

Poverty in the Basque Country and Poverty Reduction Measures

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Abstract

After the Great Recession, there is a wide debate about the implementation of Minimum Income Schemes (MIS) in order to reduce poverty. In this paper, we analyze the evolution of poverty and inequality in the Basque Country between 2008 and 2016, as well as the impact of the Basque MIS. To do so, we use the Survey of Poverty and Social Inequalities (EPDS). We find that, even if the MIS helps to mitigate the consequences of the recession, both poverty and inequality are higher in 2016 than in 2008.

Keywords: poverty, inequality, minimum income scheme and equivalence scale.



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1. Introduction

When the Great Recession started in 2007, many countries had already been facing a consistent increase in inequality levels (OECD, 2013a). In most developed countries, inequality started to increase more rapidly as a consequence of the economic crisis. However, the impact of the crisis on poverty was not that clear. On the one hand, it is true that, between 2007 and 2010, there was a relevant increase of absolute poverty in the majority of the OECD countries. On the other hand, the impact of the recession on relative poverty appeared to be much more limited, at least during the first years of the economic recession¹. Nevertheless, there is a wide consensus that social expenditure and a proper system of taxes and transfers are essential in order to mitigate the rise in relative poverty and in disposable income inequality. Given that this part of public expenditure was somehow set apart from fiscal adjustment in most of the countries (OECD, 2012), this could partially explain a lower increase in poverty than it could had been expected. Still, the share of citizens that are at risk of poverty or social exclusion remains relevant. This, together with the uncertainty about the impact of technological change and automation on job replacement, has originated a public debate around the implementation of Minimum Income Schemes (MIS). Even if the need of implementing these types of schemes was recommended by the European Council back in 1992², it has been more recently when most EU countries have decided to implement some form of MIS to guarantee a minimum living standard for every citizen.

The aim of this paper is to carry out an exhaustive analysis of poverty in the Basque Country, a region in the north of Spain³. The first part of the analysis will focus on the evolution of poverty and inequality from 2008 to 2016. This approach will allow to assess and compare poverty rates in the Basque Country just before the recession started, during the recession itself and at the beginning of the economic recovery. The second part of the analysis will present the *Renta de Garantía de Ingresos* (RGI), which

¹ For a detailed explanation of the evolution of absolute and relative poverty in OECD countries, see OECD (2013a), *Crisis Squeezes Income and Puts Pressure on Inequality and Poverty*.

² See Council Recommendation 92/441/EEC of 24 June 1992:

<https://publications.europa.eu/en/publication-detail/-/publication/9953c2cf-a4f8-4d31-aced-6bf88a5407f3/language-en>

³ The Basque Country has the second highest GDP per capita in Spain. It is also the region with the highest Human Development Index in the country, with a value of 0.924.

is the MIS that operates in this region, as a mechanism to reduce poverty. In the Basque Country, this guaranteed income was introduced back in 1989 as part of a plan to fight against poverty and it was consolidated by law in 1990, making the Basque Country the first region to ensure a MIS by law in Spain. Since then, this system has continuously been in place for more than 25 years, although there have been some changes and reforms in order to design the RGI as it is known nowadays. More details of the regulation and the requirements that must be fulfilled in order to receive the RGI will be provided in Section 2. It is relevant to point out that the MIS operating in the Basque Country works as a “simple and comprehensive scheme”, meaning that it aims to cover every household that is unable to reach a minimum living standard, without focusing on specific groups of individuals (Frazer & Marler, 2009).

To measure poverty, we will initially consider two relative poverty lines that are widely used in the literature: 60% (at risk of poverty) and 40% (extreme poverty) of median disposable income. When analyzing the MIS, we will also take into account a third poverty line, the one set in the scheme’s legislation, which is based on the amounts of MIS to be transferred by the Basque Government for different types of households. Once the poverty thresholds are set, we will measure poverty in the dimensions of incidence, intensity and inequality. For this purpose, we will use the Foster-Greek-Thorbecke (FGT) indices, a commonly used family of indices to measure poverty. Regarding inequality, we will use the Gini index as a measure of disposable income inequality. This is a fairly well-known and frequently used index, which will make our results easily comparable to those obtained for other countries or regions. We will also use the P50/P10 ratio, which compares the median disposable income to the upper bound value of the first decile. All the poverty lines and the poverty and inequality indices will be explained in detail later on, in Section 4.

To carry out this analysis, we will use the Survey of Poverty and Social Inequalities (EPDS for its acronyms in Spanish) for the Basque Country. This survey provides several waves of cross-section data and was carried out in 2008, 2012, 2014 and 2016. This database is extremely rich and detailed, as it includes information about disaggregated income (wage, pension, capital gains, social benefits, etc.) for all the individuals living in the same household. Given that this survey is specifically designed to analyze poverty in the Basque Country, it also includes the amount of MIS that is

received by each household. This is very useful in order to set two different scenarios regarding the disposable income of each household: without including the MIS and including the MIS. In Section 3, the database will be presented in more detail and some descriptive statistics will be provided.

The results of our analysis show that, during the recession, there was a consistent increase in all the poverty and inequality measures in the Basque Country. However, this increase was not the same in all provinces and we find that the increase in Araba was especially high. In fact, we see that, in 2016, Bizkaia and Gipuzkoa show some signs of recovery, while poverty and inequality were still increasing in Araba. Regarding the impact of the MIS, it is clear that it is key in order to reduce poverty in all its dimensions, especially intensity, and to mitigate and soften the negative impact of the economic recession.

Regarding other papers that have already analyzed the MIS in the Basque Country, this work looks to expand and complement some of the results obtained by Gorjón and Villar (2019). Previously, De la Rica and Gorjón (2019) evaluated the impact of the RGI system on the probability of finding a job, given that it is at the same time an active and a passive policy. Even if the literature on the evaluation of other (non RGI) MIS in Spain is not really extensive, some comprehensive reviews of the existing MIS in Spain can be found in Ayala *et al.* (2016) and in a study published by the AIReF⁴ (2019). Additionally, there are other papers that evaluate the MIS implementation in other regions of Spain such as Madrid (Ayala & Rodríguez, 2010) or the Valencian Community (Fuenmayor, Granell & Savall, 2018).

The rest of the paper is organized as follows: Section 2 explains the MIS in the Basque Country. Section 3 describes the data. Section 4 explains the methodology used to carry out the analysis. Section 5 presents the results of the analysis. Finally, Section 6 summarizes and concludes.

⁴ Autoridad Independiente de Responsabilidad Fiscal.

2. The Minimum Income Scheme in the Basque Country

The MIS that operates in the Basque Country is named as *Renta de Garantía de Ingresos* (RGI). The RGI aims to be to reduce poverty in the Basque Country without focusing on any particular group, which implies that it is a “simple and comprehensive” scheme (see Frazer & Marler, 2009). This is an expensive policy, as the yearly budget allocated to the RGI is between €450 and €500 million, which accounts for 4.5% of public expenditure and almost 0.7% of the GDP in the Basque Country (De la Rica & Gorjón, 2019).

The RGI as it is known nowadays was regulated in 2008. In this regulation, several requirements were set, but we will outline some of the most important. The first one is that, taking into account that the RGI is given to household and not to individuals, in order to receive some amount of MIS, the monthly income of the household must be low enough, such that it fails to reach a minimum living standard. This threshold is set by the Basque Government, it ranges between 88% and 135% of the minimum wage⁵ and it is different for each type of household, as shown in Table 1. The second requirement is to have been continuously living and registered as such in the Basque Country during, at least, the last three previous years. It is also required that they only own one house, the one in which the household members are living.

Table 1. Maximum amount of MIS that can be received, by household type.

Type	Household Members	Maximum Amount of MIS (€/month)
1	1 adult	625.58
2	2 adults	803.31
3	3 or more, at least 2 adults	888.62
4	Single-parent (1 child)	848.81
5	Single-parent (2 or more children)	934.12
6	1 retired	710.89
7	2 adults, at least 1 retired	888.62
8	3 or more, at least 1 retired	959.70

Source: Basque Government

⁵ The last change in legislation took place in 2011 and implied that the maximum amount of MIS to be received would be a 93% of this quantity. The amounts of MIS that appear in Table 1 already include this change, as they correspond to 2016.

Those recipients of the RGI that are paying a housing rent have the right to receive, in addition to the amounts shown in Table 1, the Social Housing Benefit (SHB), which is an aid that may cover up to €250 of rent expenditures. We shall comment that, in the EPDS data, the amount of MIS received monthly already includes the SHB (if received). Therefore, in this paper, when we refer to the impact of the MIS, in addition to the amount of RGI, we are also considering the SHB received.

One singularity of the RGI is that it is compatible with having a job. In this case, the MIS works as a wage complement, as it discounts a percentage of the wage when taking into account the income of the household. This implies that the threshold that appears in Table 1 could increase by the amount of the wage excluded. The legislation of the Basque Country names this instrument as *stimulus to employment*.

Lastly, as it could be expected, the number of MIS recipients has increased during the economic recession. According to the EPDS, back in 2008, the number of households who benefited from this system was less than 30,000. However, the EPDS shows that the number increased dramatically during the following years (56,723 in 2012 and 64,379 in 2014), although it decreased in 2016 down to 60,689 households.

Table 2 provides the share of households that receive MIS, by household type. Clearly, single-parent households have the highest share of MIS recipients, but this high incidence could be related to the fact that there are not many households of these two types. Next, it can be seen that those households with just one member have more recipients, in relative terms, than larger households. This, together with the fact that type 3 is the most frequent type of household in the Basque Country, is a relevant point to take into account; as we will see later on, it may be caused by the design of the scheme.

Table 2. Distribution of households that receive some amount of MIS.

Type	Household Composition	2008		2012		2014		2016	
		Total Number of Households	Receive MIS (%)	Total Number of Households	Receive MIS (%)	Total Number of Households	Receive MIS (%)	Total Number of Households	Receive MIS (%)
1	1 adult	63,900	8.41	75,472	16.14	118,812	15.32	147,010	15.07
2	2 adults	121,969	2.48	162,611	6.22	148,781	5.33	105,619	6.10
3	3 or more, at least 2 adults	414,691	2.63	378,243	3.70	353,069	5.54	279,539	5.47
4	Single-parent (1 child)	3,062	28.12	8,472	44.22	6,425	43.22	8,975	34.61
5	Single-parent (2 or more children)	2,057	16.72	24,120	5.58	27,756	11.50	4,576	41.85
6	1 retired	86,812	3.10	90,065	8.95	97,215	7.76	103,832	6.66
7	2 adults, at least 1 retired	109,763	0.76	144,822	2.80	134,692	3.27	134,926	2.07
8	3 or more, at least 1 retired	109,818	1.47	76,213	3.12	93,080	2.08	91,714	1.48
Total		912,072	2.81	960,018	5.82	979,830	6.69	876,191	6.85

Source: Own calculations using the EPDS

3. Data

To carry out this analysis, the Survey of Poverty and Social Inequalities (EPDS by its acronyms in Spanish) for the Basque Country is used⁶. This survey is specifically designed to analyze poverty in the Basque Country and, therefore, it provides all the information required in order to evaluate the evolution of poverty over time. We will use the waves corresponding to years 2008, 2012, 2014 and 2016. Regarding the sample of the survey, each wave usually includes at least 10,000 individuals and 4,000 households. Table 3 shows the number of observations (individuals and households) for each of the waves that we are using. Taking into account that population in the Basque Country is around 2.18 million⁷, we can consider that the sample offered by the EPDS for each wave is very rich. Additionally, the survey has weightings available and, once applied, the numbers of the survey coincide or are very similar to official statistics.

Table 3. Sample observations for each wave⁸.

	2008	2012	2014	2016
<i>Individuals</i>	11,110	10,377	10,599	10,316
<i>Households</i>	4,502	4,133	4,350	4,327

Source: EPDS

The EPDS offers a wide range of information about the households surveyed and it also provides information about each of the members that are part of the household.

⁶ Data for the Gini coefficients in Spain and EU-27 were obtained from Eurostat.

⁷ Source: Basque Statistics Office (Eustat).

⁸ Some households had one missing individual. Although the EPDS offers enough information to solve this problem, the actual number of observations could differ slightly from those from Table 3.

This information contains personal details, such as gender, age or census status, and it also provides information about the education level or the labor status of each individual. However, given the analysis that we are interested in carrying out, the most interesting information is the one related to income. In the survey, we can easily find information about any type of income at both individual and household level. For example, we have detailed monthly information about wages, retirement pensions, benefits and other transfers, among others⁹. The EPDS also includes one variable that states whether an individual is a MIS recipient or not¹⁰. Thus, it is very straightforward to calculate the amount of MIS received by each household.

Once we have calculated all the variables in a monthly basis, it is possible to calculate the monthly Total Disposable Income for each household. This will be our main reference variable, which aggregates all the income received by the household members, including the amount of MIS received. We also want to calculate the monthly income without including the MIS, so we can set and compare two different situations. This way, we will have the post-MIS scenario and the pre-MIS scenario, and we are able to carry out the analysis corresponding to the impact of the MIS on poverty and inequality.

Even if the EPDS is a very rich and complete database, we shall acknowledge some problems or limitations. Firstly, it must be taken into account that it does not provide all the information necessary to check if a household fulfills the requirements to be a MIS beneficiary. For example, it does not provide information on (possible) ownership of a second home, which results in immediate disqualification to receive the MIS. Therefore, it must be assumed that, if a household does not receive the MIS despite falling below the poverty line shown in Table 1, it is either because the household did not apply for the MIS or it does not fulfill one or more of the requirements. In the same way, when a household receives any amount of MIS, it is assumed that all requirements are fulfilled, including the unobserved ones.

Secondly, it is relevant to note that individuals are reporting their own income information. Moreover, it is possible for one individual to report the income information

⁹ Some of the income variables (private money transfers and most of public subsidies or aids) include the amount for the whole year. Since the MIS is provided monthly, it is important to transform these variables into a monthly amount in order to obtain the correct amount of total monthly income for each household

¹⁰ This variable includes the Social Housing Benefit, which is a complement that MIS recipients may receive if they have to pay a housing rent. For more information, see Section 6.

of the other members of the household. This fact can have two main potential caveats. The first one, as explained by Gorjón and Villar (2019), appears when the information reported does not coincide exactly with official numbers. In our case, it is usual that the amount of MIS received by households is slightly underreported. This implies that there are some differences with the theoretical amount that, according to the Basque Government criteria, should correspond to that specific household. The second potential problem is that the EPDS includes variables that are not taken into account when assigning the MIS. For example, individuals may report private money transfers from relatives or friends, but this income will not appear in official statistics when calculating total disposable income.

Lastly, the EPDS also provides very detailed information regarding the different territorial divisions of the Basque Country. Data about individuals and households is available not only for the three provinces (Araba, Bizkaia and Gipuzkoa), but also for administrative subdivision of each province¹¹. With all this information available, we will be able to carry out an exhaustive analysis of the evolution of poverty in the Basque Country from 2008 to 2016.

4. Methodology

In this section we will present and explain the instruments and methods that we will apply to obtain our results.

4.1 Family equivalence scale

The needs of a household increase with each additional household member, but it must be taken into account that, due to economies of scale, this growth is not proportional. In order to properly compare households of different size, it is frequent to use some instruments known as **equivalence scales**, which usually take into account the size of the household and the age of its members (OECD, 2013b).

¹¹ The regions in the EPDS differ from the ones used by Eustat, as the Basque Government uses, in this case, its own subdivision when presenting official data and statistics.

Although the use of equivalence scales is acknowledged to be a necessary mechanism to adjust the size of households, there is not a consensus regarding the choice of a specific family equivalence scale. In our case, we will use the OECD-modified equivalence scale, which is the method adopted by Eurostat. This equivalence scale assigns a value of 1 to the first member of the household. For the rest of the members, it assigns a value of 0.5 to each additional adult or child 14 or older, and 0.3 to each child under 14.

In order to obtain the **equivalent income for each household**, we shall divide the Total Disposable Income of each household by its corresponding equivalence scale. Then, the same equivalent income is assigned to each household member. This means that it is not possible that some household members are poor while others are not. Consequently, the entire household will be either above or below the poverty threshold. Table 4 illustrates with a simple example the application of the OECD-modified scale.

Table 4. OECD-modified scale application.

Household size	Total Disposable Income (€)	Equivalence Scale	Equivalent Income (€)
1 adult	1,400.00	1	1,400.00
2 adults	2,100.00	1.5	1,400.00
2 adults, 1 child	2,100.00	1.8	1,166.67

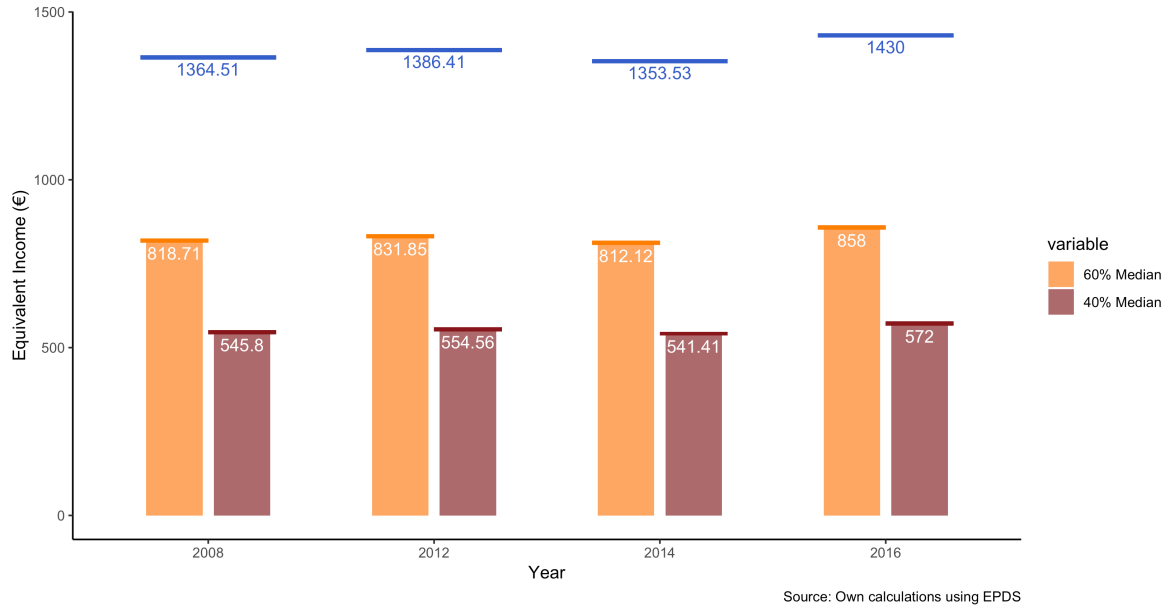
4.2 Poverty lines

Defining poverty can be a complex task. According to Villar (2017), poverty can be defined as a phenomenon that refers to the difficulty of having access to a series of good and services that ensure living with dignity and being able to have a satisfactory personal and social life. However, there is not a single and objective way of measuring poverty. In other words, there is not such a thing as a scientific poverty threshold.

Nonetheless, in order to analyze poverty, it is mandatory to set a criterion to differentiate poor individuals from those who are not. This threshold is usually named as the **poverty line**. In the first part of the analysis, we will use two relative poverty lines that are frequently found in the literature. These two lines will take the median equivalent income in the Basque Country as reference. The first poverty line is set at 60% of median

equivalent income and it is typically referred as “at risk of poverty”. The second poverty line is set at 40% of median equivalent income and it can be defined as “extreme poverty”. Figure 1 shows the median equivalent income and both poverty lines for each analyzed year with available data.

Figure 1. Median equivalent income and poverty lines, (2008 – 2016).



Finally, when analyzing the MIS, we introduce a third poverty line. This poverty line is different for each type of household, according to the values that appear in Table 1 defined in the MIS legislation, and it is updated every year.

4.3 Indices and ratios

4.3.1 Poverty

To measure the different dimensions of poverty, we will use the FGT family of indices, which is one of the better-known family of decomposable poverty indices (Villar, 2017). This family of indices, which was developed by Foster, Greer and Thorbecke (1984), is defined by the following function:

$$P_{FGT}^{\alpha}(y, z) = \frac{1}{n} \sum_{i=1}^p \left(1 - \frac{y_i}{z}\right)^{\alpha}$$

In this function, n represents the total population and p is the number of poor individuals. The poverty line is denoted by z , while y represents the level of income. Finally, the parameter α will determine the dimension of poverty to be measured and might be interpreted as the degree of poverty aversion.

When $\alpha = 0$, we end up with the headcount ratio,

$$P_{FGT}^0(y, z) = \frac{p}{n}$$

which is one of the most elementary measures of poverty, as it measures the share of poor in a given society (i.e. the proportion of people who fall below the poverty line). This is often defined as poverty incidence, since it only takes into account how many poor are in the society, but it does not consider other dimensions of poverty such as intensity and/or inequality.

In order to measure the intensity of poverty, we will calculate the Relative Average Distance (RAD). The RAD is simply the relative distance to the poverty line for each poor individual, $(z - y_i)/z$. This shows how far from the poverty threshold is the average poor is in a given society. It shall be noted that this measure does not consider the size of the population. Therefore, it cannot satisfy the scale independence property as explained by Villar (2017).

For $\alpha = 1$, the FGT index is equivalent to the Poverty Gap Ratio (PGR):

$$P_{FGT}^1(y, z) = \frac{1}{n} \sum_{i=1}^p \left(1 - \frac{y_i}{z}\right)$$

This index provides more information than the previous two as it combines poverty incidence and poverty intensity. This combination provides another perspective and a better understanding of the extent of poverty. However, it ignores inequality among poor

individuals as it fails to capture the severity of the poverty. If we want to measure inequality and severity, we shall set the parameter $\alpha = 2$.

Thus, with the FGT 0, 1 and 2 and the RAD, we will be able to measure poverty in three different dimensions: incidence, intensity and inequality. These three dimensions are generally known as the three “*I*”s of poverty (Sen, 1976).

4.3.2 Inequality

To measure income inequality, we will use the Gini index, also referred as the Gini coefficient. This index proposed by Corrado Gini¹² is one of the most intuitive and, consequently, one of the most frequently used indices to measure income inequality. There are several ways of measuring and expressing the Gini index (see Goerlich and Villar, 2009), but the one that we will follow is the one proposed by Sen (1973):

$$G = \frac{n+1}{n} - \frac{2}{n} \sum_{i=1}^n (n+1-i) \frac{y_i}{n\mu(y)}$$

Following this formula, the Gini index is calculated as a weighted sum of income share, assigning weights depending on income level. The poorest individual of the distribution will receive a weight of n . The next individual in the ranking will be the second poorest individual, who has a corresponding weight of $n-1$. The process is repeated until the richest individual is reached, who is assigned a weight equal to 1. Finally, $y = (y_1, y_2, \dots, y_n)$ is the income distribution and $\mu(y)$ is the income mean.

To complement our analysis, we will also use the *P50/P10* ratio, which compares the median income to the upper value of the first decile. Although other ratios exist, this ratio may offer some interesting results that can contribute to the purpose of this paper, mainly because we have taken the median income as a reference point to set the poverty threshold and also because we want to focus our analysis on those individuals who have less income.

¹² See Gini (1921) for more details.

5. Results

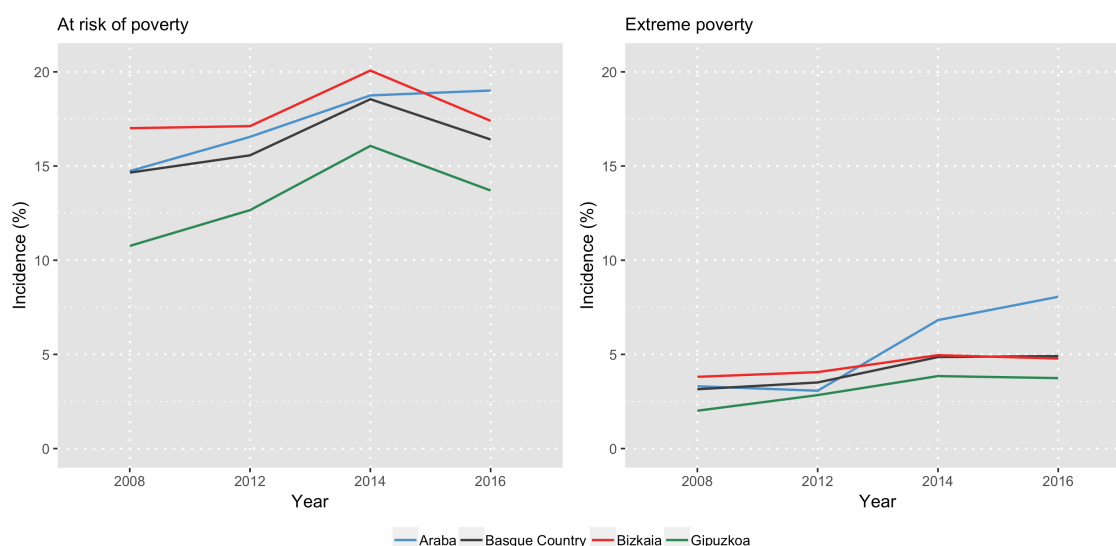
In this section we will present our results and we will comment the evolution of poverty (incidence, intensity and inequality) and income inequality in the Basque Country between 2008 and 2016. We will illustrate our results with graphs and maps. All the results can be found in the Appendix.

5.1 Poverty

5.1.1 Poverty incidence

In 2008, the *at risk of poverty* incidence rate was 14.65% and, in just six years, it increased by almost 4 p.p. (to 18.55%). While it is true that the poverty incidence was lower in 2016 than in 2014, the share of people at risk of poverty in the Basque Country was still greater than in 2008. With respect to *extreme poverty* incidence, we also find that it increased from 3.15% in 2008 to 4.86% in 2014. However, unlike it happened with the previous poverty threshold, it seems that extreme poverty in the Basque Country stagnated between 2014 and 2016 (4.91%). This means that, according to EPDS, in 2016 there were 351,589 people living at risk of poverty and 105,198 living in extreme poverty in the Basque Country.

Figure 2. Poverty incidence, (2008 – 2016).



The first conclusion that we can obtain is that the incidence of poverty in the Basque Country is higher in 2016 than just before the beginning of the economic

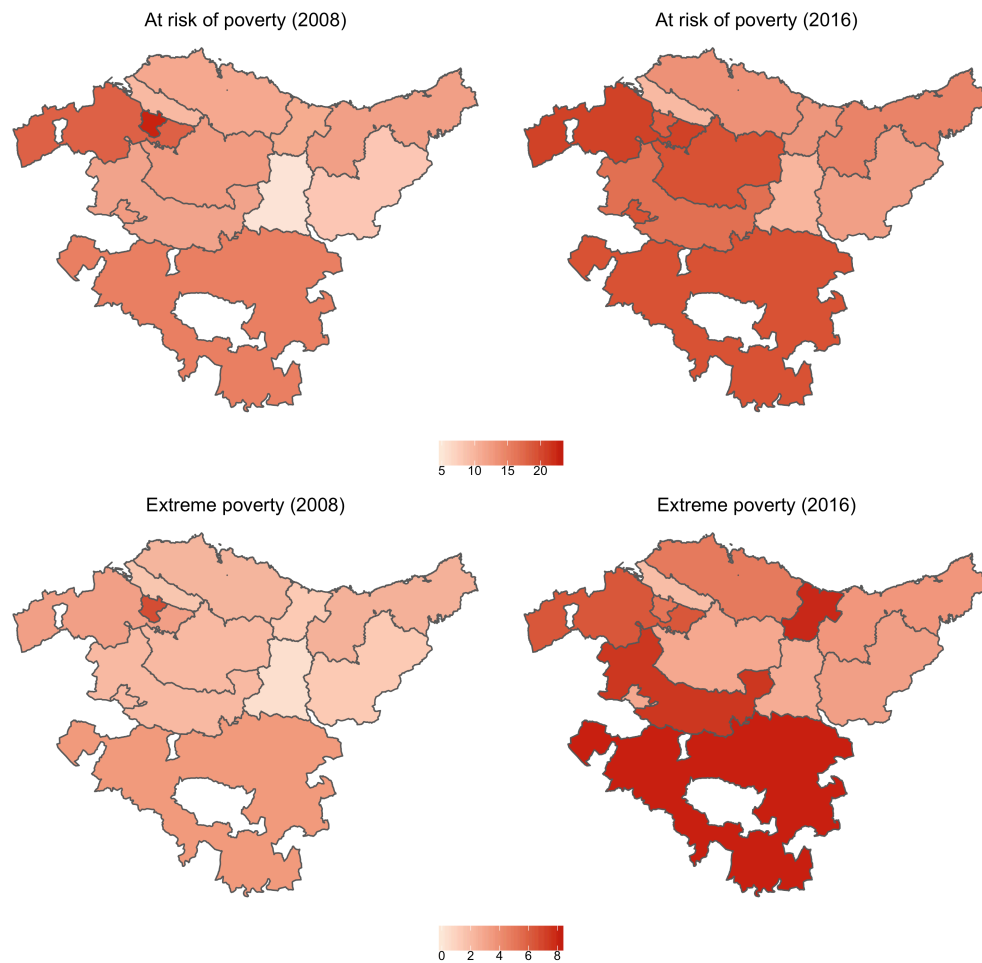
recession. As we can observe in Figure 2, this increase in the share of poor people takes place for both *at risk of poverty* and *extreme poverty* levels and, while there were less people living at risk of poverty in 2016, the share of people living in extreme poverty remains constant.

Figure 2 shows that, for each year, Gipuzkoa is the province with the lowest incidence rate for both of the thresholds. Despite this, the increase in poverty incidence is important. In 2016, 13.70% of the population in Gipuzkoa is at risk of poverty, while in 2008 the incidence is only 10.76%. On the other side, only 3.74% of people are living in extreme poverty in 2016. As a final comment, the incidence of extreme poverty is quite homogeneous in Gipuzkoa (see Figure 4), although we find that, in the region of Bajo Deba, it is relatively high (7.88%) in 2016.

The trend of the evolution of poverty incidence in Bizkaia is similar to the one of the Basque Country and Gipuzkoa, but we observe that the rate is usually higher. In 2014, 1 out of 5 individuals living in Bizkaia was at risk of being poor, but the incidence decreased to 17.40% in 2016, slightly above the rate before the recession hit (17.01%). Extreme poverty in Bizkaia increased between 2008 and 2014 from 3.81% to 4.96%, and it remained almost flat in 2016 (4.78%). Figure 4 shows that there is some disparity between regions in Bizkaia. For example, in 2016, Margen Derecha has the smallest share of people living at risk of poverty (9.43%) and in extreme poverty (1.87%). However, incidence in other regions such as Bilbao or Margen Izquierda is between 8 and 16 p.p. higher in the case of people living at risk of poverty, and between 3 and 5 p.p. higher in the case of extreme poverty.

Finally, poverty incidence in Araba shows a different behavior. It is true that the share of people who falls below the 60% of the median increases from 14.73% in 2008 to 18.75% in 2014. However, unlike in Bizkaia and Gipuzkoa, the incidence rate also increases in 2016 up to 19.01%, that is, 2.6 p.p. higher than the rate of the Basque Country. Regarding the extreme poverty, incidence decreases slightly between 2008 and 2012, from 3.31% to 3.07%, but it increases up to 8.06% in 2016. Both regions of Araba, Ayala and Gasteiz, have some of the higher incidence rates in the Basque Country, as we can observe in Figure 3.

Figure 3. Poverty incidence (%), by regions.



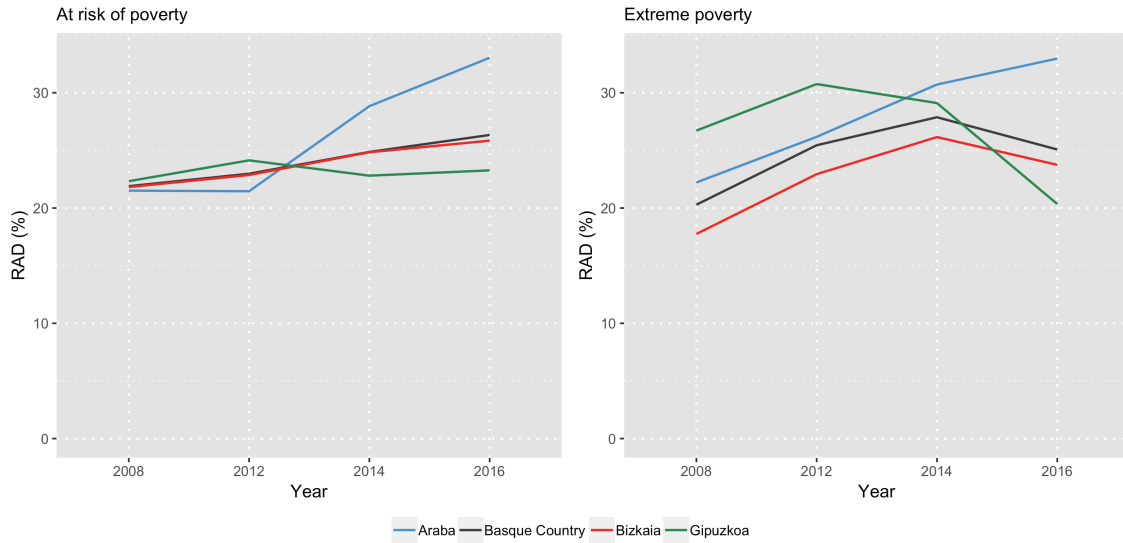
Source: Own calculations using EPDS

Now that we know how many poor people are in the Basque Country between 2008 and 2016, the next question to be answered is: how poor are the poor?

5.1.2 Poverty intensity

We will start the analysis of poverty intensity with the results of the RAD. Usually, the average poor in the Basque Country is located somewhere between 20% and 25% away from any of the poverty lines. We can see in Figure 5 that, as years go by, the average poor is, in general, further away from the poverty line. This trend holds for both thresholds until 2016, when we observe that the RAD decreases (from 27.88% to 25.08%) when measured with respect to the 40% threshold, but it increases (from 24.87% to 26.34%) in the case of the 60% of the median.

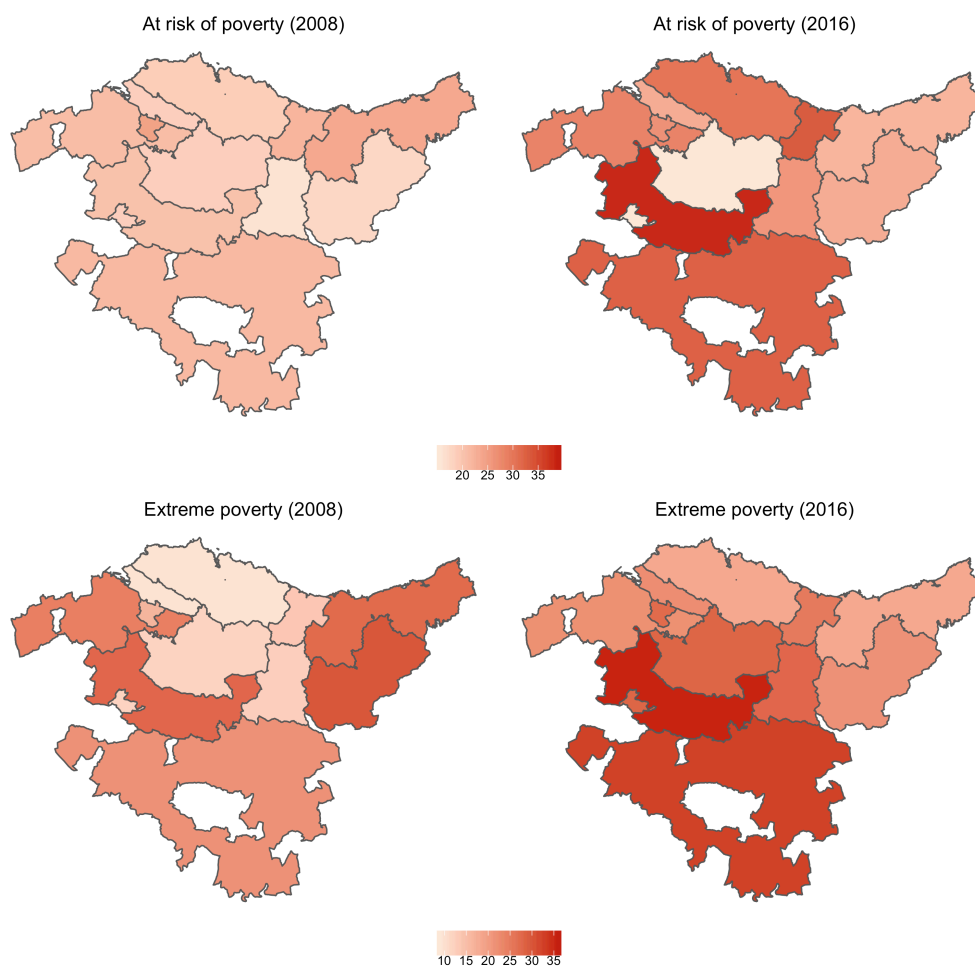
Figure 4. Relative Average Distance (RAD), (2008 – 2016).



In the case of the 60% of the median poverty line, Figure 4 shows that, in 2008, the average poor is located more or less at the same distance in Araba (21.51%), Bizkaia (21.82%) and Gipuzkoa (22.33%). The situation in 2012 is similar but, in 2014 and 2016, the intensity of poverty is higher in Araba (28.84% and 33.04%) than in Bizkaia (24.84% and 25.85%) and Gipuzkoa (22.81% and 23.27%). In the case of extreme poverty, Gipuzkoa has the highest RAD in 2008 (26.72%) and in 2012 (30.76%). However, there is a remarkable decrease between 2014 and 2016, as the average poor in Gipuzkoa is a lot closer to the poverty line (20.35%). The evolution in Bizkaia is similar, but we find that the average poor is further away in 2016 (23.75%) than in 2008 (17.75%) and in 2012 (22.94%). Finally, Araba is the only province where the average poor is consistently further away compared with the previous analyzed year (22.22%, 26.18%, 30.72% and 32.97%).

Therefore, it is no surprise that, in 2016, Gasteiz and Ayala are among the regions where the average poor is the furthest away for both poverty lines. In general, all the regions have a higher RAD in 2016 than in 2008 but, as it can be seen in Figure 5, there are some exceptions. In Donostialdea and Tolosa-Goierri, the average poor is closer to the 40% poverty line and, in the case of the 60% threshold, Duranguésado and, again, Donostialdea have a lower RAD in 2016 than in 2008.

Figure 5. Relative Average Distance (RAD), by regions.



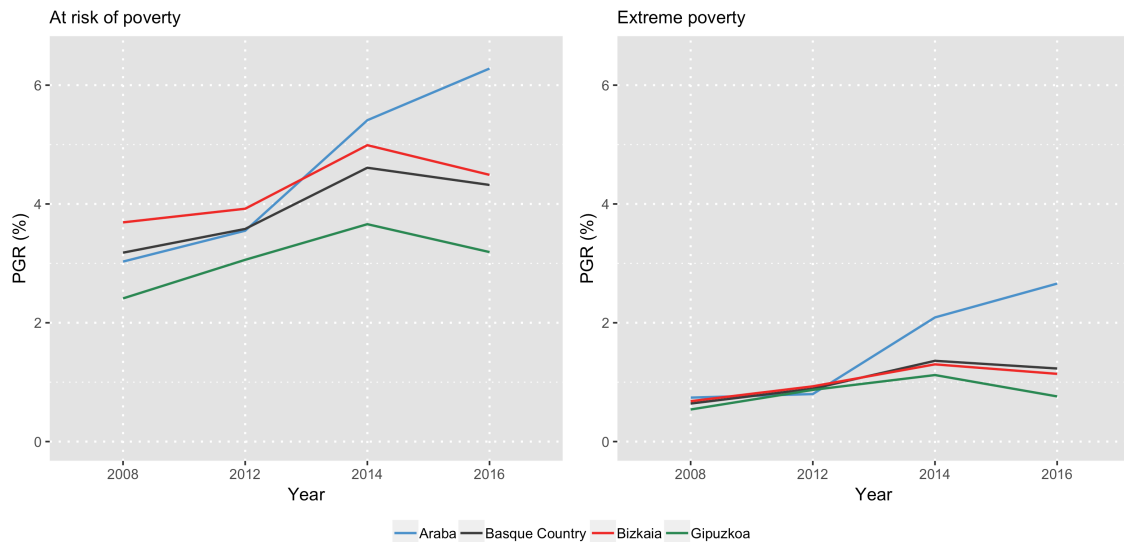
Source: Own calculations using EPDS

The results of the PGR offer a similar, but more complete scenario than the one obtained with the RAD. According to the EPDS, the highest PGR in the Basque Country was obtained in 2014 for both poverty thresholds (4.61 and 1.36). As we can see in Figure 6, the PGR decreases in 2016 down to 4.32 in the case of the 60% poverty line and to 1.23 in the case of the 40%. Still, these values are far from those of 2008 and 2012. This confirms that the poverty is more intense in the Basque Country in 2016 than 4 years before.

Furthermore, we observe that the situation of poverty during the crisis deteriorates particularly in Araba. By observing Figure 6, we realize that before the recession, the PGR of Araba (3.03% and 0.74%) is relatively close to the PGR of the Basque Country (3.18% and 0.64%) and Bizkaia (3.69% and 0.68%). However, 8 years later the gap between Araba and Bizkaia is almost 2 p.p. when taking the 60% of the median as

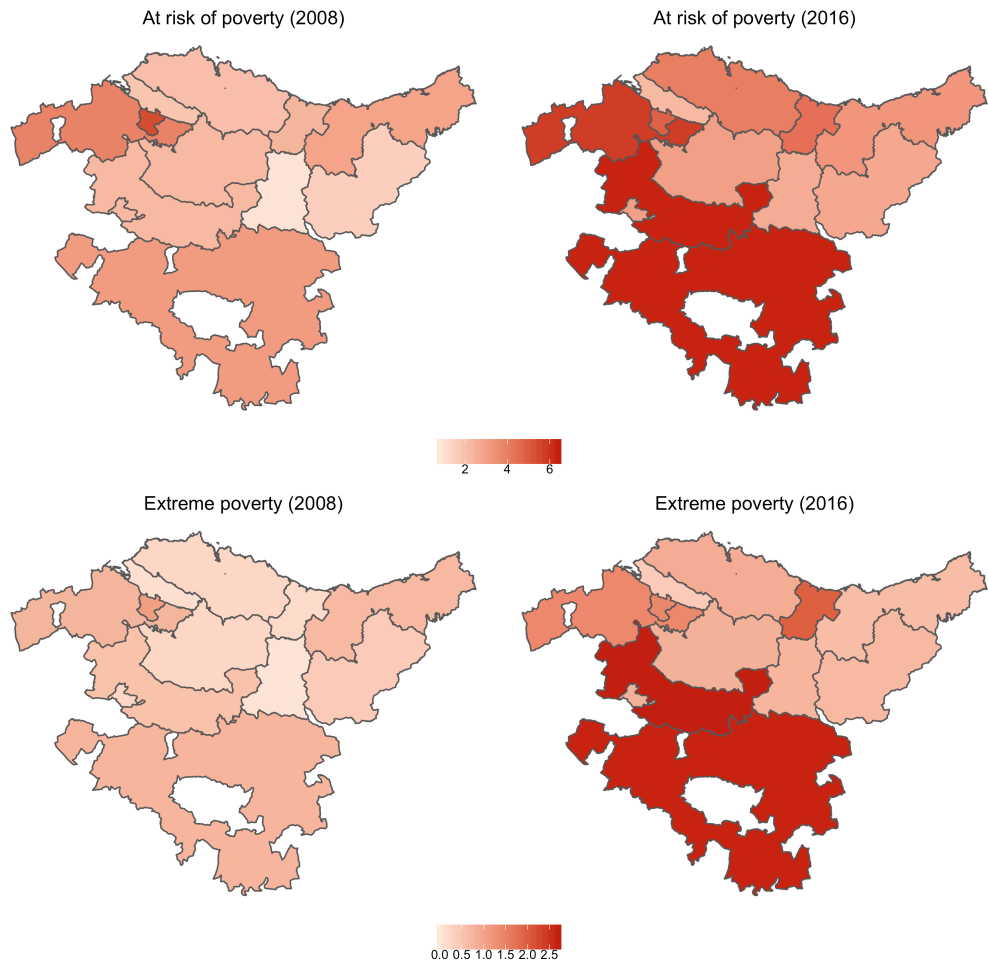
threshold, and around 1.5 p.p. when taking the 40% of the median. Once again, Gipuzkoa has the lowest index value in 2016 (3.19% and 0.76%), but it was still high compared to the PGR in 2008 (2.41 and 0.54).

Figure 6. Poverty Gap Ratio (PGR), (2008 – 2016).



Despite this, it is relevant to point out that, when considering extreme poverty, the region of Bajo Deba, in Gipuzkoa, has the third highest PGR in 2016 (1.97%), only surpassed by Gasteiz (2.65%) and Ayala (2.69%), both in Araba. As can be appreciated in Figure 7, these two regions have also the highest PGR ratio considering the 60% of the median (6.27% and 6.32% respectively), followed by Margen Izquierda (5.77%) and Bilbao (4.86%) in Bizkaia, and Bajo Deba (4.35%).

Figure 7. Poverty Gap Ratio (PGR), by regions.



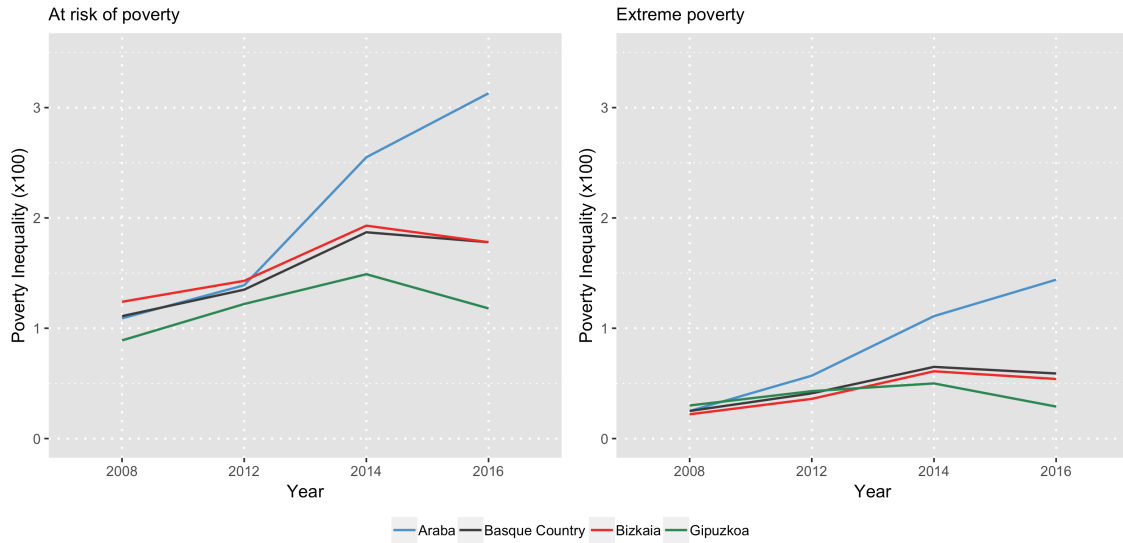
Source: Own calculations using EPDS

Next, we will present the results of the last remaining dimension of poverty: poverty inequality.

5.1.3 Poverty inequality

Poverty inequality, which can also be interpreted as severity of poverty, increased in the Basque Country during our reference years. In the case of people living at risk of poverty, the FGT 2 index provided a value of 1.11 in 2008, 1.35 in 2012 and 1.87 in 2014. While in 2016 there was a slight decrease, the value (1.78) is still higher than in 2012. The situation between people living in extreme poverty is similar. The index value increases between 2008 and 2014 from 0.25 to 0.65, but it decreases to 0.59 in 2016.

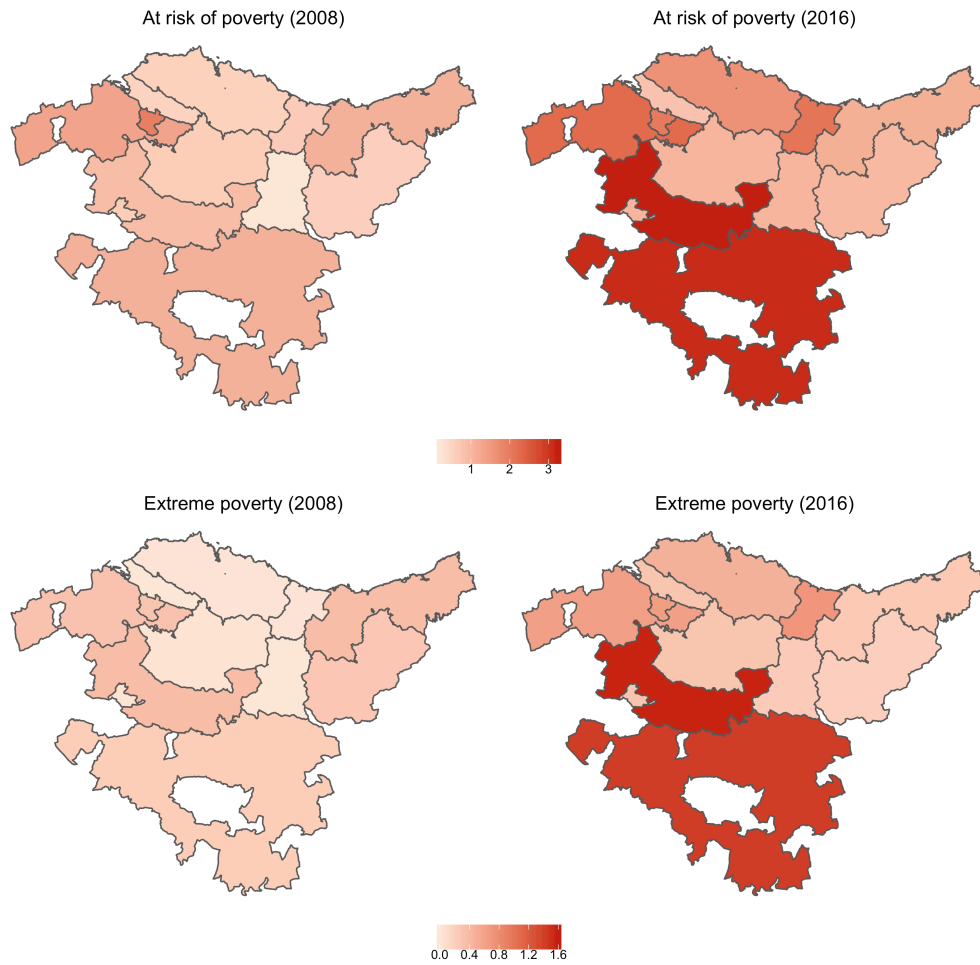
Figure 8. Poverty inequality, (2008 – 2016).



By provinces, we can appreciate two scenarios. In 2008, poverty inequality was similar in all the three provinces taking the extreme poverty line: around 0.25 (see Figure 8). However, in 2014 there is a noticeable gap between Araba (0.57) and the two other provinces. Additionally, in 2016, severity of poverty decreases slightly in Bizkaia and Gipuzkoa while it increased in Araba, reaching a value of 0.59 for 40% of the median. Inequality among individuals living at risk of poverty increases in the three provinces between 2008 and 2014. In Bizkaia and Gipuzkoa, poverty inequality decreases in 2016 from 1.93 to 1.78 and from 1.49 to 1.18 respectively. In Araba, the evolution is the opposite, as the FGT 2 increases from 2.55 to 3.13 in the same year.

As a final comment, in Figure 9 we can observe that the regions where poverty inequality (at both thresholds) is the highest in 2016 are Ayala (3.24 and 1.57) and Gasteiz (3.12 and 1.57). This map confirms Araba as the province where poverty is more severe, but we find other regions in which poverty inequality is relatively high: Bajo Deba (2.13 and 0.70) in Gipuzkoa, and Bilbao (2.00 and 0.65) and Margen Izquierda (2.26 and 0.63) in Bizkaia. On the other side, in the same year, Margen Derecha (0.80 and 0.31) and Duranguésado (1.05 and 0.30) in Bizkaia, and Alto Deba (1.02 and 0.25) and Tolosa-Goierri (1.00 and 0.21) in Gipuzkoa, are the regions where the severity of poverty was lower.

Figure 9. Poverty inequality, by regions.



Overall, we can conclude that, between 2008 and 2016, there is an increase in all dimensions (incidence, intensity and inequality) of poverty in the Basque Country. Although some recovery is appreciated in 2016 (except in Araba), poverty values are still far from 2008 and 2012 levels.

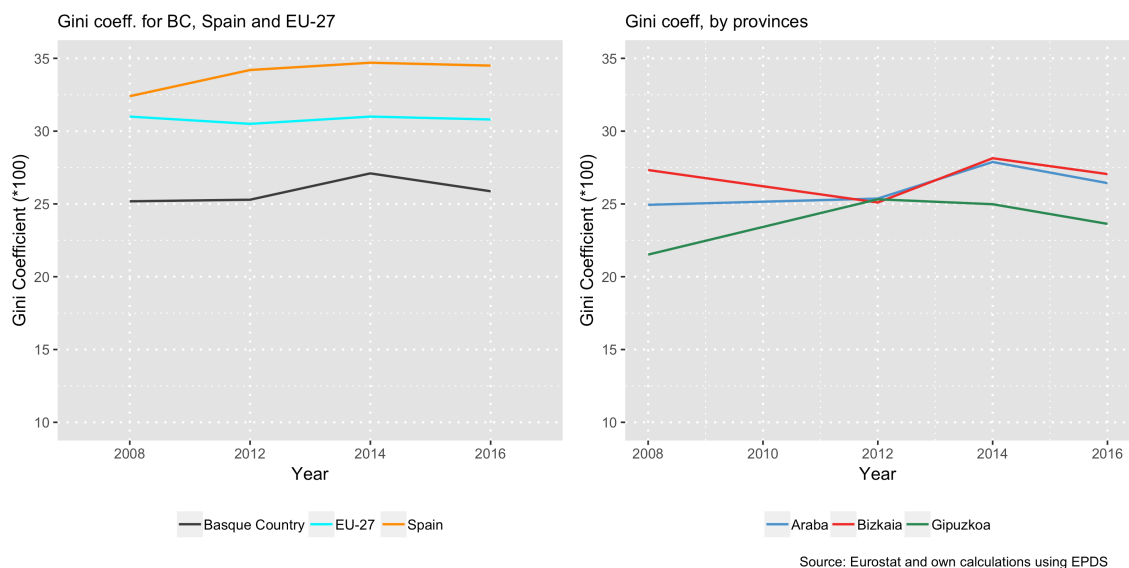
5.2 Income inequality

5.2.1 Gini index

Alongside with poverty, income inequality also increases in the Basque Country during the economic recession. Figure 10 shows that, between 2008 and 2016, income inequality levels are lower in the Basque Country than in Spain and the European Area. For example, according to the EPDS, Gini coefficient in 2008 is 25.18, while in Spain it

is 32.4 and, in the EU-27¹³, it is 31. In the following years, there is an increase in the Gini coefficient of the Basque Country, until reaching a maximum level (27.10) in 2014. Nevertheless, income inequality is still lower than in Spain (34.7) and in the EU-27 (30.9). In 2016, we observe an important decrease in the Gini index in the Basque Country down to 25.87 (34.5 in Spain and 30.8 in the EU-27), but still above 2008 and 2012 values.

Figure 10. Gini Index, (2008 – 2016).



Source: Eurostat and own calculations using EPDS

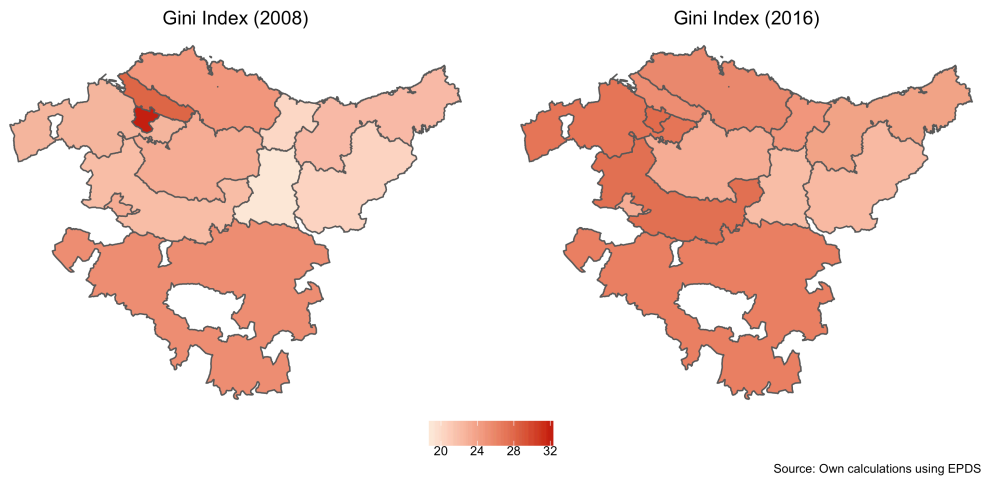
As it is the case with poverty, we can appreciate some differences in income inequality between provinces. Just before the recession starts, Bizkaia (27.33) is the province with highest income inequality, followed by Araba (24.94) and Gipuzkoa (21.52), but in 2012 income inequality is rather uniform across the Basque Country. In 2014, we observe that a gap appears between Gipuzkoa, which has the lowest Gini coefficient (24.98), and the other provinces. Despite the general reduction in inequality in 2016, the difference in points between Bizkaia (27.05), Araba (26.43) and Gipuzkoa (23.63) remains more or less constant.

Finally, in 2016, as we can see in Figure 11, income inequality in Araba is relatively homogeneous (26.27 in Gasteiz and 27.35 in Ayala) compared with 2008 (25.40 and 21.88). In Gipuzkoa, the most unequal region in 2016 is Bajo Deba (24.75) and the less unequal is Alto Deba (21.88). Finally, in Bizkaia, Bilbao is the most unequal

¹³ Croatia did not join the EU until 2013. Nevertheless, according to data provided by Eurostat, Gini coefficients coincide for both the EU-27 and EU-28 from 2013 onwards.

region in both 2008 and 2016 (31.97 and 27.77), although we find that inequality is considerably lower and more homogeneous in 2016 than in 2008.

Figure 11. Gini Index, by regions.

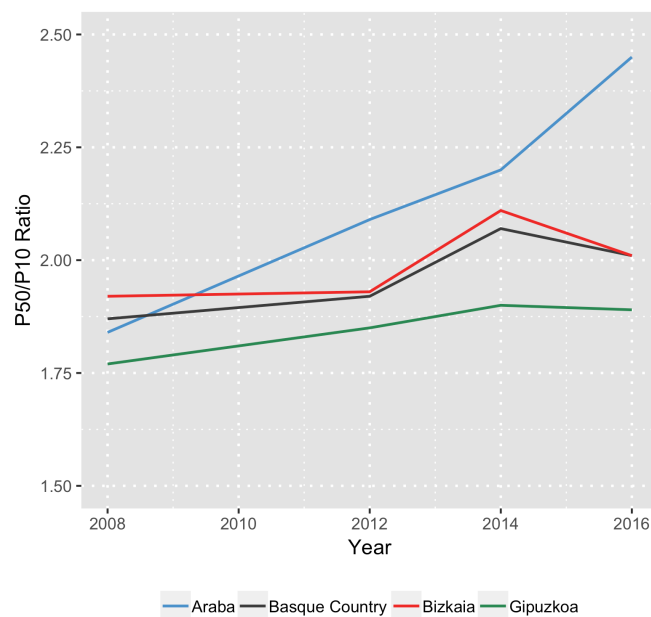


Source: Own calculations using EPDS

5.2.2 P50/P10 ratio

The P50/P10 ratio provides a different information, as it shows the inequality between the first decile and the median income. Unlike the Gini, this ratio focuses on inequality that affects the poorest individuals in relation to the median income. Given that we want to analyze the situation of those individuals with lowest levels of income, this is the indicator that shall be taken into consideration.

Figure 12. P50/P10 ratio, (2008 – 2016).



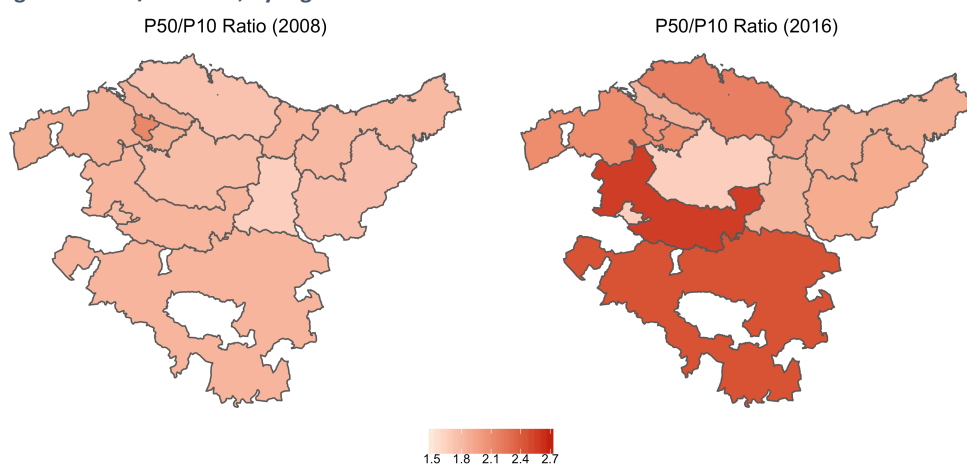
Source: Own calculations using EPDS

In the Basque Country, this ratio increased from 1.87 in 2008 to 2.07 in 2014. Later, in 2016, the ratio decreases slightly down to 2.01, which means that the highest level of equivalent income of the first decile was half the median equivalent income.

In 2008, all the three provinces have a similar ratio, as we can observe in Figure 12. However, during the economic recession, some differences arose in a different way than those appreciated using the Gini index. For example, in 2016, we find that Araba (2.45) is the province where the bottom 10% earned less compared with the median equivalent income, even if its Gini coefficient was lower than the one for Bizkaia. This is consistent with the results that we have obtained previously when analyzing poverty.

The evolution of the P50/P10 ratio in Bizkaia and Gipuzkoa was smoother (1.92 to 2.01 and 1.77 to 1.89 respectively). However, while the values in Gipuzkoa are more or less homogeneous in 2016, in Bizkaia we find some differences between regions, as it can be seen in Figure 13. On the one hand, the P50/P10 ratio of Duranguesado and Margen Derecha was below 2.00 and, on the other, the ratio of Bilbao, Margen Izquierda and Bizkaia-Costa was above 2.00.

Figure 13. P50/P10 ratio, by regions.



Thus, with these results we can confirm that inequality increased in the Basque Country. In addition, our results suggest that the situation of those individuals who are poorer deteriorated even more compared to the median level of income.

5.3 Impact of the MIS

In this section we will simulate the impact of the MIS by comparing the pre-MIS scenario with the post-MIS scenario. It shall be pointed out that it is assumed that the introduction of MIS does not affect the behavior of individuals¹⁴ (Rodrigues, 2001). The reduction in poverty incidence and poverty intensity is shown with graphs for the Basque Country and each of the provinces. A more detailed presentation of these results can be found in Appendix I. Finally, we point out a caveat in the design of the MIS in the Basque Country.

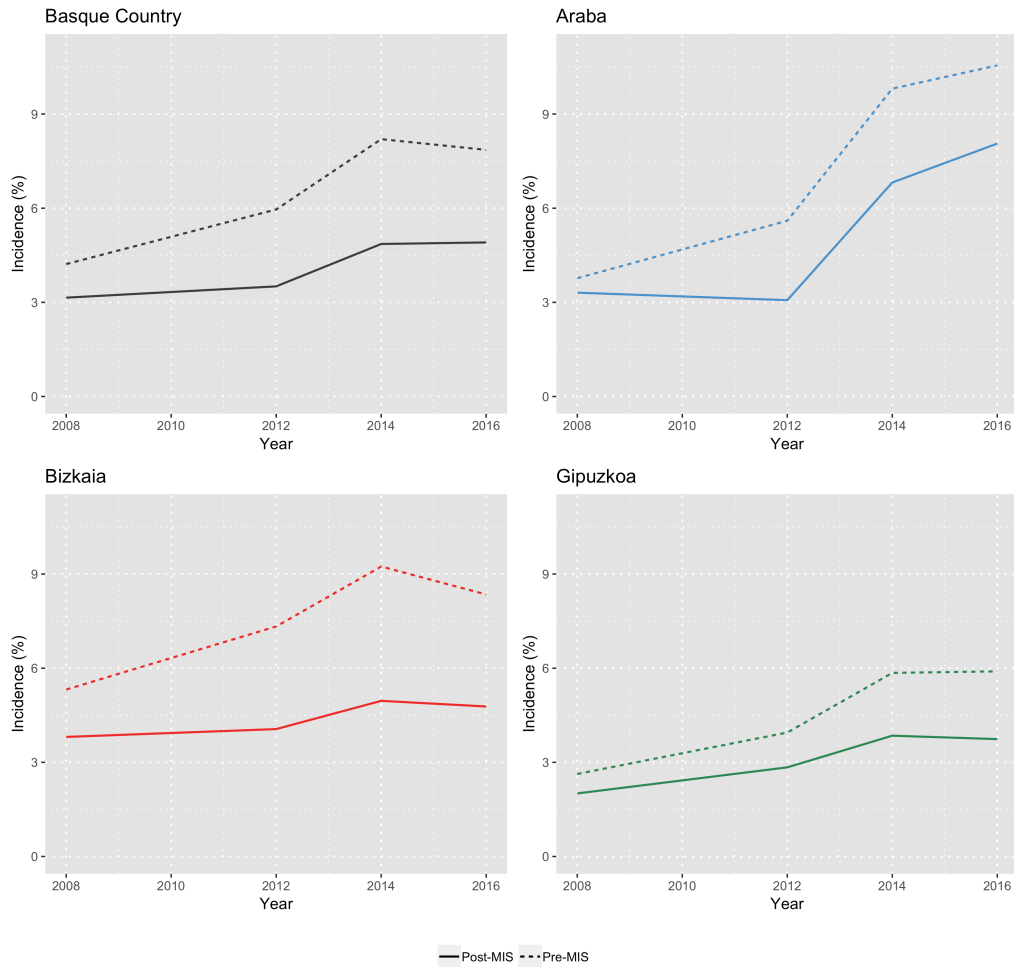
5.3.1 Reduction in poverty

In this part of the analysis, we will only take into account the 40% of the median equivalent income. We have made this decision because, as explained by Gorjón and Villar (2019), the threshold of the 60% of the median is far above the threshold set by the MIS in the Basque Country. Therefore, it does not make much sense to make this analysis for people living at risk of poverty but not in extreme poverty.

Figure 14 shows the incidence of poverty in the Basque Country and the three provinces in the pre-MIS and post-MIS scenario. According to our results, the MIS helps to reduce poverty incidence in all the years analyzed. We can observe that the reduction is lower in 2008 than in the following years, when the economic recession takes place. In fact, the graph helps to understand that the MIS works fairly well in order to reduce the increase in poverty incidence during the crisis (from 8.20% to 4.86% in 2014) and at the beginning of economic recovery (from 7.86% to 4.91% in 2016).

¹⁴ In addition, according to De la Rica and Gorjón (2019), the MIS does not affect the probability of finding a job.

Figure 14. Reduction in poverty incidence.

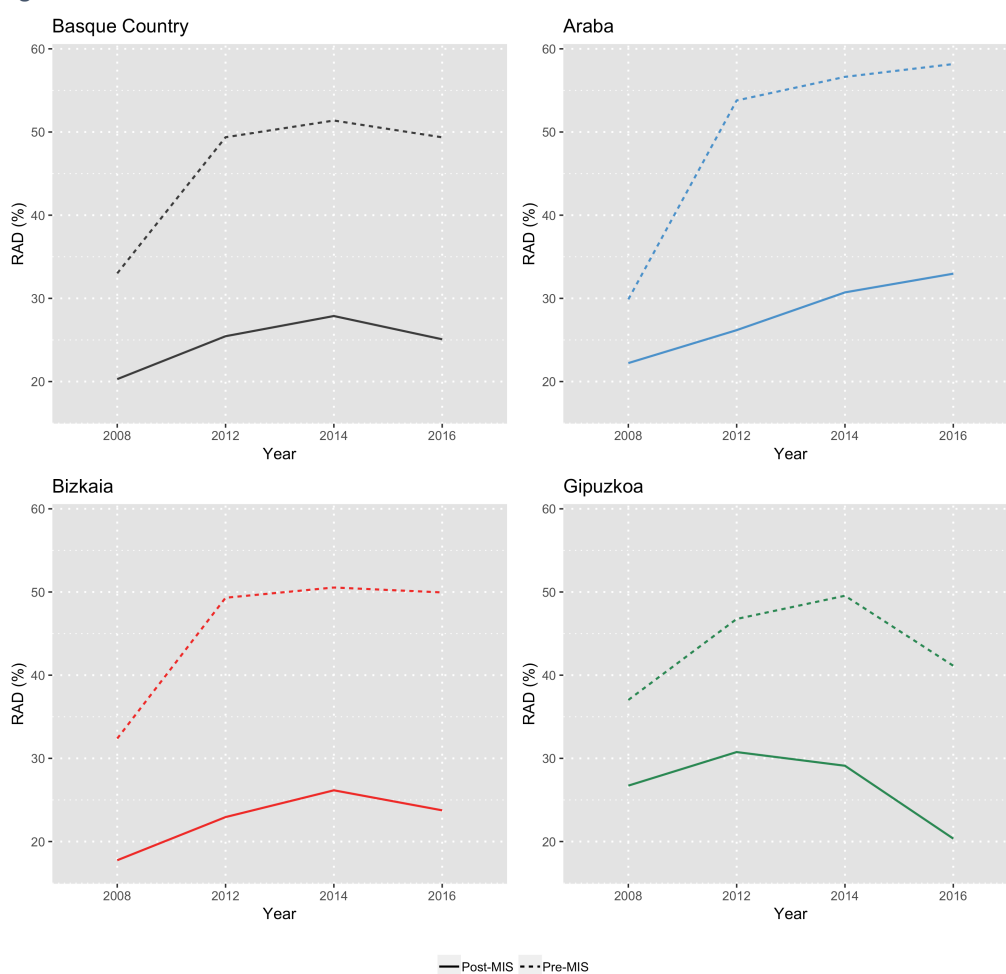


Source: Own calculations using EPDS

When analyzing the results by provinces, we obtain some interesting results. Before the recession started, we observe that Bizkaia has the highest poverty incidence rate (5.32%) in the pre-MIS scenario. In fact, Bizkaia has a relatively high extreme poverty incidence rate the rest of the years too. However, we notice a key difference with Araba, the other province that shows an elevated incidence in 2014 and 2016. The MIS reduces extreme poverty in Bizkaia from 9.24% to 4.96% in 2014 and from 8.35% to 4.78%, which implies a reduction of more than 40% in both years. In Araba, the reduction is much smaller, from 9.81% to 6.82 %and from 10.55% to 8.06% in the same years. The case of Gipuzkoa is singular, as it shows a relatively low incidence in the pre-MIS scenario even during the economic crisis. However, the region of Bajo Deba has a high incidence rate from 2014 onwards and, as it happens in Araba, the reduction is relatively small compared with Bizkaia.

In addition to poverty incidence, the MIS especially reduces poverty intensity. Regarding the RAD, it reduces considerably the distance between the average poor and the poverty line (40% of the median) and, in some cases, this reduction can be 50% or even greater. For example, in the Basque Country, the RAD increases 16 p.p. from 2008 to 2016 in the pre-MIS scenario, but, once taken into account the MIS, this distance increases just by 5 p.p in the same period of time. This reduction in the distance between the average poor individual and the poverty line also takes place when analyzing each of the provinces separately, as shown in Figure 15.

Figure 15. Reduction in RAD.

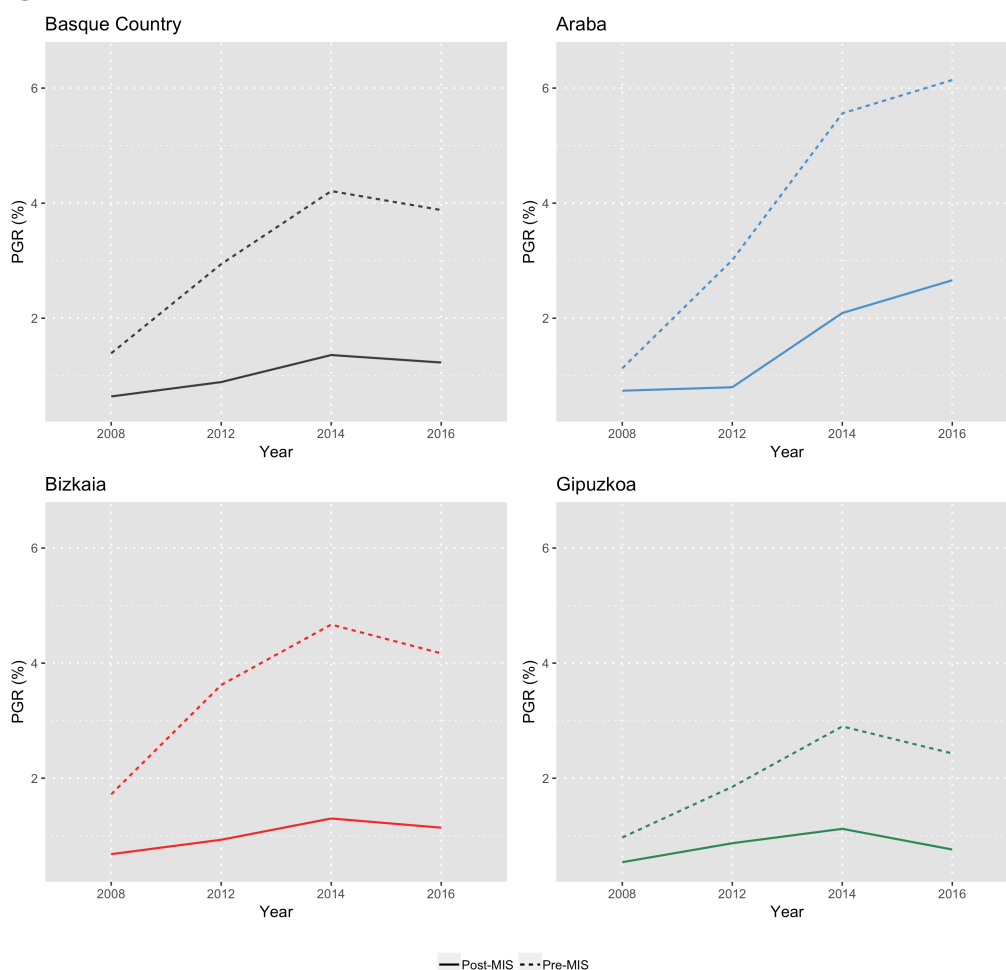


Source: Own calculations using EPDS

Since the PGR combines poverty incidence and the RAD, there is also a reduction in this dimension of poverty when going from the pre-MIS to the post-MIS scenario. In both scenarios, the PGR was lower in 2008 than in 2016, but in Figure 16 we can see that the evolution of the PGR is softer in the post-MIS situation. There are some differences

between provinces, as Araba has a pre-MIS PGR of 6.14 in 2016, while in Bizkaia is 4.17 and in Gipuzkoa 2.43. Nevertheless, it is undeniable that the MIS reduces considerably the intensity of extreme poverty in all the provinces and the existence of the MIS helps to improve the overall situation of the poorest and to make the changes in the PGR look smoother.

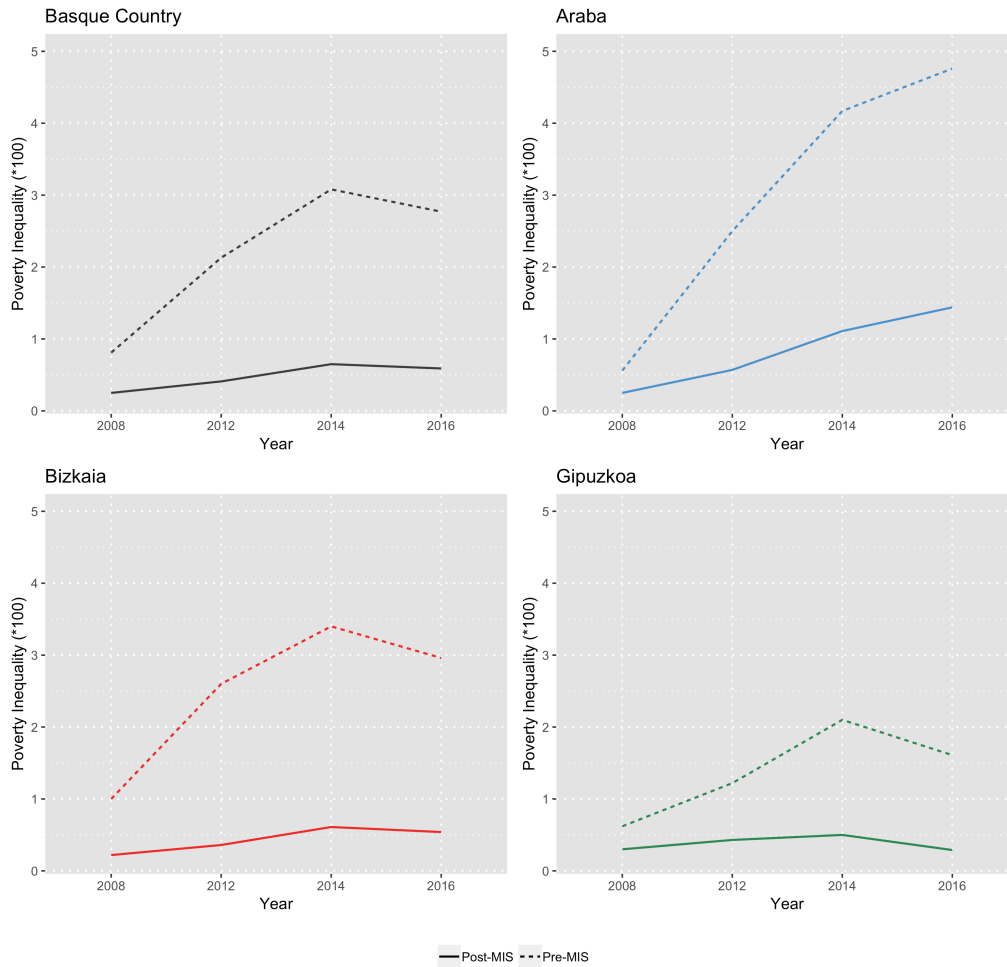
Figure 16. Reduction in PGR.



Source: Own calculations using EPDS

Finally, because of the way the MIS is designed, it also reduces poverty inequality. Since the aim of the MIS is to help all the households to reach a minimum living standard, the further away from this minimum threshold a household is, the larger the amount of MIS that will be transferred to said household. This intuition is confirmed by changes displayed in Figure 17. For example, in 2016, poverty inequality in the Basque Country is reduced by more than 75% (from 2.77 to 0.59). In the analysis by province, we also find a noticeable reduction in severity of poverty, especially in Bizkaia, where poverty inequality is reduced by more than 80% in 2016.

Figure 17. Reduction in poverty inequality.



Source: Own calculations using EPDS

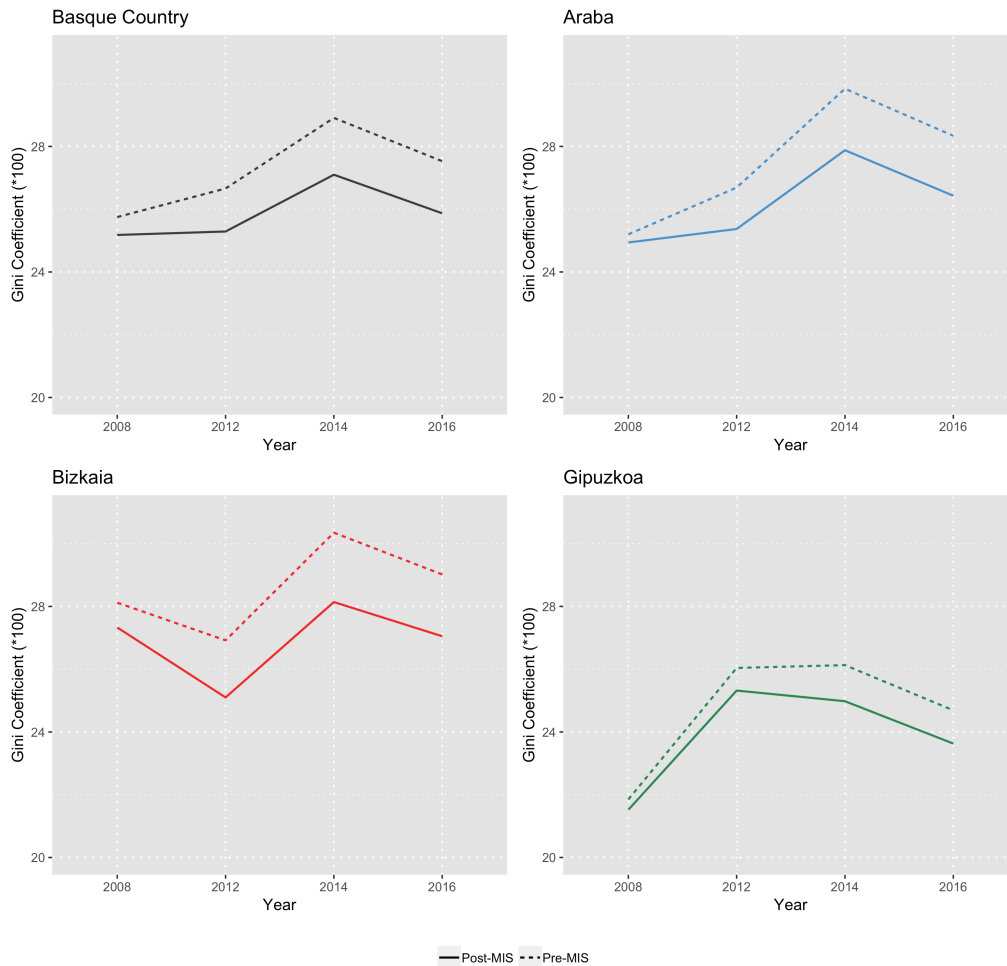
Thus, we can conclude that the MIS reduces poverty in all its dimensions and, since all the households that are poor and meet the requirements are led to the same threshold (depending on household type), the reduction is especially remarkable in the dimensions of intensity and inequality.

5.3.2 Reduction in inequality

In addition to reducing poverty, the MIS also helps to reduce income inequality. This reduction makes sense, given that a large part of individuals located at the bottom of the income distribution have a higher level of income in the post-MIS scenario. In first place, we can observe in Figure 18 that there is a perceptible reduction in the Gini index, although it varies during the years that we have analyzed. For example, in 2008, the Gini coefficient goes from 25.75 to 25.18, but this difference between the pre-MIS and the post-MIS scenario is greater during the economic recession and the first years of the recovery. For the four years analyzed, the ranking of provinces by their Gini coefficient

remains practically unchanged in both scenarios, with the sole exception of 2012, when Bizkaia is the less unequal province considering the MIS. In the rest of the cases, this province has the highest Gini coefficient, followed by Araba and Gipuzkoa.

Figure 18. Reduction in Gini Index.



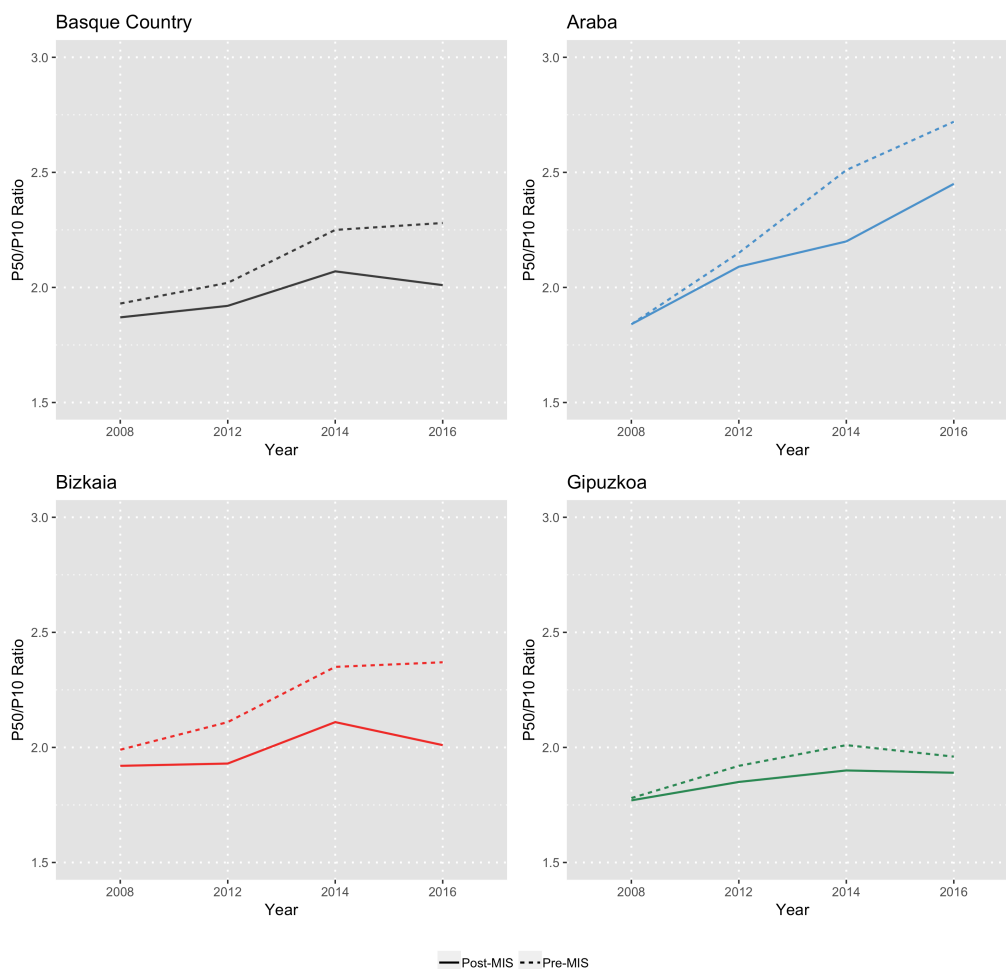
Source: Own calculations using EPDS

Also, the Gini coefficient in the Basque Country is still lower than in Spain and the EU-27 even in the case of the pre-MIS scenario.

Finally, the P50/P10 ratio is also lower in the post-MIS scenario. The intuition behind this is that, when considering the post-MIS situation, an important share of people that are in the first decile of income distribution will have a higher income, while the median income should be the same or very close to the pre-MIS scenario. In 2008, the P50/P10 in the pre-MIS and post-MIS was almost the same (1.93 and 1.87). However, as the ratio increases during the crisis, so does the difference between both scenarios (see Figure 19). This means that the situation of those located at the bottom 10% deteriorates

more than the median and, without the MIS, the situation would have been even worse. Gipuzkoa is the province with the lowest ratio for each year analyzed and the difference between the pre-MIS and post-MIS scenario is relatively small compared with the other two provinces. On the other side, Araba and Bizkaia experience a higher increase in the P50/P10 ratio but, in the case of Bizkaia, the ratio in the post-MIS evolves in a smooth way, meaning that the MIS is helping to mitigate this increase during the crisis. Regarding Araba, it is true that the MIS reduces inequality, but it still cannot avoid a consistent increase in the P50/P10 during the years that we analyzed. In 2016, the ratio reaches a maximum of 2.72 in the pre-MIS scenario and 2.45 in the post-MIS.

Figure 19. Reduction in P50/P10 ratio.



Source: Own calculations using EPDS

Therefore, we can confirm that the MIS also helps to reduce inequality both in the Basque society as a whole and when analyzing the inequality that exists between the poorest 10% and the median equivalent income.

5.3.3 Caveat in the design

Even if it is true that the MIS helps to reduce poverty in the Basque Country, the scheme fails in reaching the goal of eradicating poverty for all types of households. The way the policy is designed leads to some important asymmetries between households depending on their size. The fact is that, according the maximum amount of MIS set for each household type (see Table 4), for those households with 3 or more individuals the amount of MIS does not increase with an additional household member. This implies that some household types are in advantage with respect the international poverty threshold (40% median).

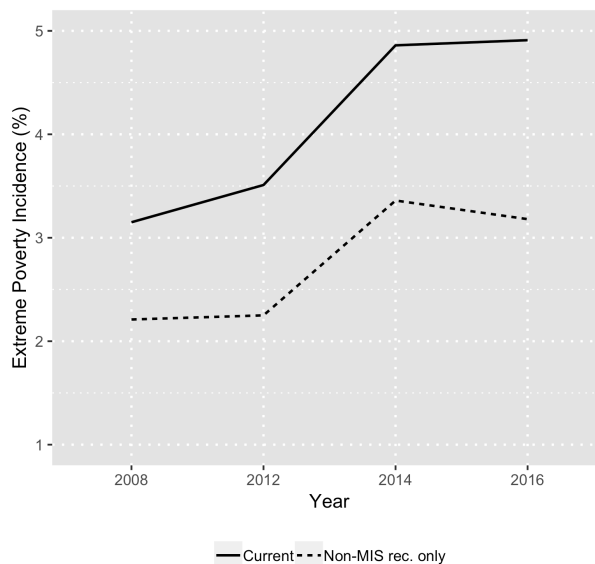
Comparing the international standard (40% of median equivalent income) and the criteria used in the Basque Country, we find that the design of the scheme does not treat all the households equivalently. Since no equivalence scale is applied for those households with more of 3 individuals, large households are in a worse off situation than smaller households. For example, households with three individuals and households with eight individuals are considered as equivalent, and would therefore receive up to the same amount of MIS. This means that there are some households that are not considered poor enough in order to receive the MIS, even if they are living in extreme poverty. In addition, we shall recall that type 3 households (3 or more members, at least 2 adults) are the most frequent in the Basque Country. At the same time, in the case of single member or some 2 member households, some of them are considered very poor according to the Basque Government criteria, even if they do not fall below the extreme poverty line.

Furthermore, more in-depth results obtained by Gorjón and Villar (2019) prove that even large households that do receive the MIS are relatively worse off compared with the amount received by single and small households. Since the poverty line fixes the amount of money received by each household type, larger households will receive less money than they should in order to exit poverty according to international standards.

If this discrepancy between criteria was solved, only those who do not receive any amount of MIS, either because they do not meet the requirements to ask for it or simply do not apply, even having the right to do so, would live in extreme poverty. Figure 20 illustrates this situation in which we can see that extreme poverty incidence in the Basque

Country would have been 2.21% in 2008, 2.25% in 2012, 3.36% in 2014 and 3.18% in 2016.

Figure 20. Current and alternative extreme poverty incidence



Source: Own calculations using EPDS

6. Conclusions

In this paper, we have analyzed the evolution of poverty and inequality in the Basque Country between 2008 and 2016 and the role of Basque MIS on reducing both of them

This paper leads to two general conclusions. The first one is that, during the recession, there was an increase in poverty (in all its dimensions) and in inequality. It is true that in 2016 there were some signs of recovery (except in Araba), but the indicators and ratios, as well as the number of households that received some amount of MIS, are still far from pre-recession levels. As a matter of fact, the EPDS shows that there are 351,589 people living at risk of poverty and 105,198 living in extreme poverty in the Basque Country. Regarding inequality, in the Basque Country it is higher in 2014 than in 2008, but the decrease between 2014 and 2016 almost compensated the increase during the recession. We also shall point out that, during these eight years, income inequality in the Basque Country was lower than in Spain and the EU-27. Additionally, some specific conclusions must be provided for each of the provinces.

Araba is the province that suffered the highest increase in poverty between 2008-2016. It is not only that poverty incidence was higher (for both thresholds) than in Bizkaia and Gipuzkoa, but we have also confirmed that poverty was more intense and more severe than in the other two provinces. More worryingly, while Bizkaia and Gipuzkoa showed some signs of recovery in 2016, poverty indicators kept rising in Araba. In addition, Araba is the province with the highest inequality between the poorest and the median equivalent income.

Although Bizkaia is the more unequal province according to the Gini coefficient, it also shows the biggest decrease in poverty incidence between 2014 and 2016. In addition, regarding poverty in Bizkaia, we also observe that there are some significant differences between some regions, with Margen Derecha and Duranguesado usually having the lowest poverty levels and, Bilbao and Margen Izquierda, the highest.

Gipuzkoa is consolidated as the territory with the lowest poverty incidence, intensity and inequality and the lowest income inequality. Nevertheless, the situation of Bajo Deba is, in general, one of the worst in the Basque Country, only outclassed by the regions in Araba: Ayala and Gasteiz, in Araba.

The second general conclusion is that the MIS reduced poverty notably, in all the dimensions measured, as well as inequality. Thus, we can consider that the scheme approaches its goal, even if it does not reach it. Even if the reduction in poverty is noticeable, extreme poverty is far from being eradicated. This partially happens because some individuals do not or cannot ask for the MIS due to some additional requisites not related to their monthly income. However, another reason is that the MIS does not treat equivalently all the households. It has been seen that some of the large households that live in extreme poverty according to the 40% median threshold are not considered as poor by the regulation and, therefore, they do not receive any amount of MIS to help them to get out of poverty.

As a final comment, we acknowledge that this analysis could be complemented in some ways. For example, we find both interesting and necessary to expand this analysis to future waves of the EPDS in order to keep analyzing the evolution during the economic

recovery. In addition, it could prove very interesting to carry out this analysis focusing on different groups of age, gender or labor status. We think that these steps will lead to a better understanding of the poverty in the Basque Country the role that the MIS plays in its reduction and increase the knowledge in order to finally eradicate it.

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Appendix

A.1 Tables of results¹⁵

Table 5. Poverty incidence results.

		Pre-MIS				Post-MIS			
		2008	2012	2014	2016	2008	2012	2014	2016
At risk of poverty	Pais Vasco	-	-	-	-	14.65	15.57	18.55	16.41
	Álava/Araba	-	-	-	-	14.73	16.55	18.75	19.01
	Gasteiz	-	-	-	-	15.24	17.40	19.46	19.39
	Ayala	-	-	-	-	11.56	11.50	14.40	16.60
	Bizkaia	-	-	-	-	17.01	17.12	20.07	17.40
	Margen Derecha	-	-	-	-	9.50	14.97	12.78	9.43
	Bilbao	-	-	-	-	22.74	20.97	20.79	18.42
	Margen Izquierda	-	-	-	-	17.98	17.32	26.15	20.61
	Bizkaia-Costa	-	-	-	-	11.06	12.70	15.77	13.33
	Duranguesado	-	-	-	-	12.44	13.40	12.43	19.20
	Gipuzkoa					10.76	12.66	16.07	13.70
	Donostialdea	-	-	-	-	12.09	13.31	16.91	14.65
	Tolosa-Goierri	-	-	-	-	8.19	12.25	13.18	11.89
	Alto Deba	-	-	-	-	5.26	10.27	14.26	10.06
	Bajo Deba	-	-	-	-	11.05	10.86	17.10	13.08
	Extreme poverty	Pais Vasco	4.22	5.96	8.20	7.86	3.15	3.51	4.86
Álava/Araba		3.77	5.60	9.81	10.55	3.31	3.07	6.82	8.06
Gasteiz		3.99	5.47	10.26	10.62	3.50	2.97	7.33	8.14
Ayala		2.38	6.35	7.05	10.10	2.11	3.66	3.67	7.56
Bizkaia		5.32	7.33	9.24	8.35	3.81	4.06	4.96	4.78
Margen Derecha		3.22	6.76	5.49	5.29	1.47	3.56	2.05	1.87
Bilbao		9.09	10.30	13.32	10.52	6.64	5.68	6.62	5.15
Margen Izquierda		4.22	6.85	9.08	9.26	3.15	3.59	5.56	6.31
Bizkaia-Costa		3.34	5.10	6.98	7.03	2.35	3.65	3.68	4.78
Duranguesado		2.45	3.79	5.45	4.85	2.07	2.14	3.48	2.82
Gipuzkoa		2.63	3.95	5.85	5.90	2.01	2.84	3.85	3.74
Donostialdea		3.05	3.86	6.13	5.83	2.45	2.80	4.10	3.54
Tolosa-Goierri		1.37	5.34	4.85	5.35	1.37	4.15	2.85	3.21
Alto Deba		1.03	2.52	3.61	4.77	0.38	1.26	2.39	2.69
Bajo Deba		3.49	3.38	8.12	9.02	1.40	2.16	5.43	7.88

Source: Own calculations using the EPDS

¹⁵ In the case of poverty indices, the pre-MIS scenario is only calculated for the extreme poverty threshold.

Table 6. Relative Average Distance (RAD) results.

		Pre-MIS				Post-MIS			
		2008	2012	2014	2016	2008	2012	2014	2016
At risk of poverty	Pais Vasco	-	-	-	-	21.90	22.98	24.87	26.34
	Álava/Araba	-	-	-	-	21.51	21.46	28.84	33.04
	Gasteiz	-	-	-	-	21.63	20.85	29.67	32.38
	Ayala	-	-	-	-	20.52	26.95	22.02	38.07
	Bizkaia	-	-	-	-	21.82	22.87	24.84	25.85
	Margen Derecha	-	-	-	-	18.56	22.89	21.66	23.23
	Bilbao	-	-	-	-	24.35	23.39	28.34	26.39
	Margen Izquierda	-	-	-	-	20.95	22.38	22.85	28.01
	Bizkaia-Costa	-	-	-	-	18.71	27.25	26.13	30.12
	Duranguesado	-	-	-	-	18.70	18.05	24.47	15.69
	Gipuzkoa					22.33	24.14	22.81	23.27
	Donostialdea	-	-	-	-	23.62	24.22	23.73	22.08
	Tolosa-Goierri	-	-	-	-	17.54	28.94	19.29	23.17
	Alto Deba	-	-	-	-	16.22	16.18	21.17	25.69
	Bajo Deba	-	-	-	-	21.93	20.47	22.45	33.21
	Extreme poverty	Pais Vasco	33.01	49.37	51.38	49.36	20.29	25.45	27.88
Álava/Araba		29.88	53.79	56.63	58.17	22.22	26.18	30.72	32.97
Gasteiz		30.31	53.61	56.99	56.70	21.69	24.91	31.61	32.60
Ayala		25.36	54.68	53.41	68.12	27.72	32.30	19.77	35.57
Bizkaia		32.38	49.31	50.54	49.95	17.75	22.94	26.16	23.75
Margen Derecha		26.56	34.32	46.13	45.83	9.94	19.38	19.76	22.40
Bilbao		36.21	57.98	54.74	52.45	16.49	23.06	29.71	27.42
Margen Izquierda		30.35	45.59	46.93	50.52	24.40	21.83	22.13	21.98
Bizkaia-Costa		16.64	40.55	47.92	39.95	9.80	32.48	37.70	18.55
Duranguesado		33.80	54.05	50.09	52.33	12.16	18.22	20.42	27.95
Gipuzkoa		37.02	46.76	49.55	41.13	26.72	30.76	29.11	20.35
Donostialdea		38.76	43.23	47.94	35.77	27.39	30.34	31.66	18.20
Tolosa-Goierri		29.69	56.90	59.62	47.00	29.69	35.80	29.78	21.77
Alto Deba		13.35	46.11	44.72	48.45	12.45	37.94	14.75	27.53
Bajo Deba		38.08	46.97	49.30	60.28	13.72	11.10	18.92	24.95

Source: Own calculations using the EPDS

Table 7. Poverty Gap Ratio (PGR) results.

		Pre-MIS				Post-MIS			
		2008	2012	2014	2016	2008	2012	2014	2016
At risk of poverty	Pais Vasco	-	-	-	-	3.18	3.58	4.61	4.32
	Álava/Araba	-	-	-	-	3.03	3.55	5.41	6.28
	Gasteiz	-	-	-	-	3.15	3.63	5.77	6.27
	Ayala	-	-	-	-	2.27	3.10	3.17	6.32
	Bizkaia	-	-	-	-	3.69	3.92	4.99	4.49
	Margen Derecha	-	-	-	-	1.81	3.43	2.77	2.19
	Bilbao	-	-	-	-	5.41	4.91	5.89	4.86
	Margen Izquierda	-	-	-	-	3.84	3.88	5.98	5.77
	Bizkaia-Costa	-	-	-	-	2.01	3.46	4.12	4.01
	Duranguesado	-	-	-	-	2.19	2.42	3.04	3.01
	Gipuzkoa					2.41	3.06	3.66	3.19
	Donostialdea	-	-	-	-	2.82	3.22	4.01	3.24
	Tolosa-Goierri	-	-	-	-	1.56	3.54	2.54	2.76
	Alto Deba	-	-	-	-	0.88	1.66	3.02	2.59
	Bajo Deba	-	-	-	-	2.40	2.22	3.84	4.35
	Extreme poverty	Pais Vasco	1.39	2.94	4.21	3.88	0.64	0.89	1.36
Álava/Araba		1.13	3.01	5.56	6.14	0.74	0.80	2.09	2.66
Gasteiz		1.21	2.93	5.85	6.02	0.76	0.74	2.32	2.65
Ayala		0.61	3.47	3.76	6.88	0.58	1.18	0.72	2.69
Bizkaia		1.72	3.62	4.67	4.17	0.68	0.93	1.30	1.14
Margen Derecha		0.86	2.32	2.53	2.42	0.15	0.69	0.40	0.42
Bilbao		3.29	5.97	7.29	5.55	1.09	1.31	1.97	1.41
Margen Izquierda		1.28	3.12	4.26	4.68	0.77	0.78	1.23	1.39
Bizkaia-Costa		0.56	2.07	3.34	2.80	0.23	1.19	1.39	0.89
Duranguesado		0.82	2.06	2.73	2.53	0.25	0.39	0.71	0.79
Gipuzkoa		0.97	1.85	2.90	2.43	0.54	0.87	1.12	0.76
Donostialdea		1.18	1.67	2.93	2.08	0.67	0.85	1.30	0.64
Tolosa-Goierri		0.41	3.04	2.88	2.51	0.41	1.48	0.85	0.70
Alto Deba		0.14	1.16	1.61	2.31	0.05	0.48	0.35	0.74
Bajo Deba		1.33	1.59	4.01	5.44	0.19	0.24	1.03	1.97

Sour+C2:L42ce: Own calculations using the EPDS

Table 8. Poverty inequality results.

		Pre-MIS				Post-MIS			
		2008	2012	2014	2016	2008	2012	2014	2016
At risk of poverty	Pais Vasco	-	-	-	-	1.11	1.35	1.87	1.78
	Álava/Araba	-	-	-	-	1.09	1.39	2.55	3.13
	Gasteiz	-	-	-	-	1.12	1.38	2.78	3.12
	Ayala	-	-	-	-	0.88	1.41	1.10	3.24
	Bizkaia	-	-	-	-	1.24	1.43	1.93	1.78
	Margen Derecha	-	-	-	-	0.51	1.13	0.90	0.80
	Bilbao	-	-	-	-	1.90	1.87	2.60	2.00
	Margen Izquierda	-	-	-	-	1.32	1.33	2.10	2.26
	Bizkaia-Costa	-	-	-	-	0.56	1.56	1.65	1.63
	Duranguesado	-	-	-	-	0.64	0.74	1.11	1.05
	Gipuzkoa					0.89	1.22	1.49	1.18
	Donostialdea	-	-	-	-	1.08	1.26	1.68	1.14
	Tolosa-Goierri	-	-	-	-	0.59	1.67	1.05	1.00
	Alto Deba	-	-	-	-	0.21	0.61	0.91	1.02
	Bajo Deba	-	-	-	-	0.67	0.67	1.44	2.13
	Extreme poverty	Pais Vasco	0.81	2.13	3.08	2.77	0.25	0.41	0.65
Álava/Araba		0.56	2.50	4.17	4.76	0.25	0.57	1.11	1.44
Gasteiz		0.59	2.49	4.42	4.64	0.24	0.58	1.25	1.42
Ayala		0.36	2.51	2.60	5.54	0.36	0.52	0.23	1.57
Bizkaia		1.00	2.60	3.40	2.96	0.22	0.36	0.61	0.54
Margen Derecha		0.40	1.11	1.74	1.60	0.02	0.15	0.26	0.31
Bilbao		1.93	4.67	5.65	3.80	0.31	0.52	1.06	0.65
Margen Izquierda		0.81	2.15	2.98	3.49	0.32	0.27	0.47	0.63
Bizkaia-Costa		0.16	1.34	1.92	1.95	0.03	0.71	0.57	0.48
Duranguesado		0.52	1.63	2.06	1.77	0.04	0.10	0.27	0.30
Gipuzkoa		0.62	1.22	2.10	1.61	0.3	0.43	0.50	0.29
Donostialdea		0.75	1.06	2.08	1.31	0.37	0.42	0.63	0.27
Tolosa-Goierri		0.28	2.24	2.11	1.74	0.28	0.75	0.31	0.21
Alto Deba		0.02	0.74	1.25	1.39	0.01	0.27	0.07	0.25
Bajo Deba		0.91	0.98	3.11	4.31	0.03	0.05	0.32	0.70

Source: Own calculations using the EPDS

Table 9. Gini Index results.

	Pre-MIS				Post-MIS			
	2008	2012	2014	2016	2008	2012	2014	2016
País Vasco	25.75	26.66	28.91	27.53	25.18	25.29	27.10	25.87
Álava/Araba	25.20	26.69	29.84	28.34	24.94	25.37	27.88	26.43
Gasteiz	25.69	26.53	30.25	28.16	25.40	25.19	28.26	26.27
Ayala	21.99	27.38	27.06	29.38	21.88	26.12	25.32	27.35
Bizkaia	28.12	26.92	30.35	29.02	27.33	25.10	28.14	27.05
Margen Derecha	28.87	24.83	29.83	26.71	28.12	23.54	28.41	25.47
Bilbao	33.41	30.66	33.38	30.51	31.97	27.93	30.18	27.77
Margen Izquierda	23.20	24.96	27.79	29.30	22.70	23.19	25.54	27.15
Bizkaia-Costa	25.10	24.33	25.97	26.97	24.77	23.58	24.62	25.75
Duranguesado	23.50	23.46	25.57	24.33	23.24	22.35	24.38	23.13
Gipuzkoa	21.85	26.04	26.13	24.69	21.52	25.32	24.98	23.63
Donostialdea	22.52	26.38	26.35	24.90	22.14	25.69	25.22	23.94
Tolosa-Goierri	20.37	25.74	26.45	23.54	20.37	24.86	25.32	22.30
Alto Deba	19.47	24.40	21.58	22.72	19.14	23.85	20.80	21.88
Bajo Deba	21.03	25.24	26.05	26.49	20.23	24.41	24.33	24.75

Source: Own calculations using the EPDS

Table 10. P50/P10 ratio results.

	Pre-MIS				Post-MIS			
	2008	2012	2014	2016	2008	2012	2014	2016
País Vasco	1.93	2.02	2.25	2.28	1.87	1.92	2.07	2.01
Álava/Araba	1.84	2.15	2.51	2.72	1.84	2.09	2.20	2.45
Gasteiz	1.83	2.18	2.69	2.71	1.83	2.15	2.26	2.45
Ayala	1.82	1.81	2.23	2.58	1.82	1.68	2.06	2.56
Bizkaia	1.99	2.11	2.35	2.37	1.92	1.93	2.11	2.01
Margen Derecha	1.93	2.26	2.40	2.07	1.86	2.08	2.24	1.85
Bilbao	2.36	2.67	3.30	2.61	2.13	2.11	2.22	2.02
Margen Izquierda	1.89	1.87	1.97	2.21	1.87	1.69	1.86	2.10
Bizkaia-Costa	1.74	2.03	2.17	2.55	1.74	1.94	2.03	2.18
Duranguesado	1.78	1.73	2.12	1.66	1.78	1.71	1.98	1.65
Gipuzkoa	1.78	1.92	2.01	1.96	1.77	1.85	1.90	1.89
Donostialdea	1.81	1.98	2.05	1.93	1.81	1.86	1.91	1.87
Tolosa-Goierri	1.76	1.85	1.81	1.93	1.76	1.85	1.81	1.90
Alto Deba	1.67	1.81	2.11	1.84	1.66	1.81	2.02	1.84
Bajo Deba	1.96	1.83	2.15	2.09	1.83	1.77	2.07	1.94

Source: Own calculations using the EPDS