

# THE FINANCIAL DEFENSE OF PUBLIC PROGRAMS. THE CASE OF THE DISMANTLING OF SEGURO POPULAR IN MEXICO

## *DEFENSA FINANCIERA DE PROGRAMAS PÚBLICOS. EL CASO DEL DESMANTELAMIENTO DEL SEGURO POPULAR EN MÉXICO*

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**ABSTRACT:** This article aims to verify how local governments behave when face reduction or disappearance of a centrally financed public program. It is investigated whether local governments mobilize their own resources to keep the program running in their territory. The article combines categories from the policy dismantling literature and economic theory to analyze the financial behavior of local governments in the face of systematic transfer budget reductions. Using a panel-type model for the 32 federal entities of Mexico receiving a public health financing program known as ‘Seguro Popular’ in the period 2012-2021, we find evidence of the existence of a symmetrical flypaper effect, which suggests that local governments use their tax faculties to use their own resources to finance the program when transfers increase, but do not do so when transfers decrease.

**Keywords:** *dismantling, public policy, public expenditure, budget, health*

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**RESUMEN:** Este artículo tiene como objetivo verificar cómo se comportan los gobiernos locales ante la reducción o desaparición de un programa público financiado centralmente. Se investiga si los gobiernos locales movilizan sus propios recursos para mantener el programa en marcha en su territorio. El artículo combina categorías de la literatura sobre desmantelamiento de políticas y la teoría económica para analizar el comportamiento financiero de los gobiernos locales frente a reducciones sistemáticas de transferencias presupuestales. Utilizando un modelo tipo panel para las 32 entidades federativas de México que recibieron un programa de financiamiento de salud pública conocido como ‘Seguro Popular’ en el período 2012-2021, encontramos evidencia de la existencia simétrica de un efecto tipo papel matamoscas, lo que sugiere que los gobiernos locales utilizan sus facultades tributarias para utilizar sus propios recursos y financiar el programa cuando las transferencias incrementan, pero no lo hacen cuando las transferencias disminuyen.

**Palabras clave:** *desmantelamiento, políticas públicas, gasto público, presupuesto, salud*

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## INTRODUCTION

Over the past decade, various governments around the world, particularly in Latin America, have embarked on an accelerated process of policy dismantling. For instance, following the 2008 financial crisis, the European Union began reducing budgets for unemployment programs and significantly scaling back environmental care programs (Gravey & Jordan, 2018). Similarly, during the same period, Brazil witnessed the dismantling of programs related to family farming, social protection, land titling, environmental monitoring, and management of protected areas, among others (Milhorance, 2022). In Argentina, Sabourin, Craviotti, and Milhorance (2020) describe the dismantling of social policies related to family farming and how this dismantling has been accompanied by a systematic reduction in support for small and medium-sized enterprises.

Mexico is part of this trend. Since the coalition government of Juntos Haremos Historia took office, there has been a strong fiscal austerity policy implemented at the federal level. In its first year, this policy eliminated 13% of the social programs implemented by the previous government and significantly reduced the budget for the remaining programs (Badillo, 2019). The elimination and budget cuts continued in subsequent years, extending to many areas. By the second year of the government, a total of 151 public programs had already

been eliminated (Ortega, 2020). Many of the canceled policies addressed highly sensitive social issues, such as child care centers, full-time schools, and healthcare provision for people without social security.

What are the consequences of a trend of policy dismantling, as described above? How do governments dismantle socially embedded public policies? Ultimately, why do governments dismantle public policies? These are questions that have been sought to be answered during this decade from a theoretical perspective. The Policy Dismantling approach (Bauer, Green-Pedersen, Heritier & Jordan, 2012; Jordan, Bauer, & Green-Pedersen, 2013) has developed a theoretical framework aimed at explaining the motivations, strategies, and effects of policy dismantling. This article seeks to make an empirical contribution to this literature by analyzing the effects of the dismantling of a policy that provided healthcare financing to people without formal social security, known as ‘Seguro Popular’, on the financial behavior of the Mexican federative entities.

Most analyses of policy cancellation tend to focus on the effects that the suspension has on its stated objective. For example, if a program is designed to reduce school absenteeism by providing footwear for children, studies concentrate on the effect that the cancellation has on absenteeism rates. However, our approach differs. We focus on a particular type of policy that is designed and funded by a central or federal government but implemented by autonomous local governments. In other words, we consider public policy within the framework of a federalist political design. By leveraging the variation offered by federalism, we aim to understand how local governments (not the beneficiaries) react to the elimination or reduction of a program that benefits their constituents. Do they use their powers to defend the program? Do they mobilize resources to keep it functioning within their jurisdiction? These are questions that this essay contributes to answering. We believe that our primary contribution lies in the fact that our research focuses not on the ultimate beneficiaries of the policy but on the behavior of local governments in the face of dismantling.

Thus, the main objective of this article is to verify whether, in the face of significant reductions in the transfers they received through the Seguro Popular, state governments in Mexico mobilize their own resources to keep the program running. To do so, we will make use of a category from economic theory known as the flypaper effect (Hines & Thaler, 1995), which posits that when a government receives external budgetary transfers, it frequently increases public spending more than proportionately. As we will see, this empirical phenomenon in public finance has sufficient evidence for unrestricted transfers but less for conditional transfers. Hence, a second contribution of our work is

to test the existence of a flypaper effect for a conditional transfer and determine what happens to the effect when there is a reduction instead of an expansion of resources. This test will provide insights into the spending behavior of entities in Mexico when their Seguro Popular funding was reduced.

The article is structured as follows. The first part provides a review of the literature on policy dismantling and the flypaper effect, allowing for the formulation of hypotheses and the identification of relevant explanatory variables. The second part details the case of Seguro Popular and explains why it is a suitable case to explore our research questions. The third section describes the methodology and data sources. The fourth part presents the findings. In the final section, the paper concludes by summarizing some lessons learned from this research.

## LITERATURE REVIEW

### *The Framework of Policy Dismantling*

Until the mid-2000s, the study of public policies had two fronts: the analysis of the policy cycle and the change of those public policies (Bauer and Knill, 2014). The former was predominantly descriptive, while the latter focused on changes between competing alternatives (Weible, 2007) or on the degrees of policy change, such as radical versus incremental (Baumgartner and Jones, 1993; Jones and Baumgartner, 2012) or innovative versus path-dependent (Mahoney and Thelen, 2010). However, both approaches completely ignored a specific form of change: policy extinction or dismantling.

Jordán, Bauer, and Green-Pedersen (2013) referred to policy dismantling as a process in which the programs comprising a public policy are reduced in number, budgetarily constrained, or permanently canceled. Bauer and Knill (2014), in their seminal work, made an effort to reconcile the studies on policy change with the findings on the reduction of the Welfare State in Europe and the United States, particularly with the work of Pierson (1994), who is credited with the term ‘dismantling’. The result of this effort is an analytical framework that seeks to explain the government’s role in the extinction of a policy in three dimensions: 1) why, that is, the motivations or reasons why a government decides to dismantle a policy; 2) how, that is, the strategies followed by governments to reduce or extinguish a policy; and 3) the effect, that is, the consequences brought about by the dismantling (Bauer and Knill, 2014). Thus, this approach conceives policy dismantling as a particular type of policy change characterized by the political commitment of a government to eliminate or reduce an existing initiative.

Bauer and Knill (2014) analyze dismantling in two dimensions: policy density and policy intensity. The first dimension refers to the number of



programs in a given policy (density of elements) or the number of instruments employed in a policy (instrumental density). The second dimension refers to the regulatory adjustments required for dismantling (substantial intensity) and the change in administrative procedures required (formal intensity). In this context, they formally define dismantling as a policy change that reduces the density of elements as well as its instrumental density. The extreme situation occurs when this reduction reaches zero.

### ***Why***

If one assumes, as this approach does, that politicians have a preference to stay in office, then dismantling carries a high cost for those in power. So why would they engage in a dismantling process? The theory predicts two reasons. The first is when politicians anticipate greater gains than electoral losses, for example, when the benefits of a policy are concentrated among a few actors, reducing the possibility of electoral sanctions by the general public for dismantling. The second reason is when the disadvantages outweigh the benefits; politicians will engage in dismantling only if they can hide the effects of dismantling over time and find ways to shift blame (Bauer and Knill, 2014).

### ***How***

Based on case studies, Bauer and Knill's theory (2014) proposes four generic strategies. 1) Default strategy: It involves a gradual reduction of density, taking advantage of the design of certain programs. This strategy is preferred when the electoral costs outweigh the benefits and when dealing with programs with high substantial intensity. 2) Arena shifting strategy: It involves the deliberate relocation of dismantling decisions to another political domain (primarily decentralization). This strategy is preferred when the electoral costs outweigh the disadvantages for the central government and when dealing with programs of low intensity. 3) Symbolic action: It involves decision-makers openly declaring their interest in dismantling, but their actions are limited. This strategy is preferred when the electoral benefits outweigh the disadvantages and when the policy intensity is low. 4) Active dismantling: It occurs when policymakers not only want to be perceived as dismantlers but actually desire to dismantle existing policies.

### ***The Effect***

Jordán, Bauer, and Green-Pedersen (2013) state that the literature on the effects of termination is extensive but disconnected from the general analytical framework (Argys, Friedson, Pitts and Tello-Trillo, 2020; Bailey, Blascak and Mikhed, 2020). It consists of isolated analyses whose main contribution has

been to test the depth and success of dismantling and, above all, to test Pierson's hypothesis (1994) that the beneficiaries of a policy offer strong opposition to dismantling, leading officials to evade cuts.

Among those who do use the analytical framework of policy dismantling, we can highlight Bianculli, Jenne and Jordana (2012), who analyze the dismantling of child benefits in Spain during the 1980s and find that the absence of solid institutional environments and political parties united among themselves and with their constituents facilitated the dismantling of the child benefit policy. In contrast, Korte and Jörgens (2012) observe successful resistance when analyzing the Bush administration's attempts to dismantle the New Source Review, a program to monitor air pollution from large, stationary sources. The authors claim that the dismantling failed due to budgetary and institutional checks led by the Department of Justice. Finally, Bernauer and Knill (2012) analyze the attempted dismantling of solid waste management policy in Germany between 1990 and 2005 and find that the concentration of costs in a few companies and the diffusion of benefits among many actors prevented dismantling.

## THE FLYPAPER EFFECT

Classic studies on competitive fiscal federalism (Tiebout, 1956; Oates, 1977; Bradford and Oates, 1971) assumed that "the observed effect on the allocation of public budget between public and private goods is the same whether there is a transfer from the federal government to the local government or if the transfer is made directly to individuals" (Sour, 2013, p. 169). Hines and Thaler (1995) compiled research that does not satisfy this assumption. It is an anomaly in the financial behavior of governments where spending on public goods is more responsive to transfers from external sources than to increases in local income. It is a 'purely empirical' phenomenon (Sour, 2009) that implies that an intergovernmental transfer increases public spending more than proportionally compared to a direct transfer to individuals.

According to Sour (2013), in formal terms, the following conditions must be met for the existence of a FPE:

$$\frac{\Delta G}{\Delta X} > 0 \dots (CPO 1)$$

$$\frac{\Delta G}{\Delta T} > 0 \dots (CPO 2)$$

Which means that the change ( $\Delta$ ) in Public Expenditure (G) induced by a transfer (X) must be positive. We call this First Order Condition 1 (CPO 1). In the same way, the change in Public Expenditure induced by own resources (T) must be greater than or equal to zero. We call this First Order Condition 2 (CPO 2).

An FPE will exist whenever:

$$\frac{\Delta G}{\Delta X} > \frac{\Delta G}{\Delta T} \dots (CSO)$$

That is, a FPE exists when the change in public spending induced by a transfer is greater than that induced by own income.

The most common explanation for this phenomenon is provided by Acosta and Loza (2001), based on the models of the maximizing bureaucrat by Niskanen (1968). According to this explanation, local governments estimate that a transfer will increase the demand for services beyond what the transfer could finance, and therefore they mobilize their own resources. In other words, when an intergovernmental transfer has benefited a local government, the government starts financing a series of public programs that become difficult to eliminate or reduce. This is an idea that Gramlich (1987) had already warned about when he pointed out that government programs, once set in motion, ‘take root’ and generate ‘clients’ or ‘defenders’, making them difficult to cut or eliminate.<sup>1</sup>

But what happens if those transfers start to decrease? According to Sour (2013), there are two possibilities: symmetric or asymmetric FPE. In the first case, a decrease in transfers would correspond to a reduction in spending in the same direction and size. This is known as fiscal constraint. In the case of asymmetry, local governments respond to a cut in transfers by increasing tax levels or local debt. This is known as fiscal replacement.

Most empirical studies on FPE have found some evidence of fiscal replacement, while few have detected symmetry. Deller and Maher (2005) studied a revenue sharing program that was distributed among local governments in Wisconsin between 1989 and 2000. They found evidence of FPE and fiscal replacement associated with new taxes. In Mexico, Sour (2013) also found evidence of fiscal replacement associated with lenient borrowing rules and preferential rates for local governments (non-market rates). Recently, for local governments in China, Liu, Oi, and Zhang (2022) found fiscal replacement

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<sup>1</sup> The reader should note the coincidence of this explanation with Pierson’s assertion (1994) within the framework of Policy Dismantling, which states that policy beneficiaries offer intense opposition to dismantling, leading officials to evade cuts.

associated with the access these governments have to financing in loosely regulated parallel markets.

However, not all studies have detected fiscal replacement. Gamkhar (2000) studied highway programs in the United States between 1976 and 1990 and found that fiscal replacement occurs only in long-lived programs, while fiscal constraint prevails in young programs. Lalvani (2002) studied untied transfers to local governments in India. They also found evidence of FPE and fiscal replacement but suggested that replacement occurs after the halfway point of the study period (1980-1998). In other words, it does not occur immediately. Finally, Eaton (2014) studied the reduction of transfers to subnational governments in Bolivia, Venezuela, and Ecuador between 1980 and 2000 and concluded that opposition political parties in Bolivia allied with the bureaucracy to defend budgets, causing fiscal replacement. In Venezuela and Ecuador, where the opposition is young and weak, they were unable to defend their budgets and faced fiscal constraint.

In the case of Mexico, can we expect state governments to mobilize their own resources to keep a program like Seguro Popular running in their jurisdictions? We must do some observations about this before formulating a hypothesis. First, state governments have broad tax faculties conferred in articles 73 and 124 of the political constitution of the United Mexican States. We identified more than 20 items of own income without considering transfers, debt, or those items of income transferred for exploitation to the federation (SHCP, 2020), in addition of having the power to create new taxes. Many of these revenues do not depend on the economic cycle and their level can be set at the discretion of state governments. In this way, from a budgetary point of view, fiscal replacement is a possibility. On the other hand, the literature suggests that public health programs are difficult to dismantle, and their budget reductions are very electorally costly (Levaggi and Zanola, 2000; Levaggi and Zanola, 2003; Lalvani, 2002). The nature of Seguro Popular, which offers health services to people who do not enjoy social security, would therefore represent an obstacle to any attempt to dismantle it. As we will see later, governments have used their own resources to finance Popular Insurance.

Based on this review, we can begin to formulate hypotheses and identify explanatory variables. However, these hypotheses must be aligned with the characteristics of the transfer or program we intend to study. In the next section, we will detail the case study and use the information provided by this literature review to specify our model and formulate our hypotheses.

## **THE CASE: SEGURO POPULAR IN MEXICO**

In general terms, access to public healthcare services in Mexico depends on the individual's employment status. People working in the formal sector of the economy receive social security benefits that allow them to address their healthcare needs through a specific medical service: the Mexican Social Security Institute (IMSS) for those working in the private sector or the Institute of Security and Social Services for State Workers (ISSSTE) for government employees.<sup>2</sup> Individuals without employment or those in the informal sector are categorized as having no access to social security and are attended to in federal and state health centers (González & Eibenschutz, 2008).

By the early 2000s, significant shortcomings were identified in the healthcare provision for people without social security, and these shortcomings were attributed to the lack of financial resources available to local governments to address this population (Flamand & Jaimes, 2015). The central government's response was the creation, in 2004, of the Social Protection in Health System, with its central pillar being a financing scheme for federal health centers that catered to individuals without social security, known as Seguro Popular. In 2012, this scheme expanded beyond federal health centers and decentralized its implementation to the states through a co-financing scheme. This scheme involved a federal transfer to the states known as the 'social contribution', along with a 'solidarity contribution', a 'state solidarity contribution', and a 'beneficiary contribution' for certain types of interventions (CONEVAL, 2022).

The current federal administration has criticized this program and initiated a series of reforms aimed at recentralizing it and modifying its financing structure, transitioning to a new scheme called the Health Institute for Wellbeing (INSABI) (Méndez & Llano, 2021). On November 29, 2019, the federal government transferred the entirety of the funds allocated to Seguro Popular to the new program 'Free Healthcare and Medications for the Population without Occupational Social Security' and changed the name of the Social Protection in Health System to the Health Institute for Wellbeing (INSABI) (ASF, 2021). Furthermore, the resources from the Catastrophic Expenses Protection Fund were also incorporated into this framework, becoming a sub-account (Sub-account for the Attention of Diseases that Cause Catastrophic Expenses) within the Health Fund for Wellbeing, although the resources will continue to serve the same purpose: addressing diseases that cause catastrophic expenses

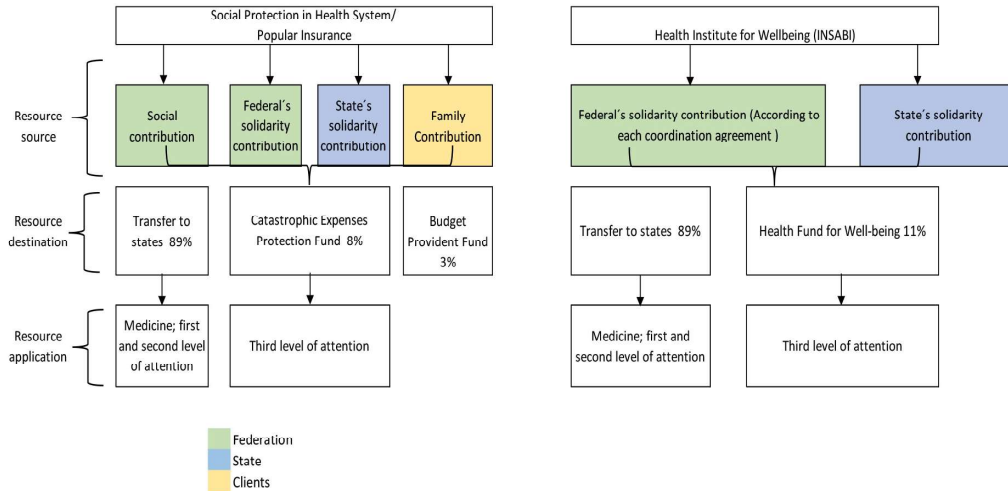
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<sup>2</sup> Some state-owned enterprises and government agencies have their own medical services for their employees independent of the IMSS or ISSSTE, such as *Petróleos Mexicanos* (Pemex), the *Secretaría de Marina* (Mexican Navy), and the *Secretaría de la Defensa Nacional* (Mexican Army).



(SEGOB, 2020).<sup>3</sup> The modifications to the design and distribution of financing are shown in the following figure:

FIGURE 1. MODIFICATIONS TO CO-FINANCING



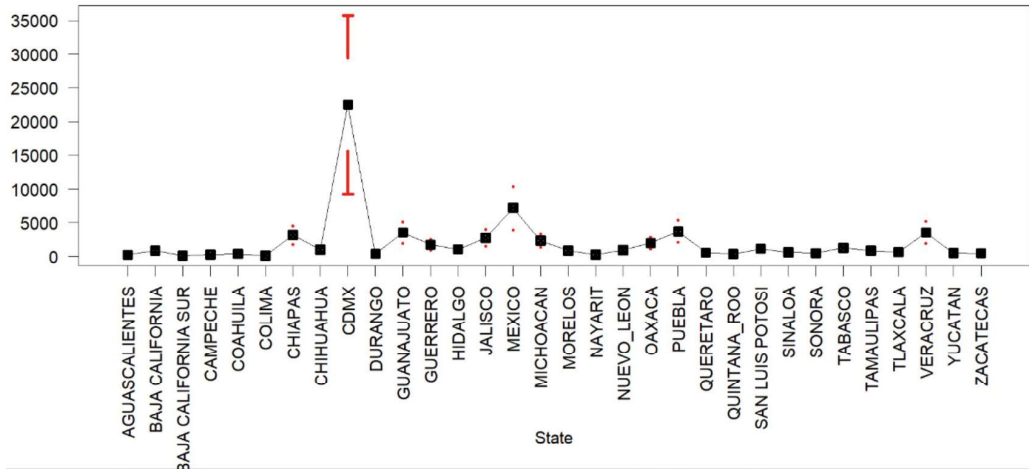
Source: The Authors, with data from ASF (2021)

In practice, there is no observed modification of the transfer system, but rather a modification to the co-financing system that eliminates the family contribution. This means a transition from a healthcare service that charges users based on their ability to pay to one that provides free medical services (SEGOB, 2019), which implies a greater fiscal burden for the entities. There is also no change observed in the sources of financing for the transfers, as they continue to be financed as in 2018: Ramo 12 (Seguro Popular/healthcare), Ramo 33 (Fassa-Fonsabi), Ramo 19 (IMSS-Bienestar/Prospera health component), and state expenditure (Sovilla & Díaz Sánchez, 2022).

If we observe, as we do in Graph 1, the 95% confidence intervals of the average Seguro Popular transfers by entity for the period 2012-2021, except for the cases of Mexico City and the State of Mexico, none of them show abrupt variations at the unit level. However, if we focus on the 95% confidence intervals for the average Seguro Popular transfers to entities by year (Graph 2), what can be observed is that starting from 2019, the intervals begin to widen significantly (represented by red dots). In other words, all entities experienced increases and reductions in these transfers during the study period, but those variations became more pronounced in the last three years.

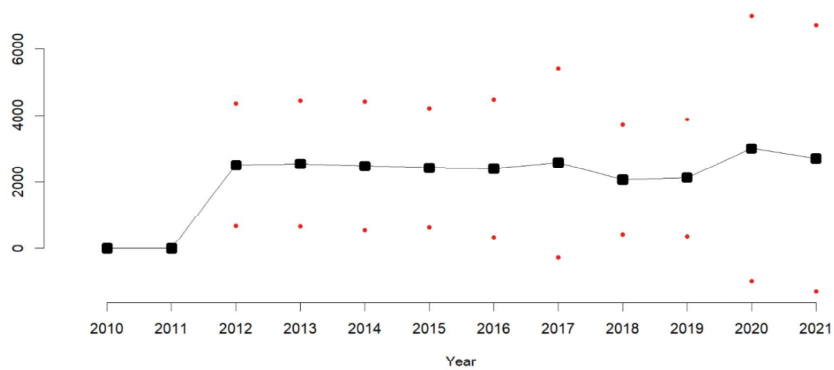
<sup>3</sup> On May 29, 2023, with a decree published in the Official Gazette of the Federation, the end of INSABI is recognized (DOF, 2023). But this is not addressed in this article because the data doesn't include that period of time

GRAPH 1. AVERAGE SP TRANSFERS PER ENTITY  
(MILLIONS OF PESOS, JULY 2018=100)



Source: The Authors, with data from ASF (2021).

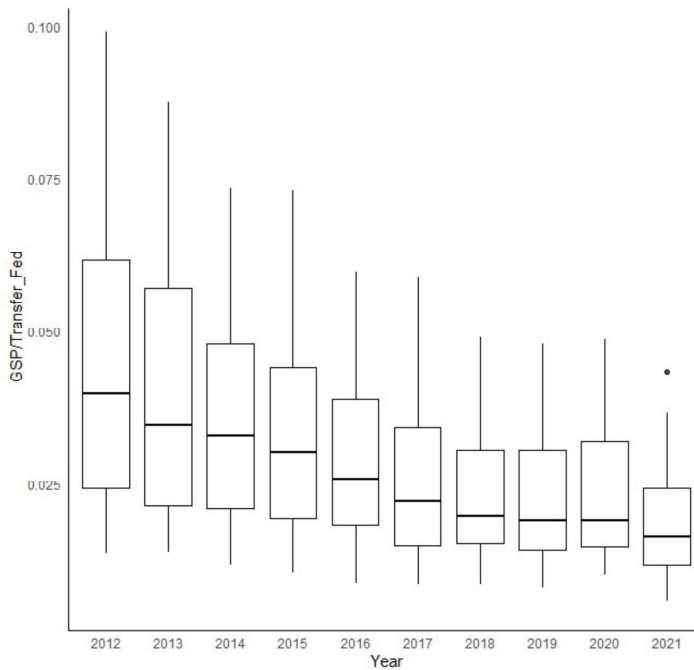
GRAPH 2. AVERAGE SP TRANSFERS PER YEAR  
(MILLIONS OF PESOS, JULY 2018=100)



Source: The Authors, with data from ASF (2021).

It can also be observed in Graph 2 that between 2012 and 2018, the mean appears to plateau and then undergo a slight upward change, but with greater variance. This means that the proportion of transfers experienced a significant alteration from that point onwards (some entities received much more while others received much less). The next step would be to examine whether the average proportion of Seguro Popular in total transfers also underwent a change in mean. This analysis is carried out in Graph 3.

GRAPH 3. CHANGE IN MEANS OF SEGURO POPULAR AND EXPENDITURE ON INDIVIDUALS WITHOUT SOCIAL SECURITY



Source: Own elaboration with data from ASF (2021).

This Graph shows a systematic reduction in Seguro Popular-INSABI resources transferred to states as a proportion of total transfers, that is, the proportion of resources that states received through Seguro Popular has been systematically reduced during the study period. As Graph 2 suggests, the interannual variation increases starting in 2019. This systematic budget reduction may imply a policy dismantling process in the sense discussed by Bauer and Knill (2014) earlier. From the perspective of the federal government, this could be a strategy of symbolic dismantling where the central government does not hide its intentions to dismantle a policy, but its budgetary actions are not aggressive but rather gradual. The local governments, which are the focus of our attention, seem to react in the same way: when the federal government starts reducing the transfers, they, on average, begin to reduce their spending. This seems to configure, from the perspective of local governments, a dismantling strategy of ‘Sand Shifting’ type, in which the local governments do not make efforts to prevent the dismantling or replace it with their own resources as long as they are able to shift the blame onto the federal government.

In general, the period offers a wide variation of budget increases and decreases that can be exploited to investigate the behavior of local governments when a program begins to be withdrawn. The Graphs suggest that they react

budgetarily in the same direction as the federal government. In terms of the FPE (Fiscal Performance Evaluation), we would be witnessing symmetry due to fiscal constraints. This analysis allows us to formulate the two hypotheses that guide our work.

Hypothesis 1: Seguro Popular-INSABI (SP) transfers have a flypaper effect on the expenditure of entities on individuals without social security in Mexico (GPSSSIP).

Hypothesis 2: The flypaper effect of SP on GPSSSIP is symmetrical.

The first hypothesis implies that positive variations in SP stimulate expenditure on individuals without social security. The second hypothesis suggests that negative variations are not accompanied by budgetary compensations from state own revenues. Testing the first hypothesis would imply that state expenditure on individuals without social security is highly dependent on federal transfers. Testing the second hypothesis would indicate that when those transfers are reduced, local governments exhibit a discreet or passive budgetary behavior. In other words, for the case of Seguro Popular in Mexico, the hypothesis proposed by Gramlich (1987)-Pierson (1994) that programs take root and are difficult to eradicate because they generate advocacy groups including the local bureaucracy would not be corroborated. To test these hypotheses, we have designed a methodological strategy detailed in the following section.

## **METHODOLOGICAL STRATEGY**

We consider that this reduction offers an excellent opportunity to investigate what happens to the spending behavior of local governments when a conditional transfer, in such a sensitive area as health, is reduced. Therefore, we seek evidence of the relationship between spending on Seguro Popular (GSP) from the federal government and the expenditure on individuals without social security carried out by the federative entities with their own income (GPSSSIP) by including cross-sectional time series data on these variables. The estimations are conducted in the 32 federative entities of Mexico, covering the period from 2012 to 2021, encompassing all states and the entire period since Seguro Popular was federalized.<sup>4</sup>

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<sup>4</sup> The Seguro Popular de Salud (Popular Health Insurance) was created by decree on May 13, 2003. However, the expenditure was the responsibility of the federal government. In 2012, the resources for this program were federalized, and subsequently, the 2020 reform transformed the Seguro Popular into the Instituto de Salud para el Bienestar (Institute of Health for Wellbeing or INSABI). For more information and to engage in a broader discussion, you can refer to the following link: <http://repositorio-digital.cide.edu/handle/11651/5366>.

The existence or not of an FPE depends on whether the first and second order conditions that we explained above are met. This tends to be proven econometrically through a comparison between the estimator of an expenditure variable and the estimator of another variable of own income (or expenditure with own resources) within the same estimation. For example, Deller and Maher (2005) compare total local per capita spending with transferred resources against total local per capita public income. Levaggi and Zanola (2003), for their part, compare the average income of voters with public spending financed with transfers. In a study for Mexico, Sour (2009) compared federal transfers against municipal own income. Similarly, our study compares the resources transferred by Seguro Popular against the state governments' own income (excluding debt and income dependent on the economic cycle). When the transfer estimator exceeds the own income estimator, we are in the presence of an FPE. As Gamkhar and Oates (1996) have pointed out, this type of analysis allows us to compare the sensitivity of spending to transfers and income to determine which is the most influential, but it tells us very little about whether the direction of the effect is symmetrical or asymmetrical. Regarding this, Sour (2009, p. 2) has pointed out that "it cannot be assumed that the coefficient alone reflected the symmetry of the fly swatter effect in both directions. To test this, a different coefficient must be estimated within the same econometric analysis to capture the unique impact of a reduction in federal transfers". Following Sour (2009), our estimation uses a dichotomous variable that identifies whether for the *i*-entity there is a reduction in period *t*. Thus, a non-significant coefficient would suggest that a reduction in transfers is not compensated by own income, which implies a symmetrical FPE.

We simultaneously test both hypotheses by using a longitudinal regression (MP) with panel-corrected standard errors (PCSE) that allows for the correction of autocorrelation and heteroscedasticity but not fixed effects<sup>5</sup>. To do this, we integrate a short and balanced panel data set. The main advantage of MP is its ability to analyze multidimensional data over time, comparing the same subject in different time periods (Zhu, 2013; Bailey and Katz, 2011). Federative entities (or states) are subjects that usually persist over time, meaning they can be analyzed from a temporal perspective. For this reason, MP is frequently used for sub-national public finance analysis to recognize the

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<sup>5</sup> In the presence of serial autocorrelation, Beck and Katz (1995) suggested estimating linear models of Time-Series Cross-Sectional (TSCS) data using Ordinary Least Squares (OLS) and proposed a sandwich-type estimator for the covariance matrix of the estimated parameters, known as Panel-Corrected Standard Errors (PCSE). The PCSE estimator is robust to the presence of non-spherical errors (see Bailey and Katz, 2011). Furthermore, a Variance Inflation Factor (VIF) test was conducted to check the degree of collinearity among the variables, resulting in a value of 2.38, well below the threshold of 5, which is required to limit collinearity.



potential effects of public policies on expenditure variables (Lancker, 2018; Younsi, Chakroun, Nafla, 2016; Pal and Ghosh 2012). A benefit of MP is its capability to differentiate between possible individual and temporal effects. In this way, it is possible to observe the variance in these two dimensions. For this particular case, we seek to analyze the individual and temporal behavior of the variables.

The specification of the model is as follows:

$$GPSSSIP_{it} = \alpha_{it} + \beta_1 GSP_{it} + \beta_2 Effort_{it} + \beta_3 Symmetry_{it} + \beta_4 Beds_{it} + \beta_5 PPSS_{it} \\ + \beta_6 Debt_{it} + \beta_7 Pandemic_{it} + \beta_8 PoliticalParty_{it} + \varepsilon_{it}$$

Where: ***Dependent Variable***

In the main specification, the variable GPSSSIP\_it represents the expenditure on individuals without social security using their own income in year t in entity i. This variable is of interest because it reveals the effects of health expenditure. GPSSSIP\_it shows how entities make budgetary decisions on health spending using their own income in response to changes in the volume of Conditional Transfers for health programs, such as Seguro Popular. Its calculation does not include government transfers or the state's solidarity contribution to Seguro Popular.

### ***Independent Variables***

- The variable GSP is the expenditure carried out by the federative entities from the central government through the Seguro Popular-INSABI program. The resources from this program are a Conditional Transfer (CT) that must be used in the healthcare of individuals without social security. A positive relationship is expected of this explanatory variable, as it is anticipated that spending with own revenues will increase due to synergy in expenditure.
- The variable Symmetry takes the value of 1 when the value of GSP of the i-esim entity at time t is lower than at time t-1, and it takes the value of 0 when the value of GSP is higher at time t than at time t-1. In this way, we evaluate increases or decreases in GSP by entity throughout the entire period. If this variable is not significant, it would indicate that a reduction in the transfer does not correspond to a compensatory increase in spend in people without social security with own revenues.
- The variable Effort is the sum of own revenues over which the federative entities have the capacity to act. We use a group of taxes, fees, and contributions, excluding own revenues from debt and highly correlated revenues with the economic cycle to isolate the effort (revenue-raising)

variable made by the entities in response to changes in revenues from the federal government. We expect this relationship to be positive, as an increase in fiscal efforts generates higher own revenues. This, in turn, can translate into higher spending on public services, such as healthcare.

- The variable PPSSS is the percentage of individuals without healthcare coverage (not enrolled in IMSS, ISSSTE, or any other contributory health regime), which is the ratio between the number of individuals without healthcare coverage and the total population of entity  $i$  at time  $t$ . In this way, we simultaneously control for population.

The variable Political Party (PP) shows the affinity between the political party of the governor of the federative entity and the party from which the federal executive chief comes. The variable takes the value of 1 if the governor of the federative entity and the federal executive chief belong to the same political party, and 0 otherwise.

- The variable Beds represents the number of healthcare beds per federative entity. It functions as an approximate measure of infrastructure.
- The variable Debt represents the volume of indebtedness attributed to the executive of entity  $i$  at time  $t$ , excluding debt contracted by municipalities. This variable is used to control for the variance attributed to the borrowing capacity of federative entities.
- The Pandemic variable is a categorical variable that seeks to capture the effect of the pandemic in the model. It takes the value of 1 for the data of 2020 and 0 otherwise. We assume that spending in people without social security would be increase in 2020, hence we expect pandemic variable would be significant and positive.

### ***Data***

The data primarily come from two sources. On one hand, the data for the variables Debt\_it and Effort\_it come from the Economic Information Subsystem, specifically from the tabulations of the State and Municipal Public Finance Portal of INEGI (National Institute of Statistics and Geography).<sup>6</sup> For the data on the variables Beds, GPSSSIP, and GSP, the portals of the General Directorate of Health Information<sup>7</sup> were used. In the case of the PPSS variable, the source is CONEVAL (National Council for the Evaluation of Social Development Policy).

<sup>6</sup> The data is published by INEGI (National Institute of Statistics and Geography) through the analysis of state-level public accounts. For more information, please visit: <https://www.inegi.org.mx/programas/finanzas/>

<sup>7</sup> Specifically, the information from the dynamic information cubes on healthcare resources was used. You can find more information at: <https://www.gob.mx/salud/acciones-y-programas/direccion-general-de-informacion-en-salud-dgis>.

To test the first hypothesis, we expect the rate of change of GPSSSIP with respect to GSP to be positive and greater than the rate of change of GPSSSIP with respect to Effort. This would imply the existence of a Fiscal Productivity Effect (FPE). To test the second hypothesis, we would expect the rate of change of GPSSSIP with respect to Symmetry to be statistically zero.

## RESULTS

The estimation results are shown in Table 1. To achieve a comprehensive and robust analysis of the phenomenon, we employ five different models to analyze the constructed panel data. We specifically focus on fixed effects by unit and by time to control for endogeneity in our analysis. The first model assumes that the variations come from unobservable characteristics at both the entity and yearly level (*Random Effects*). The second is a specification that removes the individual and temporal dimensions and estimates conventionally (*Pooled Model*). The third and fourth assume that the variations originate from differences between states (*Fixed Effects-Unit*) or changes that occurred over time (*Fixed Effects-Time*). The last specification, Two Way Fixed Effects is a combination of these last two assumptions. Given that our hypothesis assumes that while other budget cuts have occurred, there is a greater cut in the last three periods, and since we also have no evidence, after observing Figure 1, to suggest a change attributable to entity characteristics, we should expect our variables of interest to be significant for a specification with fixed time effects.

TABLE 1. REGRESSION RESULTS

	Random	Pooled	Fixed Effect		
			Unit	Time	TWE
SP	0.1301653 **	0.124272 *	0.0886773 *	0.1313555 *	0.0862125 *
Symmetry	0.0397753	0.02619	0.0448954 .	-0.0036261	-0.0075721
Debt	0.0239016 ***	0.121524 ***	0.0066729	0.1198801 ***	0.0139953
Beds	0.3101843 ***	0.356269 ***	0.1825572 .	0.3634833 ***	0.1527468
Porc Car Serv s	-0.0187978 *	-0.068329 .	-0.0523002	-0.1018448 .	0.0679024
PP	-0.0299039	0.018129	-0.0375847	0.0674064 .	-0.0009838
Pandemic	0.4182209 **	0.348041 **	0.4149952 ***		
Effort	0.0281684 ***	0.033227 ***	0.0118387	0.0332539 ***	0.013863

	Random	Pooled	Fixed Effect		
			Unit	Time	TWE
R2	0.25626	59091	0.15528	0.60157	0.021453
R2 ajusted	0.24241	5833	0.059514	143.87	-0.12211
Residual Error	69.555	157	62.219	143.87	50.631
F-statistic		67.6532	7.90455	78.7266	1.04606

Note: In the results presented in Table 1, different specifications of panel models were employed to analyze the relationship between key variables. The models assessed the influence of Seguro Popular (SP), symmetry in response to changes in expenditure (Symmetry), and the fiscal effort of federative entities (Effort) on Expenditure on Individuals without Social Security from Own Revenues (GSSS\_IP). The coefficients presented reflect the relationship between the mentioned variables and GSSS\_IP in each model specification. Asterisks indicate statistical significance (\*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ ).

The first thing we observe is that, regardless of the specification type, the contribution of Seguro Popular to the correlation of spending on social security with own-source revenues of the entities is positive and significant. This suggests that there is a positive stimulus from Seguro Popular transfers on spending for people without social security. As expected, there is no significance in the symmetry variable in any model. The difference lies in the fiscal effort variable, which lacks significance when considering differences between federal entities (Unit and TWE).

We conducted conventional tests on these specifications to verify which model provides the most consistent results. These tests are reported in Table 2. They point to a stronger performance of the fixed effects-time model, so from here on, our analysis refers to the content of that specification.

TABLE 2. MODEL COMPARISON TESTS

Test	Confronts	HO (Null Hypothesis)	Result P-Value	Zone	Criterion
Plmtest (Breusch Pagan)	Pooled vs	Constant Variance	2.20E-16	Hypothesis Rejected	Random
	Random				Preferred
pFtest (F-restrict)	Fixed (time) vs	Joint significance an the individual level	0.0006877	Hypothesis Rejected	Fixed
	Agrupados				Preferred
Phtest (Hausman)	Fixed (time) vs	Equality Estimators	2.58E-08	Hypothesis Rejected	Fixed
	Random				Preferred

In general, we found a significant and positive relationship between GSP and GPSSSIP (0.1313). This fulfills the first-order condition (FOC 1) stated in section 1.2 of this document, which states that the change in spending on people without social security is significantly and positively associated with

the change in Seguro Popular transfers (GSP). The second first-order condition requires that spending on people without social security positively correlates with the Effort variable (FOC 2). This requirement is met as the effort estimator is significant and positive (0.0332). Finally, the existence of a flypaper effect is tested, as the variations in spending on people without social security associated with Seguro Popular (GSP) are larger than those associated with the Effort variable ( $0.1313 > 0.0332$ ) - (CSO). This provides robust evidence that Seguro Popular-INSABI positively stimulates state spending with own revenues. Thus, the first hypothesis of our research is affirmatively supported.

Regarding the second hypothesis, based on the reviewed and discussed data from Figure 3, we expected the symmetry variable to be non-significant. This is indeed the case at a significance level of 5%, even when considering robust errors. This is one of the most important results of the research since it implies that the Flypaper Effect is symmetric for this particular transfer. Given that the symmetry variable only includes decreases in transfers, the non-significance of this variable implies that budget reductions in transferes do not induce compensatory movements in spending with own resources. This due to the configuration of the dummy variable. In other words, it assesses the presence of a decrease in health spending from own revenues. The lack of significance indicates that there is no reaction to such changes. This fact means that, at least from a financial dimension, the hypothesis of Gramlich (1987) - Pierson (1994) that programs are defended by beneficiaries and bureaucrats is not fulfilled. In its own terms, Seguro Popular in Mexico did not 'take root'. We make this assertion considering that the downward variations in Seguro Popular are not associated with upward variations in fiscal effort.

The explanation for this result may come from the design of the Mexican fiscal federalism itself, which in the last thirty years has established few and ineffective incentives to increase fiscal effort among state governments, making them "dependent" on revenues they do not collect (Hernández, 2018). It should not be overlooked that Seguro Popular has never been offered as a state initiative but rather as a federal program delivered to beneficiaries on those terms. Additionally, it has been subjected to significant discrediting by the current administration, affirming that it is "neither secure nor popular" (Méndez and Llano, 2021). These elements create a scenario for states that facilitates blame evasion and shifts decision-making to the federal government, relinquishing its fiscal powers to defend the program at a low electoral cost. This is without disregarding the possibility of financial compensations that states may receive while this program is being phased out.

It should be noted that the variations associated with Seguro Popular are nearly the same size as those associated with indebtedness but smaller than



those associated with our measure of health infrastructure (*camas*). This could be explained by the fact that hospital infrastructure experiences more frequent and abrupt variations than public spending. Additionally, for all cases except the fixed effects-time model, a factor control was established to verify whether spending on people without social security increased in the year of the pandemic and whether that variation was significant enough to cancel out the effect of Seguro Popular on spending. The results show that although the pandemic estimator is consistently higher in all specifications, it does not alter the direction or size of the Seguro Popular estimator. This provides greater robustness to our results and allows us to state that, despite the fact that the pandemic stimulated spending more than Seguro Popular did (due, among other things, to INSABI not providing additional resources), the effect of Seguro Popular on spending was not nullified in either size or direction.

As we mentioned in the literature review, the role of opposition parties in defending public programs has been explored (Eaton, 2014). Therefore, the variable PP was included, taking a value of 1 if the governor of the federal entity and the federal executive belong to the same political party, and 0 otherwise. It is observed that this variation is not significant, implying that the symmetry phenomenon is present regardless of the governing party. There seems to be a general disincentive to defend Seguro Popular. It is also observed that variations in state indebtedness (considered as a whole) are positively associated with spending on people without social security, with a size even larger than fiscal effort. This reinforces the widespread notion that the federalist design in Mexico induces low fiscal effort and provides facilities for local governments to incur debt charged to transfers (in this case, different from Seguro Popular).

Finally, a negative and non-significant estimator is observed for our demand variable (Percentage of the population without health services). This may be due to the fact that the included variable has only biennial variations (as reported by CONEVAL in the multidimensional measurement of poverty in Mexico) or that the allocation to the Program is self-selective, meaning that variations in employment status are captured in shorter time periods (probably monthly), so those who access Seguro Popular-INSABI are unemployed at time  $t$  but employed at time  $t+1$  without losing their status as Seguro Popular affiliates.

## CONCLUSIONS AND AGENDA

The dismantling of public policies is a young literature that is just reaching its first decade of operation. Its postulates are primarily derived from the observation of cases around the world and it inherits the findings generated

by the literature on the retrenchment of the welfare state. What this study has done is not only provide information about one more case but also combined two literatures, policy dismantling and public finance, to offer insights into the behavior of subnational governments in the face of a dismantling process. This approach is a contribution in itself. Additionally, it differentiated itself from most of the works on policy conclusion precisely because it did not focus on the explicit objective of the policy (in this case, the provision of healthcare for people without social security), but rather on a previous step, the spending decisions of implementing governments. By doing so, it simultaneously contributes to both literatures.

However, this study has limitations that should be acknowledged. The first limitation is that although all the reductions made to state transfers during the study period were incorporated, the most pronounced dismantling has only begun three years ago, and this limited variation may have consequences for our conclusions. It should also be noted that the limited response of state governments to the reduction of resources may be due to the magnitude of the variation. In other words, if the mean changes had been more pronounced, it might have stimulated a reaction from decision-makers in the states. Subsequent studies should control for magnitude and increase the number of observations to verify if the trend holds.

In the meantime, our findings point to a slow but progressive dismantling of Seguro Popular, very much in line with what is expected in the theory of policy dismantling (probably aimed at recentralization). Thus, we find no evidence to suggest that states will offer financial resistance to this trend.

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