

The Flypaper Effect

ASEDA BANUSHAJ

Lecturer, University of Tirana, Faculty of Economy, Albania
asedabanushaj@feut.edu.al

GIANCARLO CRIMI

MBA student, The Business School for the World (INSEAD), France
giancarlo.crimi@insead.edu

Abstract

Early writers of public choice theory recognized a connection between the outcome of electoral processes and the needs of the median voter. Following this interpretative hypothesis, empirical analysts have demonstrated a connection between local public spending, median voter income, and tax prices.

The median voter model, however, faces severe theoretical and empirical challenges. One of these concerns is community production and the price it pays for public goods, which could be distorted by government bodies producing them. This first case is significant as it goes against the median voter theory. In these models, public offices exercise a monopolistic model of control over the production of public goods and services. This power is used to receive larger transfers and gain greater prestige and power at the local level.

The second problem caused by the median voter system involves a consequence refuted by empirical evidence.

In focusing on the flypaper effect, the fundamental aim is to explain the effect's origin and its current implications. In this regard, a definition, albeit synthetic, of the flypaper effect in a generic way through the aid of a theoretical and graphic presentation as well as a lucid and exhaustive exposition of the effects it produces starting from the process of transfers from the central government to local institutions.

Keywords: flypaper effect, median voter, lump sum

INTRODUCTION

Bradford and Oates have shown that in governments based on majority voting systems, the effects of any tax revenue-sharing system can be replaced by grants to the community of the same amount since the median voter in both cases has the same budget constraint. This hypothesis implies that an increase in the transfer by the higher level of government should cause a change in the supply and consumption of the public service identical to that produced if there was an increase in the disposable income of citizens.

However, several studies by Gramlich, Fisher and Henderson have shown that an unconditional lump sum transfer stimulates spending more than a similar increase in the disposable income of the median voter. We refer to this result as the flypaper effect, which takes the form that economic resources tend to remain where they fall.

These studies looked for an explanation for the correlations between government budgets and demographic and economic factors, while all previous research

described these correlations in detail. For us economists, the response was obvious. Elected officials respond to citizen demands for services, contingent on the availability of government funds. Incomes from citizens and fiscal transfers provided by the national government in the form of grants-in-aid provided the resources. Accordingly, Henderson and Gramlich defined and calculated demand equations that maximized the utility of a representative citizen while taking into account the citizen's "full income" constraint, which is defined as the total of the citizen's personal income plus his or her share of the unrestricted fiscal transfers from the government. To be more precise, since money is money, the impact on spending of a citizen's share of fiscal transfers and personal income should be equal. The larger impact of lump-sum aid on government spending was dubbed the "flypaper effect" by Gramlich's colleague Arthur Okun when he first presented his findings, pointing out that "money seems to stick where it hits." Along with the label, the conundrum of why intergovernmental transfers is so stimulating has persisted. The flypaper effect has now been documented in over 3,500 research papers, many of which attempt to provide an explanation.

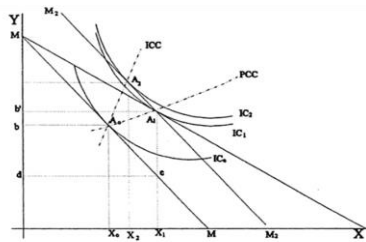
EXPLANATION OF THE MODELS

The models commonly used to explain this behavior are based on the concepts of fiscal illusion and bureaucrats as public budget maximizers. In other words, local bureaucrats have no benefit in informing citizens of the transfers they receive from the center. They thus can induce them to request or accept a higher level of public spending than they would have wanted if they had known the real budgetary constraints of their local government. The flypaper effect, therefore, shows how local authorities can push public spending beyond the level desired by voters.

The effects of intergovernmental transfers are the subject of copious theoretical and empirical literature. In particular, the more theoretical literature, through applying the schemes used in the macroeconomic theory of the consumer, tries to identify the most economical tool for achieving the provider's objectives. Implicit in this type of analysis are some robust assumptions, such as the possibility of deriving a preference scheme for the local authority, which is, on the one hand, consistent and, on the other, invariant to the introduction of state transfers.

In this context, the introduction of a transfer in a fixed sum or proportional to local spending is analyzed, the latter consisting of the coverage by the central government of a part of local spending. X is the quantity of local public goods corresponding to the local authority's expenditure, given that the price is hypothetically equal to one. R is the financial resources of the local authority, while y is a private asset. The fixed sum transfer is $T=Gt$, and the transfer proportional to the expenditure is $T=(1-gt)Xt$, where $(1-gt)$ is the percentage of local expenditure coverage guaranteed by the central government.

With these transfers, the budget constraint for local authorities can be written as $gtXt+yt=R+Gt$ because the fixed sum transfer increases the resources available. In contrast, the proportional transfer acts on the price of local public spending. For every euro spent in X_1 , since the state covers the fraction, the local community only has to pay it, and therefore, the price of public spending decreases. Suppose the local government maximizes, as mentioned, an objective function to which a system of indifference curves corresponds, as in the consumer problem. In that case, we can find the equilibrium of the local government at the point where an indifference curve is tangent to the budget constraint, as in the figure.



Source: Fossati - Levaggi (2001, p. 88)

The local public good is measured on the x-axis, while the private good is on the y-axis. The MM curve represents the budget constraint for the local government, and the equilibrium point is found at A0, where the budget constraint is tangent to the indifference curve IC0. At the equilibrium point A0, the local government gives up a part of the private good equal to MB to finance the amount X0 of public spending. If the central government makes a proportional transfer,

The transfer evaluated in terms of Y is therefore equal to $[Ate]=[b'd]$. Since the price elasticity is negative, the quantity of public goods will increase from X0 to $[bb']$ to finance the increase in private goods. If the transfer amount $[b'd]$ had been provided alternatively in a fixed form, the local government budget constraint would have been in M2M2', and the equilibrium would have shifted to X2, less than X1.

Therefore, proportional transfer changes the price of public spending and has a substitution effect and an income effect. Given that the central government aims to make the local government reach a certain level of expenditure with the minimum of resources, the central government prefers proportional transfer as it minimizes the cost of its redistributive intervention. At the same time, for the local government, the proportional transfer due to the substitution effect leads the local government to identify a higher amount of public spending and, therefore, a lower amount of private spending. For this reason, with the proportional transfer, the local government will have to set higher local taxes than the fixed transfer. We have just seen that expenditure-related subsidies stimulate local public spending more than a transfer of a fixed sum to the local government, which should have the same effect as an increase in income for citizens residing in that area due, for example, to a reduction of taxes. However, empirical analyses demonstrate that an unconditional lump sum transfer stimulates spending more than a similar increase in the disposable income of the median voter. This result is known as the flypaper effect because the money either stays with the local public sector or the private sector that receives it first.

Leading researchers have studied the responsiveness of local spending to changes in transfers from the central government. Following traditional economic theory, public transfers should have the same effect on the demand for local public goods as a direct subsidy on residents' income.

Empirical research has highlighted that financial resources remain "stuck" to the sector to which they are transferred, hence the flypaper effect. Increased transfers from the central government cause higher local expenditures than those found following a similar increase in residents' income, which is 4-6 times higher in the United States and up to 20 times higher for some European countries.

A characteristic that makes the study of the flypaper effect particularly interesting in the Italian context is that the outcome of local spending tends to be asymmetric; in fact, it is more marked when the change in transfers is positive and

lighter in the opposite case. This has significant effects on the financing of local authorities, as it highlights that the decrease in the share of transfers from the central government on total revenues is not a valuable tool for ensuring greater rigor in local public spending.

The analysis observes the spending behavior of a panel of municipalities belonging to 18 Italian regions for eight years (1999-2006). To verify the presence of the flypaper effect, a model is taken as a reference in which local public spending is a function of state transfers, private income, and a series of control variables regarding the level of education, the structure of the population, the orography of the territory, the administrative status of the municipality and the region. The analysis also considers political factors that can influence the budgetary behavior of local authorities, such as the electoral cycle, the mayor's re-electability, the municipal councils' compactness, and their political orientation.

The results demonstrate a consistent flypaper effect, given that the reactivity of local spending concerning changes in transfers from the central government is over twenty times that estimated concerning changes in private income. Responsiveness decreases significantly in the case of reductions in transfers from the central government, signaling that part of the adjustment to lower transfers is achieved through a reduction in local taxation. Political variables play a fundamental role, as local public spending decisions are significantly influenced by the electoral cycle, mandate constraints, and by the compactness of the municipal council.

In this regard, the Niskanen model is of great importance. It is a very famous theory within the Public Choice school. Public Choice is a field of public economics that analyzes problems by introducing into the theory the behavior of bureaucrats or governments to which objectives different from those of citizens are attributed.

The objectives of politicians are to maintain power and be re-elected, while for bureaucrats, the aim is to administer increasingly larger budgets because their prestige and income depend on it. The theories of the Public Choice school, in which the figure of Nobel Prize winner James Buchanan stands out, mostly reach conclusions that are very hostile to public intervention. The presence of objectives different from those of citizens causes inefficiencies. As regards the behavior of administrators, the model developed by was one of the first and still one of the most considered among specialists. In this model, bureaucrats are assumed to have private information about the marginal costs and marginal benefits of public services and use this information privilege to expand the budget they Within the Niskanen model, it is possible to provide a possible explanation of the flypaper effect. If there is a transfer of resources from the center to a local authority, this translates into a reduction in the average service cost. Public managers will take advantage of this to expand the budget, given that for managers, there is, at most, the constraint of average advantage = average cost).

If the transfer were given directly to citizens, the demand for the public service would have increased because the public service has a positive elasticity for income. However, the increase would have been more minor since, for citizens, the criterion is marginal cost = marginal valuation.

In this way, the flypaper effect appears to find its meaning and explanation. It is connected to the managers' desire to take advantage of the transfer to expand the budget, spending more than the efficient level.

MACROECONOMICS APPROACH

At a macroeconomic level, it is the presence of a system of transfers of resources from the central state to local governments to finance the production of health services that influences health spending. In many countries, protecting citizens' health is the responsibility of the central state and local governments, which generally deal with the production of services. From this point of view, there is a positive link between transfers and health spending.

From this point of view, applied literature has highlighted a positive link between transfers and health spending, as in the Di Matteo case for transfers to Canadian provincial governments at the end of the 1990s. However, these works do not explain why transfers can positively influence spending. There are many advanced possibilities, including that of the flypaper effect. The flypaper effect is the response to changes in transfers from the central state on local spending: spending is very "reactive" to increases in transfers and not very "reactive" to reductions.

Although dated, another essential study regarding the flypaper effect in Italian healthcare was done by Rosella Levaggi and Roberto Zanola. In particular, the reduction in public spending destined for the health sector was implemented through stricter budget rules at the local level and a notable reduction in transfers from the central government. However, reducing transfers from the central government could lead to an asymmetric response to transfers. The article, therefore, studies the trend of a sample of 20 Italian regions from 1989-1993, and the empirical results show the presence of a flypaper effect.

CONCLUSION

In focusing on the flypaper effect, the fundamental aim is to explain the effect's origin and its current implications. In this regard, a definition, albeit synthetic, of the flypaper effect in a generic way through the aid of a theoretical and graphic presentation as well as a lucid and exhaustive exposition of the effects it produces starting from the process of transfers from the central government to local institutions. In particular, we define the flypaper effect generically by making a theoretical and graphic presentation and providing an exhaustive explanation of its origin and the implications it causes. It is clear from the above data that citizens do not perceive the marginal value of transfers and that the action of bureaucrats is often moved towards an increase in spending capacity, which entails greater personal prestige. Furthermore, the flypaper effect in the Italian reality was admirably explained by an article from the Bank of Italy, which took a representative sample and analytically studied the behavior of public spending in eighteen Italian municipalities for a while equal to eight years, taking into account some factors such as the orography of the territory, the administrative status of the municipality and the region. The study demonstrated how the flypaper effect influences public spending. Fiscal federalism is Among the possible solutions we can identify to alleviate the flypaper effect. It is useful here to remember that fiscal federalism is an economic-political doctrine aimed at establishing a direct proportionality between the taxes collected in a specific territorial area of the country - the Municipalities, the Provinces, the metropolitan cities, and the Regions - and the taxes used by the area itself. This system, integrated and coordinated between the various levels of state government, is called federal taxation. By adopting this system, resources must be allocated according to the needs and numbers of citizens and not to the wishes of politicians. Equalization in the design of federal taxation is carried out by considering

citizens and not territories. In particular, this eliminates the ruinous use of local public spending to acquire consensus from citizen voters. Unfortunately, the sources from which to draw are still limited because few studies are addressing the topic, which deserves more outstanding care and in-depth analysis through the use of other bureaucratic models, which, on the one hand, better define its contours and, on the other, broaden it. The audience of those interested in this topic, even more so in this period of economic crisis and consequent contraction of institutional resources.

REFERENCES

1. Baker, Michael, Abigail Payne, and Michael Smart (1999), "An Empirical Study of Matching Grants: The 'Cap' on CAP," *Journal of Public Economics*, Vol. 72 (May), 269-288.
2. Bosil P., Financial sciences course, Il Mulino, Bologna, 2010
3. Caroppo M. – Turati G., Regional health systems in Italy, Vita e Pensiero Editore, Milan, 2007
4. Courant, Paul, Edward Gramlich, and Daniel Rubinfeld (1979), "The Stimulative Effects of Intergovernmental Grants: or Why Money Sticks Where It Hits," in Peter Mieszkowski and William Oakland (eds.) *Fiscal Federalism and Grants-in-Aid*, Washington, D.C.: Urban Institute Press, 5-21.
5. Dahlberg, Matz, Eva Mörk, Jörn Rattso, and Hanna Ågren (2008), "Using a Discontinuous Grant Rule to Identify the Effect of Grants on Local Taxes and Spending," *Journal of Public Economics*, Vol. 92 (December), 2320-2335.
6. E. Oates (ed.), *The Political Economy of Federalism*, Lexington, MA: Lexington Books, 219-240.
7. Fossati A. – Levaggi R., From decentralization to devolution: fiscal federalism in Italy and Europe, Milan, 2001
8. Fossati A., Public economy, Milan, 2002
9. Gennari E. Messina G., How sticky are local expenses in Italy. An evaluation of the flypaper effect on municipal data, 2012. *Journal of Public Economics*, Vol. 49 (October), 1-33.
10. Gramlich, Edward (1969), "State and Local Governments and their Budget Constraint," *International Economic Review*, Vol. 10 (June), 163-182.
11. Gramlich, Edward (1977), "Intergovernmental Grants: A Review of the Empirical Literature," in W.
12. Hamilton, Jonathan (1986), "The Flypaper Effect and the Deadweight Loss from Taxation," *Journal of Urban Economics*, Vol. 19 (March), 148-155.
13. Inman, Robert (1979), "The Fiscal Performance of Local Governments: An Interpretative Review," in Peter Mieszkowski and Mahlon Straszheim (eds.) *Current Issues in Urban Economics*, Baltimore: Johns Hopkins Press, 270-321.
14. Knight, Brian (2004), "Parochial Interests and the Centralized Provision of Local Public Goods: Evidence from Congressional Voting on Transportation Projects," *Journal of Public Economics*, Vol. 88 (March), 845-866.
15. Ladd, Helen (1993), "State Responses to the TRASG Revenue Windfalls: A New Test of the Flypaper Effect," *Journal of Policy Analysis and Management*, Vol. 12 (Winter), 82-104.
16. Levaggi R. Zanola R., The Flypaper Effect: Evidence from the Italian National Health System, Polis department's Working Papers, 2000.
17. Megdal, Sharon (1987), "The Flypaper Effect Revisited: An Econometric Explanation," *Review of Economics and Statistics*, Vol. 59 (May), 347-351.
18. Moffitt, Robert (1984), "the Effects of Grants-in-Aid on State and Local Government Spending: The Case of AFDC," *Journal of Public Economics*, Vol. 23 (April), 279-305.
19. Reinikka, Ritva and Jakob Svensson (2003), "The Power of Information: Evidence From a Newspaper Campaign to Reduce Capture," Mimeo., World Bank, December.
20. Singhal, Monica (2008), "Special Interest Groups and the Allocation of Public Funds," *Journal of Public Economics*, Vol. 92 (April), 548-654.
21. Turnbull, Geoffrey (1998), "The Overspending and Flypaper Effects of Fiscal Illusion: Theory and Empirical Evidence," *Journal of Urban Economics*, Vol. 44 (July), 1-26.
22. Wyckoff, Paul (1991), "The Elusive Flypaper Effect," *Journal of Urban Economics*, Vol. 30 (November), 310-328.