as native-born if s/he was born in Sweden and another person in the same household (for example a parent) is counted as immigrant s/he was born abroad. The third definition counts all persons as native-born if only one household member was born in Sweden. Thus, this definition requires that all household members are born abroad in order to count a member as immigrant.

In Figure 6, we report the share of immigrants in Sweden according to these three definitions. Although, the share of immigrants has risen over time according to all three definitions, the magnitudes differ between the definitions. For most of the time, the share is around twice as high according to the first definition. In the following analysis, we employ the first definition with the argument that the background of the head and the spouse is likely to determine the economic standard of the household and its members.⁷

<Figure 6 here>

Using this definition of an immigrant and LIS data, we now report the share of immigrants in all countries in our study. The data in LIS allow us to do this with a start in 1991. Figure 7 shows that the share of immigrants in the Swedish population increased from around 12 percent in 1991 to around 30 percent in 2021. This is a substantial increase with potentially substantial effects on income inequality. The rise has been uninterrupted between 1991 and 2021, but stronger during the last ten years. The figure also shows that the Belgian immigrant share has been quite close to Sweden's since the early 2000s. The other three high-equality countries (immigration data for Finland is missing in LIS) have experienced a similar trendwise increase in the immigrant share as Sweden, but the level is clearly below the one in Sweden.

<Figure 7 here>

In Appendix Tables B13-B15, we also report comparisons with the other three sets of countries. The Swedish immigrant share has grown high also with a comparison with these countries. During the whole period, Australia had a markedly higher immigrant share and at the end of the period it was as high as 45 percent. However, Sweden's immigrant share

⁷ We have not been able to understand the exact immigrant definition applied in the previous studies of Sweden discussed above in the section.

ended at a similar level as Austria and Canada and even some five percentage points higher than in Great Britain and the US.

Before turning to the analysis of the impact of the changing population composition with a rising share of immigrants, we also note in Figure 8 that the income levels of natives and immigrants really differ and have affected the overall income levels. The panel reporting DG 1 mean shows that the overall mean in the first decile group has lagged behind the one for natives due to the more sluggish evolution of low incomes among immigrants. This gap is lower at the median and hard to see at the top even though the income levels for immigrants are clearly lower also at these places in the income distribution.

<Figure 8 here>

We start again by looking at the high-equality countries. Figure 9 shows actual and counterfactual Ginis.⁸ The differences are not large. For Sweden, the difference grew to around 0.005-0.01 at the end of the period when immigration had been very high for some years. The difference is approximately the same in Denmark in 2016, and only somewhat lower in Norway up to 2021. In Figure 10, we report a similar analysis with the logged overall ratio between the means in the top- and low-decile groups. This comparison tells more or less the same story as the use of the Gini. When looking at top- and low- income

⁸ To calculate the counterfactual income distributions that keep the share of immigrants at the level of the first included year, we proceed as follows. We have estimated the percentiles of both the native-born and immigrant income distributions (i.e., the income distributions conditional on immigrant status); these can be treated as the conditional cumulative density functions.

The observed ranges of the immigrant distributions are much narrower than for the native-born so in combining the two, we need to interpolate across income levels in both distributions to some extent to get conditional distributions that can be used to reweighting purposes.

Moreover, to get the weighted unconditional distributions to generate roughly the same income statistics (e.g., to have roughly the same average income) as the true unconditional one, we needed to impute top incomes in the conditional distributions. We chose to estimate the Pareto parameter alpha above the 97th percentile in each conditional distribution and replace the percentiles above that by the mean of the assumed Pareto distributed income above that point (thus, everyone in the top 2 percent of each conditional distribution has the estimated Pareto mean). Using the actual shares of immigrants and natives, this procedure resulted in a reasonable fit to the unconditional distributions. The counterfactual distribution is then generated by weighting together the interpolated and "Pareto-censored" conditional distributions with the base year shares of immigrants and natives, respectively.

inequality in Figure 11 and 12, it is hard to find any substantial differences. The rather small changes in overall inequality seems to be driven by changes in both parts of the distribution.

<Figure 9 here>

<Figure 10 here>

<Figure 11 here>

<Figure 12 here>

In Figure B14 to B26, we report the same comparisons of Sweden and the other three sets of countries. No country shows a large difference between actual and counterfactual inequality. The largest differences can be found for Austria and Spain but these differences are only marginally smaller than for Sweden.

3.4 Taxes and transfers

We apply the conventional comparison of income inequality pre versus post taxes and transfers to LIS data to place Sweden's experience in a comparative perspective. We confine ourselves to using the Gini for this analysis.

Figure 13 shows this comparison of Sweden and the five other high-equality countries. In Sweden, the gap between pre and post taxes and transfers has been around 0.03 during the last ten years of observation. This is clearly lower than before. The gap was around 0.05 during Sweden's period of high equality through the 1980s. Then the gap has gradually fallen. Thus, in this mechanical sense, changes in taxes and transfers can be considered a driving force behind rising disposable-income inequality in Sweden accounting for some 0.02 of the overall rise from the 1980s to the period following 2013.

When comparing Sweden and the other high-equality countries, we note two differences. First, the gap is generally more constant over time in the other countries. Second, the level has been around 0.05 most of the time. Thus, it is the reduction over time of this gap from around 0.05 to around 0.03 that is specific to Sweden.

In Figure B27, B28 and B29, we make the same comparison of Sweden and the other three sets of countries in our study. The general impression from these cross-national comparisons is the same as from the comparison with the other high-equality countries. The gap is higher and more stable of time in the other sets of countries.

<Figure 13 here>

Although this comparison of pre and post taxes and transfers is common, it is a crude way to examine the effects of the financial part of the welfare state. An underlying assumption is that inequality of income pre taxes and transfers is a valid counterfactual for the case of no changes in taxes and transfers. Some marked changes in the distribution of working hours over the past 10-20 years are noteworthy and calls for deeper research on the role of taxes and transfers in Sweden over the period that we consider in this report.

The Ministry of Finance's long term survey from 2019 (SOU 2019) used Statistics Sweden's labour force survey to estimate the distribution of working hours in the population of individuals aged 20-64 years from 1995 to 2018. The main finding is a marked reduction in inequality of working hours. Most likely, these changes have also contributed to more equally distributed earnings from work in this population. Such a change is also reported in SOU (2019).

Karimi et al. (2024) report similar results using other data. They use nation-wide register data on annual labor earnings and wage rates. The ratio is an estimate of the annual hours of work for the working population (here for the age group 25-60). They find strongly falling inequality in annual working hours, and this change is driven by females and especially by the lower end of females' working hour distribution. The authors also stress that their approach ignores the extensive margin of labour supply and thus most likely underestimates the total equalizing effect of more equally distributed working hours.

As mentioned in both these reports, changes in taxes and transfers – such as lowering of replacement rates and the introduction of employment tax credits – may very well have contributed to this quite marked reduction of working hours inequality. In that case, the counterfactual pre tax and transfer market income inequality would also have been higher and the estimate of the equalizing effect of the welfare state would not have been as low as it looks in this type of analysis.

We conclude by arguing that Sweden has experienced a falling gap between income pre and post taxes and transfers, which is unique among the countries in our cross-national comparison. More research is needed to understand the mechanisms that have caused Sweden's deviating pattern. Ideally, such research should also consider inequality of working hours at the household level and not only at the individual level.

4. Summary

We have used new LIS-data to examine the evolution of the income distribution in Sweden in a broad comparative perspective. The Swedish income data in LIS start in 1967 and are subject to several changes that cause shifts in the series. We have discussed these shifts and done our best to interpret the evolution of the income distribution in light of the shifts. Our main findings are summarized as follows:

The rise in income inequality in Sweden from the early 1980s through 2012 is substantial and stronger than in other countries. The rise was more or less continuous during this period. Upper-half and lower-half inequality contributed quite equally to the overall rise in income inequality.

A period with more stable income inequality in Sweden started in 2013, but this pattern is shared with most other countries and has therefore not changed Sweden's position relative other countries. This period of stability is, in a sense, surprising given the strong wave of immigration of refugees in 2015-16 and the pandemic in 2020-21. This stability may be caused by countervailing forces and deserves further analysis with data from LIS and other sources.

We also examine the level of income in a comparative perspective. We apply a PPP-adjustment to dollars of the price level in 2017. Sweden started out in the early 1980 with lower levels of income than many other countries but this gap has gradually disappeared over time. Income growth in Sweden has been particularly strong at the median and in the top of the distribution, but the bottom of the distribution has also improved in a comparative perspective.

Capital income has grown sharply over time at the top of the income distribution and thus likely contributed to rising upper-half inequality. Sweden share this pattern with Norway

and Finland but not with most other countries. However, our closer look at the content of capital income in Sweden shows much of this rise may be caused by income shifting from labour earnings to capital income. Future research would benefit from more detailed information about different types of capital income.

Immigration to Sweden has been high in the period that we cover. Thus, the share of foreign-born in the population has risen sharply with large potential effects on income inequality. However, our analysis shows that this change in the composition of the population has not had a large impact on overall income inequality. This result also applies to most other countries. However, the results may be different if a more detailed breakdown of immigrants into country of origin could be used. In particular, the evolution of income inequality since 2015 would look different with such a more detailed analysis.

A third driver of rising disposable income inequality may be less redistribution from taxes and transfers. Indeed, in our data we find that the gap between pre- and post tax and transfer income has fallen in Sweden from some 0.05 to 0,03, and such a decline cannot be found in most other countries. However, at the same time inequality of working hours has fallen in Sweden. More research is needed to find out the total impact of changes in taxes and transfers on income inequality in Sweden and other countries.

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Figures

Figure 1. Gini in Sweden compared to Belgium, Denmark, Finland, Netherlands and Norway.

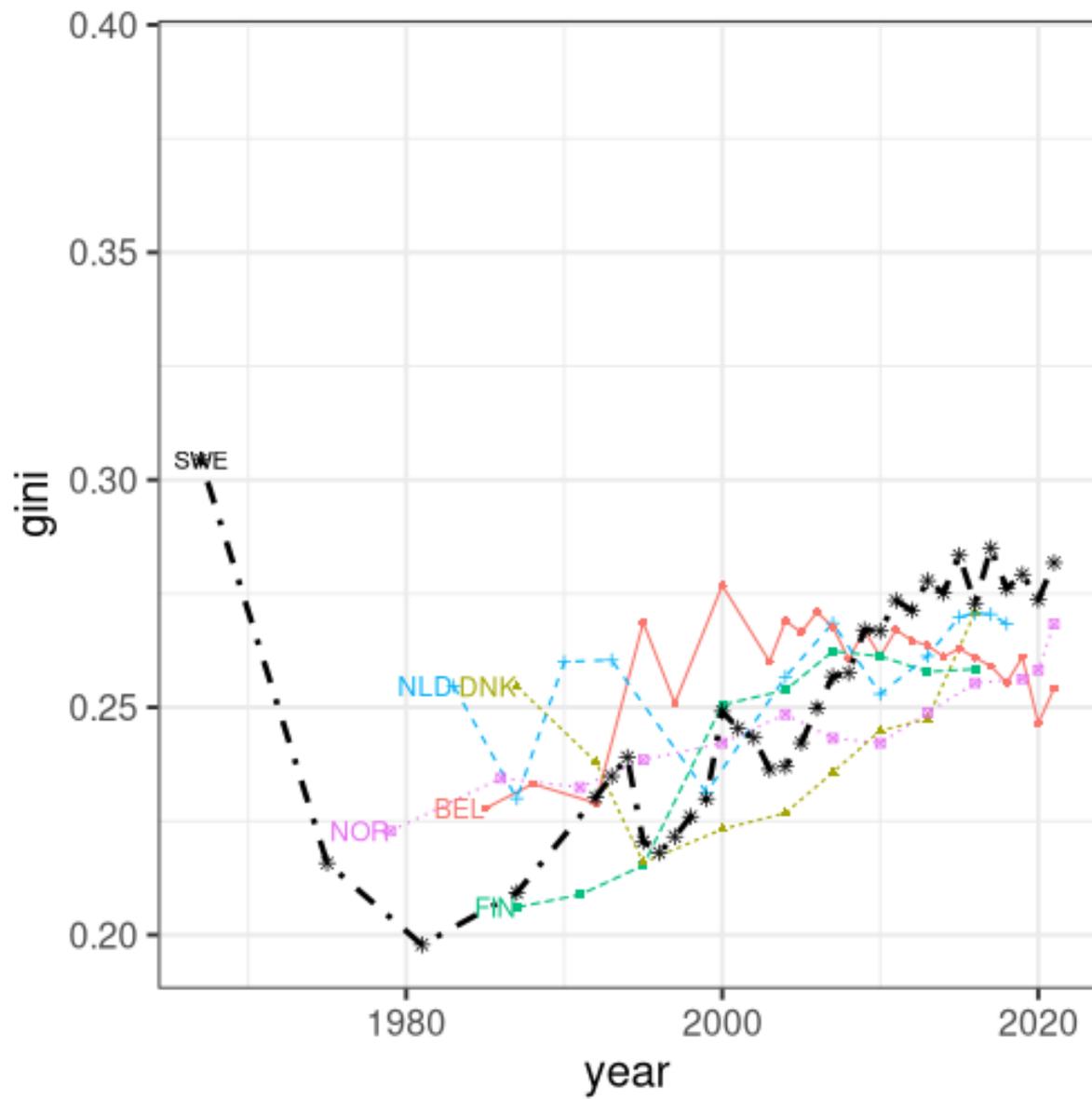


Figure 2. Ratios of decile group 10 and 1 means (m_{10}/m_1), decile group 10 mean and the median (m_{10}/P_{50}), and the median and decile group 1 mean (P_{50}/m_1) in Sweden compared to Belgium, Denmark, Finland, Netherlands and Norway. Logarithms.

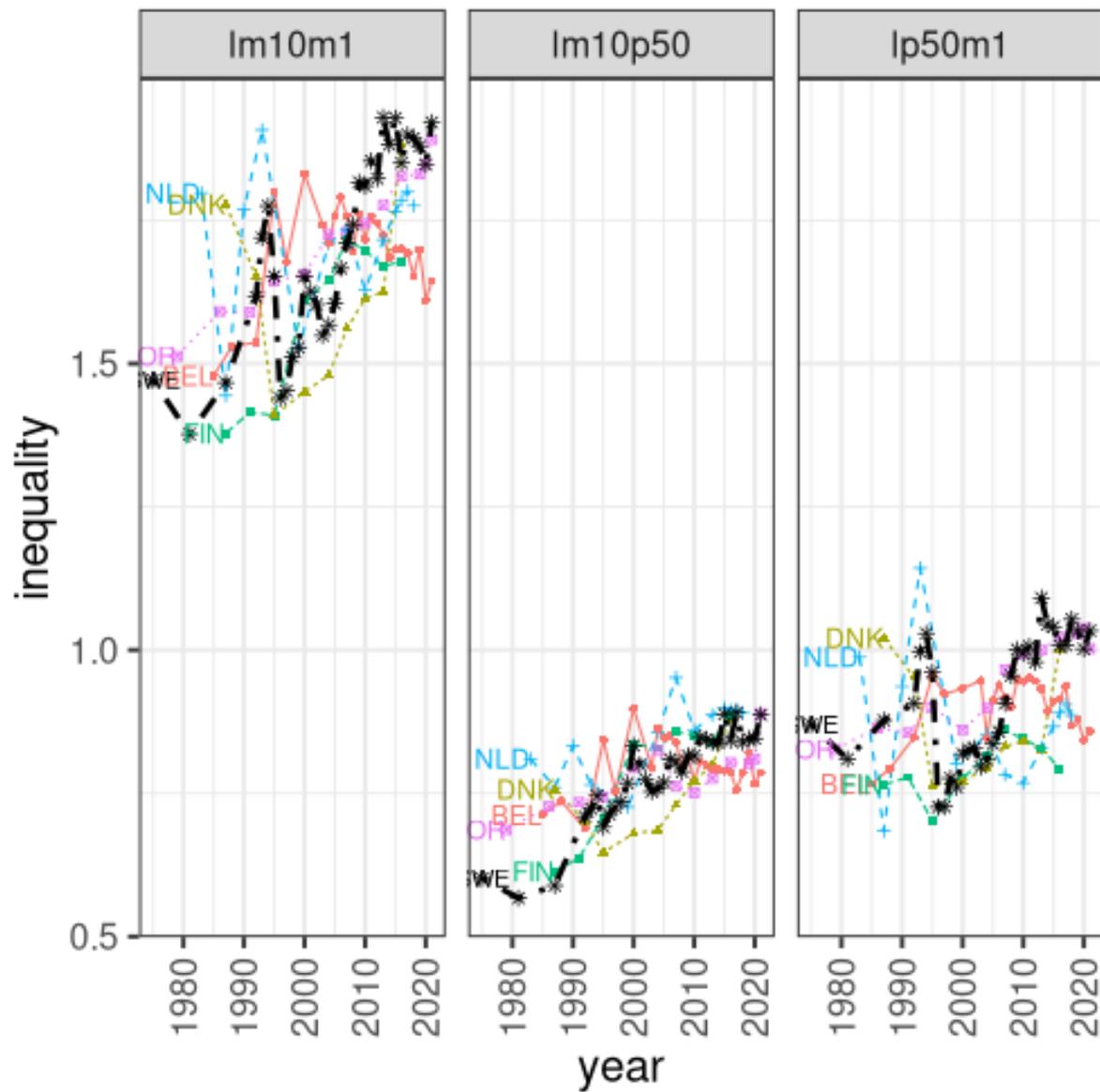


Figure 3. The logarithm of real income in the first decile group (M1), at the median (P50) and in the 10th decile group (M10) in Sweden compared to Belgium, Denmark, Finland, Netherlands and Norway.

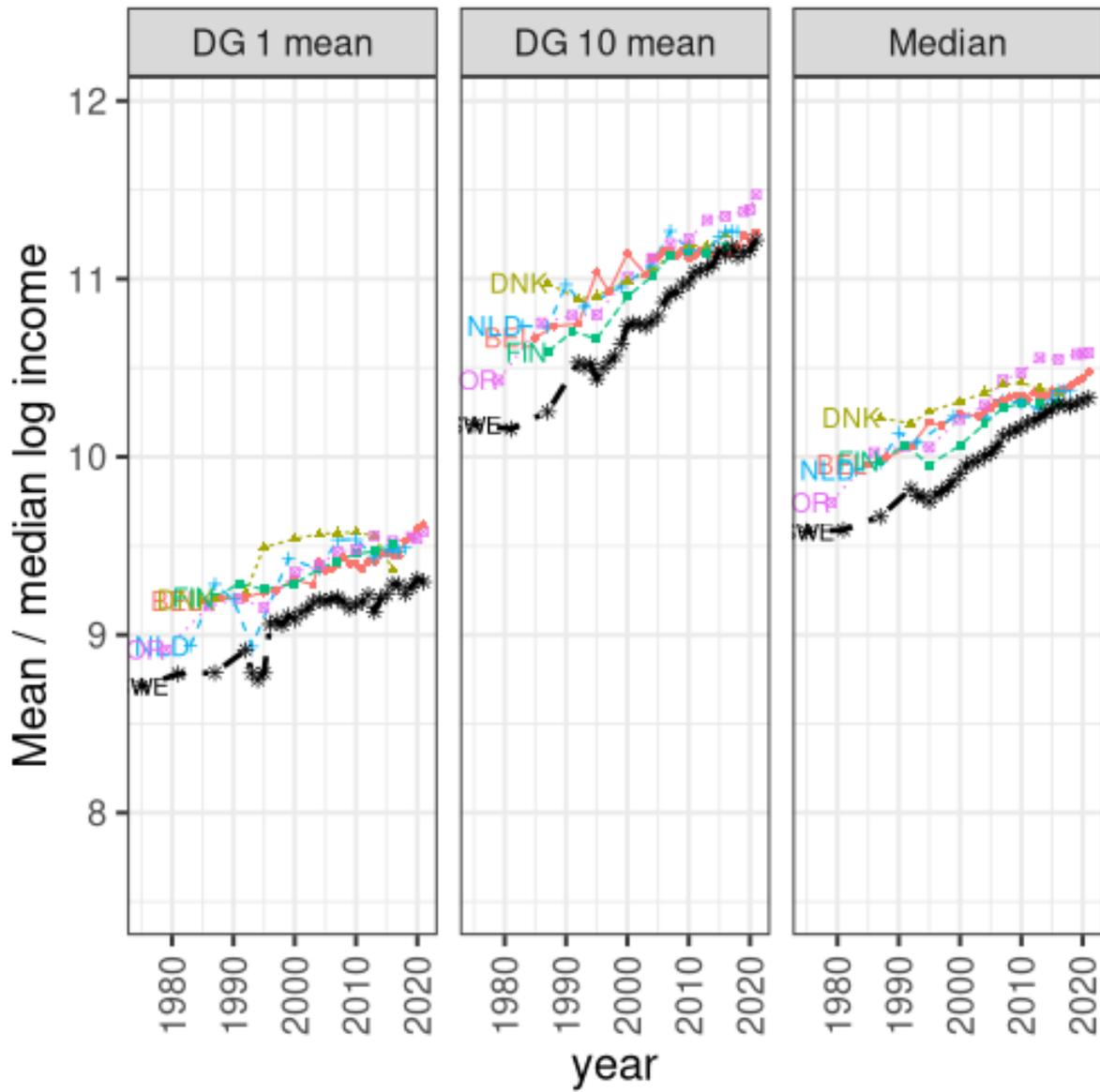


Figure 4. Capital's share of disposable income in the top-decile group: Sweden compared to Belgium, Denmark, Finland, Netherlands and Norway.

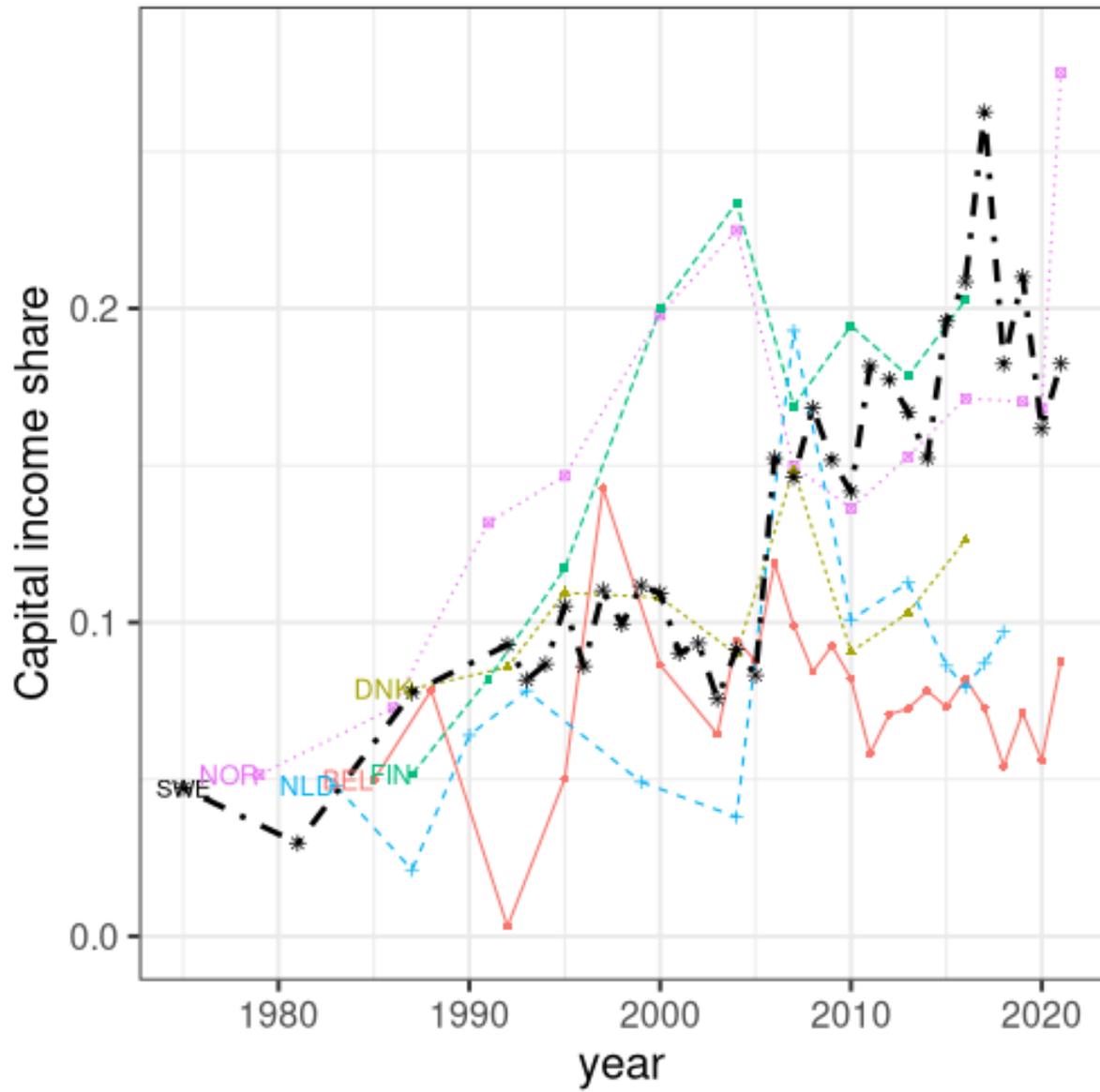
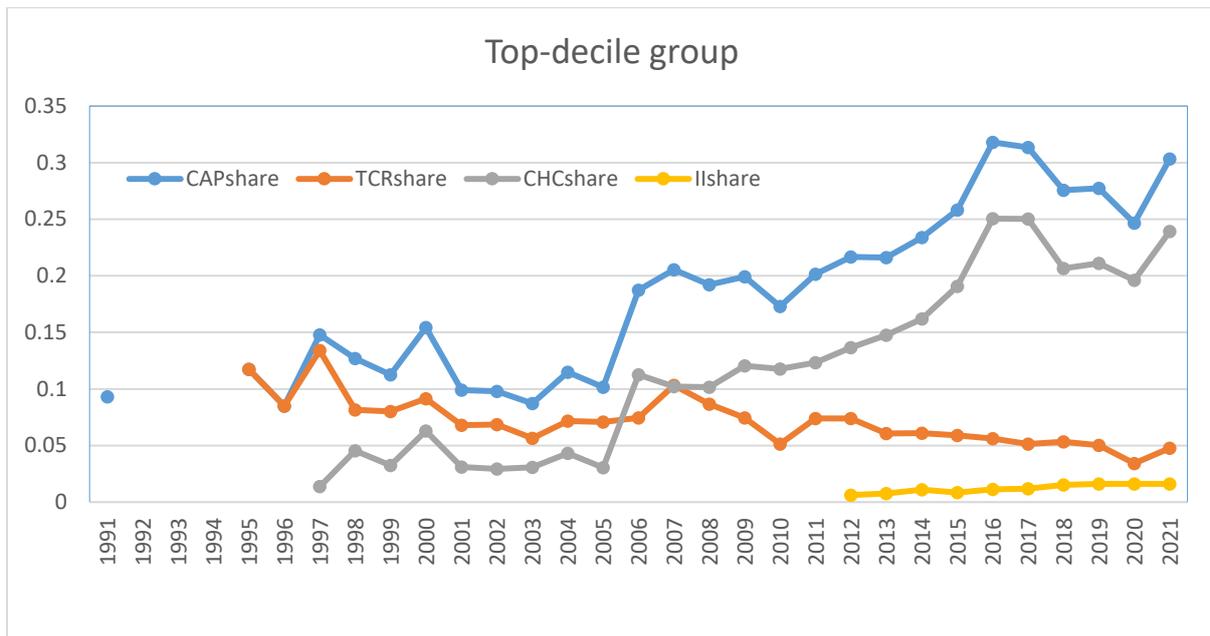
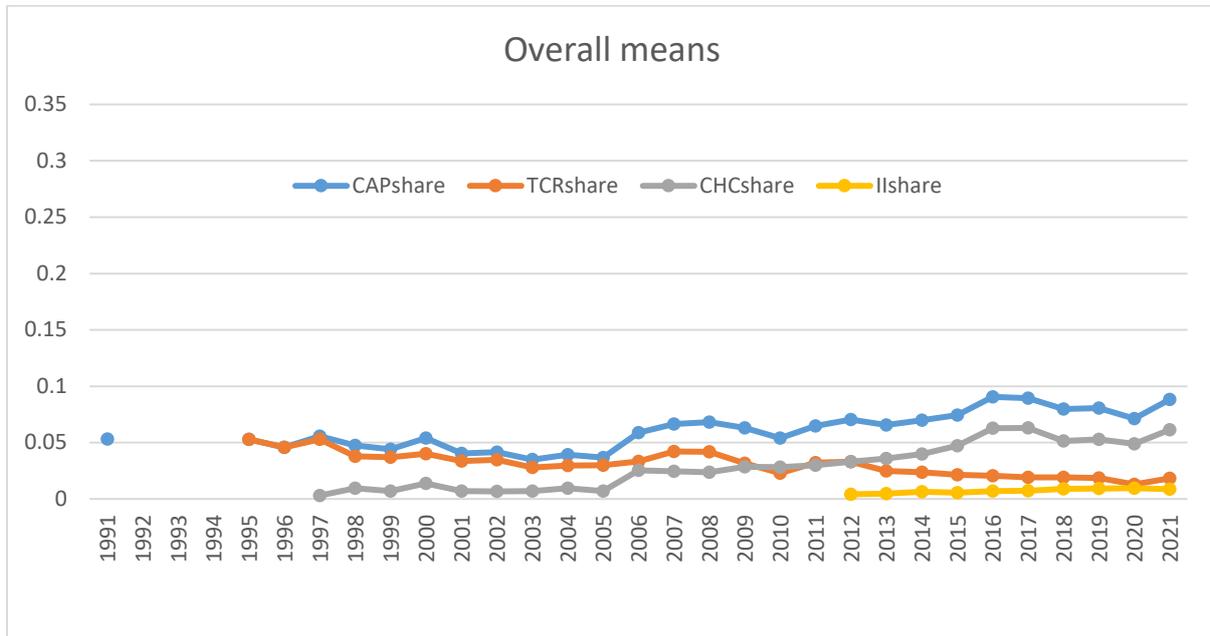


Figure 5. Total capital income (CAP), traditional capital returns (TCR), dividends from closely held corporations (CGC), imputed income from certain assets (II) as shares of total disposable income. Overall means and the top-decile group Swedish data 1991, 1995-2021.



Note:

Figure 6. Share of immigrants in Sweden by definition (estimated from LIS microdata).

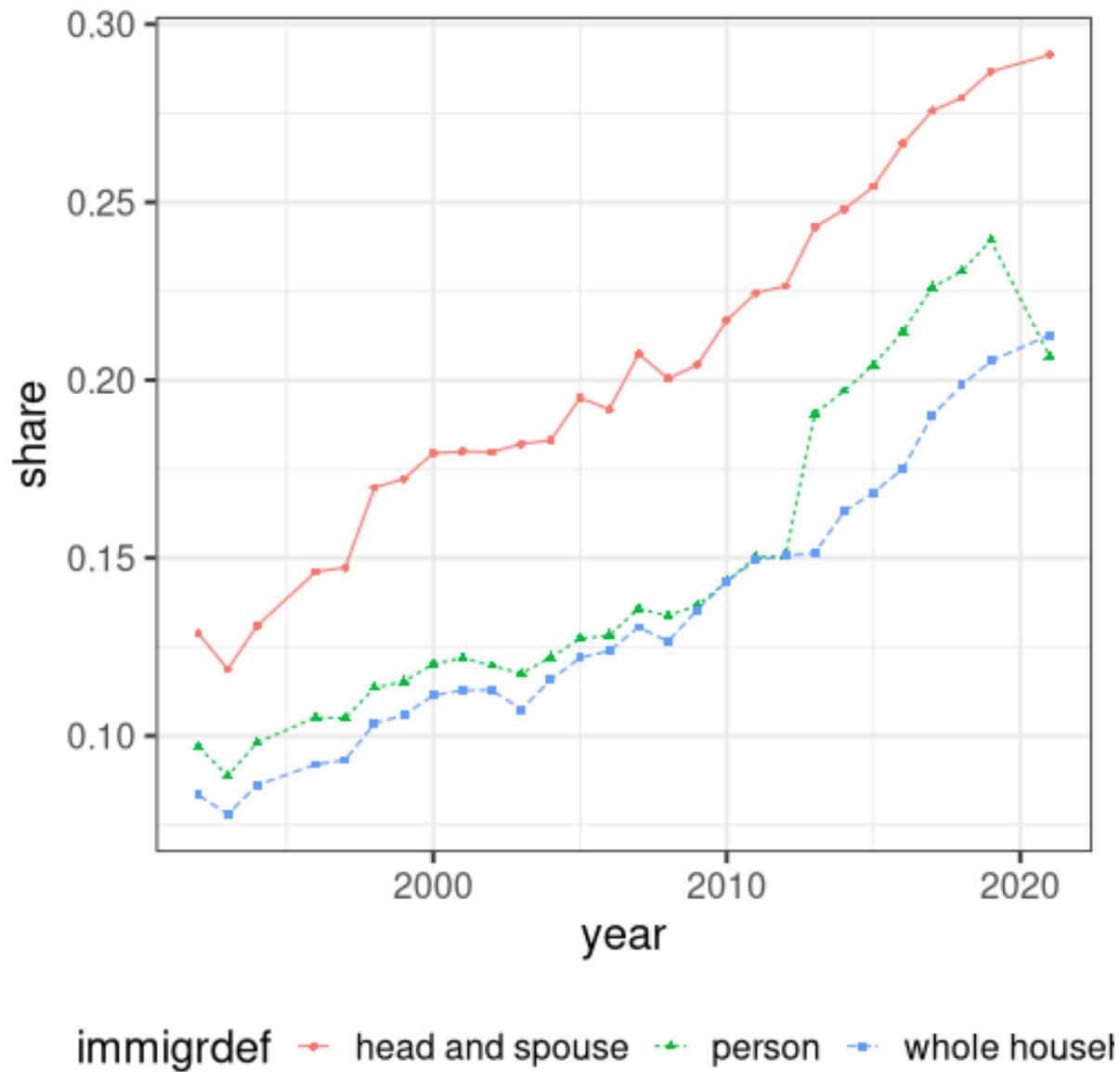
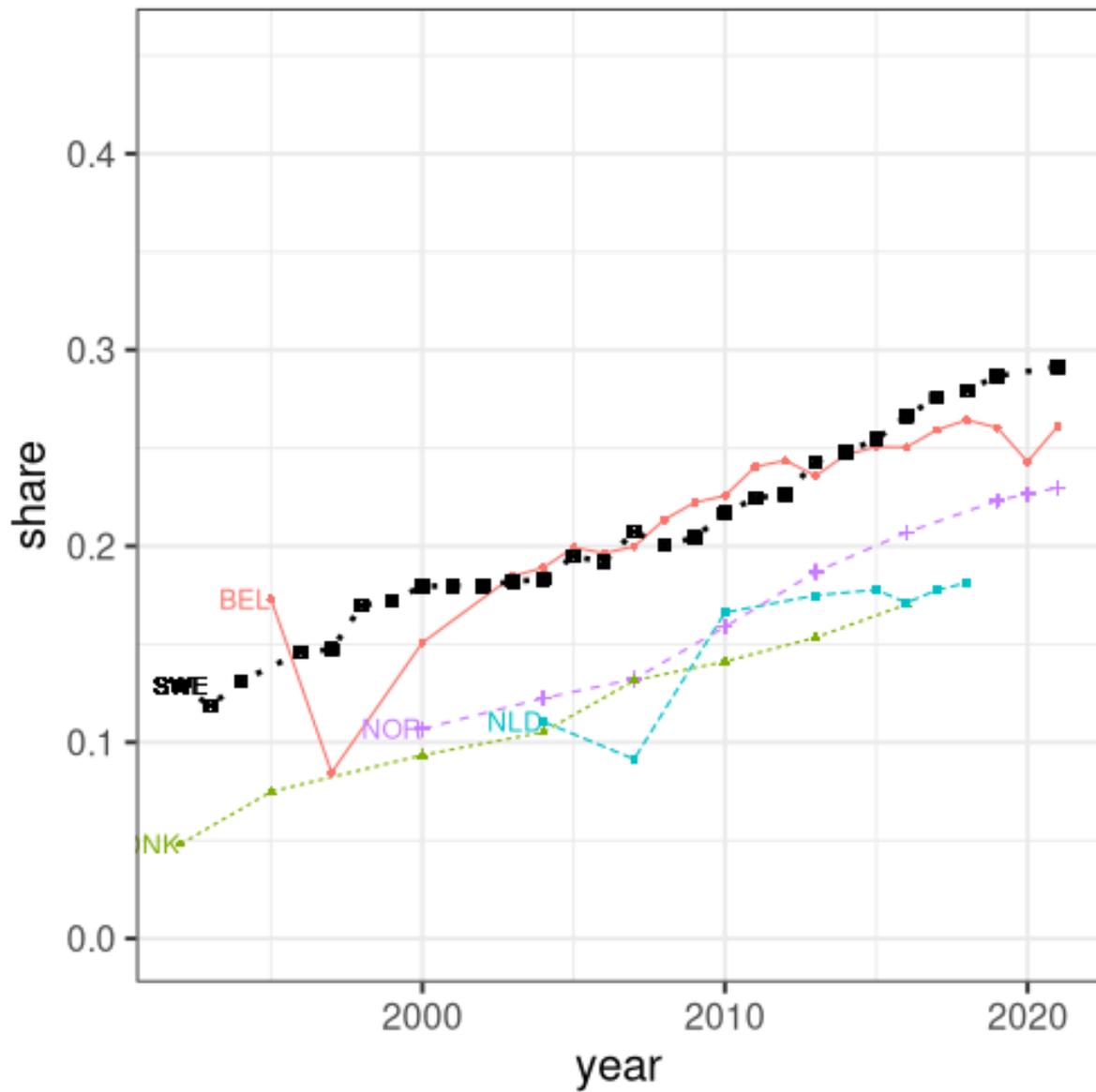


Figure 7. Share of immigrants in the population in Sweden compared to Belgium, Denmark, Netherlands and Norway.



Note: An individual is counted as immigrant if she or he lives in a household in which both the head and spouse are immigrants.

Figure 8. Real disposable income by immigrant status in decile groups 1, 10 along with median income in Sweden.

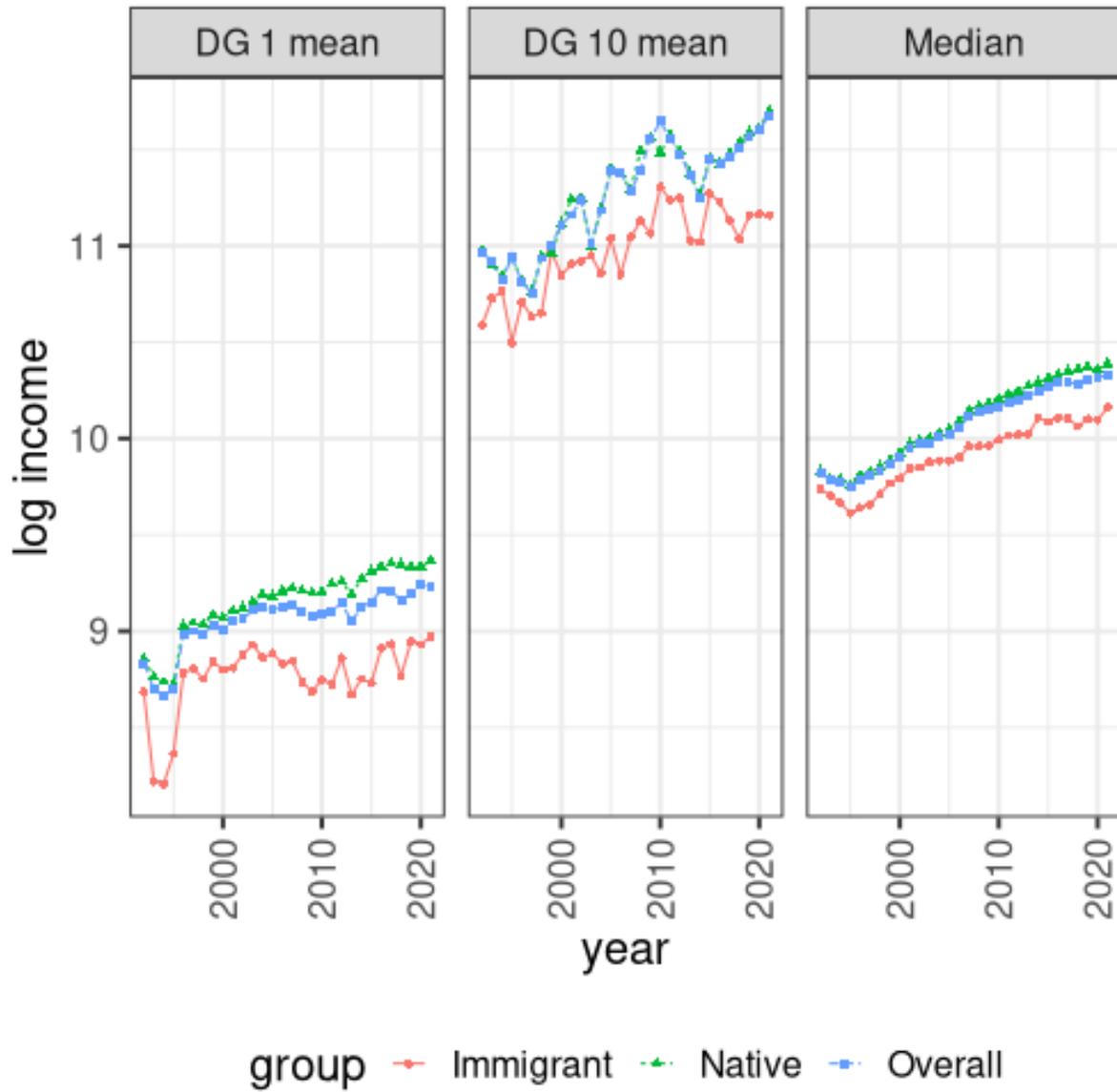


Figure 9. Actual and counterfactual inequality (with constant immigrant share) – Gini. Sweden compared to Belgium, Denmark, Netherlands and Norway.

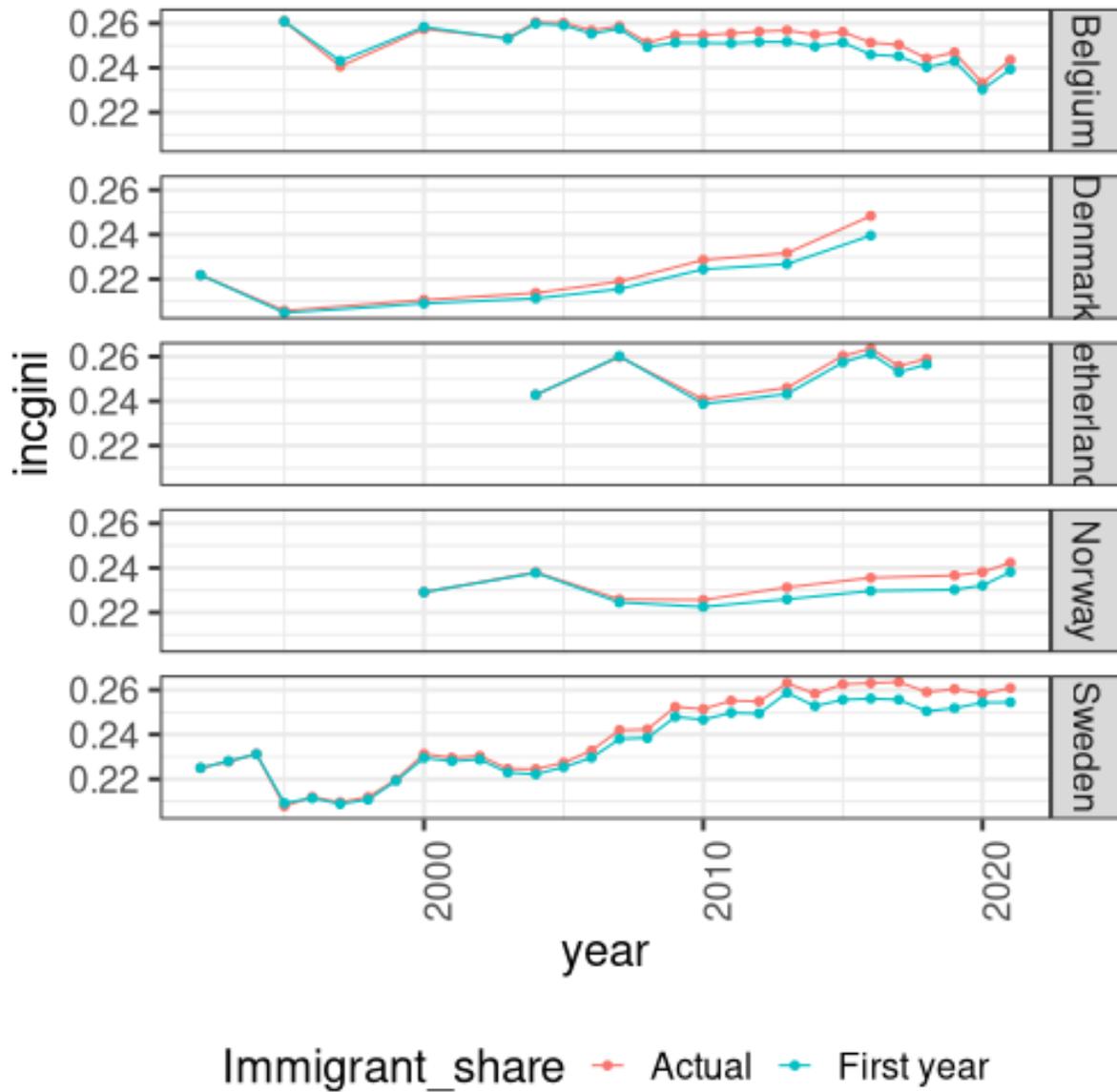


Figure 10. Actual and counterfactual inequality (with constant immigrant share) – Im_{10}/m_1 . Sweden compared to Belgium, Denmark, Netherlands and Norway.

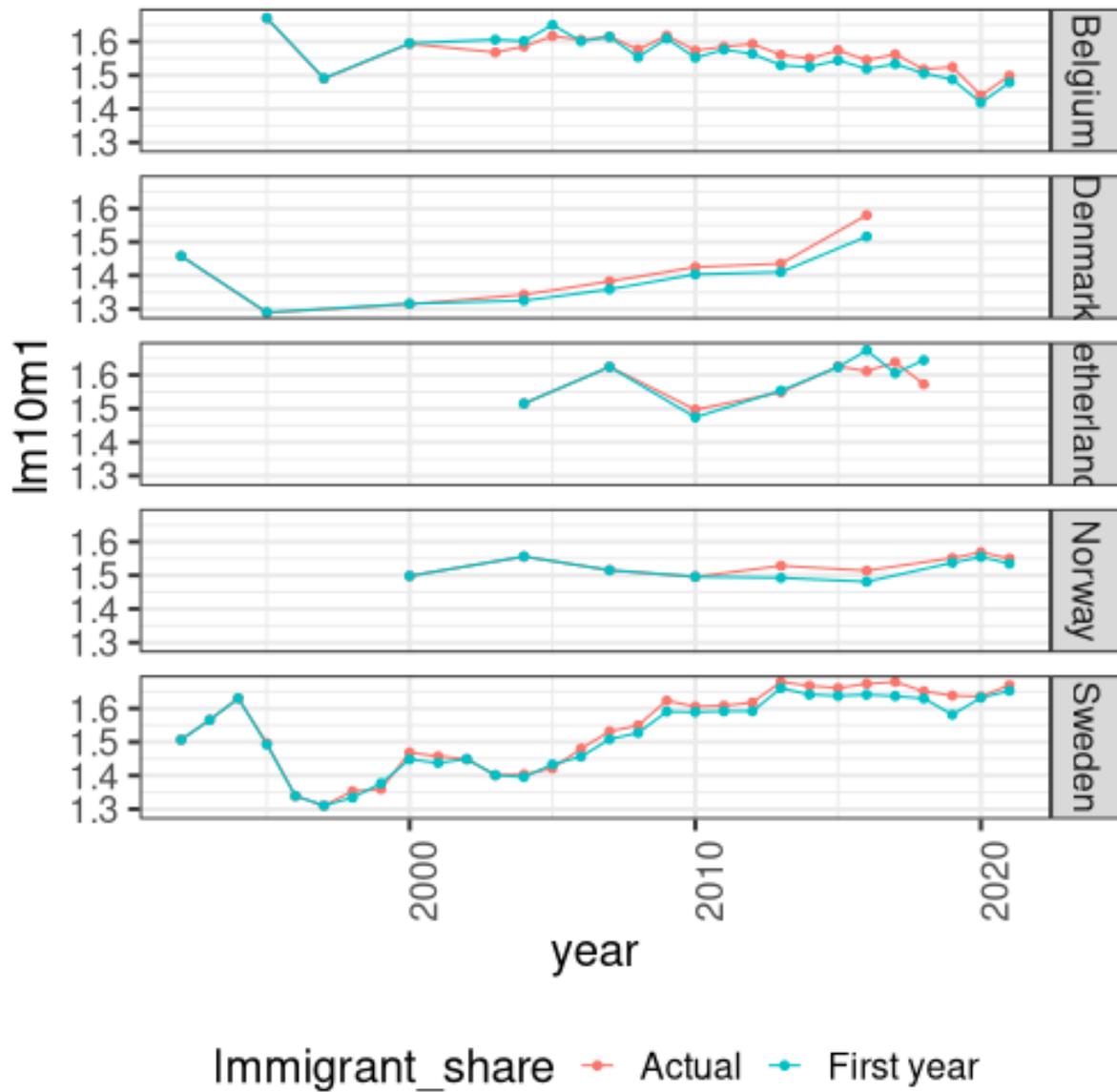


Figure 11. Actual and counterfactual inequality (with constant immigrant share) – $Im_{10/p50}$. Sweden compared to Belgium, Denmark, Netherlands and Norway.

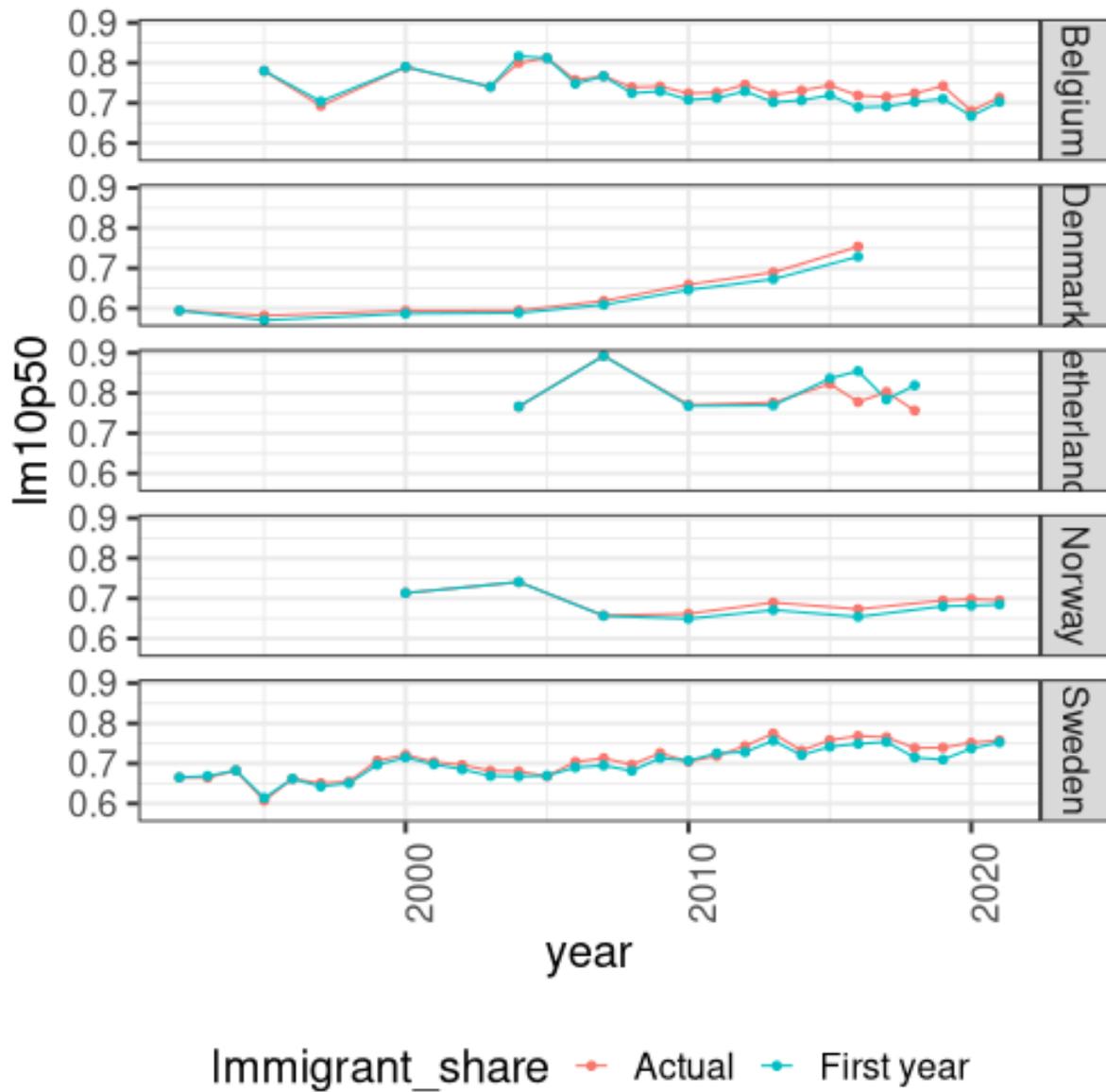


Figure 12. Actual and counterfactual inequality (with constant immigrant share) – Ip50/m1. Sweden compared to Belgium, Denmark, Netherlands and Norway.

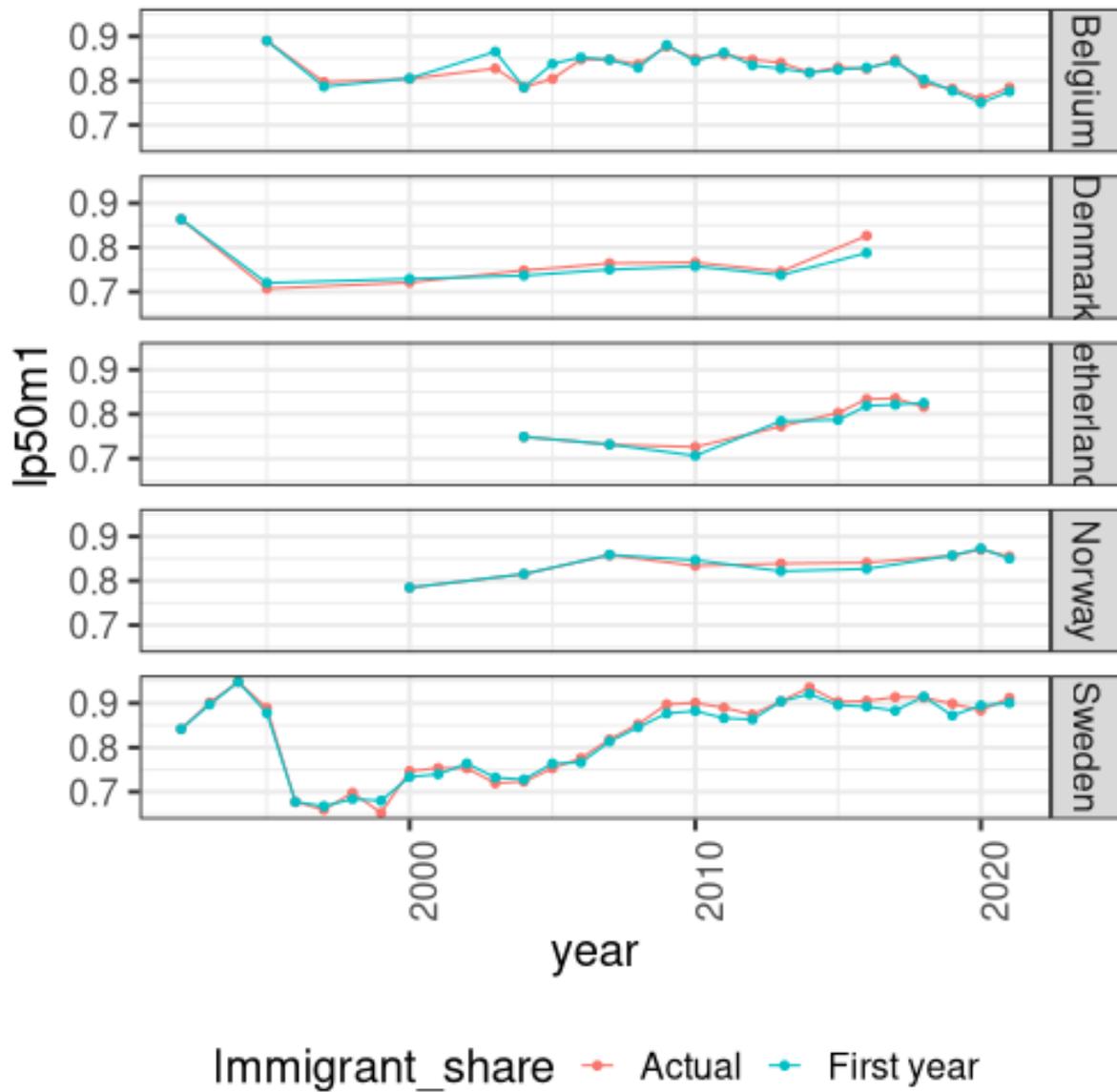
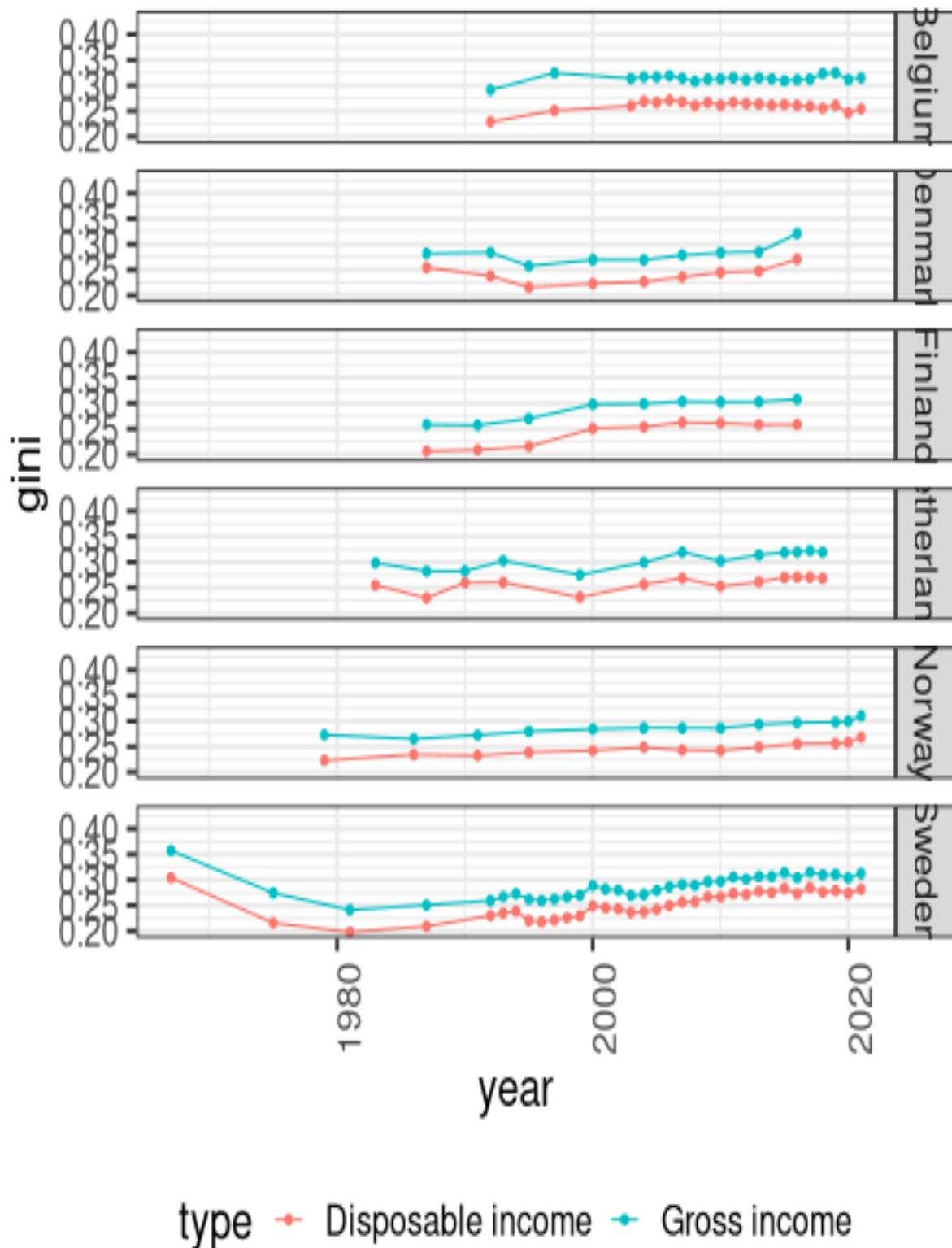
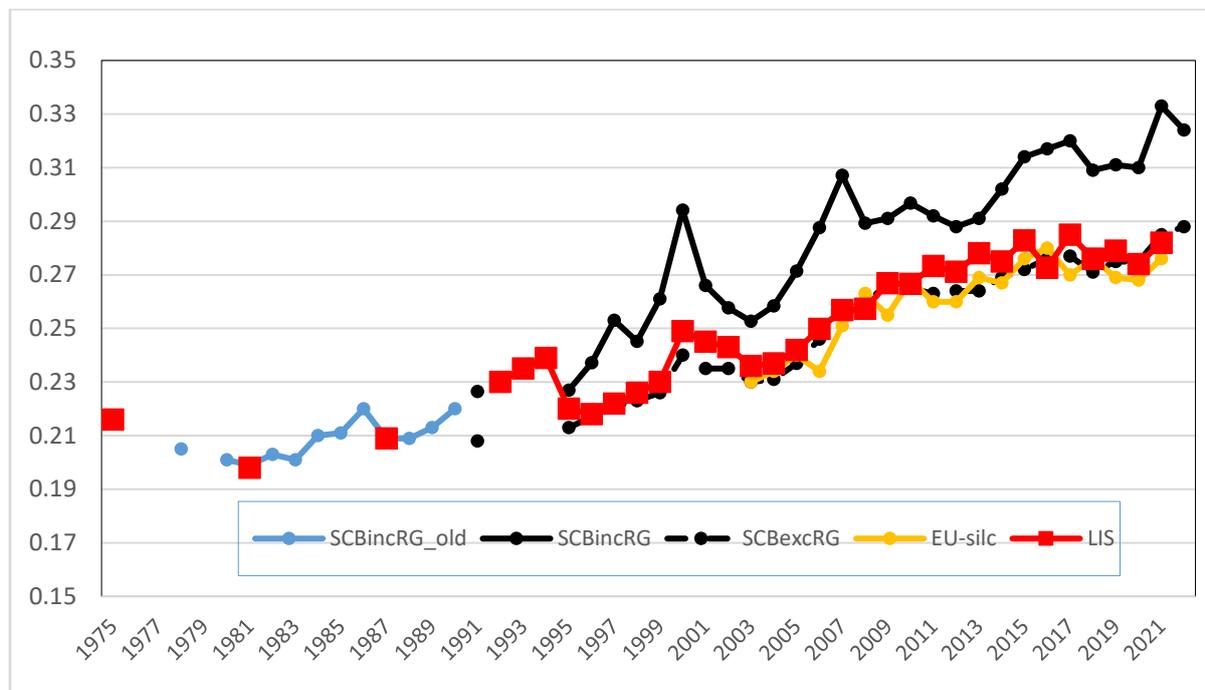


Figure 13. Inequality pre and post tax and transfers – Gini. Sweden compared to Belgium, Denmark, Finland, Netherlands and Norway. (NB: Should this be landscape or portrait?)



Appendix A.

Figure A1. Gini coefficients for disposable income in Sweden according to various sources and definitions. SCBincRG_old is the official series including realized capital gains and with the old household concept, SCBincRG and SCBexcklRG are the official series including and excluding realized capital gains, EU-silc is the official series. LIS is the series from our estimates from the LIS data.



Sources: SCB, EU-silc, own calculations from the LIS data set.

Appendix B.

Figure B1. Gini in Sweden compared to Austria, France, Germany, Italy and Spain.

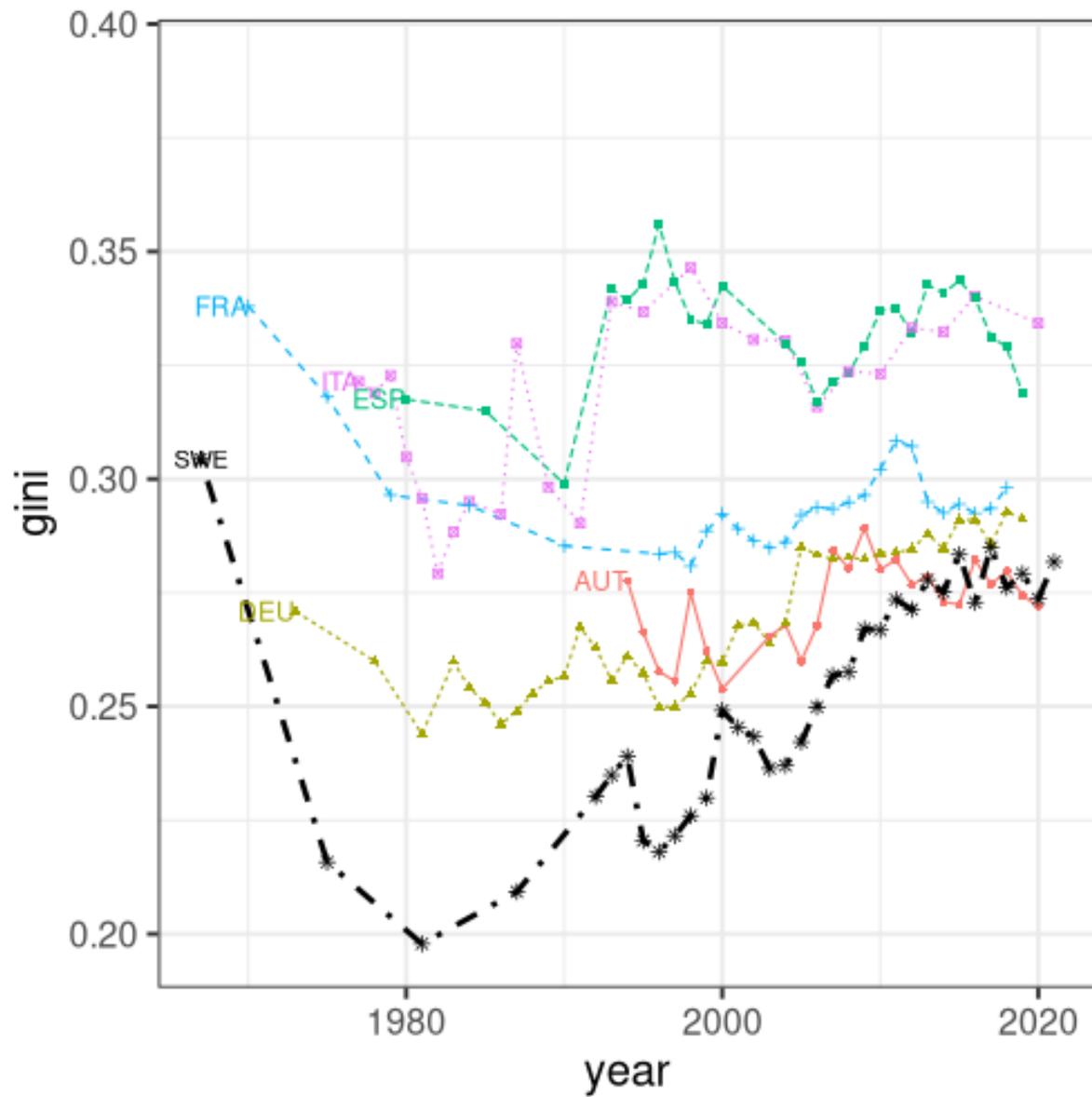


Figure B2. Gini in Sweden compared to Czechia, Estonia, Hungary and Romania.

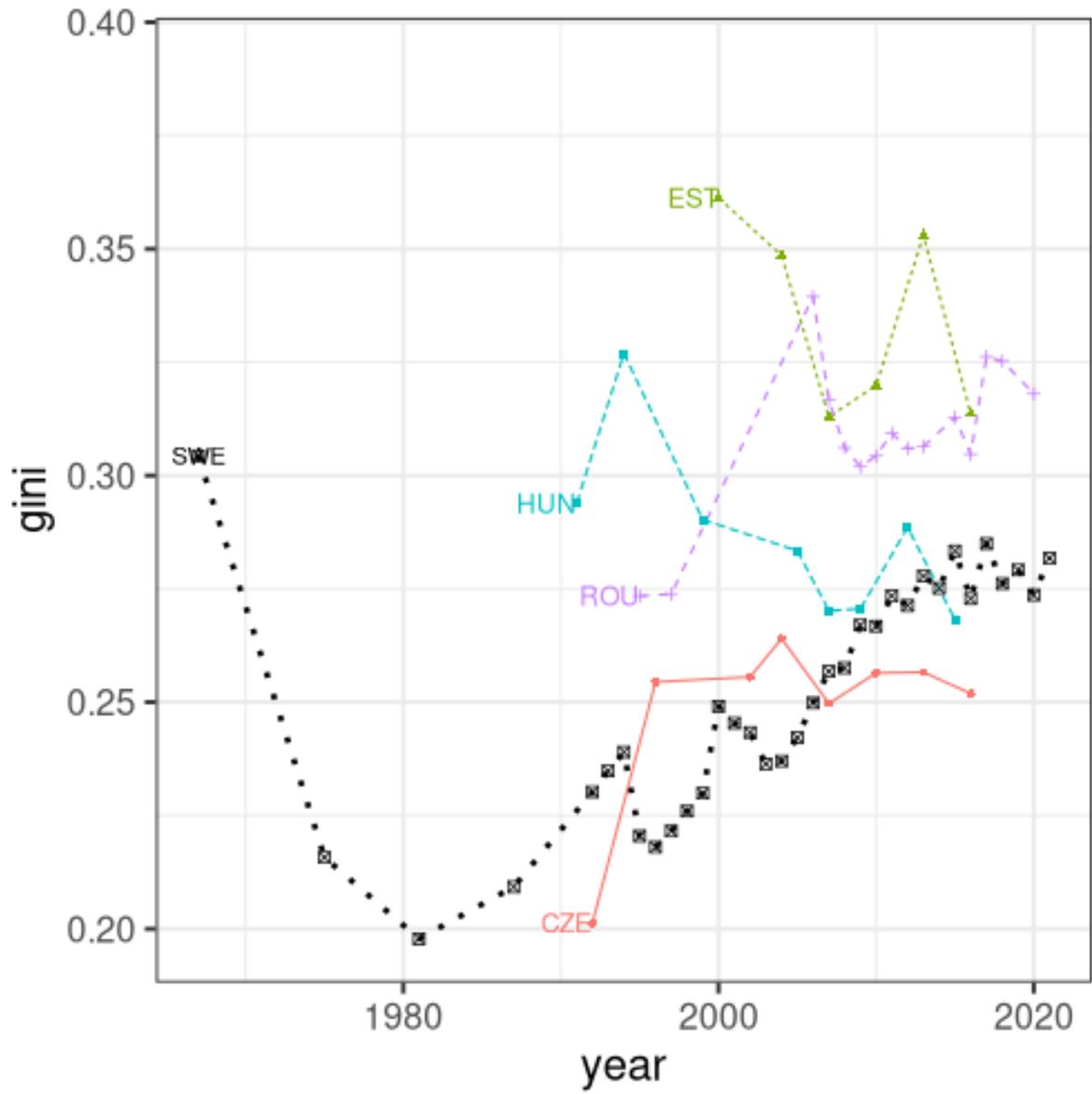


Figure B3. Gini in Sweden compared to Australia, Canada, Great Britain and the US.

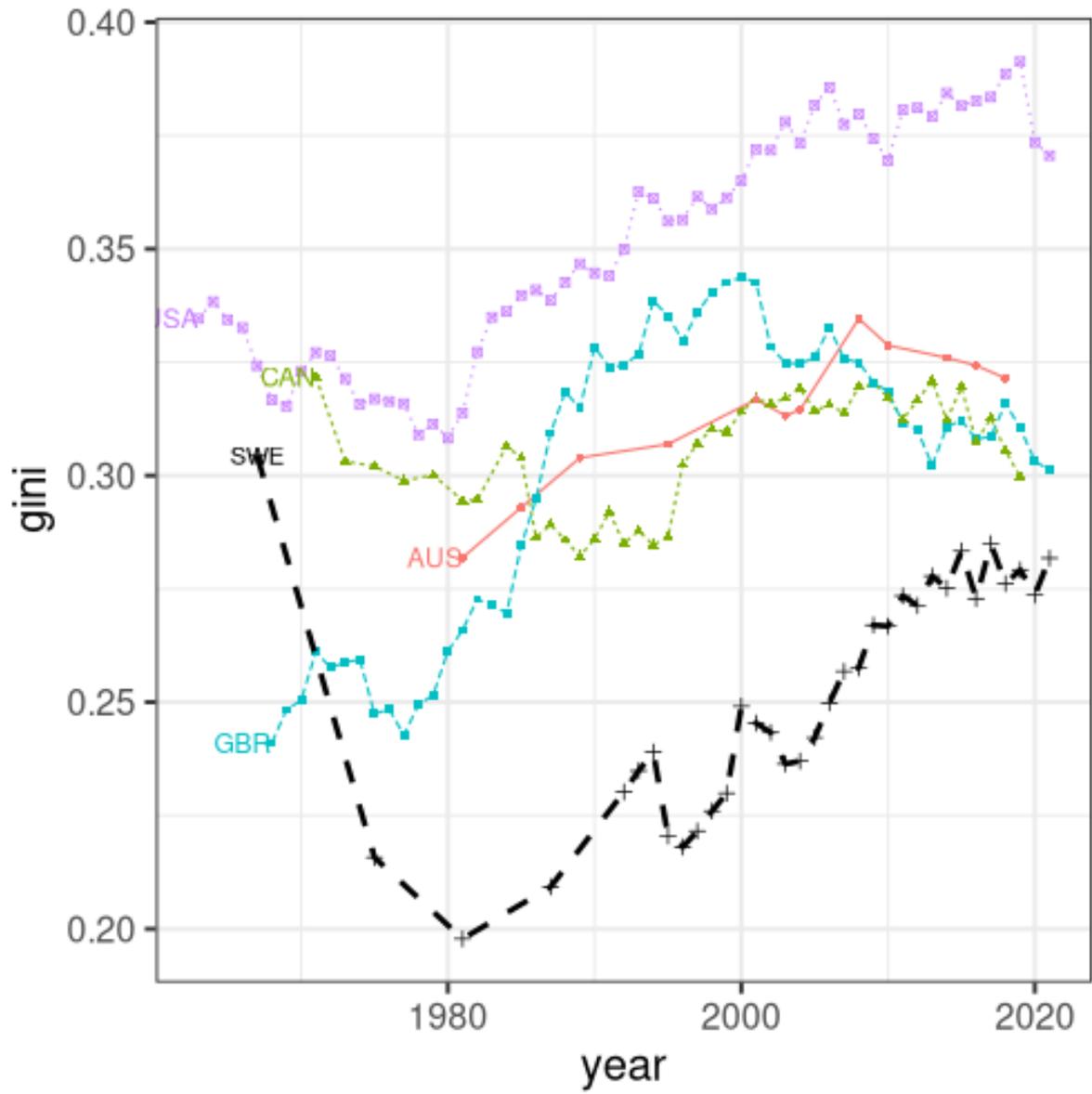


Figure B5. Ratios of decile group 10 and 1 means (m_{10}/m_1), decile group 10 mean and the median (m_{10}/P_{50}), and the median and decile group 1 mean (P_{50}/m_1) in Sweden compared to Czechia, Estonia, Hungary and Romania. Logarithms.

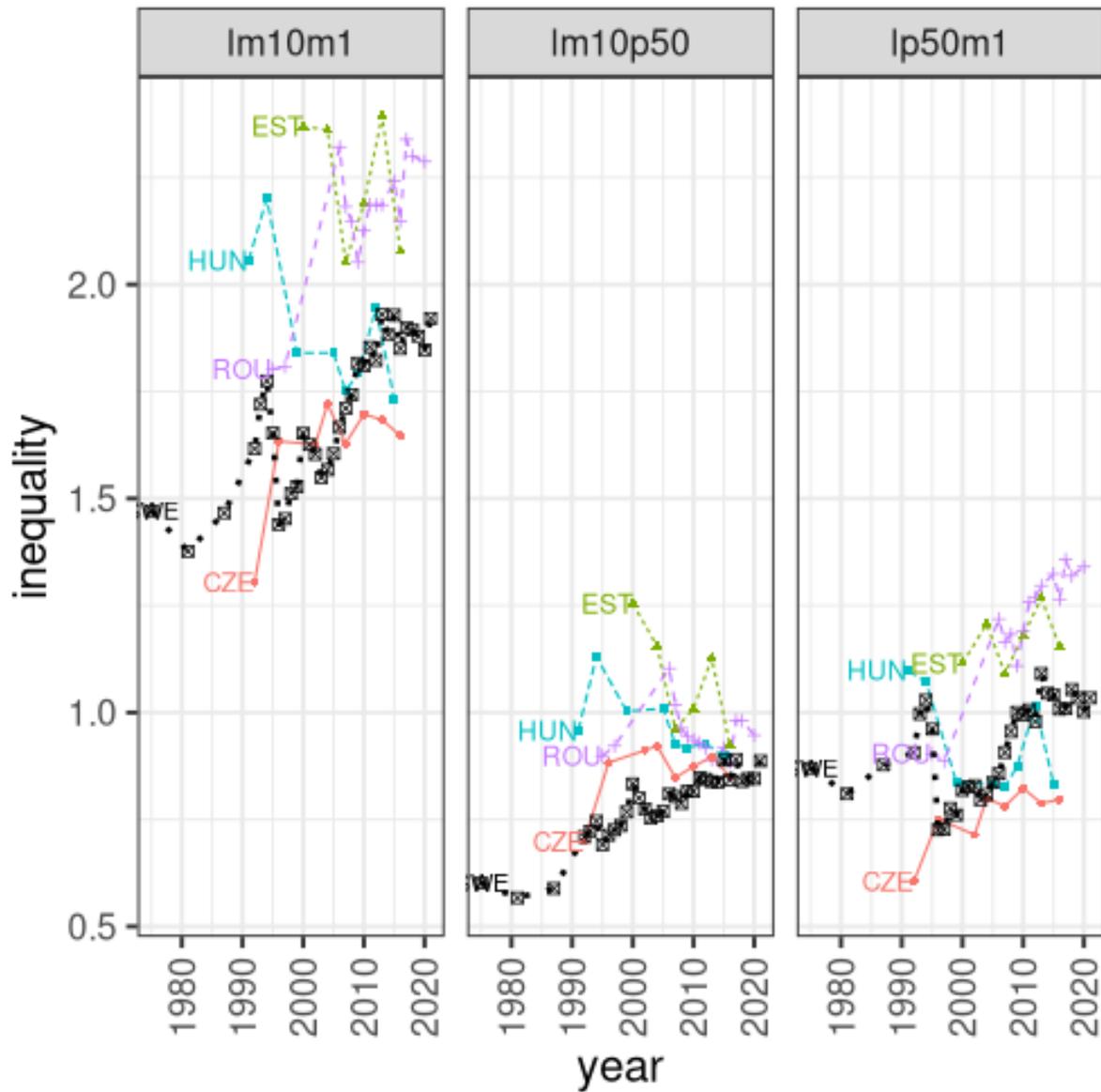


Figure B6. Ratios of decile group 10 and 1 means (m_{10}/m_1), decile group 10 mean and the median (m_{10}/P_{50}), and the median and decile group 1 mean (P_{50}/m_1) in Sweden compared to Australia, Canada, Great Britain and the US. Logarithms.

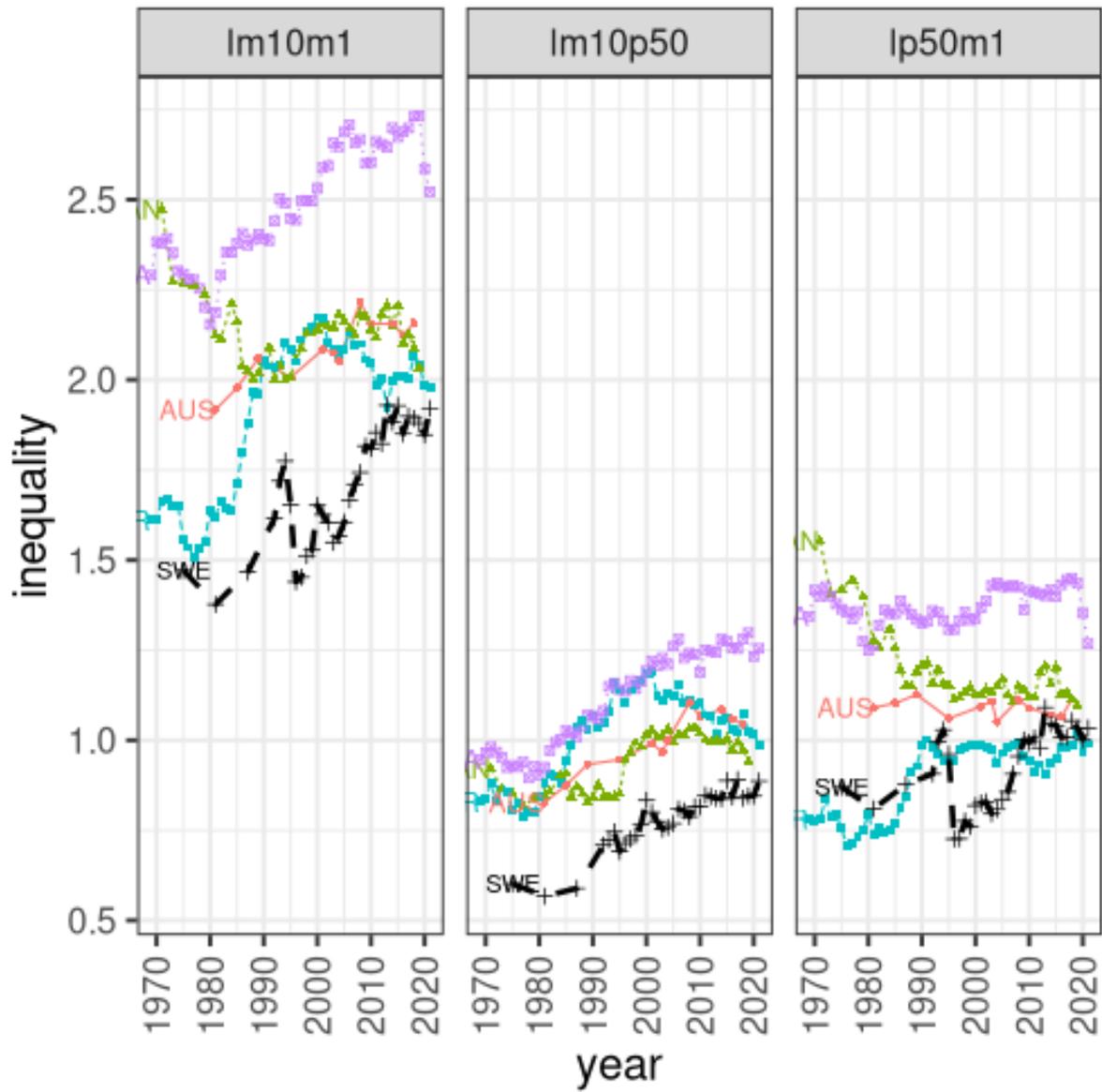


Figure B7. The logarithm of real disposable income in the first decile group (m1), at the median (P50) and in the 10th decile group (m10) in Sweden compared to Austria, France, Germany, Italy and Spain.

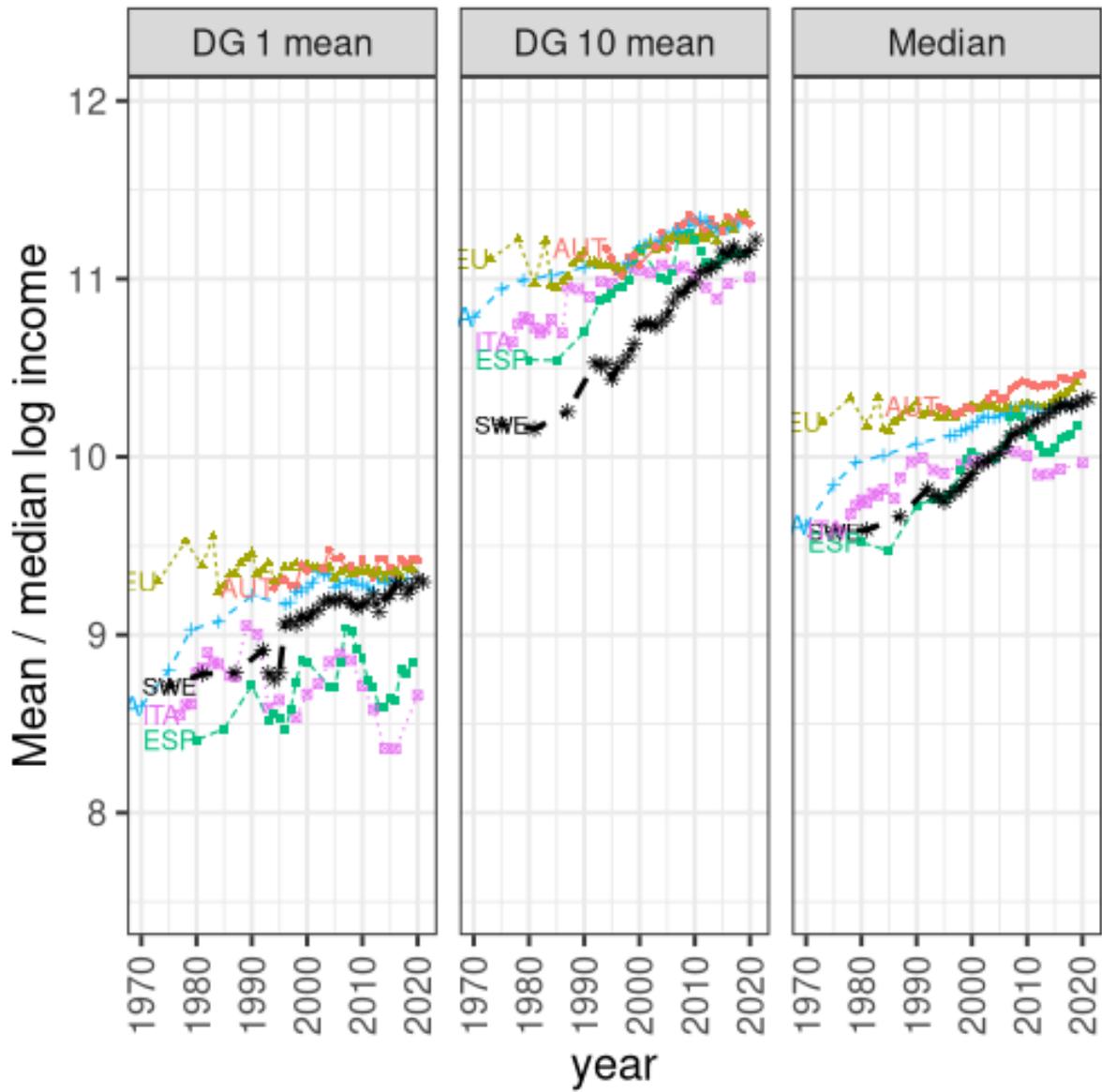


Figure B8. The logarithm of real disposable income in the first decile group (m1), at the median (P50) and in the 10th decile group (m10) in Sweden compared to Czechia, Estonia, Hungary and Romania.

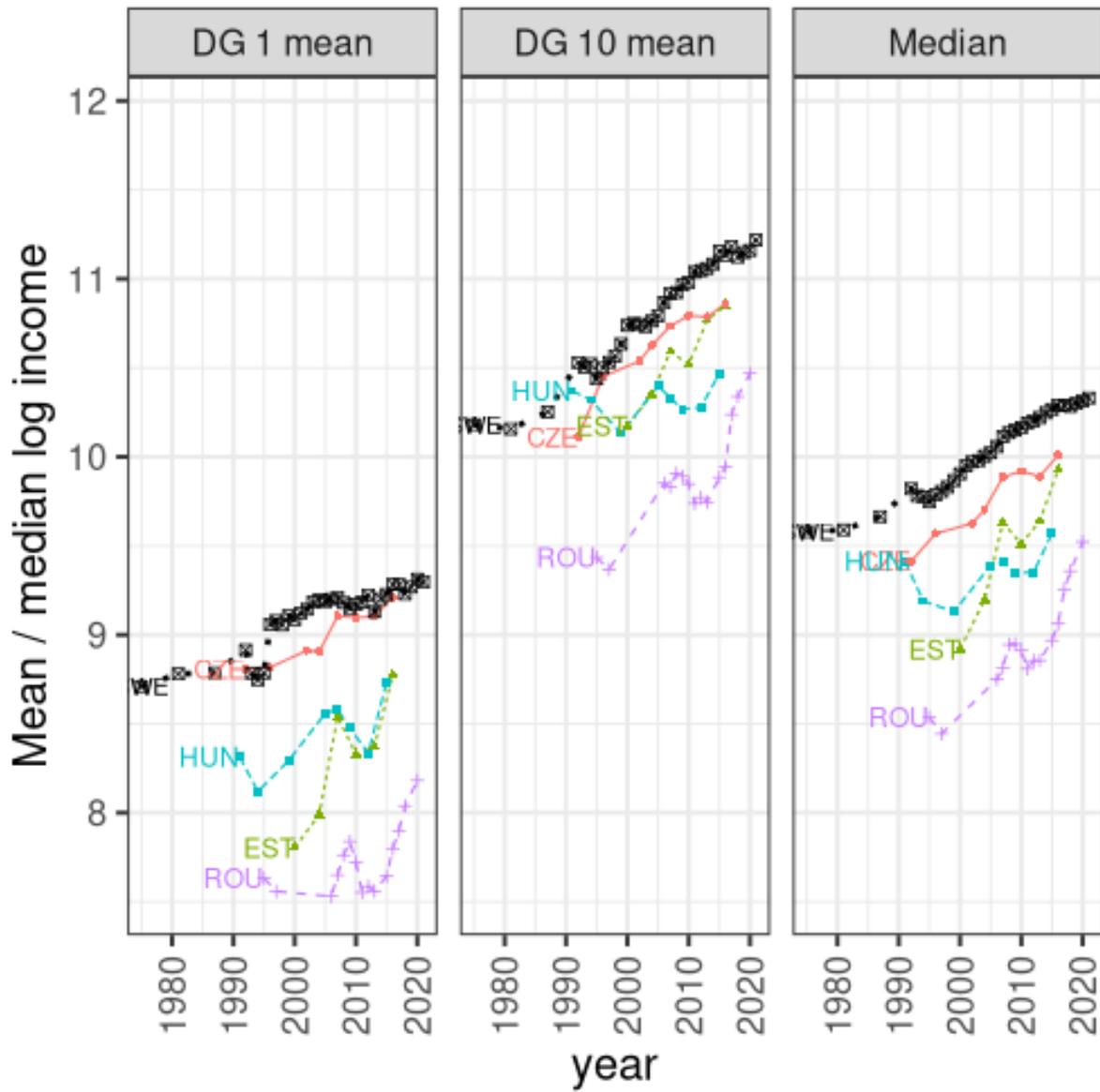


Figure B9. The logarithm of real disposable income in the first decile group (m1), at the median (P50) and in the 10th decile group (m10) in Sweden compared to Australia, Canada, Great Britain and the US.

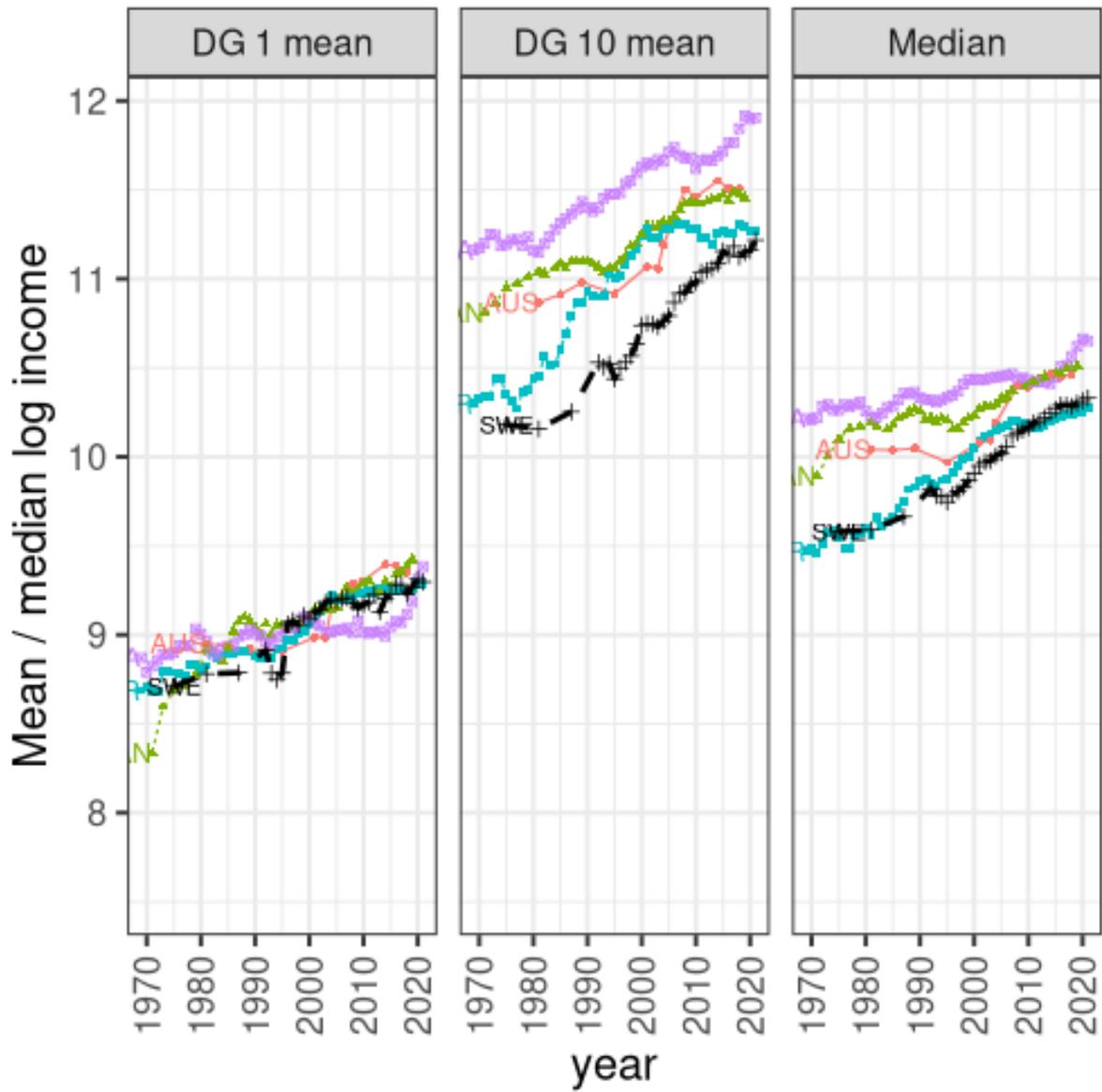


Figure B10. Capital's share of disposable income in the top-decile group: Sweden compared to Austria, France, Germany, Italy and Spain.

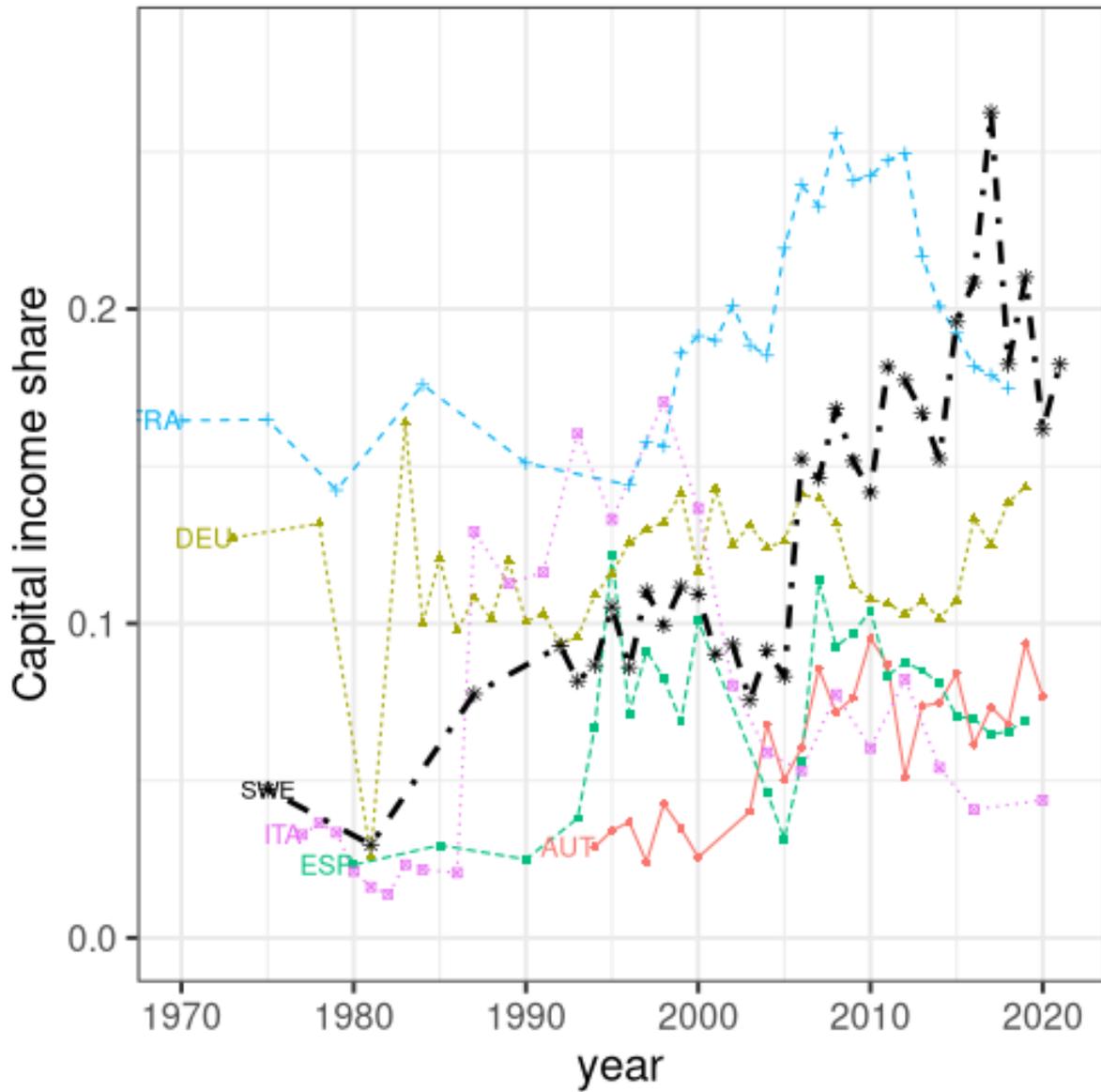


Figure B11. Capital's share of disposable income in the top-decile group: Sweden compared to Czechia, Estonia, Hungary and Romania.

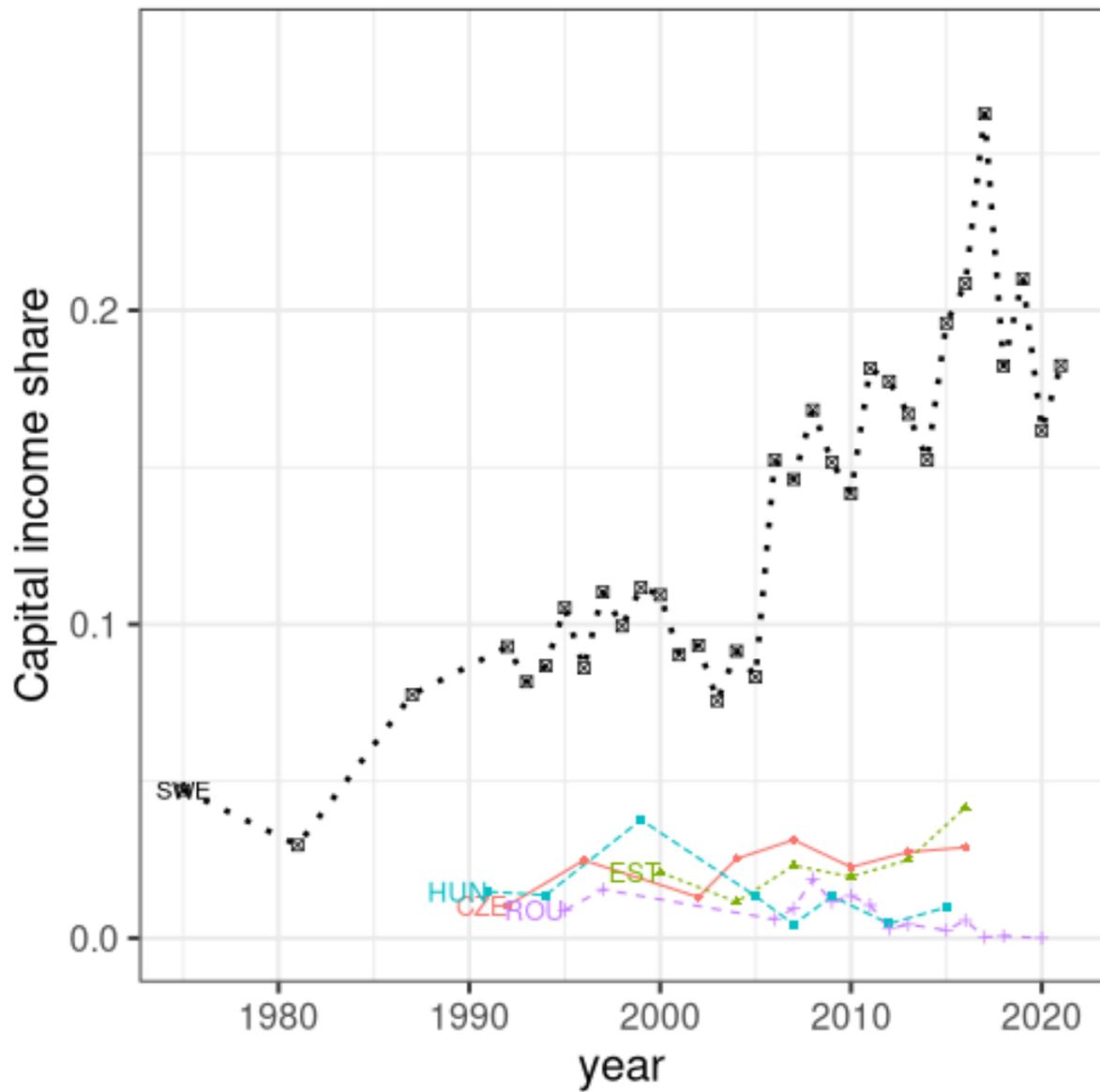


Figure B12. Capital's share of disposable income in the top-decile group: Sweden compared to Australia, Canada, Great Britain and the US.

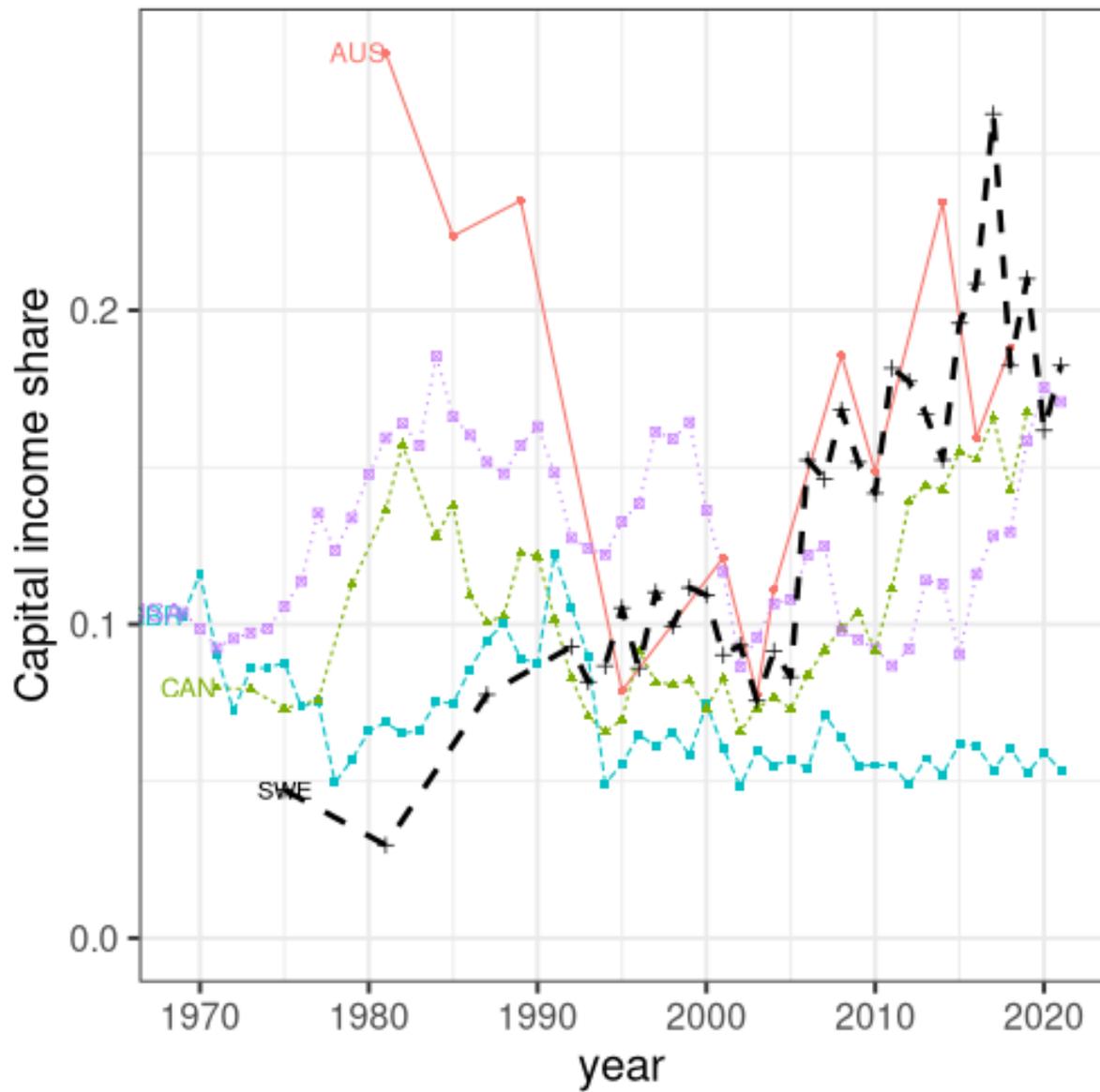


Figure B13. Figure 8. Share of immigrants in the population in Sweden compared to Austria, France, Germany, Italy and Spain. Belgium, Denmark, Netherlands and Norway.

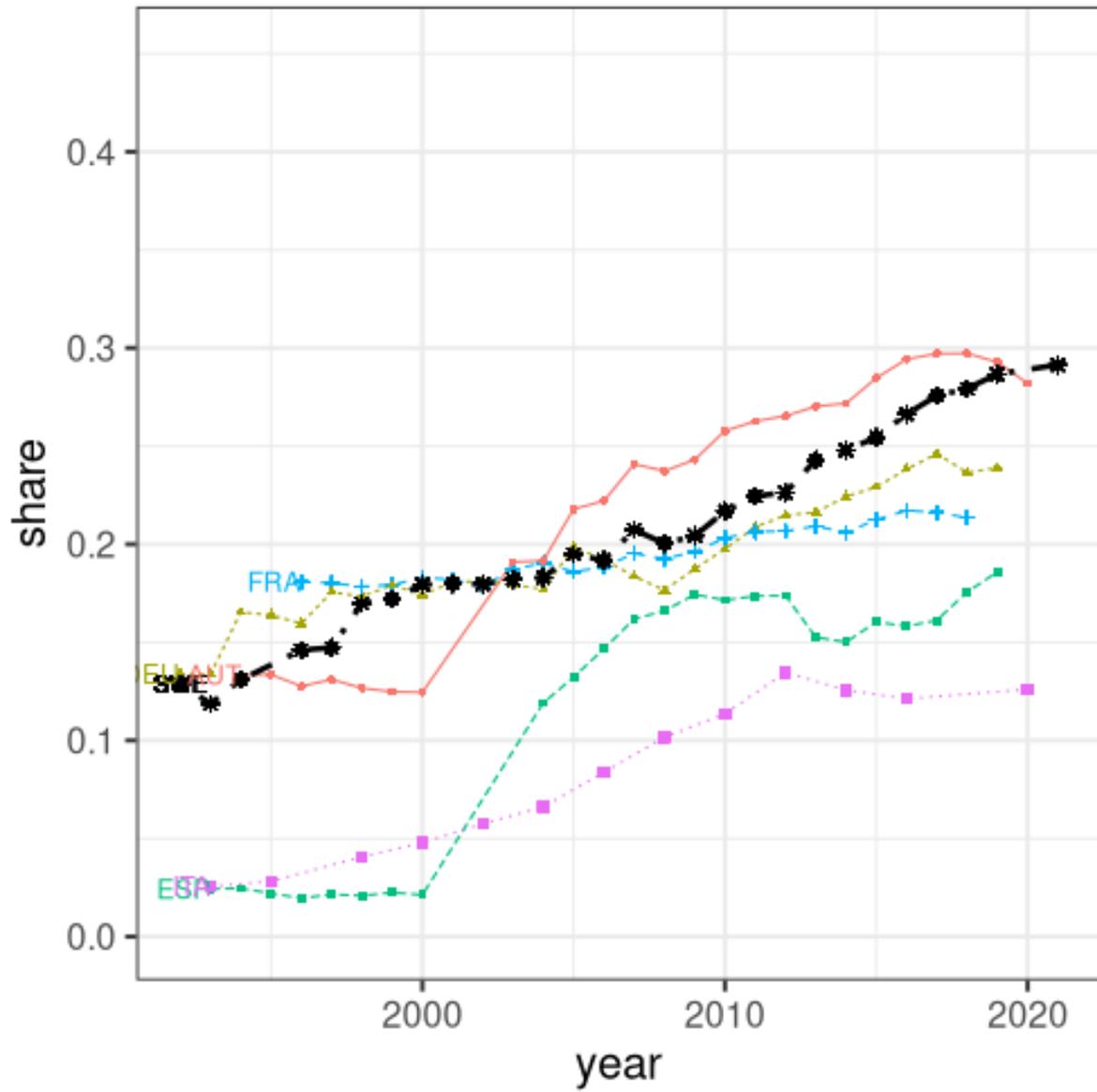


Figure B14. Figure 8. Share of immigrants in the population in Sweden compared to Czechia, Estonia, Hungary and Romania.

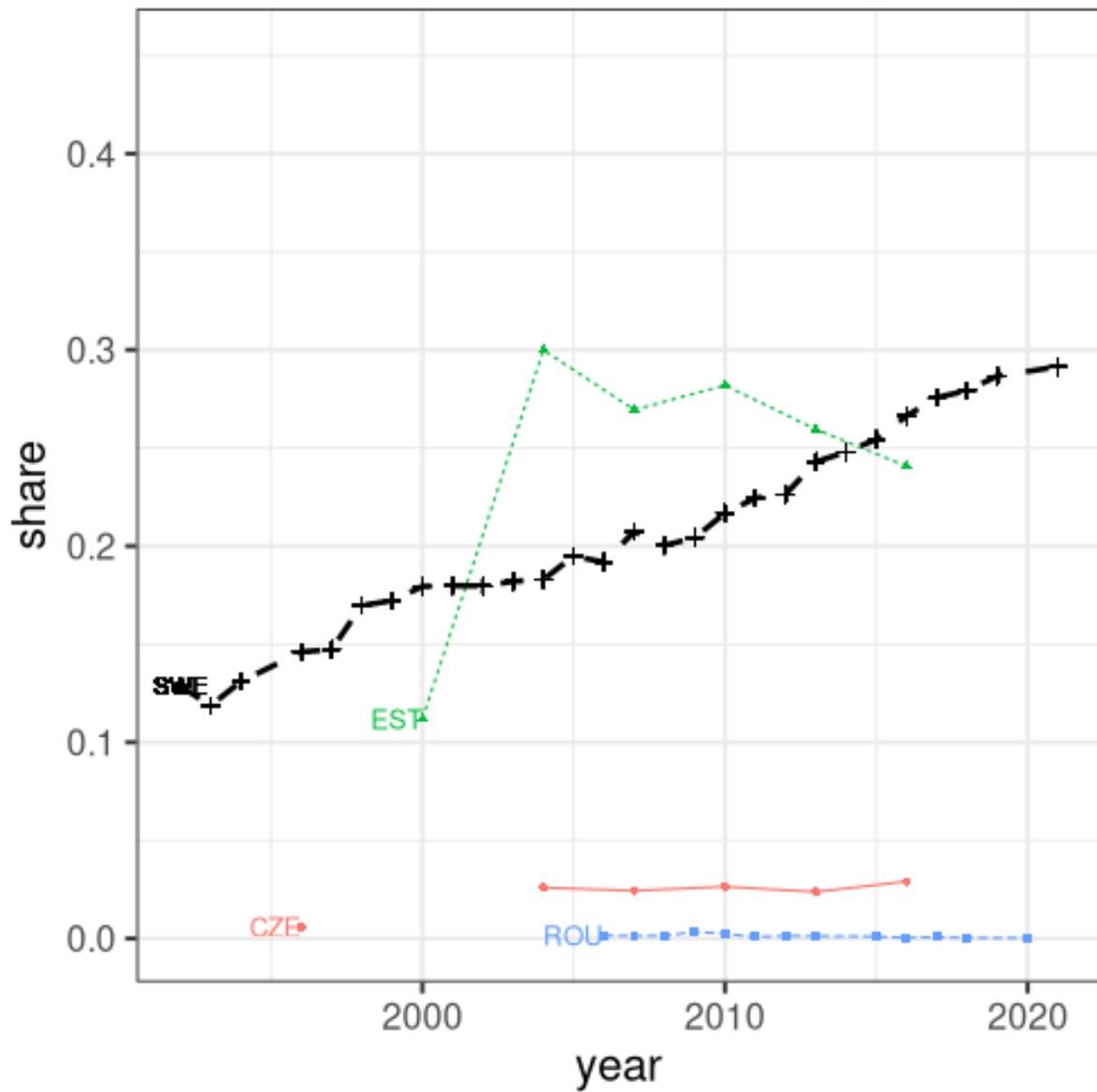


Figure B15. Figure 8. Share of immigrants in the population in Sweden compared to Australia, Canada, Great Britain and the US.

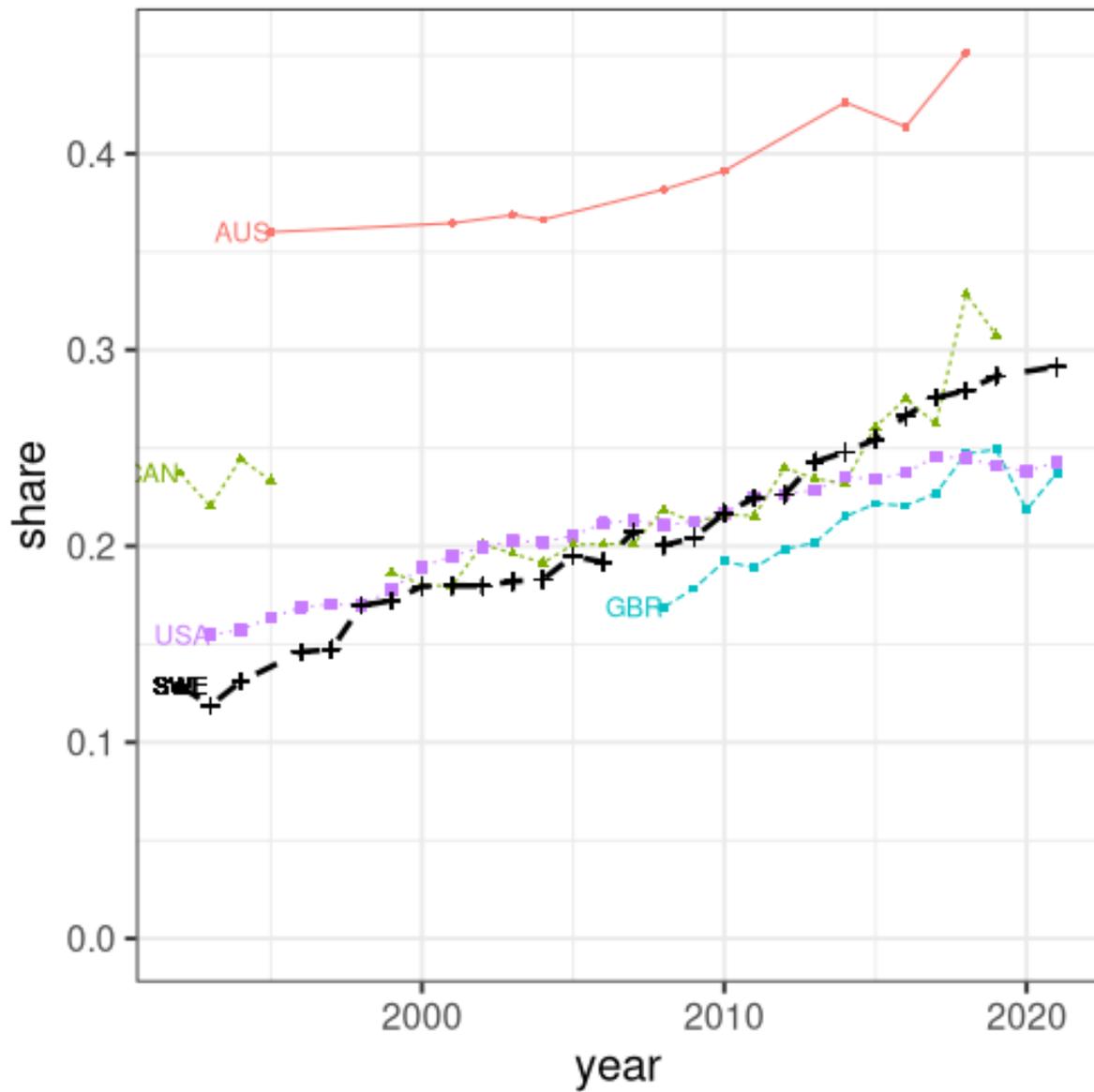


Figure B16. Actual and counterfactual inequality (with constant immigrant share) – Gini. Sweden compared to Austria, France, Germany Italy and Spain.

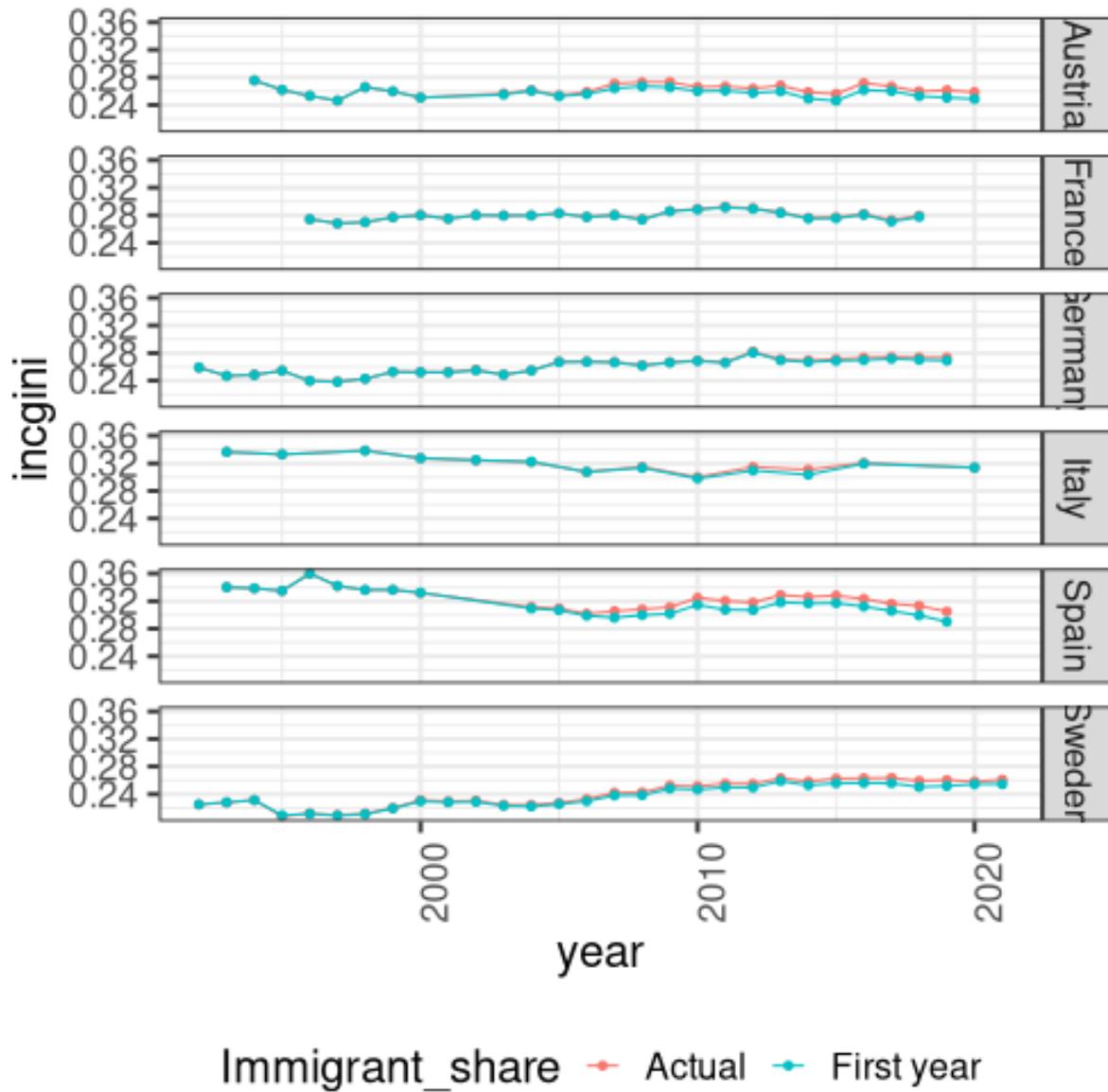


Figure B17. Actual and counterfactual inequality (with constant immigrant share) – $lm_{10/m1}$. Sweden compared to Austria, France, Germany Italy and Spain.

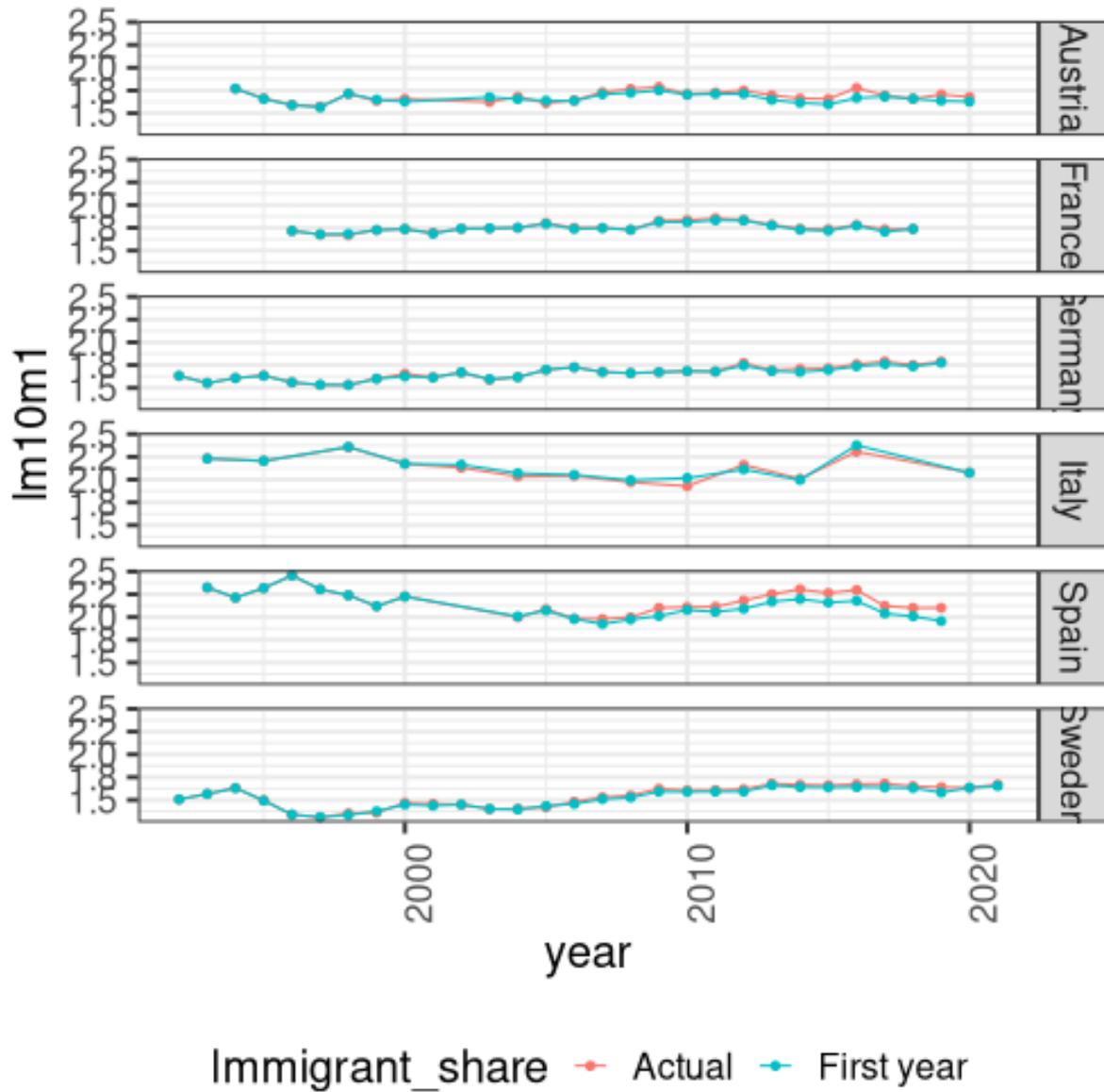


Figure B18. Actual and counterfactual inequality (with constant immigrant share) – $Im_{10/p50}$. Sweden compared to Austria, France, Germany Italy and Spain.

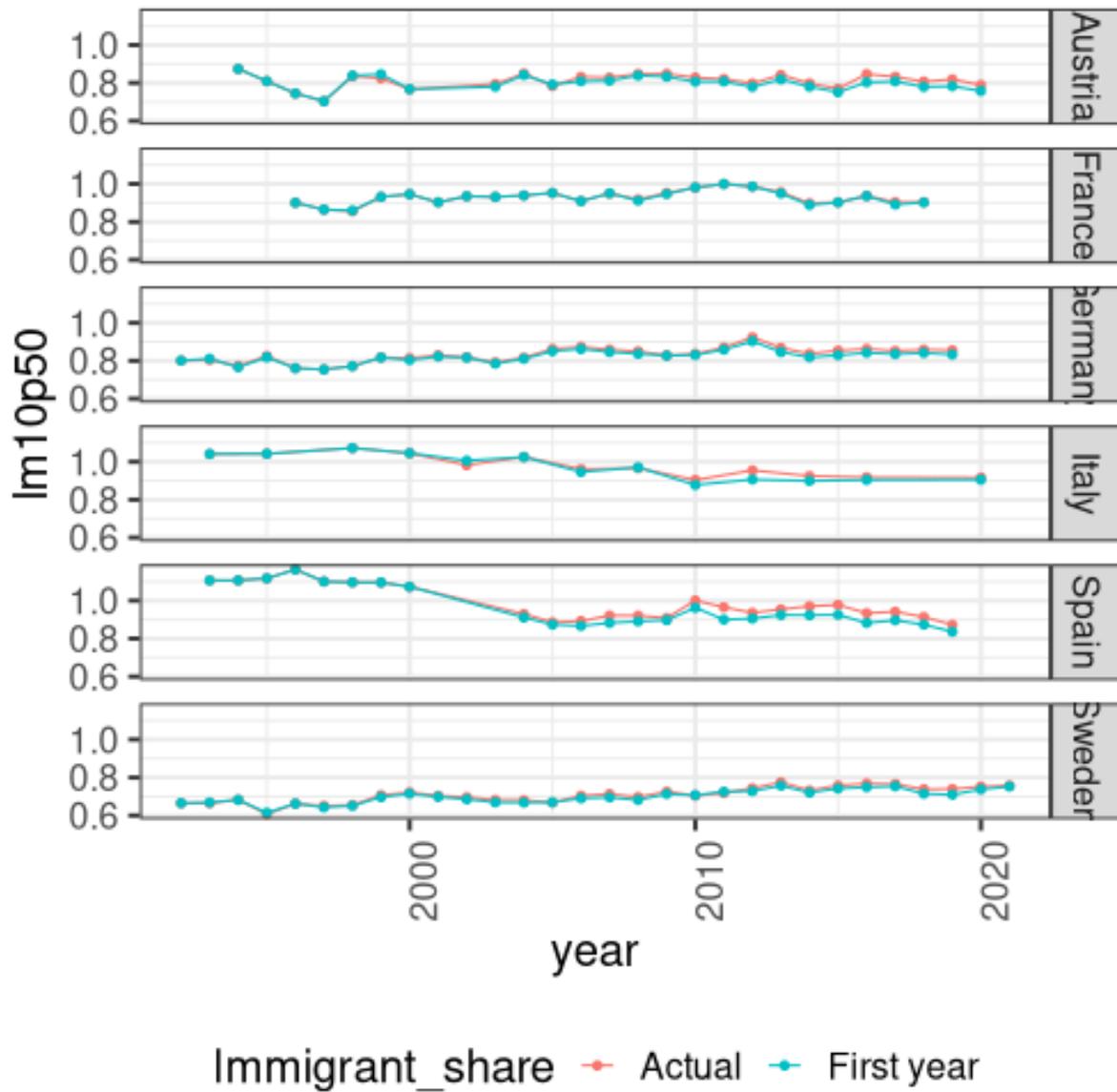


Figure B19. Actual and counterfactual inequality (with constant immigrant share) – Ip50/m1. Sweden compared to Austria, France, Germany Italy and Spain.

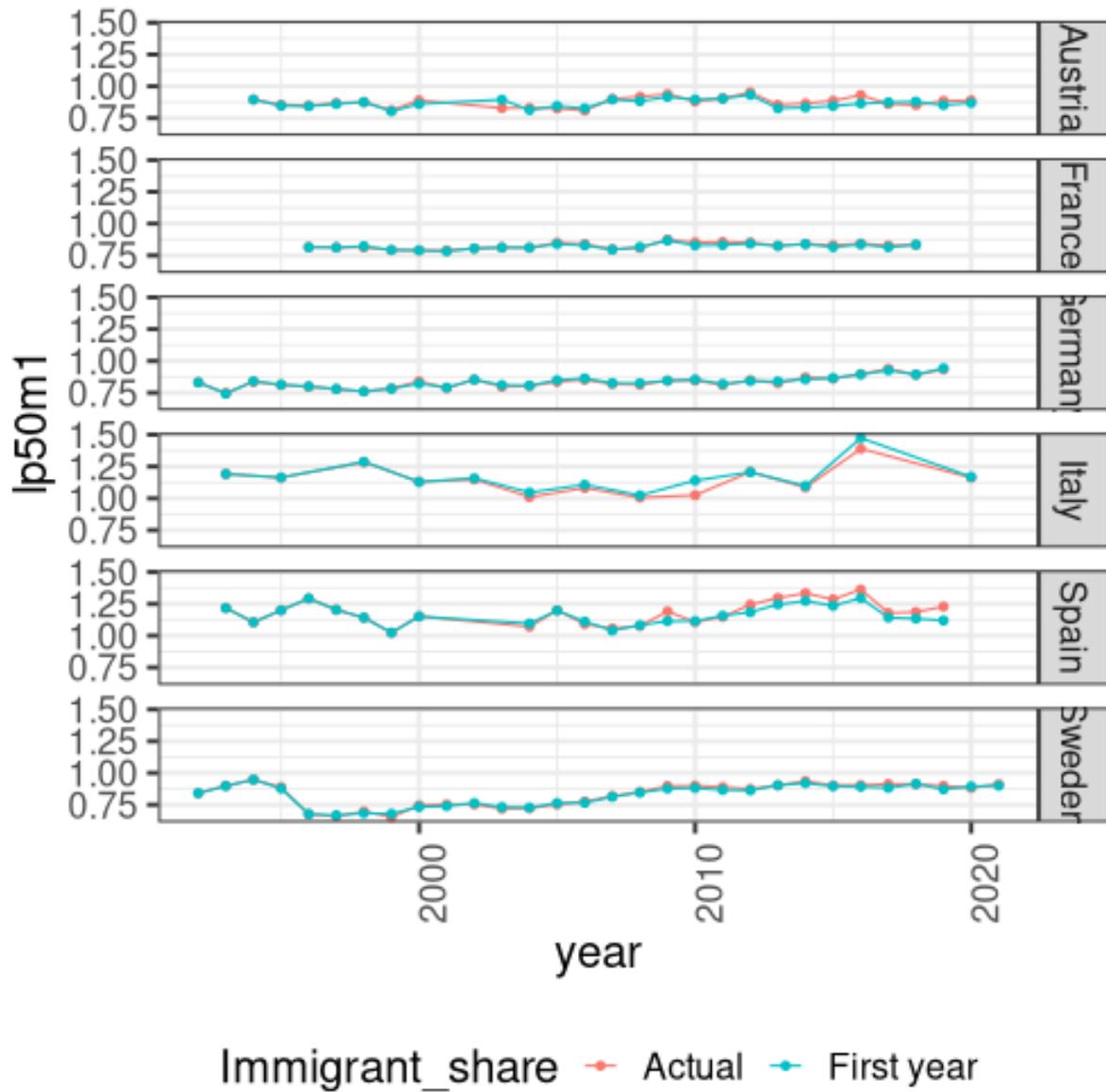


Figure 20. Actual and counterfactual inequality (with constant immigrant share) – Gini. Sweden compared to Czechia, Estonia, Hungary and Romania.

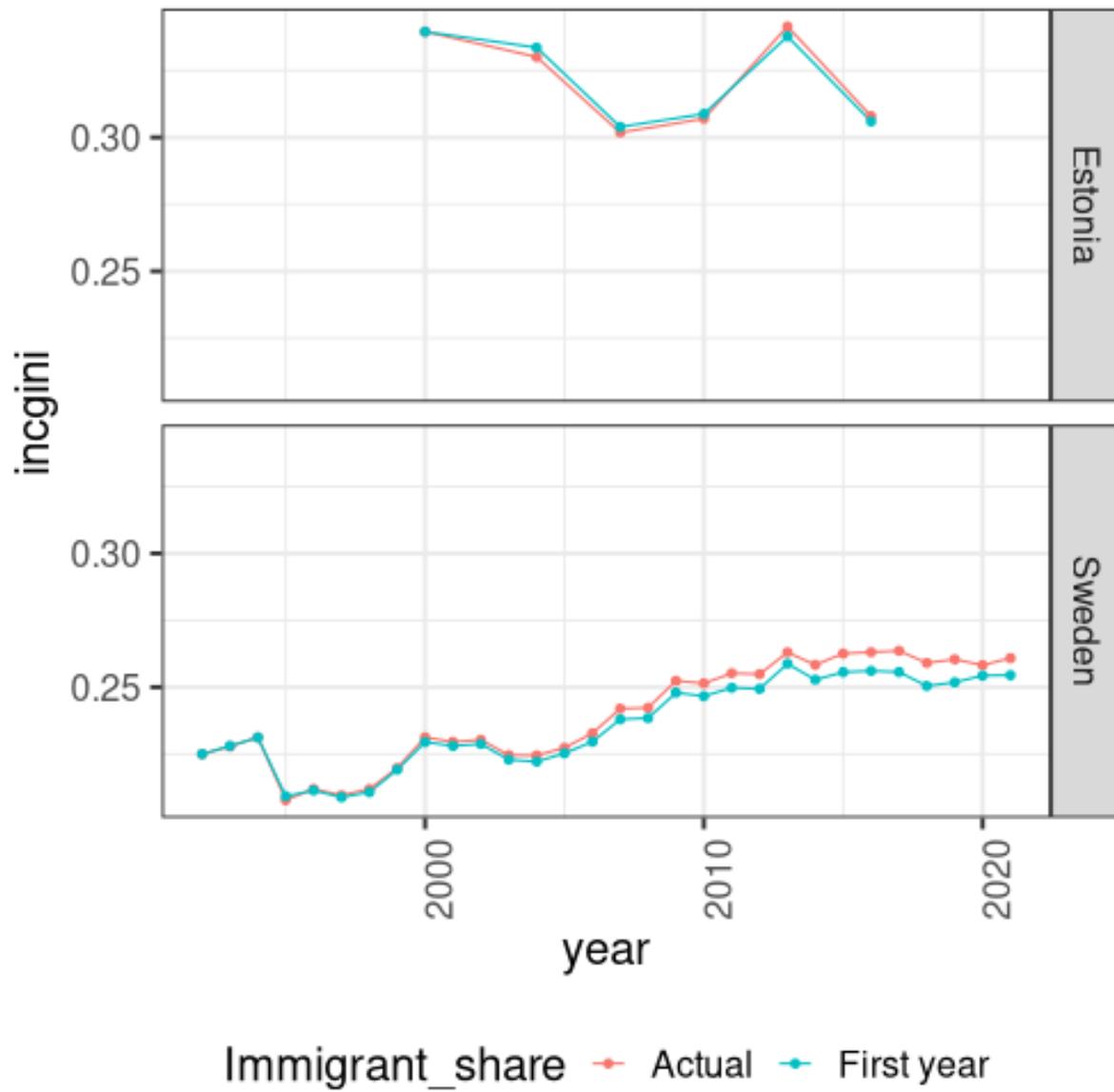


Figure B21. Actual and counterfactual inequality (with constant immigrant share) – $lm_{10/m1}$. Sweden compared to Czechia, Estonia, Hungary and Romania.

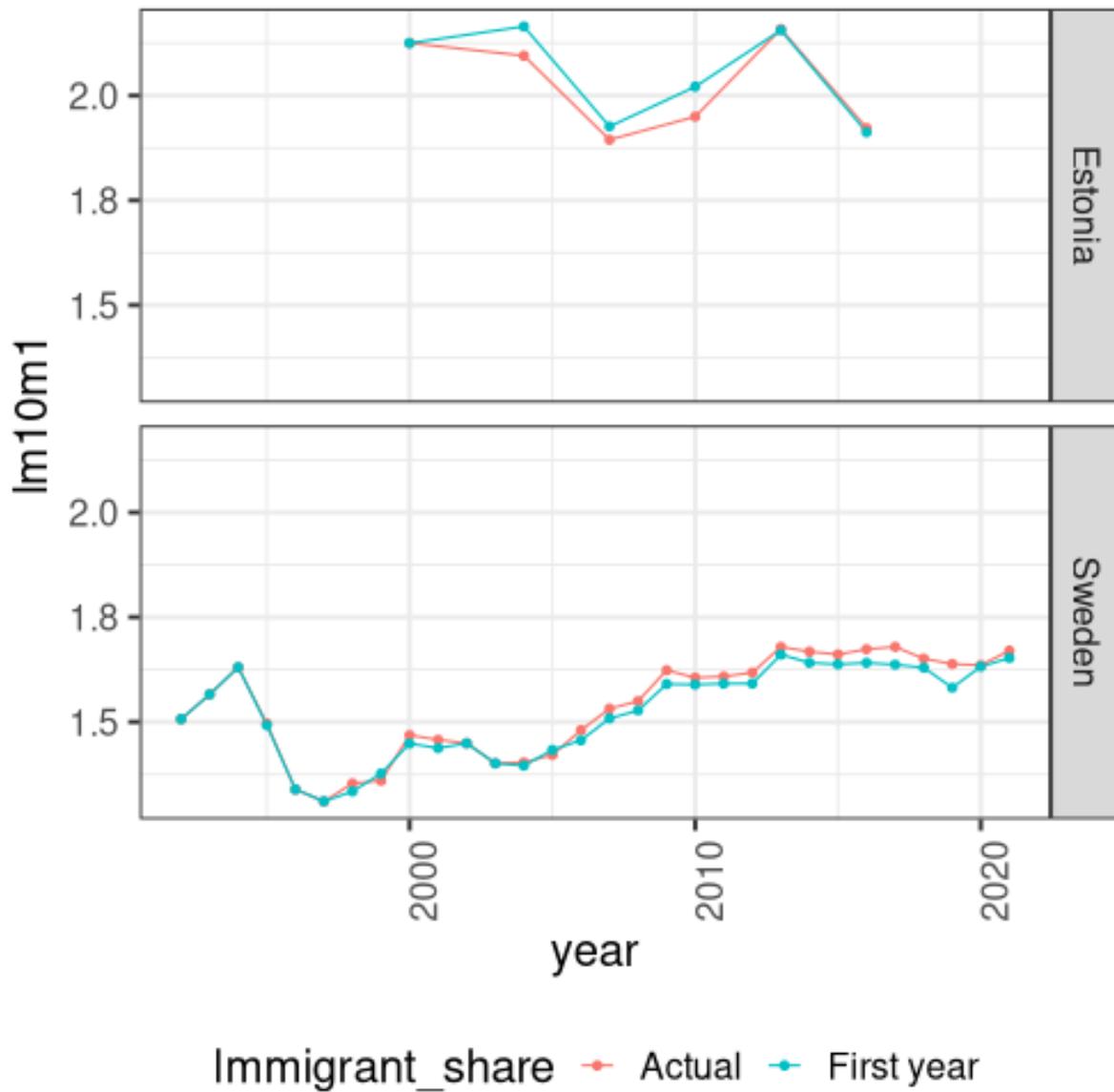


Figure B22. Actual and counterfactual inequality (with constant immigrant share) – $Im_{10/p50}$. Sweden compared to Czechia, Estonia, Hungary and Romania.

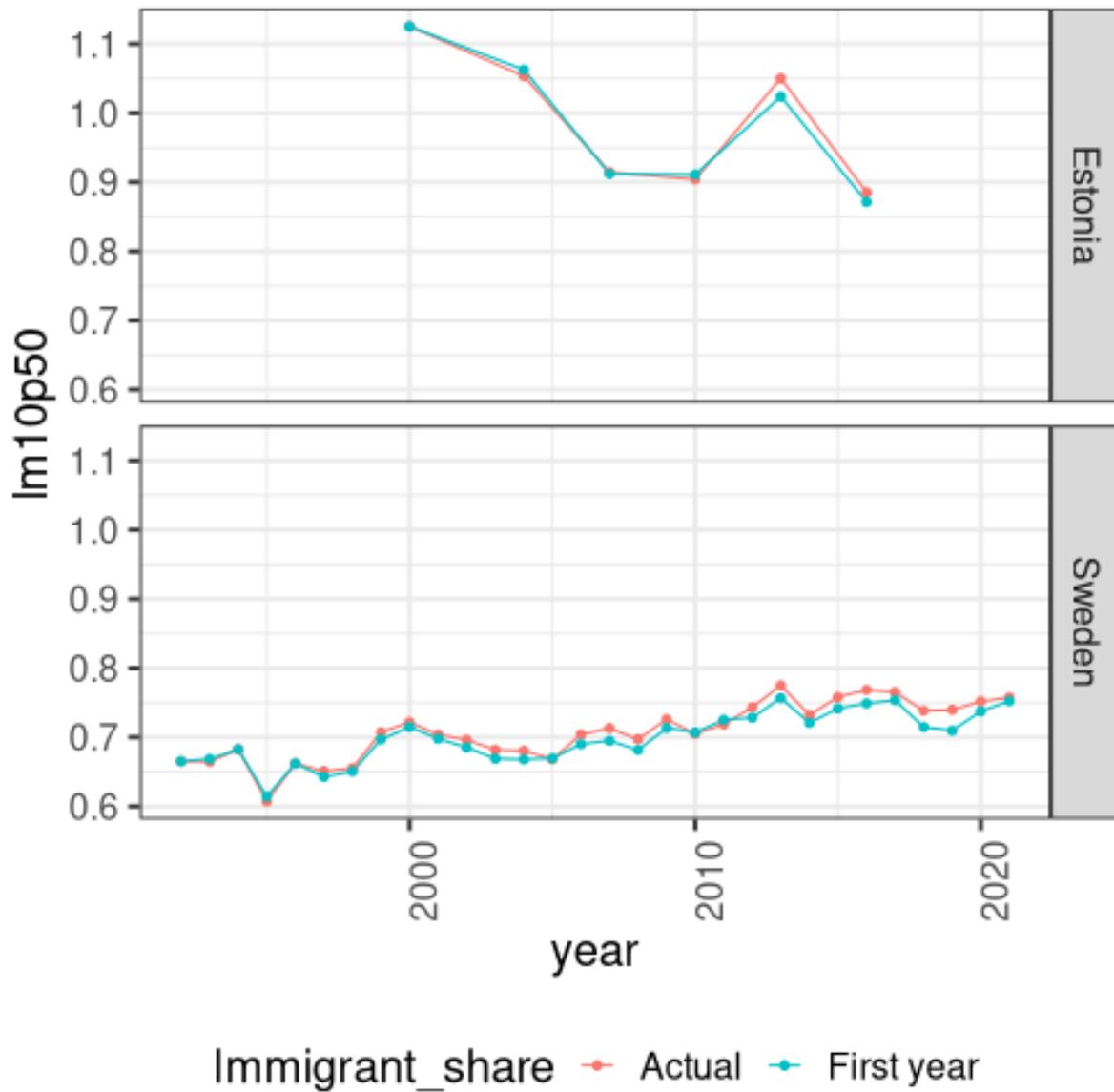


Figure B22. Actual and counterfactual inequality (with constant immigrant share) – lp50/m1. Sweden compared to Czechia, Estonia, Hungary and Romania.

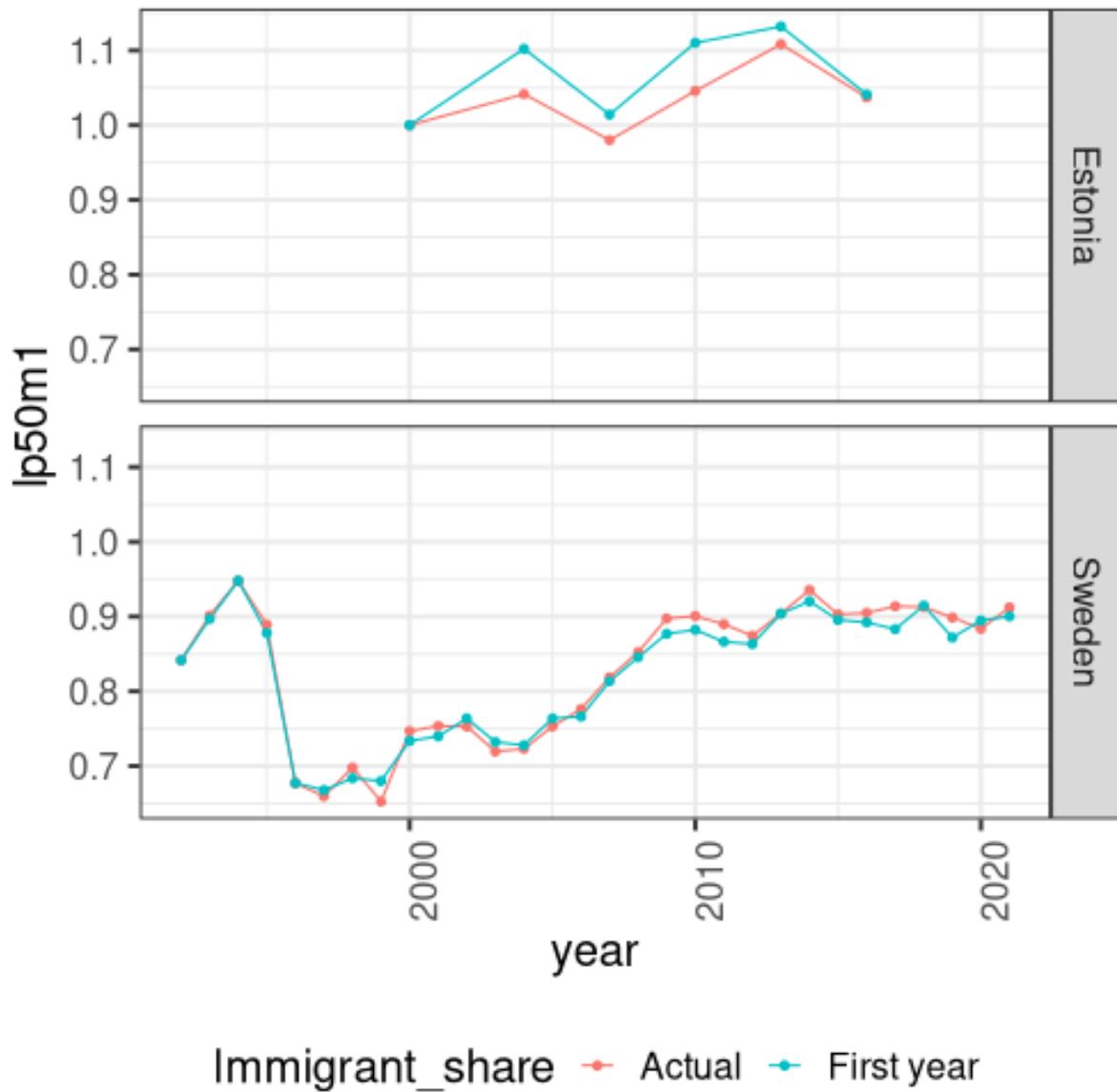


Figure 23. Actual and counterfactual inequality (with constant immigrant share) – Gini. Sweden compared to Australia, Canada, Great Britain and the US.

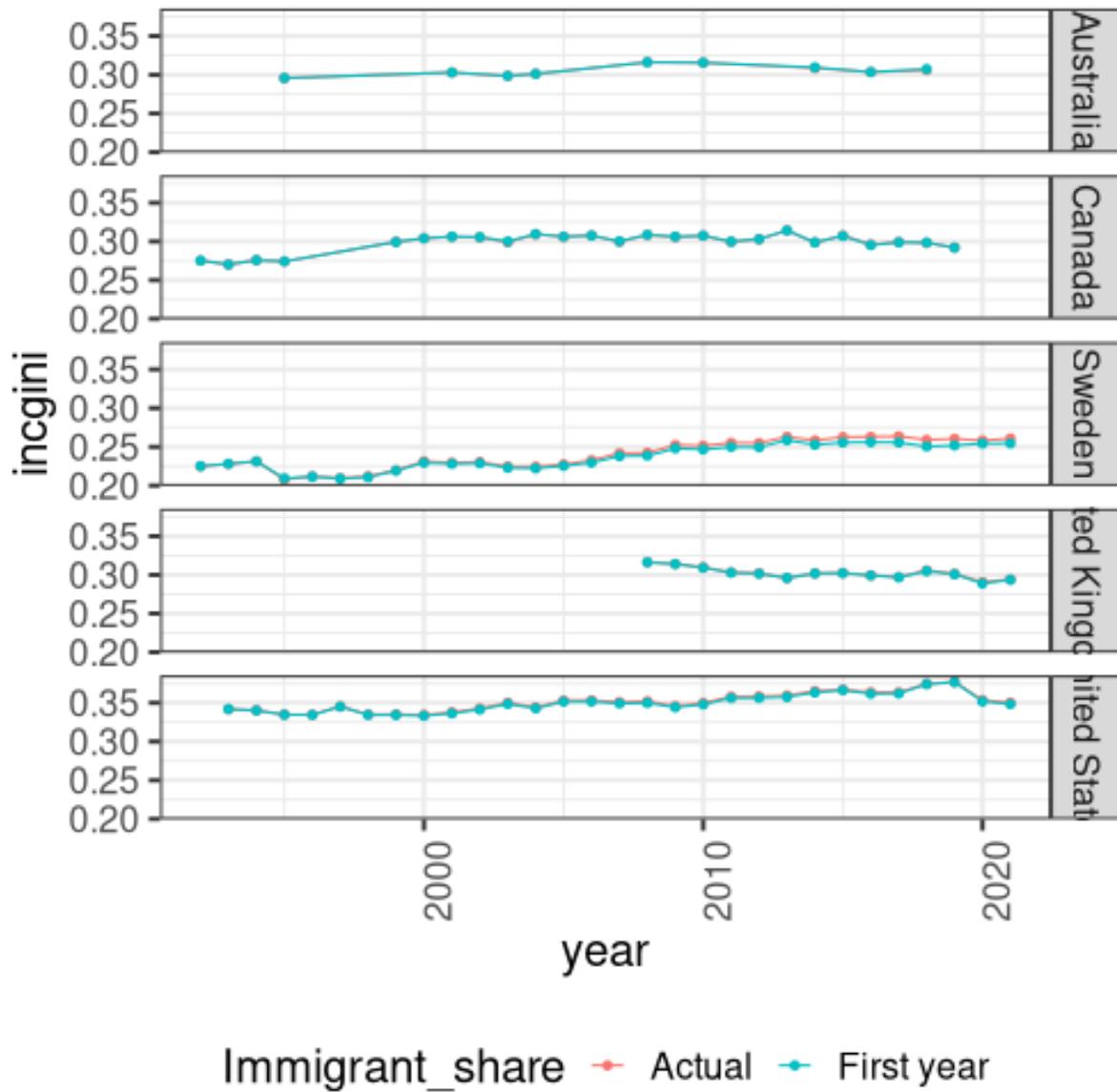


Figure B24. Actual and counterfactual inequality (with constant immigrant share) – $lm_{10/m1}$. Sweden compared to Australia, Canada, Great Britain and the US.

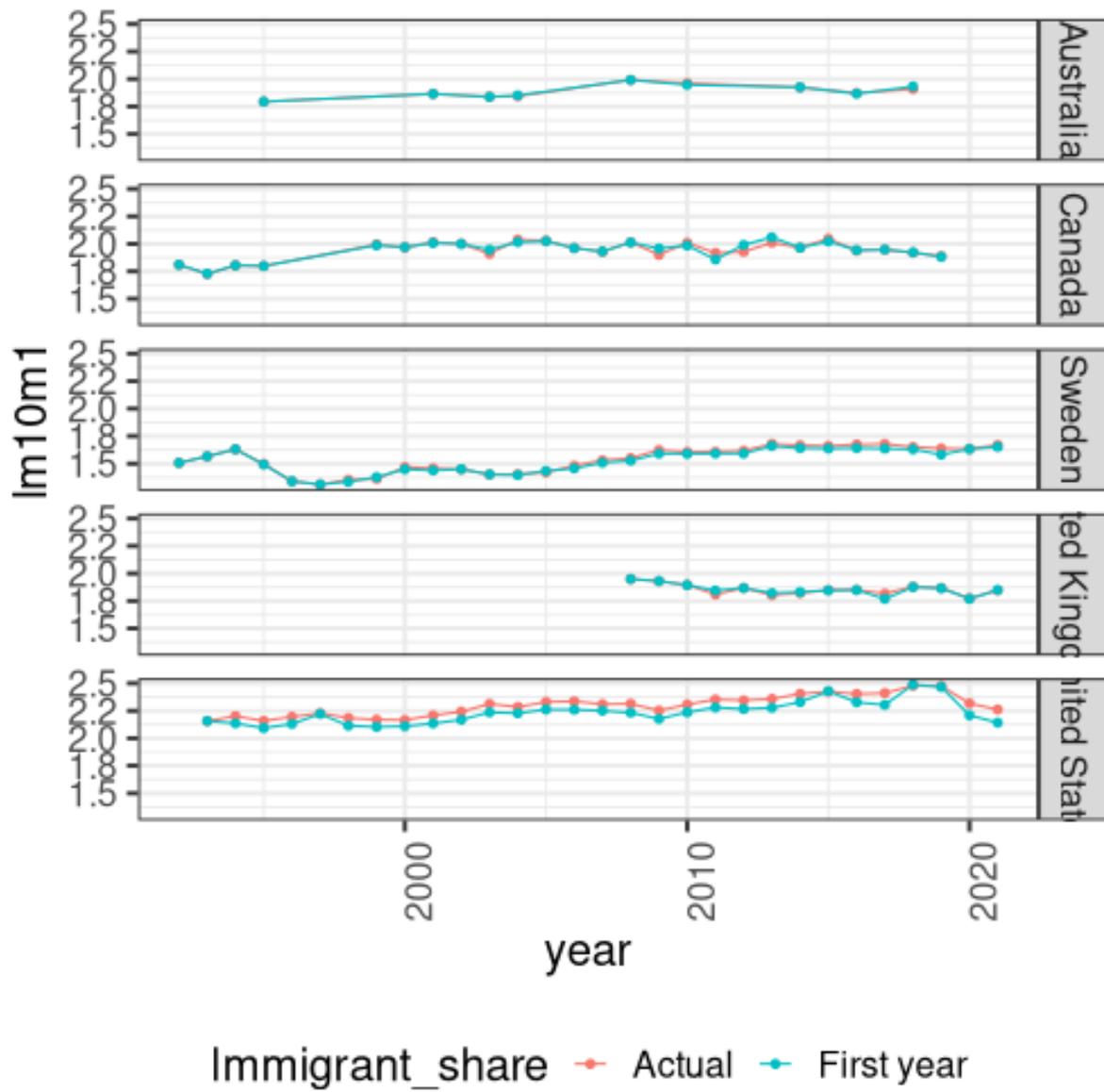


Figure B25. Actual and counterfactual inequality (with constant immigrant share) – $Im_{10/p50}$. Sweden compared to Australia, Canada, Great Britain and the US.

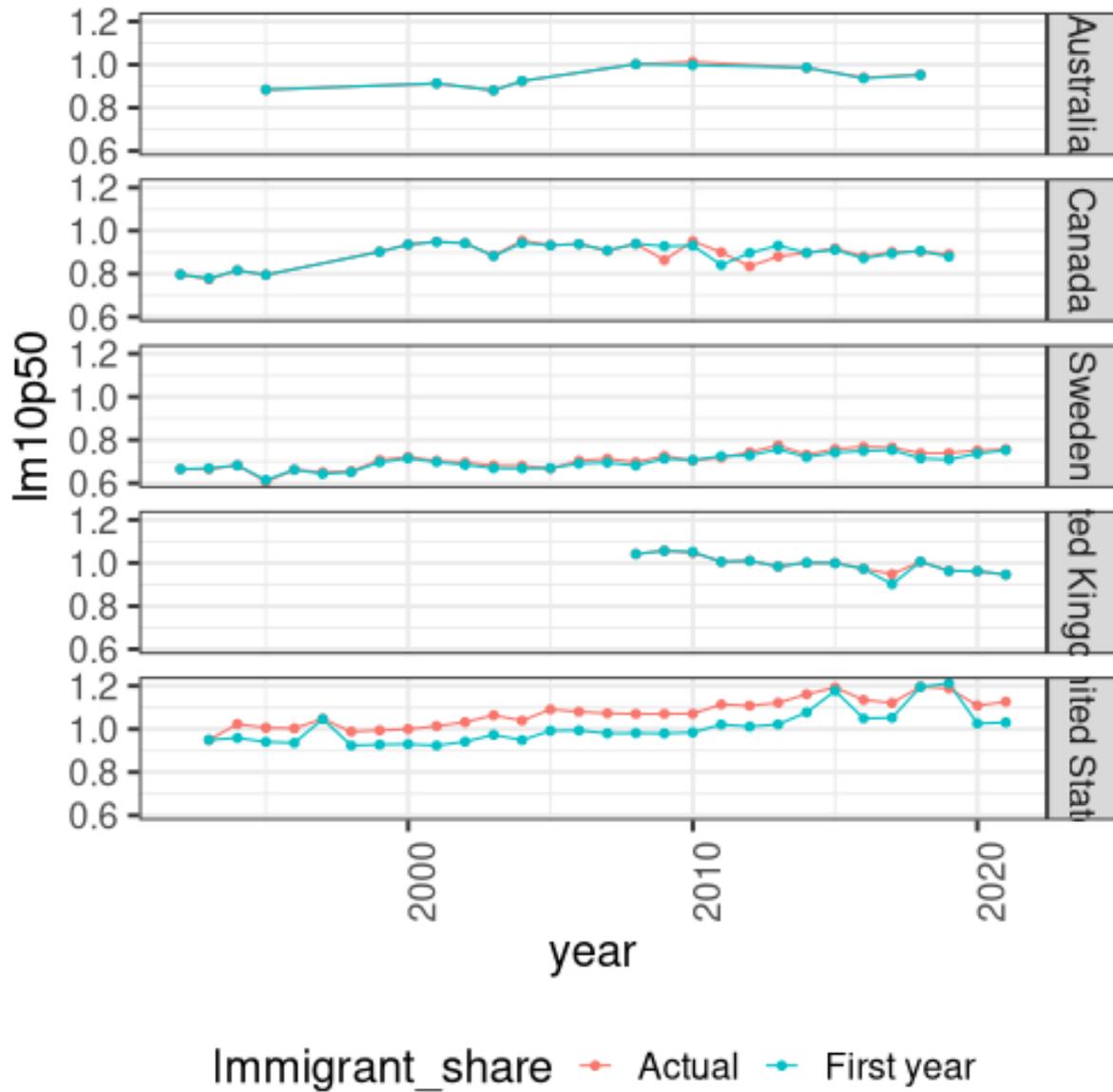


Figure B26. Actual and counterfactual inequality (with constant immigrant share) – lp50/m1. Sweden compared to Australia, Canada, Great Britain and the US.

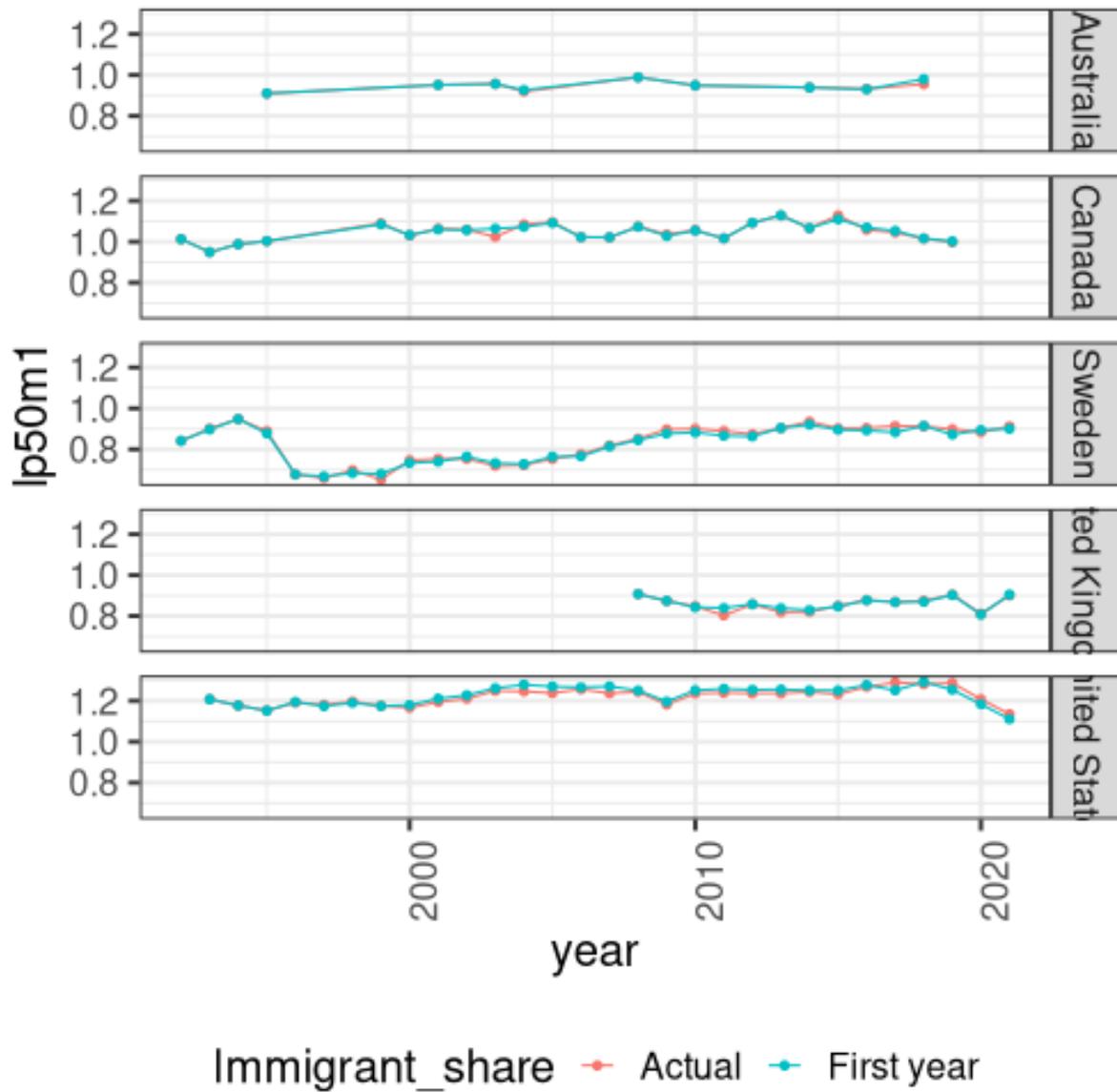


Figure B27. Inequality pre and post-transfers – Gini. Sweden compared to Austria, France, Germany, Italy and Spain.

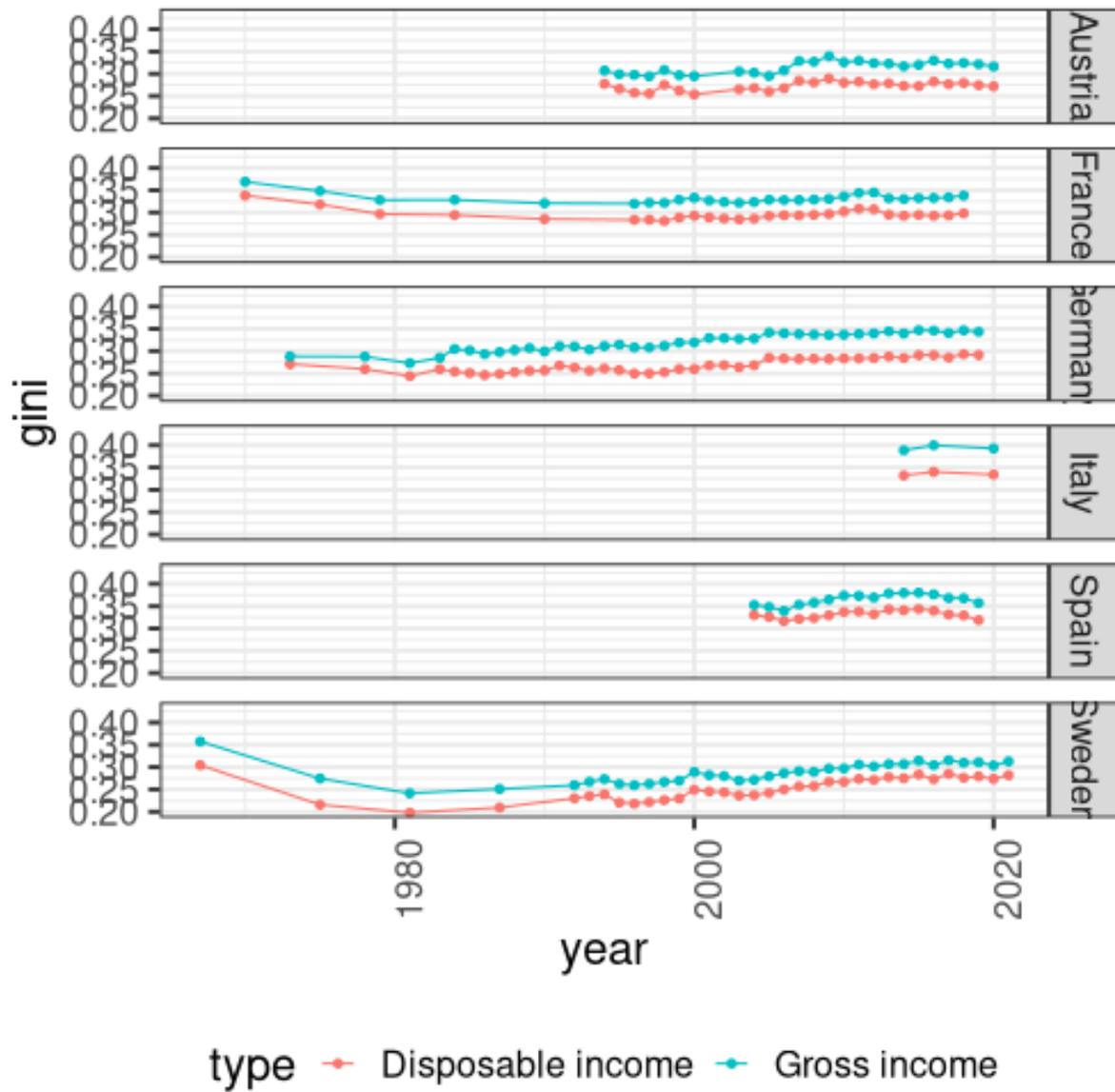


Figure B28. Inequality pre and post-transfers – Gini. Sweden compared to Czechia, Estonia, Hungary and Romania.

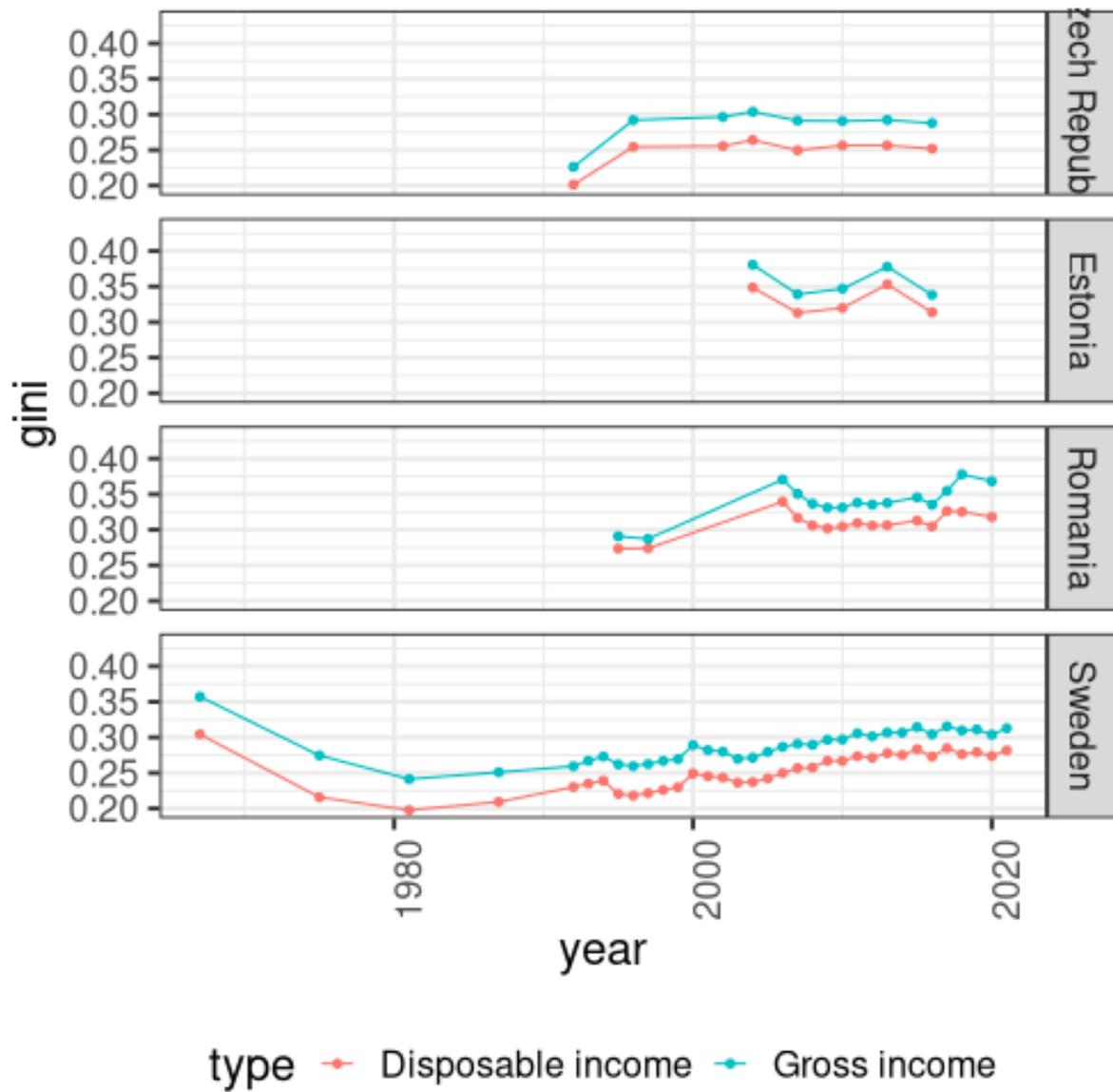


Figure B29. Inequality pre and post-transfers – Gini. Sweden compared to Australia, Canada, Great Britain and the US.

