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ABSTRACT

Using standard fiscal incidence analysis, this paper estimates the impact of tax and expenditure policies on income distribution and poverty in Argentina with data from the National Household Survey on Incomes and Expenditures 2012-2013. The results show that fiscal policy has been a powerful tool in reducing inequality and poverty but that the unusually high levels of public spending may make the programs unsustainable.

Keywords: Taxes, public expenditures, inequality, poverty

JEL classification: H2; I3; D3

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1. Introduction

Starting in 2003, tax collection and public expenditures experienced exceptional growth in Argentina. In 2014, the tax burden reached 32.5 percent of GDP. This increase was due to several factors. Taxes that were sporadically levied in previous periods such as export duties and taxes on financial transactions, were significantly expanded. The economic recovery, as expected, resulted in a boon to tax collection. In addition, no adjustments for inflation to financial reporting and thresholds impacted the burden of corporate income tax (CIT) and personal income tax (PIT).¹ Additional revenues were obtained through the (re) nationalization of the pension system.

On the expenditures side, public spending at the federal, provincial, and municipal levels increased from 26 percent of GDP in 2004 to around 45 percent in 2013. The most important changes in social spending were the expansion of the so-called Pension Moratorium --a sort of early retirement program with a moratorium for those who did not complete the 30-year contributions requirement--, the Educational Financing Law which required to increase education spending to 6 percent of GDP, and the expansion of the Universal Allowance per Child, extending the benefits to include not only formal sector workers but also workers in the informal sector and the unemployed.² Aside from the increase in social spending, expenditures on subsidies—in particular, electricity, gas, and transportation subsidies--increased greatly and reached around 6 percent of GDP in 2013.

With this extraordinary expansion during the last decade, the size of the state in Argentina reached a level similar to that in many advanced countries. To what extent did the government use this additional fiscal space to reduce inequality and poverty through taxes and transfers? This paper applies the CEQ methodology described in the CEQ Handbook to estimate the impact of taxes and public expenditures on income distribution and poverty. It uses data from the National Household Survey on Incomes and Expenditures (ENGHo), which was conducted by the National Bureau of Statistics in Argentina (INDEC) from March 2012 to February 2013.³

While several studies have analyzed the impact of taxes and expenditures, jointly or separately, on income distribution, very few have analyzed their impact on poverty. Gasparini, for example, analyzed the distributional impact of the tax system for 1996, taking per capita income and per capita consumption expenditures as welfare indicators.⁴ In the former case, the author found that taxes were highly regressive, whereas in the latter, the incidence was moderately progressive. Gómez Sabaini and others analyzed the impact of taxes on income

¹ Fiscal drag or “bracket creeping,” furthermore, contributed to the increase in tax revenues from PIT. This fiscal drag is illustrated by the fact that in 1997, roughly 12.5 percent of taxable income was concentrated in the highest tax bracket, subject to the highest marginal tax rate; in 2011, that percentage was 58 percent. Gómez Sabaini and Rossignolo (2014).

² In Spanish, these programs are called Moratoria Previsional, Ley de Financiamiento Educativo, and Asignación Universal por Hijo, respectively.

³ No official statement has been made about the reliability of this survey.

⁴ Gasparini (1998).

distribution for 1997, considering per capita income adjusted for underreporting as a welfare measure.⁵ The incidence was regressive in this case, chiefly because of the value added tax (VAT) and other indirect taxes. Gómez Sabaini and Rossignolo analyzed the incidence of taxes for 2006, again considering per capita income adjusted for underreporting.⁶ When measured with the Gini coefficient, the redistributive impact of taxes was moderately progressive, mainly as the result of export taxes and the increasing importance of income tax and payroll taxes. However, when inequality was measured with the ratio of average incomes of the richest to poorest deciles, it increased. On the spending side, the Secretary of Economic Policy (SPE) and the Secretary of Economic and Regional Programming (SPER) estimated the incidence of public expenditures, with results that show an unequivocal reduction in inequality.⁷ Similarly, Gasparini concluded that benefits of public expenditures were received more strongly by lower income brackets.⁸ The net effect of taxes (both direct and indirect) and public expenditures (cash transfers and spending on education and health) on income distribution has been calculated in Gasparini, SPE, and Gómez Sabaini and others.⁹

Although the methodologies differ to a certain extent, all the studies find that the two highest income quintiles transfer resources to the lowest ones. All of the studies also note a significant equalizing effect, though the magnitude of the redistributive impact varies. The only study that has looked at the effect of social spending on both income distribution and poverty is by Lustig and Pessino.¹⁰ Following CEQ methodology, the authors find that the inequality and poverty reducing impact of social spending in Argentina was quite high due, to a large extent, to the growing importance of noncontributory pensions in the last decade, and to a lesser extent to the expansion of other cash transfers such as the Universal Allowance per Child.

The analysis presented here differs from the above studies in that it measures the impact of taxes and spending combined not only on inequality but also poverty. In addition, except in one case, the existing studies rely on information by decile rather than the entire distribution and except in one case, they do not include the analysis of price subsidies. Another important difference is that existing studies which look at both taxes and expenditures assume a balanced budget and scale up the totals by decile to equal totals for the same items from budgetary data. In contrast, following CEQ, in this study I neither scale up totals nor assume a balanced budget.

As recommended by the CEQ methodology, I produced two scenarios of the fiscal incidence analysis: one in which contributory pensions are treated as pure government transfers (and contributions as a form of direct taxation) and another in which contributory pensions are

⁵ Gómez Sabaini and others (2002).

⁶ Gómez Sabaini and Rossignolo (2009).

⁷ See SPE (Secretaría de Política Económica) (2002) and SPER (Secretaría de Programación Económica y Regional) (1999).

⁸ Gasparini (1999). Several studies have analyzed the impact of specific programs on poverty reduction, such as Maurizio (2009), who explored the impact of different cash transfers on poverty, and Marchionni and others (2008), who examined the impact of simulated subsidy schemes.

⁹ See Gasparini (1999), SPE (2002), and Gómez Sabaini and others (2013).

¹⁰ Lustig and Pessino (2014).

treated as deferred income (and contributions as mandatory saving). The results show that the impact of direct taxes net of direct transfers on inequality is quite significant. In the scenario in which pensions are considered a transfer, the Gini coefficient for disposable income is 35 percent lower than the market income Gini. The impact of consumption taxes net of subsidies is equalizing. When the monetized value of education and health spending is included, the Gini coefficient for final income is 51 percent lower than the market income Gini coefficient. While the numbers are smaller, the redistributive effect in the scenario in which pensions are deferred income are also quite significant. However, in terms of poverty reduction, the results are less auspicious. While the headcount ratio for disposable income is 78 percent lower than the market income headcount ratio, with the moderate poverty line, the headcount ratio for consumable income is higher than the market income headcount ratio. This result indicates that a relatively large number of poor individuals are net payers to the fiscal system. This happens because consumption taxes weigh heavily on many of the poor.

2. The Fiscal System in Argentina: Taxes and Expenditures

Table 11-1 shows taxes and public expenditures by category as a share of GDP. The direct taxes analyzed are personal income tax (PIT), payroll taxes, and other taxes on income. The indirect taxes considered are the value added tax (VAT), excise taxes, fuel taxes, and the provincial turnover tax. These taxes represent about 71 percent of total national and provincial tax revenues for 2012; of that 71 percent, 80 percent were simulated with the methods described below.¹¹ On the expenditure side, direct transfers include the flagship cash transfer program Universal Allowance per Child; the two noncontributory pensions under the so-called Pension Fund Inclusion Plan (in Spanish Plan de Inclusion Previsional): the Pension Moratorium (Moratoria Previsional) and the Early Retirement Program (Jubilacion Anticipada), and other cash and near-cash transfers which are described below. Subsidies include subsidies to electricity, domestic gas, and transportation. Transfers in-kind include spending on public education and health. In total, these spending categories represent 65 percent of total national and provincial public spending for 2012, from which around 74 percent were imputed and simulated.¹²

¹¹Export duties have been excluded from this analysis. Gómez Sabaini and Rossignolo (2009) and Gómez Sabaini and others (2013), following a different methodology than the one used here, conclude that these taxes are progressive following the standard Gini and concentration coefficients.

¹²Several expenditure items such as housing, urban services, water and sanitation programs; expenditures on science and culture; discretionary pensions; and, other non social expenditure, could not be allocated because of lack of adequate information in the household survey,

Table 1. Government Spending and Revenue Structure in Percentage of GDP for Argentina 2012

Government Spending and Revenue	Percentage of GDP
Total Government Spending	43.9
Social Spending (excludes contrib pensions)	20.8
Direct Transfers (Total Cash & Near Cash Transfers)	5.8
Flagship Cash or Near Cash Transfer program	0.5
Noncontributory Pensions	2.9
Other Cash & Near Cash Transfers	2.4
Total In-kind Transfers	13.1
<u>Education</u>	<u>7.4</u>
Basic (primary and secondary)	4.6
Tertiary and University	1.4
Science, culture and education non discriminated	1.5
<u>Health</u>	<u>5.6</u>
Contributory	3.1
Noncontributory	2.5
<u>Housing and Urban</u>	<u>0.6</u>
<u>Other Social Spending</u>	<u>1.3</u>
Contributory Pensions	7.1
Non-Social Spending	14.0
<u>Indirect Subsidies</u>	<u>5.9</u>
Agriculture	0.3
Energy, fuel and mining	2.6
Industry	0.1
Transportation	2.4
Communication	0.2
Other indirect subsidies	0.3
<u>Other Non-Social Spending</u>	<u>8.1</u>
Debt Servicing	
Interest payments	2.0
Total Tax Revenue	32.5
Direct Taxes	2.2
Personal Income Tax	2.0
Simplified Tax Regime (Monotributo)	0.1
VAT and Other Indirect Taxes	12.3
Other Taxes	18.1
of which Social Security Contributions with Pensions	8.7

Source: Author's calculations based on data from the Argentine Ministry of Economy and Public Finance.

2.1 Direct Taxes

PIT is a global-type tax, structured with progressive rates. Its taxable base has been expanded by several pieces of legislation. The Income Tax Act identifies four categories of income based on their source: land rent, capital gains, corporate income, and personal income. A single taxpayer may receive income from one or more income categories at the same time. The calculation of taxable income is based on the income and expenses corresponding to the four

categories and a few other items on income derived from businesses and other activities. Several income categories are also exempt.¹³

In the analyzed period, PIT is determined by taxable net income bracket, based on a sliding scale consisting of a fixed amount plus a rate increasing from 9 to 35 percent on the excess of each income bracket bottom level. Individuals paying income tax are classified as either self-employed taxpayers or salaried workers. Self-employed taxpayers (that is, independent workers registered as income tax payers) must pay income tax each fiscal year in five bi-monthly advance payments.

One group of taxpayers primarily comprised of the self-employed and small businesses is subject to a simplified tax regime called “single tax” (Monotributo). This regime replaces the PIT and VAT with a monthly fixed tax plus social security and health insurance contributions. The tax levied is a fixed amount established according to specific categories mapped into income brackets in which the taxpayer falls. These categories are determined based on invoicing, the surface area of the facilities, or the amount of electricity consumed during production. No deductions for dependents or any other special deductions apply.

Taxes on wages are analyzed as part of the tax system, including contributions made by both the employee and the employer. In both cases, the amount collected is deposited into the Federal Tax Administration and that revenue is distributed according to the corresponding legal provisions.

For formal sector employees, we consider contributions to the social security system (11 percent), health insurance (3 percent), and the national pension fund (3 percent, up to a ceiling of Arg\$21,248 monthly, the maximum taxable base), for a total rate of 17 percent.

For employers, we consider contributions to the social security system (12.71 percent), health insurance (6 percent), the national pension fund (1.62 percent), the fund for family allowances (5.56 percent) and the national employment fund (1.11 percent), which amounts to 27 percent of earnings in the formal sector. This rate pertains to employers whose activity is concentrated in the services sector; for other employers, the rate is 23 percent.

For the self-employed workers, we consider their contributions to the social security system (27 percent) and the national pension fund (5 percent). These rates are applied to a scaled tax base that is progressive and differs between professionals and traders. These workers have been identified in the household survey by years of education.

¹³ There are numerous exemptions. The most important are those on interest accrued on saving accounts deposits, special saving accounts and term deposits, income derived from securities, shares, bonds, bills of exchange, notes and other securities issued or to be issued in the future by a governmental authority, and the rental value of the residence when occupied by its owners. The following items are not exempt: pensions, retirement payments, other compensations, and salaries received during medical leave.

2.2 Indirect Taxes

VAT is a consumption tax on all stages of the production and distribution of goods and services. It is not cumulative and uses the “tax against tax” system, where the balance between tax credits (charged to sales) and tax debits (charged to purchases) is paid to the seller every month. This procedure is equivalent to applying the tax on the value added at every elaboration stage. It is levied on imports in a similar way to domestic production, but exports are zero rated.

The general VAT rate is 21 percent. There are few exemptions because most have been eliminated in successive reforms.¹⁴ There are also differential rates: the highest is 27 percent on the invoices of public services provided to companies that are liable for the tax; the lowest is 10.5 percent on new home sales and a very limited list of goods and services.¹⁵

Excise taxes apply to the domestic sale and import of a specific list of goods and transactions: alcoholic beverages (20 percent), beer (8 percent), soft drinks and other nonalcoholic beverages (4 to 8 percent), automobiles and diesel engines (10 percent), and insurance (2.5 percent).

For all taxes on goods, the taxable basis includes the tax itself. The taxable basis is the net price billed by the responsible party, defined as the remainder after discounts and bonuses, financing interest, and the VAT generated by the operation are deducted. In the case of cigarettes, the taxable basis is the sale price to the end user, excluding the VAT. In the case of insurance, the taxable basis does not include the tax itself, which is the only case in domestic taxes where the legal or nominal rate is applied to the taxable basis.

In 2012, liquid fuel and natural compressed gas were taxed (at 62 to 70 percent). The fuel tax is applied to all forms of gasoline: solvent, turpentine, gas oil, diesel oil, and kerosene. The tax also falls on compressed natural gas for motor vehicles distributed through pipelines. The tax must be applied in a single circulation stage for the sale of national or imported products. Importers of liquid fuel and companies that refine or market it, are subject to the fuel tax, as are distributors of gas before it enters the pipeline. Fuel tax is therefore calculated by applying the rate to the net sales price listed on the invoice for resellers at the dispatching plant.¹⁶

¹⁴ Among exemptions with considerable tax collection importance in 2012 were books, brochures and similar printed material, non-carbonated water, milk without additives, buyers who are end consumers or tax-exempt individuals, medicines, goods at the resale stage and for which the tax has been paid at the import or manufacturer’s stage, medical services rendered through Health Insurance Services by trade unions, theater performances, international passenger and cargo transportation, and life insurance.

¹⁵ The lowest tax rate includes some basic foods (meat, fruit, vegetables, bread), newspapers, magazines and periodicals, goods at the selling stage to the general public, and domestic transportation services for passengers by land, water, or air, except for taxis and rental car services on routes less than 100 km. In the case of exempt goods, the 1997 Input / Output table was used, with data from 1993. The taxable input proportion was estimated for each exempt good: the incidence of taxable inputs was estimated for the sales amount of exempt goods, and the same structure was applied to the total of VAT purchases deriving from the consumption of exempt goods.

¹⁶ Alternatively, although there is no reliable study in Argentina determining the percentage of fuel cost that is part of the transportation cost transferred to the consumer, at present, and basically due to the existence of transportation and fuel subsidies distorting relative values, we assumed that 30 percent of the tax is transferred.

The so-called provincial tax on gross incomes is an important source of revenue for the subnational governments and is applied by all provinces. It is a cascading tax because it falls on all stages of production and distribution of goods and services. It taxes gross income without deducting the tax already paid and cumulated through previous purchases in the production process. Because it forces vertical integration of firms and discriminates in favor of imports that do not contain taxes paid on every production stage, the provincial turnover tax alters neutrality.

Although tax rates follow similar patterns across the country, rates vary highly due to differences in economic activities and corresponding jurisdictions. In general, the highest rates appear in commerce and services, intermediate rates are applied to industrial activities, and the lowest rates occur in the primary sector.

In order to calculate tax incidence, we applied the tax rates described in this section to the data on consumption reported in the household survey. According to several authors, effective tax rates are about twice as high as rates on final consumption.¹⁷ Consequently, rates on retail consumption have increased 150 percent in every province in order to account for the taxes included at every production stage. The methodology applied is the same as that for VAT and excise taxes. Because the tax base excludes VAT, excises, and fuel tax, the provincial turnover tax is the closest to input costs and should be included in the tax base of the previously mentioned taxes.

2.3 Flagship Cash Transfer Program: the Universal Allowance per Child

The target population for the Universal Allowance per Child is parents with dependent children under the age of 18 who are informal workers with an income lower than the minimum salary of the formal sector, unemployed people without unemployment benefits, and domestic service workers.

The targeting mechanism consists of a monthly transfer of Arg\$270 per child in 2012, raised to Arg\$340 in September 2012. Parents receive benefits for each of up to five children. The first 80 percent of the benefit is received by direct deposit; the remaining 20 percent is transferred with proof that the children are attending school and have received the mandatory vaccines. This benefit includes a means testing mechanism in the sense that beneficiaries cannot receive other social benefits while receiving Universal Allowance per Child.

2.4 Non-Contributory Pensions

In 2005, the government instituted a retirement program through a moratorium for those who had not completed thirty years of service known as the Pension Moratorium (Moratoria Previsional). In 2007, the government added a program that allowed workers who had completed the required thirty years of service but who were at least five years younger than the

¹⁷ See, for instance, Rossignolo (2015).

official retirement age (65 for men, 60 for women) to receive an Early Retirement pension (Jubilacion Anticipada). In the case of the Pension Moratorium, beneficiaries receive their transfer net of a reduction that corresponds to the number of years the person has not contributed to the system. For the Early Retirement pension, the transfer is 50 percent of the benefit that the person would receive at full retirement age, although the amount cannot be lower than the minimum pension.

2.5 Other Cash and Near Cash Transfers

This category includes the following programs: Family Allowances (Asignaciones Familiares), Employment and Training Insurance (Seguro de Capacitacion y Empleo), Families for Social Inclusion Program (Programa Familias por la Inclusion Social), University Scholarships (Becas Universitarias), Youth with More and Better Jobs (Programa Jovenes con Mas y Mejor Trabajo), Unemployment Insurance (Seguro de Desempleo, and School Feeding Programs and Community Kitchens (Comedores Escolares y Comunitarios).

Family Allowances provides benefits to households based on the number of dependent (spouses, children, adopted children, and disabled children) and in support of school attendance for children living in the household. Eligible beneficiaries include wage earners in the formal sector who have children up to 18 years of age and wages below a maximum threshold, as well as pensioners and unemployment compensation beneficiaries with children under 18. Benefits are determined based on income and the reported number of eligible beneficiaries. For instance, the fixed amount for every child in June 2012 was Arg\$270 if the worker's wage was between Arg\$100 and Arg\$2,800; the amount decreased to Arg\$204 for a wage between Arg\$2,800 and Arg\$4,000, and to Arg\$136 for a wage between Arg\$4,000 and Arg\$5,200. These amounts were higher in the southern region of the country. A household might be excluded from this benefit if there are no children, or if the head of household is not working in the formal sector, is retired, is unemployed and receiving unemployment benefits, or if the head of household is earning an income higher than the maximum allowed for the benefit (Arg\$5,200 per month in 2012).

The beneficiaries of the Heads of Household Program, a safety net program launched in 2002 to help households cope with the surge in unemployment resulting from the financial crisis, were divided in two groups according to their employability potential. Those considered more "employable" were incorporated in the Training and Employment Insurance program, a 24-month transfer of Arg\$225 for the first 18 months and Arg\$200 for the remaining six months. The beneficiaries must attend training courses to increase their skills. Workers whose employability potential was considered low received benefits from the Families for Social Inclusion Program. Benefits are based on the number of dependent children under age 18, from two to six children. The benefit starts at Arg\$155 per child and increases to Arg\$380 for six children or more for families below the poverty line.

The National Program of University Scholarships is for college-level students attending an officially recognized program of any national university. Beginning in 2009, students receive AR\$3000 in 10 installments throughout the year.¹⁸ The target population of the Youth with More and Better Jobs Program is people between 18 and 24 years of age who neither work nor study. The beneficiaries must be unemployed, with incomplete primary or secondary education. The amount of the transfer is Arg\$150 a month for 2 to 18 months; in addition, transfers are made against the presentation of a project for which the beneficiary receives Arg\$4,000 per project (in 2012).

Workers who have lost their jobs through no fault of their own and have been unemployed for at least 36 months are entitled to receive unemployment insurance, which consists of a transfer of between Arg\$250 and Arg\$400, calculated as a percentage of the highest previous salary. Maximum coverage lasts one year.

Schools, clubs, and other organizations that serve meals to children or the unemployed receive a transfer under the School Feeding Program and Community Kitchen, which consists of a cash transfer related to the cost of milk or a basic food basket provided to feed children or adults below the poverty line.

2.6 Subsidies

Subsidies are directed to transportation, communications, energy and fuel, industry and agriculture, and other sectors. The most important subsidies are those for transportation, and energy and fuel; transportation subsidies are mainly oriented to supply, whereas energy and fuel are oriented to both supply and demand. Subsidies to energy include fuel, gas, and electricity; subsidies to transportation comprise tariffs for trains, subways, airplanes, and buses.

Argentina has become a net importer of fuel after being a net exporter of fuel in the 1990s and at the beginning of the 2000s. The price of the imported gas oil is subsidized through a fiduciary fund, and the consumer receives the difference between the price of fuel within the internal market and the same product at international prices. For gas, there are two kinds of subsidy: for those who receive gas through a pipeline, the subsidy is included in the reduced cost of imported gas, which is included in the tariff. Those who buy bottled gas pay a subsidized price in which the government gives the producers the difference between the market price and the subsidized price. The total amount paid varies depending on the volume of the previous year's gas consumption. For electricity, the government created a fiduciary fund to subsidize tariffs for households. The subsidy depends on the volume of the previous year's electricity consumption.

¹⁸ There are other two additional scholarship programs: Bicentennial Scholarships (Programa de Becas Bicentenario), for students preparing for scientific careers, and National Program of Scholarships (Programa Nacional de Becas de Grado), for students of information technology. The study presented here might overestimate the amount received by students somewhat because it cannot establish which program the beneficiaries are studying.

2.7 Education and Health

In 2006, the National Education Law was passed following the Education Financing Law, which extended compulsory education to the end of secondary school. Data show that when compulsory education is extended, attendance increases but that students also continue to drop out at the same ages as before the law was passed.¹⁹

There are two educational systems at every level in Argentina: a free, public education system, and a subsidized, private system. Primary education is managed by the municipalities, secondary education is the responsibility of the provinces, and university is administered at a national level (with several exceptions at all levels). The public education system served 73 percent of total students in 2012, of which 28.2 percent were enrolled in primary public schools. Public universities enrolled 79 percent of university students. Because there is no reliable information on public spending by level, the results for the distributional impact of education aggregate expenditures for basic education, including initial, primary and secondary school, and tertiary education.²⁰

The Argentine health system is split into several parts because different population groups access different providers. One component of health insurance covers the population dependent on formal wage earners or retired pensioners. Populations that are not covered have access to the public health system. The high-income population has access to the private system.

For formal workers in both the private and public sectors as well at national and provincial levels, health benefits are delivered mainly through the health insurance systems of trade unions. These workers comprise the greatest share of beneficiaries. Pensioners are covered by the health insurance system known as the INSSJyP (Instituto Nacional de Servicios Sociales para Jubilados y Pensionados; or, National Institute for Social Services for Retirees and Pensioners (also known as PAMI), a subsystem that finances private health service providers. The public health system (hospitals) covers those who do not have a health insurance system.

It is worth noting that the population covered by the private system can also receive public system benefits. Public expenditures for health have risen to 5.4 percent of GDP, 2.4 percent of which belongs to health insurance systems. Low-complexity hospitals were decentralized to the provinces and municipalities in the 1990s, while the high-complexity ones still remain under federal administration.

3. Data Sources and Methodological Assumptions

The main source of information for this report was the National Household Expenditure Survey (ENGHo; Encuesta Nacional de Gastos de los Hogares) which collects information on

¹⁹ See Gómez Sabaini and others (2013).

²⁰ For each educational level, the results for public and private subsidized education can be shown and are available from the author upon request.

households' incomes and expenditures and which was conducted by the Federal Statistics and Census Institute (INDEC; Instituto Nacional de Estadística y Censos) between March 2012 and February 2013. The ENGHo is a large-scale survey that obtains detailed answers from approximately 20,960 households across the country.

The survey collects information from households, which are units made up of any person or group of people, related or unrelated, living in the same home under a family system and consuming food paid for by the same budget.

The ENGHo is a representative sample of 86.8 percent of the population, mainly urban. Rural towns with fewer than 5000 inhabitants were excluded.

Regarding macroeconomics aggregates, as of the completion of this study, Argentina did not have a consolidated GDP series. The official information consists of two series with different base years, 1993 and 2004. The series with base year 1993 was used for the first three quarters and the 2004 series was substituted in the fourth quarter of 2013. The 2004 series shows higher nominal GDP values than the 1993 series, around 22 percent for the same period, which is a reflection of the previous government's effort to avoid measuring inflation rates accurately.²¹

The 2012-2103 survey used for this study was published before the base year was changed, so the nominal values are from base year 1993. The amounts of public spending and taxes used in this work, in contrast, correspond to base year 2004. So, if we had maintained the nominal values for incomes and expenditures as they appear in the survey, the redistributive impact would have been overestimated. In order to avoid such a distortion, the nominal values for taxes and transfers were adjusted downward in the order of 22 percent (the ratio of GDP with 1993 as the base year and GDP with 2004 as the base year).

There was also no national accounts information on disposable income which based on the CEQ methodology should be used to generate the coefficient to scale down public spending in education and health to the level of disposable income found in the survey. Accordingly, a new macroeconomic available income calculation was made (*ad hoc*) to use for scaling down the budget values on education, health, and economic benefits expenditure. These available income values were calculated according to the methodology of previous work on replacing official data.²² With these calculations, available income represents only 67 percent of 2012 official GDP rather than the official 97 percent.

With regard to consolidated public spending, after 2009 there is no information covering the three jurisdictional levels: national, provincial, and municipalities. To estimate this amount, we projected the components of aggregate spending by objective and function, based on the evolution of some partial components of expenditure included in the budgets of jurisdictions and different agencies such as the National Administration of Social Security and the Ministry

²¹ For reference, the annual inflation officially recognized by INDEC was around 9.5 percent on average for the 2007-2014 period, whereas unofficial estimates (from an average of seven to nine provinces from Centro de Estudios para el Desarrollo Argentino, Fundación de Investigaciones Económicas Latinoamericanas) showed annual averages of 23 percent.

²² See Gomez Sabaini and others (2002) and Gasparini (1998).

of Education, among others. Because information is not available on each of the existing programs for every jurisdiction, the most representative programs were identified, which were then used to calculate the impact of public spending on social inequality and poverty.

The calculation of the effect on equity of the following direct transfer programs—Universal Allowance per Child, Family Allowances, Employment and Training Insurance, Families for Social Inclusion Program, Youth with More and Better Jobs, Unemployment Insurance, School Feeding Programs and Community Kitchens, and college scholarships was carried out through using one of the methods described in Chapter 5 of the CEQ Handbook by Higgins and Lustig. Because the household survey only reported the value of total cash transfers, including both private and government transfers, the incidence of the Universal Allowance per Child and Unemployment Insurance had to be imputed. This was done by imputing the amounts that would have corresponded to households which included members who reported receiving receiving benefits from one or both of these programs. The imputed amounts were subtracted from the total reported cash transfers; the remainder were assumed to be private transfers and, thus, were included as part of market income. It should be noted that, since in 2012-2013 the self-employed were not included as beneficiaries in the Universal Allowance per Child program, I made sure that the self-employed did not appear as beneficiaries of these cash transfers. In order to assess how sensitive the results are to these specific assumptions, I estimated the incidence of cash transfers assuming that the entire amount reported as transfers were government transfers to obtain an “upper bound.” The redistributive and poverty effects are not so different from the ones reported here which can be taken as evidence that results are quite robust to alternative assumptions. For the rest of the transfers, the benefits were simulated based on the statutory rules.

The incidence of the noncontributory pension programs known as Pension Moratorium and Early Retirement was inferred.²³ The household survey reports “pensions” as a total without specifying whether they are pensions from the contributory system, these two noncontributory pension programs, or private pensions.²⁴ The survey does indicate whether a household member received a pension, although it does not state whether that income corresponds to one of the two noncontributory pensions or to a contributory pension. Here, I assumed that noncontributory pensions were included in the reported amount. In order to determine the amount corresponding to contributory pensions, from the pensions reported by households I subtracted the pensions whose amount was below the minimum in the contributory system

²³ It should be noted that the term “non-contributory” pensions in Argentina refers to other forms of non-contributory pensions. Here, I always refer to the two programs mentioned in this paragraph.

²⁴ In particular, the household survey reports incomes by source, as follows: wages and salaries, self-employed income, employer’s income, rents, retirement pensions, and cash transfers. Among the latter, the survey does not distinguish whether pensions or transfers are public or private. The survey, however, asks whether the household received benefits from the Universal Allowance per Child and the Unemployment Insurance, private transfers, and pensions from the national or provincial systems. These questions are responded as “yes” or “no.” Thus, strictly speaking, one cannot determine whether the reported amounts (in total or in part) for transfers and pensions should be classified as government transfers. Hence the various assumptions that were made to obtain an estimate of their incidence.

(for the Pension Moratorium) and the pensions received by beneficiaries whose age was at least five years earlier than the legal retirement age (for the Early Retirement program).

Since Argentina did not have reliable estimates of the Consumer Price Index, to convert the values of income thresholds expressed in 2005 and 2011 purchasing power parity into 2012 prices, I used the implicit GDP deflator.

Also, since the government did not report consolidated expenditures on subsidies for transport services, gas, and electricity, to generate these totals I used data reported by the Argentine Public Spending Association on the amounts that were transferred from the public sector to private companies to keep prices unchanged.

For the inclusion of taxes paid on inputs, we partially adapted the information aggregated from the input output matrix of 1997, which is particularly relevant for the case of VAT exemptions or the fuel tax.

Information on direct taxes is rarely collected directly by surveys; instead, surveys report earnings and the incidence of taxes needs to be simulated. Wage earners in the formal sector report income after taxes. For wage earners in the informal sector, the self-employed, capital income earners, and people receiving pensions and transfers, the assumption is that reported income reflects earnings before taxes. In this study, as in the majority of studies based on a partial equilibrium framework, I assume that the burden generated by taxes/subsidies on goods and services is fully shifted to consumers via a higher/lower price and that the burden of PIT and other income taxes falls on the person required to pay them (the income earner). Tax evasion here is taken into account in two ways. For purchases made in informal markets, I assume that no consumption taxes have been paid. Wage earners in the informal sector (i.e., those who do not contribute to the social security system), I assume that they do not pay PIT.

4. Main Results

This section presents several results of the CEQ analysis of the impact of taxes and public spending on poverty and inequality in Argentina. The main results will focus on the benchmark case, in which pensions are a part of market income. Results from the sensitivity analysis, where pensions are treated as a government transfer, will be presented as well.

4.1 Impact on Inequality and Poverty

The evolution of the Gini coefficient and headcount ratio (using the international poverty lines of US\$2.50 purchasing power parity [PPP] and US\$4.00 PPP per day—extreme and moderate, respectively-- and the national moderate poverty lines)²⁵ for the scenario with contributory

²⁵ The National extreme poverty line is calculated by INDEC and refers to the minimum consumption basket necessary to meet adult daily food needs; the moderate poverty line adds to the former other minimum daily expenditures.

pensions as deferred income (also called “benchmark” scenario) and with pensions as a government transfer (also called “sensitivity analysis”) are presented in table 2 and figures 11-1 and 2.

Table 2: Gini and Headcount Index by Income Concept for Argentina 2012

	Market Income	Net Market Income	Disposable Income	Consumable Income	Final Income
Benchmark Case: Pensions Are Part of Market Income					
Gini coefficient	0.481	0.435	0.403	0.401	0.303
Headcount index					
U\$S2.5 PPP (%)	4.7	5.1	1.8	3.0	
U\$S4 PPP (%)	12.3	13.9	7.3	12.5	
National Moderate PL (INDEC) (%)	10.3	12.0	5.6	9.7	
Other Moderate PL (FIEL) (%)	28.8	33.1	28.4	37.8	
Sensitivity Analysis 1: Pensions Are a Government Transfer					
Gini coefficient	0.528	0.481	0.344	0.341	0.258
Headcount index					
U\$S2.5 PPP (%)	8.5	9.0	1.8	3.1	
U\$S4 PPP (%)	17.3	19.0	7.3	12.5	
National Moderate PL (INDEC) (%)	14.7	16.8	5.6	9.8	
Other Moderate PL (FIEL) (%)	33.8	39.3	28.5	37.9	

Source: Author’s calculations based on National Household Survey on Incomes and Expenditures (ENGHO) 2012.

PL. Poverty line.

National moderate PL. Source: INDEC.

Other moderate PL. Source: FIEL (Fundación de Investigaciones Económicas Latinoamericanas; Foundation for Latin American Economic Research).

As shown, the impact of direct taxes and direct transfers combined is equalizing and poverty-reducing. In the scenario with contributory pensions as deferred income, the disposable income Gini declines by around 16 percent and extreme poverty falls by 61 percent (Figures 1 and 2, respectively). Because contributory pensions are progressive, the declines are considerably higher in the scenario in which contributory pensions are treated as a transfer (remember that the noncontributory Pension Moratorium and Early Retirement are always treated as government transfers).

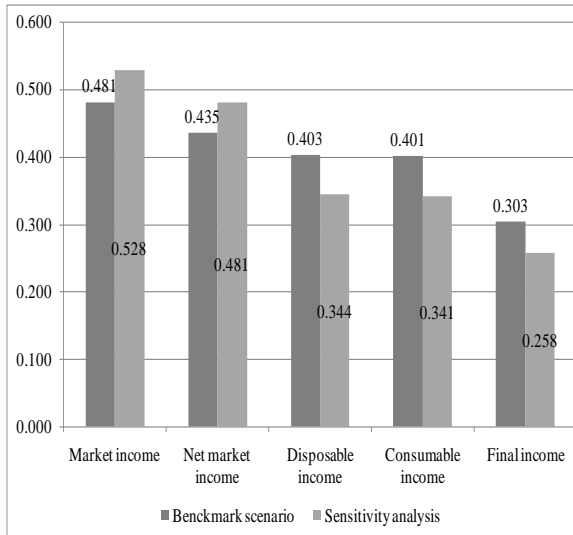
Consumable income adds the net effect of indirect taxes and economic subsidies to disposable income. The high impact of subsidies more than compensates for the unequalizing effect of taxes (Figures 1). With the international poverty line of \$2.50, the consumable income headcount ratio is lower than market income poverty (though higher than disposable income poverty). However, with the \$4 line, the consumable income headcount ratio is above market income poverty. Except for the very poor, low-income consumers pay more in indirect taxes than what they receive in subsidies.

In-kind transfers in education and health are quite equalizing, as shown when calculating the Gini index with final income. The final income Gini (compared to the market income Gini)

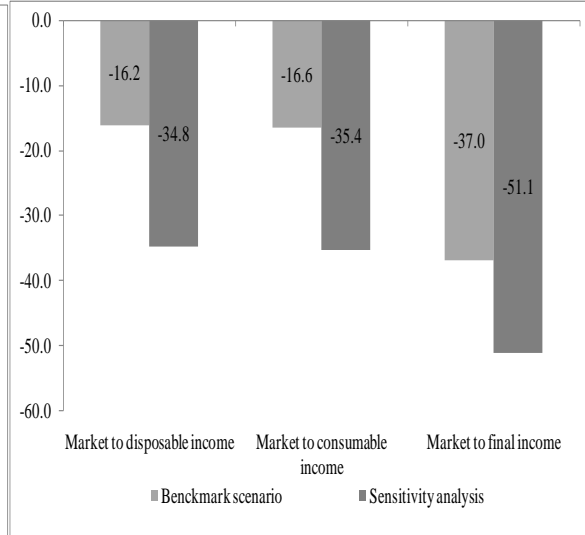
declines by 24 percent when pensions are considered deferred income. When pensions are considered a government transfer, the impact is—as expected—considerably higher.

Figure 1. Evolution of Inequality through Different Income Concepts

a. Gini coefficient



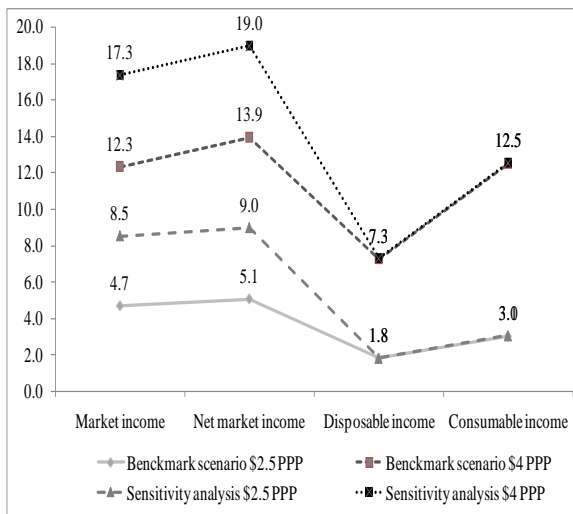
b. Percent change in Gini



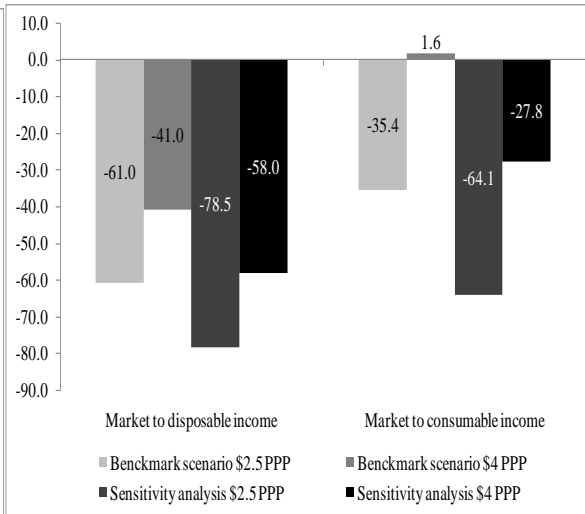
Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHo) 2012.

Figure 2. Evolution of Poverty through Different Income Concepts

a. Headcount index



b. Percent change in Headcount index



Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHo) 2012.

4.2 Coverage and Effectiveness of Direct Transfers

Table 3 presents indicators that measure the extent to which direct transfers are effective and efficient in reducing poverty (using both international and national poverty lines) for the scenarios with contributory pensions as deferred income and as transfers.

The Vertical Expenditure Efficiency (VEE) indicator measures the amount of direct transfers that go to the poor. This indicator shows that 11 percent of direct transfers reach the extreme poor while 31 percent of direct transfers reach the total poor population (using international poverty lines). (The results were 43 percent and 50 percent in the sensitivity analysis.) The spillover index (S) indicates how much of the spending that reached the poor was in excess of the strictly necessary amount required for the beneficiaries to reach the poverty line. As shown, the spillovers are high. The Poverty Reduction Efficiency (PRE) indicator is the product of VEE times S. Finally, the Poverty Gap Efficiency (PGE) measures the transfers' effectiveness in reducing the poverty gap. PGE estimates indicate that direct transfers are more efficient in reducing extreme poverty gaps than in reducing total poverty gaps.

Table 3. Poverty Reduction Efficiency and Effectiveness Indicators of Direct Transfers for Argentina 2012 in Percentages

	Benchmark Case (national accounts)	Sensitivity Analysis (national accounts)
Inequality		
Change in Gini (direct transfers)	0.6	1.1
Poverty		
Change in Headcount Index (\$2.50 PPP per day)	0.6	0.6
Change in Headcount Index (\$4 PPP per day)	1.2	0.9
Beckerman (1979) and Immervoll et al. (2009) Effectiveness Indicators		
\$2.50 PPP per day		
Vertical Expenditure Efficiency	0.1	0.4
Poverty Reduction Efficiency	0.0	0.1
Spillover Index	0.6	0.8
Poverty Gap Efficiency	0.7	0.9
\$4.00 PPP per day		
Vertical Expenditure Efficiency	0.3	0.5
Poverty Reduction Efficiency	0.1	0.1
Spillover Index	0.5	0.7
Poverty Gap Efficiency	0.6	0.9
National Extreme PL		
Vertical Expenditure Efficiency	0.0	0.4
Poverty Reduction Efficiency	0.0	0.0
Spillover Index	0.7	0.9
Poverty Gap Efficiency	0.8	1.0
National Moderate PL		
Vertical Expenditure Efficiency	0.3	0.5
Poverty Reduction Efficiency	0.1	0.1
Spillover Index	0.6	0.8
Poverty Gap Efficiency	0.6	0.9

Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHo) 2012.

Table 4 shows coverage levels and the distribution of benefits for every disaggregated area of public spending. The table shows that Universal Allowance per Child, Families for Social Inclusion Program, and the Pension Moratorium (and hospitals, among in-kind transfers) are the programs most targeted to the extreme poor. Meanwhile, tertiary education and indirect

subsidies concentrate their benefits more heavily on the non-poor (that is, those who exceed the US\$4.00 PPP per day line).

Table 4. Coverage and Distribution of Benefits and Beneficiaries by Program in Argentina 2012

	Benchmark scenario			Sensitivity analysis		
	Groups			Groups		
	y < 2.5	2.5 < y < 4	y > 4	y < 2.5	2.5 < y < 4	y > 4
Health-Hospitals	14.7%	15.5%	69.8%	39.9%	15.2%	44.9%
Health-contributory	1.0%	3.8%	95.2%	2.3%	4.7%	93.0%
Health-contributory - elderly -INSSJyP	2.3%	4.8%	93.0%	5.8%	5.5%	88.7%
Education-basic	5.6%	8.6%	85.8%	7.7%	9.5%	82.8%
Education-tertiary and university	0.4%	1.3%	98.2%	2.3%	1.9%	95.9%
Transportation	1.1%	2.6%	96.2%	5.0%	2.9%	92.1%
Subsidies on bus tariffs	1.5%	3.0%	95.5%	5.9%	3.7%	90.4%
Subsidies on train tariffs	1.0%	2.8%	96.2%	4.6%	2.7%	92.8%
Subsidies on subway tariffs	0.0%	1.8%	98.2%	7.1%	1.8%	91.0%
Subsidies on airplane tariffs	0.0%	0.0%	100.0%	3.2%	0.0%	96.8%
Electricity	2.3%	3.2%	94.5%	14.0%	3.0%	83.0%
Gas provision by pipeline	0.8%	1.1%	98.1%	7.7%	1.0%	91.3%
Bottled gas	3.5%	8.1%	88.4%	13.3%	9.0%	77.7%
Total gas provision	1.1%	1.9%	97.0%	8.3%	1.8%	89.9%
Direct fuel subsidies	0.1%	0.2%	99.7%	1.0%	0.2%	98.8%
Indirect fuel subsidies	2.0%	3.0%	95.0%	8.2%	3.6%	88.2%
Family Allowances	2.9%	6.6%	90.5%	13.7%	9.4%	76.9%
Universal Allowance per Child	16.2%	21.7%	62.1%	20.4%	23.0%	56.6%
Pension Fund Moratorium and Early Retirement Program	12.2%	22.5%	65.2%	48.3%	3.6%	48.1%
Employment and Training Insurance	4.1%	2.8%	93.1%	17.5%	5.6%	76.9%
Family Social Inclusion Program	20.1%	36.7%	43.1%	24.4%	39.1%	36.4%
University Grants	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
Youth Program for More and Better Work	3.3%	4.0%	92.7%	3.4%	4.0%	92.6%
Unemployment insurance	7.4%	15.6%	77.1%	9.0%	15.8%	75.2%
School and Community Kitchens	7.2%	14.6%	78.2%	12.2%	14.5%	73.3%
Direct Cash Transfers	10.6%	18.4%	71.0%	41.7%	6.4%	51.9%
Total Non-contributory pensions	12.2%	22.5%	65.2%	48.3%	3.6%	48.1%
Total Contributory Pensions	0.5%	1.2%	98.3%	45.8%	4.7%	49.4%
Total Education Spending	4.3%	6.9%	88.8%	6.4%	7.7%	86.0%
Total Health Spending	6.8%	8.7%	84.5%	18.2%	9.1%	72.6%
Total CEQ Social Spending	6.4%	9.6%	84.0%	25.3%	7.5%	67.2%
Income shares	0.3%	0.9%	98.8%	0.4%	1.2%	98.4%
Population shares	4.1%	6.0%	89.9%	10.7%	6.5%	82.7%

Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENIGHO) 2012.

y<2.5. Income below US\$2.50 PPP.

2.5<y<4. Income between US\$2.50 PPP and US\$4.00 PPP.

y>4. Income higher than US\$4.00 PPP.

NSSJyP. Instituto Nacional de Servicios Sociales para Jubilados y Pensionados (National Institute for Social Services for Retirees and Pensioners).

4.3 Incidence Analysis

The incidence analysis has been calculated through the ratio of benefits to market income by market income deciles (see tables 5 and 6). The effect of direct taxes and direct transfers leads to a reduction in inequality: the highest decile by market income ranking is the one that bears the highest proportion of direct taxes. Meanwhile, in the case of direct transfers, the effect is

the inverse because the lowest market income deciles receive the highest proportion of transfers.

The analysis of indirect taxes shows that the lowest market income deciles pay a higher proportion of their market income in taxes than other deciles, although this effect is partially mitigated by the indirect subsidies. In-kind transfers (health and education) benefit heavily on the lowest market income deciles.

Table 5. Incidence of Taxes and Transfers on Income Distribution in Percentages for Argentina 2012 (Benchmark Analysis)

	Direct Taxes %	Contributions EXCLUDING CONTRIBUTIONS TO PENSIONS %	Non-contributory Pensions %	Flagship CCT %	Other Direct Transfers (Targeted or Not) %	All Direct Transfers %	Indirect Subsidies %	Indirect Taxes %	Net Indirect Taxes %	In-kind Education %	In-kind Health %	In-kind Transfers %	
Deciles	1	-0.4	-3.1	40.1	18.6	20.4	79.1	15.1	-41.1	-26.0	76.9	94.2	171.1
	2	-0.3	-5.5	5.4	6.8	9.1	21.3	9.3	-28.4	-19.2	40.2	46.6	86.7
	3	-0.3	-9.0	3.4	2.7	4.4	10.5	7.5	-24.1	-16.5	25.4	25.0	50.4
	4	-0.2	-11.8	2.9	1.0	2.9	6.8	7.8	-23.0	-15.3	18.3	16.7	35.0
	5	-0.3	-12.3	1.8	0.7	2.3	4.8	6.5	-22.1	-15.7	14.4	13.0	27.4
	6	-0.2	-13.6	2.0	0.1	1.8	3.9	6.5	-21.8	-15.3	11.0	9.8	20.8
	7	-0.2	-15.2	0.9	0.1	1.0	2.0	5.3	-21.0	-15.7	8.5	6.7	15.2
	8	-0.4	-15.9	0.6	0.0	0.7	1.3	7.2	-19.9	-12.6	6.5	4.4	11.0
	9	-1.9	-17.0	0.3	0.0	0.3	0.7	4.5	-18.9	-14.4	4.1	2.7	6.8
	10	-10.9	-19.6	0.2	0.0	0.2	0.3	3.0	-15.0	-12.0	2.2	0.9	3.2
Total Population		-4.4	-16.1	1.4	0.6	1.3	3.4	5.2	-19.1	-14.0	8.5	7.5	16.0

Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHo) 2012.

As expected, when pensions are considered a government transfer, the impact is outstanding for the lowest deciles of income distribution (table 6). However, such an impact is not a measure of the pensions' targeting because, by definition, retirees will have zero or near zero market income.

Table 6. Incidence of Taxes and Transfers on Income Distribution in Percentages for Argentina 2012 (Sensitivity Analysis)

		Direct Taxes %	Contributions to SS %	Contributory Pensions %	Non-contributory Pensions %	Flagship CCT %	Other Direct Transfers (Targeted or Not) %	All Direct Transfers %	Indirect Subsidies %	Indirect Taxes %	Net Indirect Taxes %	In-kind Education %	In-kind Health %	In-kind Transfers %
Deciles	1	-0.8	-2.3	1501.4	226.0	36.3	57.9	1821.6	142.1	-432.3	-290.2	161.5	435.7	597.2
	2	-0.4	-4.4	42.8	6.2	11.8	15.9	76.7	13.1	-41.2	-28.2	57.7	62.4	120.1
	3	-0.3	-6.5	19.6	4.0	5.0	6.4	35.0	11.0	-30.9	-20.0	33.9	43.0	76.9
	4	-0.3	-10.8	16.0	2.3	1.9	4.0	24.2	7.9	-27.1	-19.2	23.8	19.6	43.5
	5	-0.3	-13.2	12.5	2.0	0.8	3.0	18.3	8.2	-24.8	-16.6	16.9	14.4	31.3
	6	-0.3	-15.2	6.7	1.7	0.5	2.0	10.8	5.9	-22.9	-17.0	14.5	11.8	26.3
	7	-0.2	-17.7	6.3	1.0	0.1	1.3	8.7	5.6	-22.0	-16.4	11.2	7.0	18.2
	8	-0.6	-18.3	6.9	0.5	0.0	0.8	8.2	8.1	-21.3	-13.2	7.8	4.3	12.1
	9	-1.7	-19.2	4.0	0.3	0.0	0.3	4.8	4.4	-19.6	-15.2	5.3	2.5	7.8
	10	-11.5	-21.2	1.5	0.1	0.0	0.2	1.8	3.2	-14.9	-11.7	2.4	0.9	3.3
Total Population		-4.9	-18.0	11.0	1.6	0.7	1.5	14.8	5.8	-21.2	-15.4	9.5	8.4	17.9

Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHO) 2012.

SS. Social security.

4.4 Progressivity

Figure 3 presents social spending by program, total social spending, and indirect expenditures, sorted by their degree of progressivity. The concentration coefficient for social spending shows progressivity in absolute terms (a pro-poor characteristic).

Most direct cash transfers, education expenditures, and health benefits are progressive in absolute terms. Spending in tertiary and university education, however, is “pro-rich” because it benefits wealthier households more than poorer ones (in absolute terms). This result coincides with other studies.²⁶ By contrast, expenditures that are regressive in absolute terms (pro-rich) are dominated by indirect subsidies (public transfers designed to keep tariffs low). Transportation, electricity, and gas are among these expenditures because richer households receive a higher benefit in absolute terms than low-income individuals do.

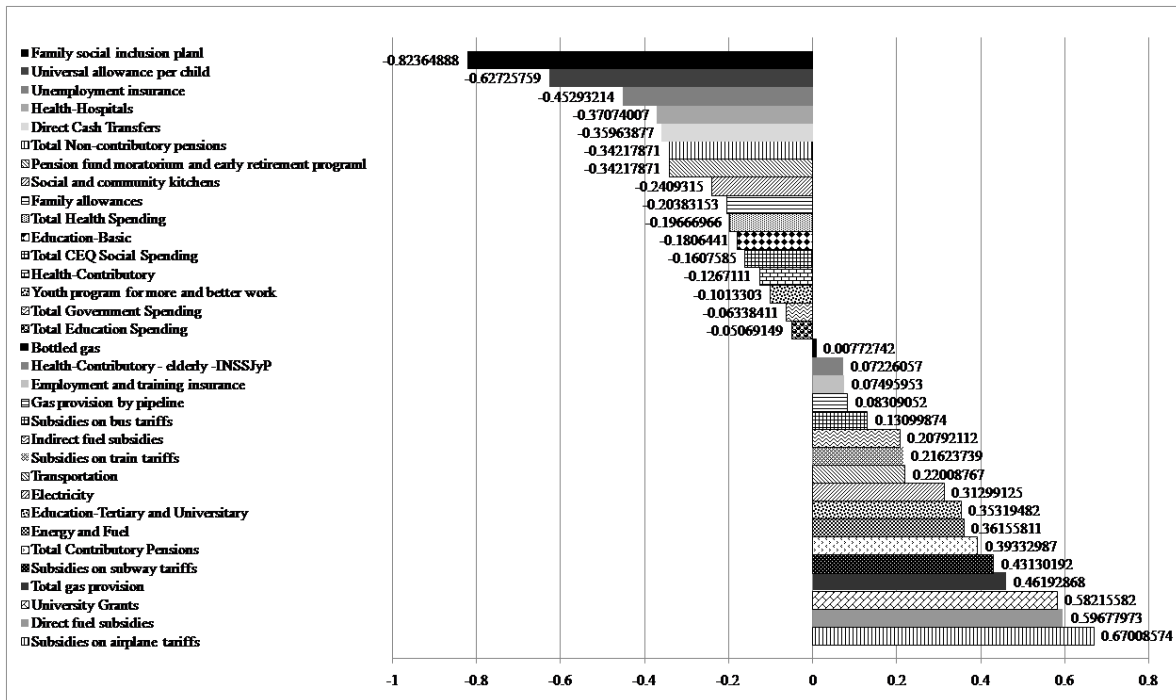
Income distribution by decile for the benchmark case and the sensitivity analysis is presented in table 7. For instance, the first decile concentrates 1.2 percent of market income for the benchmark case and 0.3 percent of market income when pensions are considered a government transfer. After government intervention, the first decile concentrates 3.9 percent of final income.

The richest decile concentrates 35.7 percent of market income in the benchmark case and 38.5 percent in the sensitivity analysis, although taxes and public expenditures reduce its share to 27.3 percent of final income.

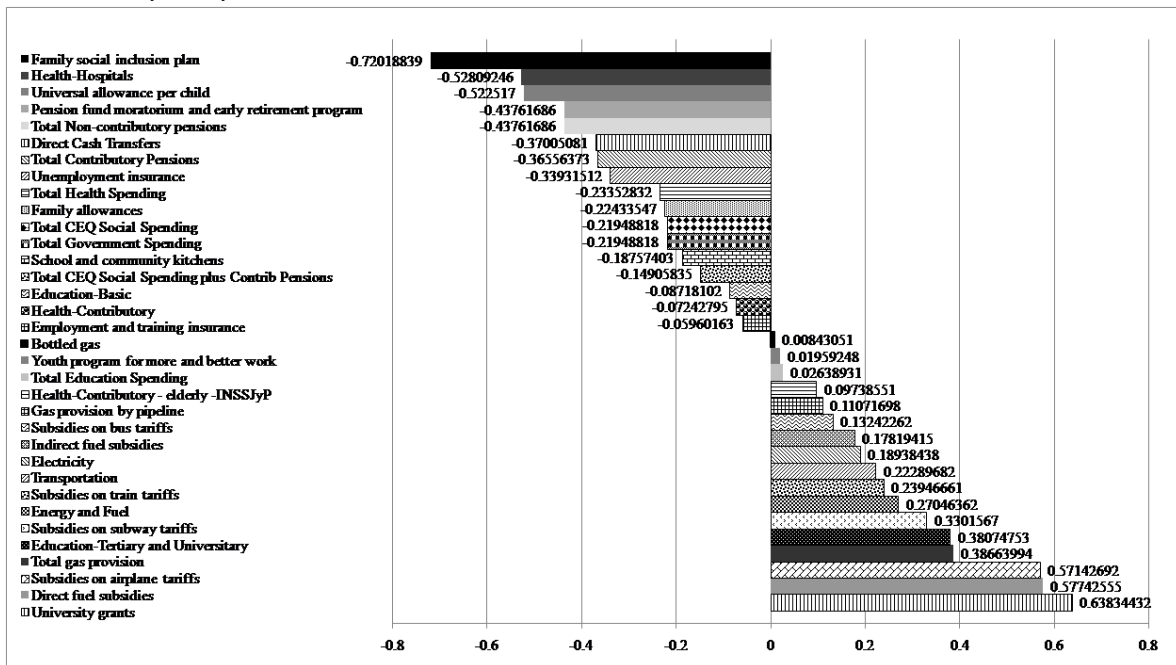
²⁶ See, for example, Gómez Sabaini and others (2013).

Figure 3. Concentration Coefficient by Spending Category with Respect to Market Income, Argentina 2012

a. Benchmark case



b. Sensitivity analysis



Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHO) 2012.

Table 7. Income Distribution by Decile for Argentina 2012

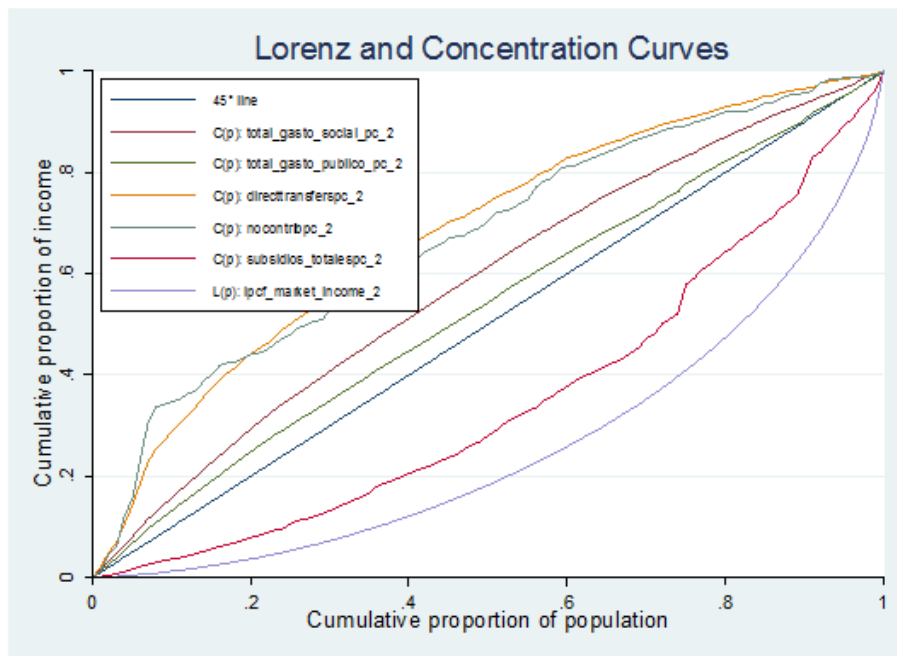
Decile	Benchmark case					Sensitivity analysis				
	Market Income %	Net Market Income %	Disposable Income %	Consumable Income %	Final Income %	Market Income %	Net Market Income %	Disposable Income %	Consumable Income %	Final Income %
1	1.23	1.46	2.08	2.06	3.85	0.33	0.41	2.10	2.08	3.88
2	2.43	2.84	3.39	3.34	4.97	1.88	2.28	3.41	3.36	5.00
3	3.62	4.04	4.41	4.35	5.76	3.03	3.59	4.44	4.38	5.79
4	4.84	5.28	5.55	5.50	6.53	4.33	4.90	5.58	5.52	6.56
5	6.18	6.68	6.85	6.68	7.40	5.68	6.29	6.86	6.69	7.40
6	7.57	8.15	8.19	8.04	8.40	7.33	7.94	8.18	8.05	8.40
7	9.36	9.95	9.85	9.70	9.60	9.23	9.85	9.81	9.66	9.57
8	12.15	12.64	12.36	12.22	11.51	12.18	12.72	12.34	12.17	11.46
9	16.97	17.02	16.52	16.25	14.70	17.51	17.61	16.47	16.20	14.68
10	35.65	31.92	30.80	31.86	27.28	38.50	34.39	30.83	31.90	27.27
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Author’s calculations based on National Household Survey on Incomes and Expenditures (ENGHo) 2012.

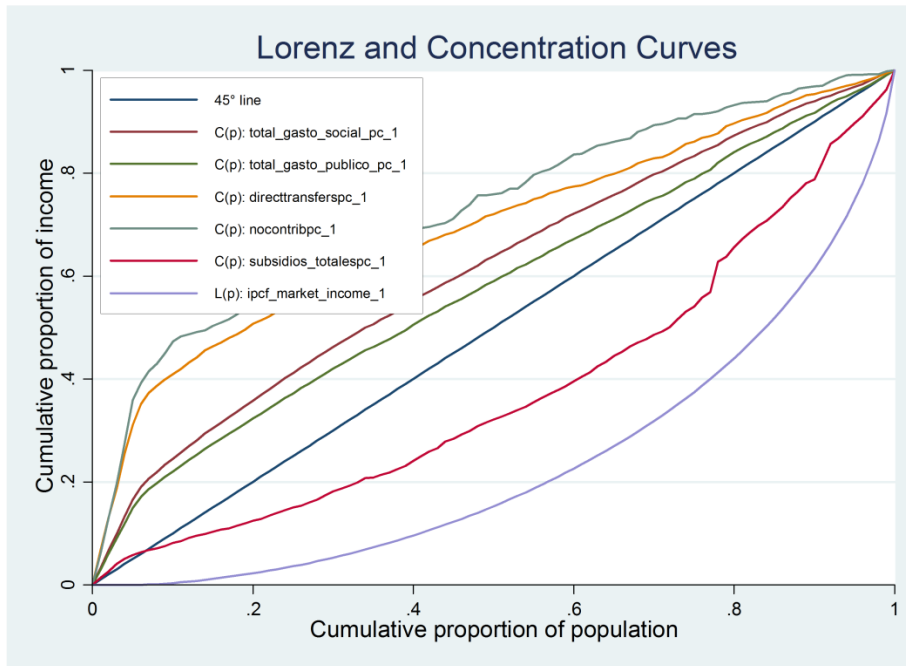
Figure 4 presents Lorenz and concentration curves for aggregate public expenditures and market income. Social expenditures, direct transfers, and non-contributory expenditures are progressive in absolute (pro-poor) and relative terms, whereas indirect subsidies benefit the rich in absolute terms.

Figure 4. Lorenz and Concentration Curves for Aggregate Public Expenditures for Argentina 2012

a. Benchmark case



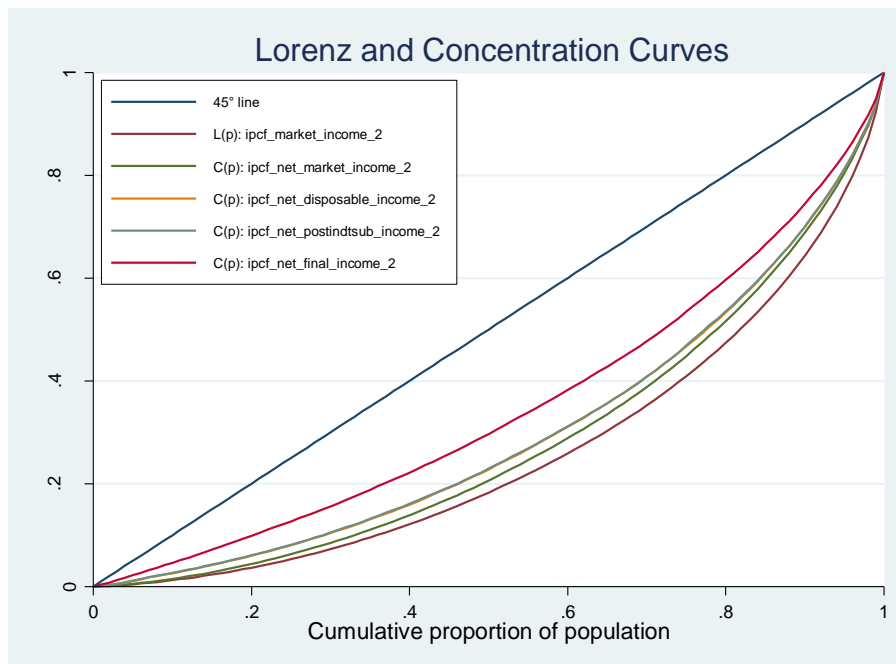
b. Sensitivity analysis



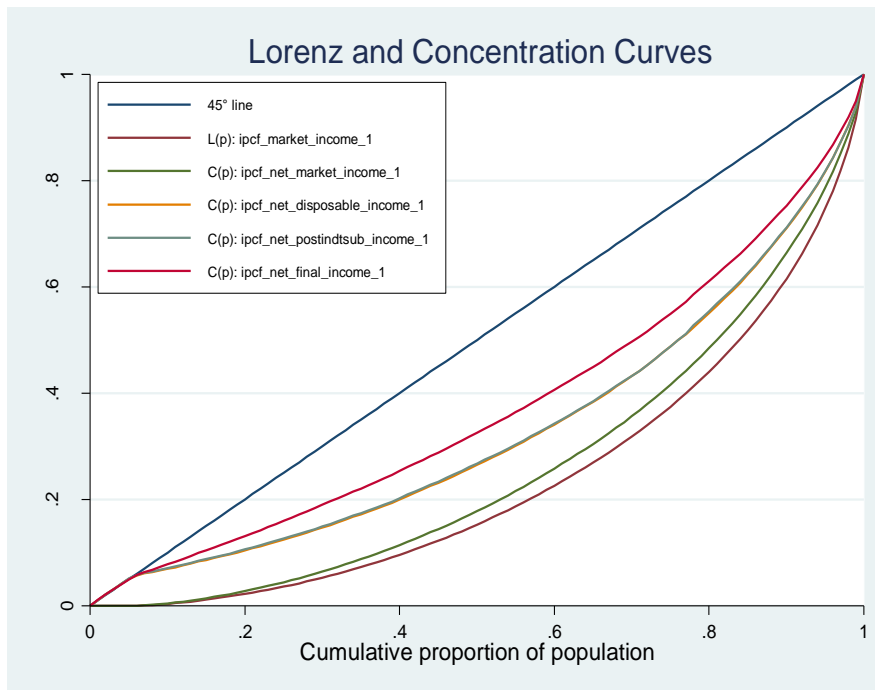
Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHo) 2012

Figure 5 shows these curves for every income concept expresses the redistribution through taxes and public expenditures. The Lorenz curve corresponding to final income lies above that of market income, showing that public intervention improves income distribution.

Figure 5. Redistributive Effect of Taxes and Public Expenditures, Argentina 2012
a. Benchmark case



b. Sensitivity analysis



Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHo) 2012.

4.5 Poverty

Tables 8 and 9 show the results for poverty. The picture is roughly similar to that of inequality in that most poor households benefit strongly from direct and in-kind transfers (health and education) and the richest receive a greatly reduced proportion of these benefits. The impact on the lowest deciles is much higher when pensions are considered a public transfer but because under this scenarios retirees with by definition zero or near zero market income are classified as poor.

Table 8. Incidence of Taxes and Transfers on Poverty in Percentages (Benchmark Analysis) in Argentina 2012

Group:	Direct Taxes %	Contributions EXCLUDING CONTRIBUTIONS TO PENSIONS %	Non-contributory Pensions %	Flagship CCT %	Other Direct Transfers (Targeted or Not) %	All Direct Transfers %	Indirect Subsidies %	Indirect Taxes %	Net Indirect Taxes %	In-kind Education %	In-kind Health %	In-kind Transfers %
y < 1.25	-0.9	-1.1	60.8	98.9	86.5	246.2	36.6	-81.3	-44.7	321.3	437.1	758.3
1.25 <= y < 2.50	-0.4	-1.6	57.4	24.4	20.8	102.6	18.5	-47.3	-28.8	98.3	136.5	234.8
2.50 <= y < 4.00	-0.3	-3.5	33.7	13.9	17.9	65.5	13.3	-37.7	-24.4	61.9	69.1	131.0
4.00 <= y < 10.00	-0.3	-8.3	4.1	3.5	5.6	13.2	8.1	-25.3	-17.2	28.3	29.6	57.9
10.00 <= y < 50.00	-1.2	-15.5	0.9	0.2	1.0	2.1	5.9	-20.2	-14.3	7.8	6.2	13.9
50.00 <= y	-11.7	-19.8	0.1	0.0	0.2	0.3	2.6	-14.6	-12.0	2.1	0.8	2.9
Total Population	-4.4	-16.1	1.4	0.6	1.3	3.4	5.2	-19.1	-14.0	8.5	7.5	16.0

Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHO) 2012.

y<2.5.Income below US\$2.50 PPP.

2.5<y<4.Income between US\$2.50 PPP and US\$4.00 PPP.

y>4.Income higher than US\$4.00 PPP.

Table 9. Incidence of Taxes and Transfers on Poverty in Percentages (Sensitivity Analysis) in Argentina 2012

Group:	Direct Taxes %	Contributions to SS %	Contributory Pensions %	Non-contributory Pensions %	Flagship CCT %	Other Direct Transfers (Targeted or Not) %	All Direct Transfers %	Indirect Subsidies %	Indirect Taxes %	Net Indirect Taxes %	In-kind Education %	In-kind Health %	In-kind Transfers %
y < 1.25	-1.5	-2.4	6779.0	949.7	77.3	171.5	7977.4	569.3	-1809.7	-1240.5	371.4	1498.1	1869.6
1.25 <= y < 2.50	-0.5	-2.4	89.8	29.1	23.7	24.7	167.4	25.0	-62.8	-37.8	98.2	137.2	235.4
2.50 <= y < 4.00	-0.4	-4.4	44.8	4.9	13.5	18.1	81.3	13.4	-41.2	-27.8	62.8	65.9	128.7
4.00 <= y < 10.00	-0.3	-9.0	18.5	3.0	3.2	5.2	30.0	9.4	-29.0	-19.6	27.6	28.7	56.2
10.00 <= y < 50.00	-1.6	-18.1	5.7	0.8	0.2	0.9	7.5	6.1	-20.8	-14.8	8.6	5.5	14.1
50.00 <= y	-12.5	-21.2	1.4	0.1	0.0	0.2	1.6	2.4	-14.4	-11.9	2.2	0.8	2.9
Total Population	-4.9	-18.0	11.0	1.6	0.7	1.5	14.8	5.8	-21.2	-15.4	9.5	8.4	17.9

Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHO) 2012.

y<2.5.Income below US\$2.50 PPP.

2.5<y<4.Income between US\$2.50 PPP and US\$4.00 PPP.

y>4.Income higher than US\$4.00 PPP.

Similarly to the income distribution analysis by decile, table 10 presents the distribution by socioeconomic group based on poverty analysis and shows that the greatest proportion of the population lies in the fifth bracket (US\$10.00 to US\$50.00 PPP). The fiscal system reduces the percentage of the population below the poverty lines, even in the highest bracket. For the benchmark case, 30.9 percent of the population was below US\$50.00 PPP when considering market income in the benchmark case, whereas when considering consumable income, that

percentage dropped to 13 percent. In the sensitivity analysis, 7.1 percent of the population was below US\$50.00 PPP considering market income, but when considering consumable income, that proportion decreased to 2.4 percent.

Table 10. Income Distribution by Socioeconomic Group in Argentina 2012

Group	Benchmark case				Sensitivity analysis			
	Market Income	Net Market Income	Disposable Income	Consumable Income	Market Income	Net Market Income	Disposable Income	Consumable Income
y < 1.25	0.03	0.05	0.02	0.03	7.24	7.38	0.32	0.51
1.25 <= y < 2.50	0.27	0.36	0.13	0.27	3.50	3.72	1.21	2.01
2.50 <= y < 4.00	0.95	1.36	0.80	1.61	6.54	7.45	4.13	6.96
4.00 <= y < 10.00	8.12	12.22	12.46	17.91	25.50	30.89	31.33	38.10
10.00 <= y < 50.00	59.77	69.24	70.11	67.15	50.09	47.41	59.24	50.01
50.00 <= y	30.87	16.77	16.47	13.03	7.13	3.16	3.77	2.41
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHo) 2012.

y<2.5.Income below US\$2.50 PPP.

2.5<y<4.Income between US\$2.50 PPP and US\$4.00 PPP.

y>4.Income higher than US\$4.00 PPP.

4.6 Fiscal mobility

Table 11 and table 12 display the fiscal mobility matrixes for the benchmark case and the sensitivity analysis, respectively. For the benchmark case, around 27 percent of the population under extreme poverty in the market income group remains in that condition in the disposable income classification, which means that around 73 percent of that population can rise out of that condition into a group with between US\$1.25 and US\$10.00 PPP when considering disposable income.

Table 11. Fiscal Mobility Matrices (Benchmark case): Market to Disposable, Consumable and Final Income

Market Income groups	Disposable Income groups						Percent of Population
	y < 1.25	1.25 <= y < 2.50	2.50 <= y < 4.00	4.00 <= y < 10.00	10.00 <= y < 50.00	50.00 <= y	
y < 1.25	27.39	41.66	17.08	13.88	0.00	0.00	1.16
1.25 <= y < 2.50	0.07	24.43	48.36	25.10	2.04	0.00	2.89
2.50 <= y < 4.00	0.00	0.26	37.53	51.24	10.97	0.00	6.05
4.00 <= y < 10.00	0.00	0.00	1.04	91.10	7.86	0.00	24.54
10.00 <= y < 50.00	0.00	0.00	0.00	8.07	91.80	0.13	57.50
50.00 <= y	0.00	0.00	0.00	0.00	51.23	48.77	7.86

Consumable Income groups							
Market Income groups	y < 1.25	1.25 <= y < 2.50	2.50 <= y < 4.00	4.00 <= y < 10.00	10.00 <= y < 50.00	50.00 <= y	Percent of Population
y < 1.25	38.15	38.10	19.56	4.19	0.00	0.00	1.16
1.25 <= y < 2.50	2.41	40.40	32.86	23.50	0.83	0.00	2.89
2.50 <= y < 4.00	0.00	6.11	53.60	34.91	5.38	0.00	6.05
4.00 <= y < 10.00	0.00	0.03	10.38	86.02	3.56	0.00	24.54
10.00 <= y < 50.00	0.00	0.00	0.00	23.68	76.08	0.23	57.50
50.00 <= y	0.00	0.00	0.00	0.00	70.52	29.48	7.86
Final Income groups							
Market Income groups	y < 1.25	1.25 <= y < 2.50	2.50 <= y < 4.00	4.00 <= y < 10.00	10.00 <= y < 50.00	50.00 <= y	Percent of Population
y < 1.25	0.00	0.00	13.11	80.49	6.41	0.00	1.16
1.25 <= y < 2.50	0.00	0.00	1.85	84.17	13.99	0.00	2.89
2.50 <= y < 4.00	0.00	0.00	0.61	72.43	26.96	0.00	6.05
4.00 <= y < 10.00	0.00	0.00	0.00	53.42	46.58	0.00	24.54
10.00 <= y < 50.00	0.00	0.00	0.00	3.48	96.24	0.28	57.50
50.00 <= y	0.00	0.00	0.00	0.00	66.09	33.91	7.86

Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHo) 2012.

y<2.5.Income below US\$2.50 PPP.

2.5<y<4.Income between US\$2.50 PPP and US\$4.00 PPP.

y>4.Income higher than US\$4.00 PPP.

Analyzing consumable income, 38.1 percent of the population is in the group below US\$1.25 PPP, an increase from the percentage in the disposable income analysis, which indicates the effect of indirect taxes and transfers.

When comparing market income and final income groups, about 80 percent of the population that was below the extreme poverty threshold considering market income move into groups between US\$4.00 to US\$10.00 PPP when considering final income due to the effect of in-kind taxes and transfers.

In the sensitivity analysis, around 4 percent of the population under extreme poverty in the market income group remains in that condition in the disposable income classification. Around 63 percent can move out of that condition and into the group with between US\$10.00 and US\$50.00 PPP when considering disposable income.

When analyzing consumable income, 6 percent of the population is below US\$1.25 PPP; the effect of indirect taxes and transfers increases this proportion compared to disposable income.

In the event of comparing market income and final income groups, about 24 percent of the population that was below the extreme poverty threshold considering market income rise to between US\$4.00 to US\$10.00 PPP when considering final income due to the effect of in-kind taxes and transfers.

Table 12. Fiscal Mobility Matrixes (Sensitivity Analysis), Market to Disposable, Consumable and Final Income

		Disposable Income groups						
Market Income groups	y < 1.25	1.25 <= y < 2.50	2.50 <= y < 4.00	4.00 <= y < 10.00	10.00 <= y < 50.00	50.00 <= y	Percent of Population	
y < 1.25	4.40	6.85	4.08	19.78	63.37	1.52	7.24	
1.25 <= y < 2.50	0.06	19.86	42.02	25.25	12.81	0.00	3.50	
2.50 <= y < 4.00	0.00	0.24	32.53	58.37	8.52	0.34	6.54	
4.00 <= y < 10.00	0.00	0.00	0.92	81.13	17.86	0.09	25.50	
10.00 <= y < 50.00	0.00	0.00	0.00	9.00	90.44	0.57	50.09	
50.00 <= y	0.00	0.00	0.00	0.00	53.22	46.78	7.13	
		Consumable Income groups						
Market Income groups	y < 1.25	1.25 <= y < 2.50	2.50 <= y < 4.00	4.00 <= y < 10.00	10.00 <= y < 50.00	50.00 <= y	Percent of Population	
y < 1.25	6.13	7.15	4.93	28.64	51.91	1.24	7.24	
1.25 <= y < 2.50	1.99	33.15	28.71	26.79	9.36	0.00	3.50	
2.50 <= y < 4.00	0.00	4.96	50.22	39.17	5.47	0.17	6.54	
4.00 <= y < 10.00	0.00	0.03	9.07	79.42	11.43	0.05	25.50	
10.00 <= y < 50.00	0.00	0.00	0.00	24.50	75.01	0.49	50.09	
50.00 <= y	0.00	0.00	0.00	0.00	71.21	28.79	7.13	
		Final Income groups						
Market Income groups	y < 1.25	1.25 <= y < 2.50	2.50 <= y < 4.00	4.00 <= y < 10.00	10.00 <= y < 50.00	50.00 <= y	Percent of Population	
y < 1.25	0.00	0.00	2.11	24.27	72.29	1.34	7.24	
1.25 <= y < 2.50	0.00	0.00	1.52	73.23	25.24	0.00	3.50	
2.50 <= y < 4.00	0.00	0.00	0.56	71.92	27.17	0.34	6.54	
4.00 <= y < 10.00	0.00	0.00	0.00	47.55	52.40	0.05	25.50	
10.00 <= y < 50.00	0.00	0.00	0.00	3.83	95.61	0.57	50.09	
50.00 <= y	0.00	0.00	0.00	0.00	66.85	33.15	7.13	

Source: Author's calculations based on National Household Survey on Incomes and Expenditures (ENGHO) 2012.

y<2.5.Income below US\$2.50 PPP.

2.5<y<4.Income between US\$2.50 PPP and US\$4.00 PPP.

y>4.Income higher than US\$4.00 PPP.

5. Conclusions

This paper has introduced the CEQ methodology to analyze the impact of public expenditures and taxes on income distribution and poverty in Argentina using ENGHO survey data from 2012-2013. The results show that fiscal policy had a very high impact on inequality. While fiscal policy reduces extreme poverty, however, moderate poverty increases mainly as a result of the impact of indirect taxes. Indirect subsidies and programs like Family Allowances in the formal sector transfer a significant portion of fiscal resources to the non-poor. That is, there is room for re-allocating resources from the higher income deciles to the poor. In addition, given the fact that tax collection reached its peak, it is unlikely that this magnitude of redistribution could be sustained and, simultaneously, keep macroeconomic balance and incentives to invest in place.

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