Transferencias directas y su contribución a la reducción de la desigualdad en México

Direct Transfers and their contribution to reducing inequality in Mexico

Transferências diretas e sua contribuição para a redução da desigualdade no México

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Resumen

En sociedades con un alto nivel de desigualdad, el Estado implementa medidas para disminuirlas. Puede utilizar herramientas como el gasto social directo (transferencias en efectivo y en especie), impuestos y gastos fiscales. El gasto social se ha convertido en la principal herramienta en México para reducir la desigualdad, si bien el resultado no es completamente satisfactorio. El objetivo del documento fue mostrar los sectores de la población que más beneficios obtienen ante las transferencias externas, como pueden ser las transferencias gubernamentales realizadas a

través del gasto social. Para el análisis, se utilizaron los multiplicadores contables obtenidos de una de matriz de contabilidad social construida para el año 2012, también se realizó la descomposición de los mismos para analizar las transferencias directas, efectos cruzados y efectos circulares.

Los resultados muestran que los hogares del decil I impulsan fuertemente la economía si reciben la inyección exógena unitaria, ya que presentan altas propensiones medias a consumir. Su contribución es mayor que si se apoya cualquier actividad productiva,. El efecto contrario sucede con el decil IX y X. Además, los hogares del decil X se benefician considerablemente cuando el resto de las cuentas endógenas son estimuladas y captan ingresos por los factores productivos que poseen, principalmente el capital. A través de la descomposición de multiplicadores, se muestra con detalle la desigualdad del ingreso entre los hogares. Una inyección exógena unitaria en el decil X genera multiplicadores pequeños en el resto de los hogares, pero altos sobre sí mismos. Lo contrario sucede en el decil I, en el que las transferencias de efectos multiplicadores son más grandes sobre el resto de los hogares y pequeños sobre sí mismos.

En conclusión, las transferencias monetarias y en especie para atender los hogares de bajos ingresos han impulsado la economía, al incrementar el consumo de bienes y servicios. Los hogares ubicados en los deciles de bajos ingresos presentan una mayor capacidad que los grupos de ingresos altos para generar beneficios a la economía, al incrementar los ingresos de las actividades, factores e instituciones, pero tienen poca capacidad de beneficiarse cuando el resto de la economía es estimulada.

Palabras clave: Transferencias, desigualdad, multiplicadores contables, matriz de contabilidad social, hogares

Abstract

In societies with a high level of inequality, the State implements measures to reduce them. It can use tools such as direct social spending (cash and in-kind transfers), taxes and fiscal expenditures. Social spending has become the main tool in Mexico to reduce inequality, even if the result is not completely satisfactory. The purpose of this paper was to show the sectors of people that benefit the most from foreign transfers, such as government transfers through social spending. For the analysis, we used the accounting multipliers obtained from a social accounting matrix built for the year 2012, the decomposition of them were also performed to analyze the direct transfers, cross effects and circular effects.

The results show that the households of decile I strongly boost the economy if they receive the unitary exogenous injection, because they have higher average propensities to consume. Their contribution is greater than if they support any productive activity. The opposite effect happens with the decile IX and X. In addition, the households of the decile X benefit considerably when the rest of the endogenous accounts were stimulated. They capture income with the productive factors they possess, mainly the capital. The inequality between income households is showed in detail through the multipliers decomposition. A unitary exogenous injection in the decile X generates small multipliers in the rest of the households, but high on themselves. The opposite effect happens in decile I, where transfers generate larger effects on the rest of households, and small ones on themselves.

In conclusion, monetary and in-kind transfers to assist low-income households have boosted the economy by increasing consumption of goods and services. Households in low-income deciles are more able than high-income groups to generate profits for the economy by increasing income from activities, factors, and institutions, but they had little capacity to benefit when the rest of the economy is stimulated.

Key words: Transfers, inequality, accounting multipliers, social accounting matrix, households

Resumo

Em sociedades com alto nível de desigualdade, o Estado implementa medidas para reduzi-las. Você pode usar ferramentas como despesas sociais diretas (transferências em dinheiro e em espécie), impostos e despesas tributárias. A despesa social tornou-se a principal ferramenta no México para reduzir a desigualdade, embora o resultado não seja completamente satisfatório. O objetivo do documento foi mostrar os setores da população que mais se beneficiam de transferências externas, como as transferências governamentais feitas através de gastos sociais. Para a análise, foram utilizados os multiplicadores contábeis obtidos de uma matriz de contabilidade social construída para o ano de 2012, bem como a decomposição do mesmo para analisar as transferências diretas, efeitos cruzados e efeitos circulares.

Os resultados mostram que os agregados familiares no deto I impulsionam fortemente a economia se receberem a injeção exógena da unidade, uma vez que possuem propensões médias elevadas a consumir. Sua contribuição é maior do que se você suportar qualquer atividade produtiva. O efeito oposto ocorre com os deciles IX e X. Além disso, os agregados familiares no décile X beneficiam consideravelmente quando o resto das contas endógenas são estimuladas e recebem renda dos fatores produtivos que possuem, principalmente o capital. Através da decomposição de multiplicadores, a desigualdade de renda entre famílias é mostrada em detalhes. Uma unidade de injeção exógena em decile X gera pequenos multiplicadores no resto das famílias, mas alta em si mesmas. Ocorre o contrário no décile I, no qual as transferências de efeitos multiplicadores são maiores no resto das famílias e pequenas em si mesmas.

Em conclusão, as transferências monetárias e em espécie para atender famílias de baixa renda impulsionaram a economia aumentando o consumo de bens e serviços. As famílias localizadas nos decompostos de baixa renda têm uma capacidade maior que os grupos de renda alta para gerar benefícios para a economia, aumentando a renda de atividades, fatores e instituições, mas têm pouca capacidade para se beneficiar quando o resto da economia é estimulado.

Palavras-chave: transferências, desigualdade, multiplicadores contábeis, matriz de contabilidade social, famílias.

Introduction

Analyzing inequality in the world and especially in Mexico is very complex, because it refers to a concept that may involve political, economic, social, cultural and human components, among others. Although it is also difficult to investigate economic inequality, it is more common to do it, and its study has been generalized to show the relationship between the production of wealth and its distribution or, well, to know the magnitude of the wealth and income of the population. richer social groups and the poorest.

Economic inequality is a phenomenon that occurs worldwide. Even countries with high development indicators also face growing conditions of accumulation of wealth in the hands of few people, while excluding important sectors of their society. Some authors consider inequality as necessary or inevitable in the process of economic growth and development. Kuznets (1963) mentions that an unequal distribution of income in developed countries did not prevent their rapid economic growth. The author says that it can be favorable if the high income comes from activities considered useful for society: if the social strata of higher income save and invest according to social performance criteria; if decisions are made related to the equality of economic opportunities; and, if there is a social consensus of the economy that will be reached through the use of income, otherwise it will be an obstacle. Other authors have shown that income inequality does not favor economic growth, which is harmful and affects it negatively (Delbianco, Dabús, and Carballo, 2014, Ostry, Berg and Tsangarides, 2014). In addition, there are factors that increase inequality such as corruption, favoring policies and concessions that allow the concentration of profits in a few hands, which also contributes to the detriment of social welfare (Palacios, 2014). From the foregoing, the measurement of economic inequality is important, because it makes evident how some variables of interest to elaborate public policies and, above all, social policies have a biased behavior among different population groups.

The most widely used variable for this type of analysis is income, although the Human Development Index generated by the United Nations Development Program (UNDP) is also currently considered, in which income is one of its components. To measure the degree of inequality in the distribution of income, there are different methods among which we can mention: statistical measures (range of variation, relative mean deviation, variance, coefficient of variation, variance of logarithms), Lorenz curve and coefficient of Gini or Gini coefficient of concentration, indicators based on utility functions (Dalton index and Atkinson index), indicators based on entropy (Theil index) and Palma index (Mancero, 2000)

In societies with a high level of inequality, it results in the State implementing measures to reduce them through redistributive policies. To do this, you can use tools such as direct social spending (transfers in cash and in kind), taxes and fiscal expenses (Alvarado and Campos, 2009). Also UNDP, 2016 mentions that the goal of social spending is to reduce inequality, which is reflected in the increases in the indicators of the population's standard of living in the short, medium or long term, as a result of policies implemented to achieve impacts social, economic or income redistribution. In recent decades, social spending has become the main tool in Mexico to reduce inequality, and the result is not completely satisfactory because "public spending on human development in Mexico has a pro-rich bias and the with the greatest bias in this direction are transfers to income, an example of this are energy subsidies "(UNDP, 2016, p.69).

Another factor analyzed that affects the distribution of income are fiscal reforms. Casares, García, Ruiz and Sobarzo (2015) mention that reforms aimed at taxing consumption would be more efficient than reforms aimed at taxing income. However, applying them would affect the pace of economic activity. They also mention that taxing consumption is less equitable than taxing income, so they suggest modifying the transfer scheme to be more efficient in achieving greater equity.

The World Bank (2006) suggests that the differences in the returns of the factors of production, as a result of the unequal distribution of human capital, among others, explain half of the difference between income inequality. The other half results from the generally non-progressive nature of the Latin American transfer system in the countries of Latin America and contemporary OECD countries.

Given the results obtained by the social policies implemented in Mexico to reduce inequality, this work is presented with the objective of showing the sectors of the population that benefit most from external transfers, such as government transfers made through spending Social. No reference is made to any specific type of transfer; only the effects are shown in general terms, which makes it possible to understand why social policies do not have the expected effect.

Analysis of transfers with accounting multipliers in Mexico

To explain the interdependencies existing in an economy, we can use production and expenditure models of fixed coefficients, also known as linear models of the circular flow of income, which are linear models derived from a social accounting matrix (MCS). Its structure is similar to Leontief's open model and generates accounting multipliers, which allow measuring the impacts of exogenous stimuli on the modeled economic system. Its main assumptions are the exogeneity of prices and the linear behavior of the productive sectors and economic agents. Depending on the detail of the information fed by the MCS, multipliers derived from it, can calculate multipliers of income and employment, and are very useful to simulate changes in exogenous variables on the demand side (income) (Casares) , García and Sobarzo, 2017). One of the main uses of these models is the identification of the economic sectors and institutions considered strategic due to their high capacity to generate income, as well as to model the effects of economic policies.

Unfortunately, in Mexico there is little application of these models because there is no official MCS, but each researcher builds his own according to their interests. In addition, it faces the difficulty of obtaining the official product input matrices (MIP), in this case generated by the National Institute of Statistics and Geography (INEGI), which are a main component of the social accounting matrices, the basis for the elaboration of the models. INEGI has in its IPM database for the years 1970, 1975, 1978 and 1980 (the last three updates of 1970), the last one published in 1988. Although in the 2003 IPM methodology, one is referred to for the year 1985, this one is not available. After these dates, the matrices were not published until 2008, when the MIP Mexico 2003 was issued. In recent dates, the IPM 2008 was published in 2013 and the MIP 2012 (update of 2008) in 2014.

During the period that INEGI does not publish IPM, researchers for the construction of social accounting matrices made updates, acquired them in private offices or resorted to international institutions such as the Global Trade Analysis Project (GTAP). These last two options involved high costs.

Despite the drawbacks to perform this type of analysis for Mexico, several authors have calculated multipliers with different interests and at the national, state, regional or even community levels. For the purposes of this article, only those that analyze transfers at the national level are mentioned. When analyzing direct transfers to poor households against sectoral injections, Núñez and Polo (2007) find that transfers have a multiplicative and redistributive effect more important than those that would be obtained with an equivalent investment in the agricultural sector.

Aguayo, Chapa, Ramírez y Rangel (2009), When analyzing the generation and redistribution of income in Mexico through a 2004 social accounting matrix, they conclude that direct transfers that are evenly distributed among Mexican households generate higher additional income in the highest deciles. by the distribution of the circular flow of income: the three richest households are those that would absorb most of the payment to capital, a productive factor that is remunerated with the highest proportion of sectoral production.

Method

For the calculation of the accounting multipliers, a social accounting matrix updated to 2012 was built, respecting the guidelines established by the System of National Accounts (SNA) 2008. The accounts included reflect the nine main sectors of the economy: agriculture; mining; manufacturing industry; building; electricity, gas and water; Commerce; transportation, storage and communications; financial, insurance and real estate services and professional, social and personal services. In addition, the manufacturing sector was subdivided into: food, beverages and tobacco; agro-industry, which includes textiles, leather and footwear, wood products and paper products; the components of the sector not classified in the previous subgroups were included as rest of manufactures. Table 1 shows the goods and services according to the Mexican SNA classification, grouped in the 2012 MCS accounts.

The MCS 2012 has 41 accounts and includes, apart from those mentioned in Table 1, the factors of production (labor and capital), institutions (households, companies, government, direct and indirect taxes), savings-investment (capital) and an account for transactions with the rest of the world. For purposes of showing the effects of external transfers, the household account has been broken down into deciles.

The data used for the matrix was obtained from the Accounts of Goods and Services of the System of National Accounts of Mexico (INEGI, 2016a), Accounts by Institutional Sectors (INEGI, 2016b), and the product input matrix 2012 (INEGI, 2014). The National Household Income and Expenditure Survey 2012 (INEGI, 2013) only considered the percentage structure in the breakdown of deciles. To obtain the direct taxes of the respective year, the information issued by the Ministry of Finance and Public Credit was considered. (SHCP, 2016).

Cuadro 1. Agrupación de Cuentas de bienes y servicios que incluye la matriz de contabilidad social México 2012.

Cuenta MCS	Cuentas de bienes y servicios que incluye de acuerdo a la clasificación del Sistema de Cuentas Nacionales de México
Agropecuario (AGSP)	11 - Agricultura, cría y explotación de animales, aprovechamiento forestal, pesca y caza
Minería (MINE)	21 - Minería
Electricidad, gas y agua (EGYA)	22 - Generación, transmisión y distribución de energía eléctrica, suministro de agua y de gas por ductos al consumidor final
Construcción (CONS)	23 - Construcción
Alimentos, bebidas y tabaco (ALBT)	311 Industria alimentaria 312 - Industria de las bebidas y del tabaco
Agroindustria (AGIN)	313 - Fabricación de insumos textiles y acabado de textiles 316 - Curtido y acabado de cuero y piel, y fabricación de productos de cuero, piel y materiales sucedáneos 321 - Industria de la madera 322 - Industria del papel
Resto de industrias manufacturas (RMAN)	Resto de cuentas 31-33 Industrias manufactureras no incluidas en ALBT y AGIN
Comercio (COME)	43-46 - Comercio
Transporte, almacenaje y comunicaciones (TAYC)	48-49 - Transportes, correos y almacenamiento 51 - Información en medios masivos
Servicios financieros, seguros e inmuebles (SFSI)	52 - Servicios financieros y de seguros 53 - Servicios inmobiliarios y de alquiler de bienes muebles e intangibles 54 - Servicios profesionales, científicos y técnicos 55 - Corporativos 56 - Servicios de apoyo a los negocios y manejo de desechos y servicios de remediación
Servicios profesionales, sociales y personales (SPSP)	61 - Servicios educativos 62 - Servicios de salud y de asistencia social 71 - Servicios de esparcimiento culturales y deportivos, y otros servicios recreativos 72 - Servicios de alojamiento temporal y de preparación de alimentos y bebidas 81 - Otros servicios excepto actividades gubernamentales 93 - Actividades legislativas, gubernamentales, de impartición de justicia y de organismos internacionales y extraterritoriales

Fuente: Elaboración propia

For the balancing of the MCS, the crossed entropy method was used (Robinson, Cattaneo, El-Said, 2000) for the advantages it presents, it was programmed in GAMS (General Algebraic Modeling System), using Robinson's code as a guide and El-Said (2000), and was run with the COINIPOPT program.

Accounting multipliers matrix

For the calculation of the matrix of accounting multipliers, the accounts of the MCS 2012 are separated into exogenous and endogenous. The first ones are those that register the change that you want to model and the endogenous ones are those that receive the impact, changing their level of production or income. In our case, government accounts, direct and indirect taxes, capital and the rest of the world are classified as exogenous accounts.

If the elements of the matrix of transactions of the endogenous accounts are divided by the total value of their corresponding column, the resulting matrix is called the matrix of average propensities to the expense that we will call A_n. If the matrix is subtracted A_n of an identity matrix and the result is calculated the inverse, the Matrix of Accounting Multipliers is obtained, M_a. The above is summarized in the following relation:

$$y_n = A_n \cdot y_n + x = (I - A_n)^{-1} \cdot x = M_a \cdot x \tag{1}$$

where I is the identity matrix and M_a is a square matrix, which contains the total effects of exogenous changes on the endogenous accounts. Therefore, each element M_{ij} from the matrix represents the increase in national income from account i when account j receives a unit injection from one of the exogenous accounts. The product of the matrix of multipliers by the vector of exogenous injections results in the vector y_n. This vector contains the total income of the endogenous accounts.

Diffusion and absorption effect

The total value of each of the columns of Ma constitutes the diffusion effect and indicates the increase in national income when account j receives a unit exogenous injection. The accounts that present the higher values can be considered as key or priority to receive greater impulses by public policies, since they are the ones that contribute the most to the national income. In the case of households, those that have a greater diffusion effect are those that have a high average propensity to consume or that spend on final goods or services, boosting the economy through consumption, because, to satisfy this demand, the sectors productive acquire intermediate goods and productive factors.

The absorption effect, on the other hand, is the value of the total sum of each row of Ma. Each value reflects the increase in the income of the account i of a unit exogenous injection over all the endogenous accounts. It is called the absorption effect because it allows determining which part of the total income increase is absorbed by each of the accounts i. Households with high absorption effects are those that capture most of the payment to productive factors.

Decomposition of accounting multipliers

The total impacts contained in M_a can be disaggregated into three types of effects through a multiplicative process (Pyatt y Round, 1979). M_a It is broken down into the product of three matrices, M_{a1}, M_{a2}, M_{a3}, known as multipliers of internal effects or direct transfers, cross-effects or open cycle and circular effects or closed cycle respectively.

Equation 1 is considered if it allows the matrix $\tilde{A}_n$ the same size as A_n and extracted from it and such that $(I - \tilde{A}_n)^{-1}$ exist, allows you to write:

$$y_n = A_n \cdot y_n + x = (A_n - \tilde{A}_n) \cdot y_n + \tilde{A}_n \cdot y_n + x$$

$$= (I - \tilde{A}_n)^{-1} \cdot (A_n - \tilde{A}_n) \cdot y_n + (I - \tilde{A}_n)^{-1} \cdot x$$

$$= A^* \cdot y_n + (I - \tilde{A}_n)^{-1} \cdot x \tag{2}$$

Where: $A^* = (I - \tilde{A}_n)^{-1} \cdot (A_n - \tilde{A}_n) \cdot y_n$.

Multiplying equation 2 by A^* we have:

$$y_n = A^{*2} \cdot y_n + (I + A^*)(I - \tilde{A}_n)^{-1} \cdot x$$

Similarly, if you multiply equation 2 by A^{*2} It can be obtained:

$$y_n = A^{*3} \cdot y_n + (I + A^* + A^{*2})(I - \tilde{A}_n)^{-1} \cdot x$$

$$= (I - A^{*3})^{-1}(I + A^* + A^{*2})(I - \tilde{A}_n)^{-1} \cdot x$$

The author proposes the general expression:

$$y_n = (I - A^{*k})^{-1} + (I + A^* + A^{*2} + \cdots + A^{*k-1})(I - \tilde{A}_n)^{-1} \cdot x \tag{3}$$

In this case, A_n it was divided into three parts that group the accounts into endogenous production activities, factors and institutions. The iterative process is also three (k = 3) and corresponds to the complete cycle of the economy, that is, the flow between the distribution of income (factorial and personal) and production. In this respect, the disaggregation of A n allows the obtaining of intersectoral and interinstitutional flows separated from income flows.

With these specifications, you can define:

$$M_{a1} = (I - \tilde{A}_n)^{-1}; \quad M_{a2} = (I + A^* + A^{*2}); \quad M_{a3} = (I - A^{*3})^{-1} \tag{4}$$

$$M_a = M_{a3} \cdot M_{a2} \cdot M_{a1} \tag{5}$$

The first of them (M_{a1}) it is independent of the other effects and includes the effects that a certain group of accounts has on themselves as a consequence of the internal transfers that are established. The second one includes the effects that a group of accounts have on the accounts of the remaining groups, without considering the circular effects. The third one allows to see the

effects derived from the circular interdependence between the accounts, that is, when a complete cycle of the system is carried out, returning to the point of origin, and successive cycles occur.

For purposes of interpretation of results, it is more useful to carry out the proposed additive decomposition Stone in 1978 (Pyatt and Round, 1979) instead of multiplicative decomposition, since it allows analyzing the net effects associated with each of these three components . This decomposition is obtained by a simple transformation of the expression 5:

$$M_a = M_{a3} \cdot M_{a2} \cdot M_{a1} = I + (M_{a1} - I) + (M_{a2} - I)M_{a1} + (M_{a3} - I) \cdot M_{a2} \cdot M_{a1}$$
$$= I + D + E + F$$

Where:

I: is the identity matrix and collects the initial injection or direct effect.

D: it is the net contribution of the multiplier of own effects (effects of intra-group transfers or effects). It reflects the change suffered by the accounts that belong to the group in which the modification was originally given, for example, between deciles or between activities.

E: the net contribution of the cross-effects multiplier (open cycle or extragroup multiplier effect). It captures the cross-effects that a group's accounts have on the accounts of the remaining groups.

F: is the net contribution of the circular effects multiplier (the multiplier effect of closed cycle or between groups). Ensures that the circular flow of income is completed between the endogenous accounts, that is, from the activities to the factors and institutions and then return to activities in the form of consumer demand.

Results and Discussion

To measure the effects of direct transfers or any other policy implemented that affects the endogenous accounts in the national economy, the accounting multipliers are used, since they allow to quantify the existing links of a certain activity with the rest of the economy. The larger the multiplier, the greater the link or importance of a sector. The total values of the accounting multipliers matrix for Mexico 2012 are presented in Table 2. The data allow for different types of analysis depending on, but, to cover the objective stated in the article, only the case of

households is emphasized. In this regard, transfers can come from government programs such as PROSPERA, social benefits or remittances.

Cuadro 2. Multiplicadores contables para México 2012 (valores totales)

	Efecto absorción (i)	Efecto difusión (j)
Agropecuario	3.867	6.061
Minería	1.867	6.631
Electricidad, gas y agua	2.162	7.179
Construcción	1.150	6.803
Alimentos, bebidas y tabaco	8.771	6.145
Agroindustria	2.478	4.501
Resto de industrias manufacturas	16.606	4.516
Comercio	6.743	6.824
Transporte, almacenaje y comunicaciones	7.493	6.725
Servicios financieros, seguros e inmuebles	9.148	6.322
Servicios profesionales, sociales y personales	7.617	7.372
Factor trabajo	9.212	7.089
Factor capital	26.179	5.669
Hogares en decil I	1.337	8.898
Hogares en decil II	1.663	6.825
Hogares en decil III	1.908	6.616
Hogares en decil IV	2.124	7.180
Hogares en decil V	2.370	7.114
Hogares en decil VI	2.758	6.724
Hogares en decil VII	3.130	6.360
Hogares en decil VIII	3.599	6.443
Hogares en decil IX	5.398	5.653
Hogares en decil X	14.285	5.475
Empresas	13.310	6.048
Total	155.173	155.173

Fuente: Elaboración con datos MCS 2012

In the diffusion effect, it can be observed that lower income households (decile I) strongly boost the economy if they are stimulated, since they have high average propensities to consume. Your contribution is greater than if you drive any productive activity. Attention must also be paid to deciles IV and V, since their contribution to the economy via consumption exceeds seven monetary units when they receive one of stimulus. It is important to note the low contribution

made to the national economy by households with high incomes, located in deciles IX and X, when they receive a unit exogenous injection.

Through the absorption effect, it can be observed how households with higher incomes (decile X) are considerably benefited when the rest of the endogenous accounts are stimulated. Their ability to capture part of this benefit is high and they do so through the capture of income by the productive factors they have, in this case of capital. Subtracting the unit injection, households with higher incomes would obtain more than 13 monetary units if the rest of the economy is stimulated. The opposite effect is noted in decile I, which can absolve very little (less than 34 cents). Note that the capital factor is the one that presents the greatest value, therefore, the owners of it will be strongly benefited.

Through the decomposition of the multipliers, it can be observed how important the direct transfer or initial injection is in the income of the first three deciles. Its value exceeds 50% of the total multiplier, which indicates that it can benefit very little when the other sectors or other households receive the direct transfers (see Table 3). In higher deciles, the initial injection is not so important: its values represent a low percentage of the total coefficient. Thus, in decile X, this unit injection means a value less than 10% of the total, indicating that this sector of the population is strongly benefited when supporting the rest of the endogenous accounts, since it is capable of absorbing part of this benefit through the flow of the economy. The above can be clearly seen through the circular multipliers in deciles IX and X, which exhibit values greater than 50% of the total value because they can capture the distribution of the circular flow of income, that is, how the increase in production is distributed in the payment to the productive factors, which reaches the hands of the households, who are the owners of them.

Cuadro 3. Efecto absorción en el ingreso de los hogares (%)

Hogares	Coeficiente	Efecto directo	Efecto intragrupo	Efectos cruzados o extragrupo	Efectos circulares
I	1.337	74.8	1.2	7.3	16.7
II	1.663	60.1	1.9	11.6	26.4
III	1.908	52.4	2.1	14.0	31.5
IV	2.124	47.1	2.1	15.7	35.1
V	2.370	42.2	2.0	17.3	38.5
VI	2.758	36.3	2.4	19.0	42.4
VII	3.130	31.9	2.3	20.4	45.4
VIII	3.599	27.8	2.1	21.9	48.2
IX	5.398	18.5	2.6	24.3	54.7
X	14.285	7.0	2.0	27.5	63.5

Fuente: Elaboración propia con datos de MCS México 2012

Households with the greatest absorption effect are those that capture most of the payment to productive factors, in this case capital, which, as mentioned above, is the one with the greatest absorption effect. Households with lower incomes, especially the first decile, benefit little from the payment of productive factors because, basically, they only have their work force. Therefore, the transfer is a fundamental part of your income.

If the analysis of the columns or dissemination effect is done, it will be seen which sectors of the economy benefit the most when the transfer is made to households. Table 4 shows these effects: if the unit transfer is made to the poorest households, an increase in the income of said decile of 1.017 is generated. On the other hand, if the injection is made to decile X, an income is generated for this group of 1,404. This is due to the circular effects of the economy.

In addition, we can observe the contribution made by households in one decile to the rest of the households and economic sectors considered. A monetary unit injected into the poorest decile generates an income of 68 cents for decile X. Within the productive activities benefited, is the sector classified as food, beverages and tobacco, the rest of manufactures and the capital factor. If the transfer is received by decile X, the former only benefits with one cent and the sectors classified as financial services, insurance and real estate, the rest of manufactures and the capital factor in smaller amount than when supporting the decile I.

In general, in the countable multipliers obtained for Mexico, it is observed that, at the household level, after the decile receiving the unit transfer, in all cases, decile X is strongly benefited exceeding 40 cents obtained through of the circular effects of the economy.

Cuadro 4. Contribución del Decíl I y X al ingreso de los sectores productivos y hogares.

Cuenta MCS[1]	Efecto directo	Efecto intragrupo	Efectos cruzados o extragrupo	Efectos circulares	Total	Efecto directo	Efecto intragrupo	Efectos cruzados o extragrupo	Efectos circulares	Total
AGSP		0.000	0.182	0.075	0.257		0.000	0.022	0.046	0.068
MINE		0.000	0.029	0.023	0.052		0.000	0.013	0.014	0.027
EGYA		0.000	0.047	0.033	0.081		0.000	0.016	0.020	0.036
CONS		0.000	0.002	0.002	0.004		0.000	0.001	0.001	0.003
ALBT		0.000	0.597	0.224	0.821		0.000	0.061	0.138	0.199
AGIN		0.000	0.052	0.039	0.091		0.000	0.018	0.024	0.042
RMAN		0.000	0.567	0.469	1.037		0.000	0.261	0.287	0.548
COME		0.000	0.212	0.152	0.364		0.000	0.080	0.093	0.173
TAYC		0.000	0.168	0.220	0.388		0.000	0.114	0.135	0.249
SFSI		0.000	0.244	0.304	0.548		0.000	0.262	0.185	0.446
SPSP		0.000	0.100	0.231	0.331		0.000	0.199	0.140	0.339
TRABJ		0.000	0.184	0.221	0.405		0.000	0.155	0.135	0.290
CAPIT		0.000	0.776	0.655	1.431		0.000	0.411	0.400	0.810
I	1	0.000	0.000	0.017	1.017		0.000	0.000	0.010	0.010
II		0.000	0.000	0.032	0.032		0.000	0.000	0.020	0.020
III		0.000	0.000	0.044	0.044		0.000	0.000	0.027	0.027
IV		0.000	0.000	0.054	0.054		0.000	0.000	0.034	0.034
V		0.000	0.000	0.066	0.066		0.000	0.000	0.041	0.041
VI		0.000	0.000	0.085	0.085		0.000	0.000	0.053	0.053
VII		0.000	0.000	0.103	0.103		0.000	0.000	0.064	0.064
VIII		0.000	0.000	0.125	0.125		0.000	0.000	0.079	0.079
IX		0.000	0.000	0.216	0.216		0.000	0.000	0.133	0.133
X		0.000	0.000	0.675	0.675	1	0.000	0.000	0.404	1.404
EMPRE		0.000	0.000	0.673	0.673		0.000	0.000	0.381	0.381
TOTAL	**1**	**0.000**	**3.158**	**4.740**	**8.898**	**1**	**0.000**	**1.614**	**2.862**	**5.475**

Fuente: Elaboración propia con datos MCS Mexico 2012

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[1] Agropecuario (AGSP), Minería (MINE), electricidad, gas y agua (EGYA), Construcción (CONS), alimentos, bebidas y tabaco (ALBT), Agroindustria (AGIN), Resto de industrias manufacturas (RMAN), Comercio (COME), Transporte, almacenaje y comunicaciones (TAYC), servicios financieros, seguros e inmuebles (SFSI), Servicios profesionales, sociales y personales SPSP, Factor trabajo (TRABJ), Factor capital (CAPIT), Hogares en decil I-X, Empresas (EMPRE).

This analysis allows us to see in detail the inequality of income between households. A unit exogenous injection in decile X generates small multipliers in the rest of the households, but high on themselves. On the contrary, transfers to poor households have larger multiplier effects on the rest of the households and smaller ones on themselves.

The analysis made using the accounting multipliers model is only valid for the base year of the matrix. It reflects a reality that is known, but that, sometimes, it is complicated to express it in clear terms. One of the drawbacks of this type of analysis is that the quality of the multipliers depends on the social accounting matrix generated for the base year, that is, the one built for Mexico for the year 2012. To take care of the reliability of the analysis, we had careful to replicate the national macroaggregates published in the official statistics of the INEGI, and the crossed entropy method used to balance it allowed to use all available data and put restrictions so that they were not modified during the balancing. Although the 2012 product input matrix published by INEGI was used, restrictions were included to reflect the macroaggregates available at the time of their balancing, as they did not coincide.

Finally, it is important to mention that, although the analysis is for the year 2012, it remains valid, given that the productive structure of the country takes 10 years or more to change significantly. Likewise, the data published by INEGI are available two or more years late and, therefore, it is difficult to perform analyzes for the current year.

Conclusions

In social policy, Mexico has established strategies related to monetary and in-kind transfers to serve low-income households, which, as this work shows, has driven the economy by increasing the consumption of goods and services. The results obtained also show that, faced with exogenous injections, households located in the low income deciles have a greater capacity than high income groups to generate benefits to the economy, by increasing the income from activities, factors and institutions, but They show little ability to benefit when the rest of the economy is stimulated. The previous evidence poorly designed social policies to reduce inequality.

The high concentration of income in households in decile X, the reduced efficiency of social spending, as well as the political, social effects on the development and economic growth of economic inequality in Mexico, should lead to a rethinking of social and economic policy from the country. The possibility of taxing income from capital as a possibility to reduce inequality, instead of taxing consumption, is an analysis that should be constantly considered when designing policies, considering that the capital factor absorbs the greatest income from external stimuli and that the consumption of the poorest households strongly stimulates the economy.

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