

## **Federal systems: a COD Aid proposal for Mexico's upper secondary schools**

The initial impetus for developing the Cash on Delivery Aid (COD Aid) concept was to improve the effectiveness of foreign aid. But it quickly became apparent to us that a similar mechanism could also be useful where central governments make financial transfers to state, provincial, and other subnational levels of government.<sup>1</sup> Just as with the relationship between funders and recipients in the foreign aid context, federal and state governments have some interests in common and others that diverge. Further, the central government lacks information available to state actors about local political interests and implementation capacity. These two features—the divergence of interests and the asymmetry of information—generate a principal-agent problem between the federal and state governments, just as between a funder and recipient in the context of foreign aid.

Wherever a federal government uses fiscal transfers to fund public services in states that exercise a significant degree of autonomy, problems that parallel those of foreign aid are likely. In particular, the paradox that outside aid can undermine local institutional development is a real risk.<sup>2</sup> As with foreign aid, intranational fiscal transfers can soften the budget constraint facing states, permitting excessive and less effective spending decisions. As with foreign aid, fiscal transfers from central governments are sometimes volatile and unpredictable. They can also give state authorities access to privileges and rents that reinforce their power and weaken their accountability to constituents.<sup>3</sup> And they can reduce a state's incentive to mobilize its own tax revenues, reinforcing its reliance on those fiscal transfers.

Depending on the character and quality of federal programs, intranational fiscal transfers may have a variety of other problems in common with foreign aid. While developing country governments must often contend

The overlap of constituencies often generates competition for authority, resources, and recognition

with a large number of bilateral aid agencies, multilateral institutions, and nongovernmental organizations with competing programs, states most often face a single federal government. Even so, to the extent that the federal government has multiple programs across different agencies, the state's administrative burdens and political difficulties in managing this array of programs may be significant. And if the federal government can pay higher salaries, it may, like many foreign aid programs, attract qualified personnel away from state positions.

The essential difference between foreign aid and intranational fiscal transfers is that the state and federal governments are linked by a common political system and overlapping constituencies. While the taxpayers who finance a U.S. aid program for India do not vote in Indian elections, the local beneficiaries of a public service provided in Uttar Pradesh are constituents of both their state and federal governments. Thus, when intranational fiscal transfers occur, officials on both sides of the transfer are accountable to the same constituents through the domestic political system and are likely to be more responsive to those constituents than a foreign aid agency might be.

The overlap of constituencies often generates competition between national and state officials for authority, resources, and recognition. This can improve program effectiveness when the competition is substantive and transparent—when federal officials try one approach, state officials try others, and everyone understands whose programs and whose resources are leading to which outcomes. In this case, constituents can assess the different programs and authorities and reward those who are most effective.

In most instances, however, competition is about claiming credit and is not transparent. Indeed, officials may see it in their interest to confuse the lines of accountability, claiming credit for effective programs and blaming others for ineffective ones. For example, federal officials may be unwilling to fund and design a program for states to implement if they believe the states will take credit for success and blame them for failures. But state officials may be unwilling to accept the responsibility of implementing federal programs unless they can claim credit for successes. As long as federal and state officials focus on claiming credit rather than achieving outcomes, lines of accountability will remain confused to their overlapping constituencies.

COD Aid can address this by increasing the transparency of federal-state relationships. If the federal and state governments agree on a shared goal and make the COD Aid agreement public, roles and responsibilities are much clearer to officials at the two levels of government and to their overlapping constituencies. With federal payment for verified outcomes and state responsibility for progress, the COD Aid agreement clarifies the accountability of each level of government. To the degree that the COD Aid agreement facilitates achieving the shared goal, it also boosts the credibility of

both levels of government, as constituents see their tax money used effectively to accomplish public goals.

The rest of this chapter uses the improvement of upper secondary education in Mexico as an illustration of how COD Aid could work in an intranational fiscal transfer. The idea was presented at a workshop in March 2008 in Mexico City. Workshop participants discussed Mexico's secondary schooling system, current federal government policies and initiatives, and the advantages of applying a COD Aid approach to the relationship between Mexico's federal and state governments. Participants included representatives from the federal and state governments, several Mexican nongovernmental organizations and private philanthropic foundations, international agencies and other experts. The material presented here was derived from the workshop discussions and complemented by additional research. Please note that the proposal discussed here is not endorsed by the government of Mexico. It simply represents our reflections on how a COD Aid proposal could work in Mexico based on the workshop discussions.

The proposal here represents our reflections on how a COD Aid proposal could work in Mexico

### Upper secondary education in Mexico: the context

In Mexico, education is divided into primary (*primária*, grades 1–6), secondary (*secundária*, grades 7–9), upper secondary (*média superior*, grades 10–12), and tertiary (*superior*, university level). Primary and secondary school are mandatory for all children. The Mexican education system has expanded substantially over the last few decades, with an enrollment of 9 million children in 1970 rising to more than 20 million in 2000. The population's average years of schooling (for those over 15) has risen from 6.8 years in 1993 to 7.6 in 2003.

Even so, many children repeat school years and drop out of school entirely, and those who graduate frequently have not mastered the skills and knowledge that they should. Based on recent data, 97 percent of Mexican children can be expected to enter primary school, but only 68 percent of the age cohort can expect to graduate from grade 9, and only 35 percent will graduate from upper secondary school.<sup>4</sup> Mexican students regularly score poorly when compared with students in other Latin American countries on international tests, such as the language arts test in the *Laboratorio Latinoamericano* student assessments by the United Nations Educational, Scientific, and Cultural Organizations in 2000.

Since 1993, Mexico's state governments have assumed responsibility for most public upper secondary schools. Of 12,481 upper secondary schools enrolling 3.7 million students, the 31 state governments operate 5,520 (43 percent), the federal government continues to directly operate 1,373 (11 percent), and public universities operate another 624 (5 percent). The remaining 5,117 (41 percent) are private. But the federal government is responsible for setting norms and standards for all

The federal government is introducing new standardized testing, building infrastructure, and experimenting with financial incentives

upper secondary schools, including teacher qualifications, curriculum, and standardized testing.

Upper secondary schools have expanded along with the rest of the education system, but they lose or underserve students at an unacceptable rate. Some 15 percent of students drop out of upper secondary schools each year, and those who graduate are often poorly prepared for college. Observers attribute the relatively poor performance in upper secondary schooling to problems of inadequate teacher training; poor management and supervision of teachers; few incentives for teachers or administrators to innovate; rule-bound thinking by teachers, administrators, and policy-makers; weak parental involvement; weak accountability to citizens; and resistance to change by teacher unions.

### *Federal responses since 2006*

The federal government has initiated programs to address these challenges, introducing new standardized testing, building infrastructure, and experimenting with financial incentives. To monitor student learning, it has been reviewing the upper secondary curriculum and developing standardized tests to assess whether students are mastering it. And to improve accountability to the public, it is making test scores for each school available online.

The federal government is indirectly supporting improvements in the upper secondary schools operated by state governments with funding for infrastructure, scholarships to encourage equity, and internship programs to link school curricula with job-relevant training. To encourage state school systems to experiment with new approaches, it has also set aside money for an Upper Secondary Education Innovation Fund. States can apply for funding under this program for a wide range of initiatives. Once approved, the federal funds are disbursed matching the state's own contribution. Alternatively, up to half the state's contribution can be paid by private philanthropic organizations.

The federal government is also making changes in its own upper secondary schools, hoping to demonstrate effective approaches for the states to adopt. It has changed the way that principals are selected, creating a process of open competitions that emphasize selection based on merit. It is also introducing financial incentives for improvements in student performance—incentives paid to students, teachers, and principals to increase their interest in improved outcomes.

Most federal and state programs are still traditional in the sense that they focus on inputs (infrastructure, teacher training, hiring) and allocate budgets based on historical spending or population rather than outcomes or performance. Even so, many of the initiatives noted above are exceptions to this pattern, such as efforts to introduce financial incentives, merit-based promotions, and competition for funds

for innovative state programs. None of the programs, however, focuses attention as strictly on results and with as much autonomy for the recipient as would a COD Aid funding arrangement.

### **How COD Aid could work for Mexico's upper secondary system**

This is a propitious time for trying a COD Aid approach in Mexico's upper secondary schooling system. Recent initiatives are already moving away from a management culture focused on rules to one that emphasizes incentives and outcomes. The Upper Secondary Education Innovation Fund could be the mechanism for implementing a COD Aid initiative. Mexico's strong system of data collection and testing would provide further support for implementing a COD Aid agreement.

#### *Funding mechanism and COD provisions*

In 2008, the federal government's budget for improving state-operated upper secondary schools had \$77 million (M\$830 million) for infrastructure and another \$2.8 million (M\$30 million) for the Innovation Fund.<sup>5, 6</sup> The federal government could implement changes in the Innovation Fund fairly easily so that all or part of this money would be available to states that have entered an agreement based on COD Aid concepts.

One idea for constructing a COD agreement between Mexico's federal government and its states would rely on existing federal data on the number of students in the third year of upper secondary school and their test scores. The federal government could create an index that would be the product of these two numbers (number of students multiplied by average test score). Test scores could be standardized to range from 0 to 1, and the unit of progress that would trigger a COD payment would be defined as the equivalent of one student reaching the maximum score.<sup>7</sup> While attaching payments to average scores or the share of students passing a standard creates an incentive to exclude poorly performing students, this multiplicative measure of progress gives an incentive to include as many students as possible. Each additional student with a score higher than zero would trigger additional transfers.

To illustrate, consider the state in table 6.1. In year 1, 5 of 10 students finish school, giving the state a 50 percent completion rate in its upper secondary schools. In year 2 of the COD agreement, it retains 3 students—Alejandro, Cristina, and Violeta—who would likely have dropped out without the programs and practices in the COD agreement. The state's completion rate thus rises to 80 percent. But because the three students perform more poorly than their peers, the average test score falls by 50 points. With the payment formula proposed above, this overall performance would still release a reward of M\$1.7 million. Continuing with this example, in year 3 the state is unable to improve the completion rate.

**Recent initiatives in Mexico are already moving to a management culture that emphasizes incentives and outcomes**

TABLE 6.1

**Example of payment for student completions and test scores**

	Completed?	Final test score
<b>Year 1—Children at the age for completing school</b>		
Juan	Yes	350
Jose	Yes	400
Miguel	Yes	300
Marco	Yes	480
Johanna	Yes	300
Veronica	No	
Anna	No	
Pilar	No	
Jorge	No	
Pedro	No	
Share that completed (%) and average test score	50	366
Total score (share that completed × average test score)		1,830
<b>Year 2—Children at the age for completing school</b>		
Elena	Yes	350
Carlos	Yes	400
Javier	Yes	300
Sara	Yes	480
Isabel	Yes	300
Alejandro	Yes	200
Cristina	Yes	200
Violeta	Yes	210
Yesenia	No	
David	No	
Share that completed (%) and average test score	80	305
Total score (share that completed × average test score)		2,395
Difference from previous year		565
COD payment (difference × M\$3,000)		M\$1,695,000
<b>Year 3—Children at the age for completing school</b>		
Sofia	Yes	600
Adriana	Yes	400
Daniel	Yes	350
Gabriela	Yes	480
Isidoro	Yes	400
Emilio	Yes	200
Enrique	Yes	300
Guadalupe	Yes	210
Jesus	No	
Raul	No	

TABLE 6.1 (continued)

**Example of payment for student completions and test scores**

	Completed?	Final test score
Share that completed (%) and average test score	80	368
Total score (share that completed × average test score)		2,940
Difference from previous year		545
COD payment (difference × M\$3,000)		M\$1,635,000

It does, however, raise the students' average test score from 305 to 368. In this case, the state is rewarded with M\$1.6 million.

Each year, states that enter the COD agreement would receive a payment for each unit of progress above the previous year (or a moving average of several earlier years). The funds would be provided on a matching basis. State-supplied money would have to be applied to education programs. The federally supplied money could be used by the state for any purpose outlined in its application to the fund, including noneducational expenditures nonetheless aimed at improving schooling, such as transportation or conditional cash transfers to students or their families. The federal government could either establish a maximum payout or rely on projections of expected demands on the Innovation Fund.

***Measuring student completion and performance in upper secondary school***

In addition to a mechanism for managing and disbursing funds and a formula for calculating payments, a COD agreement requires information on progress—in this case, the number of students and test scores. The Mexican federal-state relationship permits the federal government to measure student performance directly. As long as the states have confidence that the federal government can measure student performance accurately and will not intentionally misreport results to reduce payments, federal administrative data on student completions and test scores could be a basis for COD transfers.

Over the last decade, Mexico has been improving the quality of its education statistics and its system for testing. The most recent part of this effort is the *Evaluación Nacional del Logro Académico en Centros Escolares* (ENLACE), which measures reading and math comprehension at different grade levels. In its earlier version, ENLACE tested students in grades 3 and 6. In 2008, ENLACE Média Superior was initiated to test students in grade 12. Eventually ENLACE will be applied nationally and become a tool for measuring changes in learning over time—in particular, comparing groups of students in one grade level with those of the next cohort at the same grade level. Data from ENLACE, available annually or biannually, could be used for calculating COD payments.

Each year, states that enter the COD agreement would receive a payment for each unit of progress

The agreement preserves the state's autonomy and discretion in the use of funds

Mexico has three other advantages that would facilitate a COD approach. First, the federal government has continued opening more information to public scrutiny. Student completion rates and test scores are expected to be available publicly in different forms, including online. Second, civil society organizations have emerged to advocate for better education. Groups like *Mexicanos Primero* could perform a social audit by analyzing government information and making it available in forms understandable to the public, such as state or school report cards.<sup>8</sup> Other groups might work directly at the local level, using the newly available information to participate in policy debates and to hold municipalities or states accountable for their performance. Third, large private philanthropic foundations that are specifically concerned with education have been created in Mexico. They can encourage states to enter a COD agreement by offering to pay for a substantial part of the matching contribution.

### *Concerns*

This proposal for extending and improving upper secondary schooling in Mexico retains the core positive features of the COD Aid approach. Payments are made after outcomes are achieved and based on credible reports that measure the unit of progress. The agreement preserves the state's autonomy and discretion in the use of funds as much as possible. The process and results are transparent, transmitted in easily understandable form to the public and to organizations qualified to analyze and verify the reported information. But even well designed programs raise legitimate concerns and these merit review.

One concern of stakeholders was the effect of regional demographic variation on payments under the COD agreement. If some states face declining cohorts in primary school, their potential gains from a COD program would be much smaller than for states where the size of cohorts in primary school is increasing as fast as or faster than the upper secondary system can expand. It is tempting—but unwise—to introduce modifications to the payment system to compensate these disadvantaged states. Such changes would only undermine the federal government's efforts to use its funds to induce upper secondary school completion regardless of where students live.

Another concern is the effectiveness and credibility of the reporting system for both student completions and test scores. Assuaging this concern requires technical analysis, such as assessing the comparability of the test over time. It may also require a third-party auditor to check the reporting process for quality, consistency, reliability, and accuracy. Such an audit would assess whether administration of the test is effective and determine whether cheating is taking place.

A final concern addresses the use of funds by the states. Since the funds are received after the outcomes are achieved and are not tied to purchasing specific inputs,

money could be diverted to improper uses. This concern could be met by the federal government's system for auditing state government accounts to ensure that all funds managed by the state are spent on appropriate goods and services. Or the state could propose a specific set of uses for the funds if and when they are received. The proposal would be similar to that for the Innovation Fund, except that it would not present a fixed budget, since the actual amount of payments received would be contingent on the states' ability to improve upper secondary schooling.

### **The COD Aid approach is feasible for intranational transfers**

Our workshop discussions in Mexico showed that the concepts involved in COD Aid can be applied to transfers between central and local governments because of the numerous parallels to foreign aid. The specific example of improving completion rates and learning in upper secondary schooling in Mexico provided us with an opportunity to test our ideas in a specific context. We assessed whether Mexico's federal government could use its Upper Secondary School Innovation Fund to pay states for progress, using an indicator comprising both completion rates and learning. Having considered and debated the concerns raised, we found the idea of applying COD Aid to this case to be entirely feasible. We recommend that other large federated countries use this example to consider whether a COD Aid approach might work for them.

### **Notes**

1. Subnational entities are highly varied and may be denominated states, provinces, districts, municipalities, and so on. For the remainder of this chapter, we refer to them as states. The same issues can arise between a state and a more local government, and between a local government and a school.
2. Moss, Pettersson, and van de Walle 2006.
3. Knack and Rahman 2004; van de Walle 2001.
4. Santibañez, Vernez, and Razquin 2005.
5. Kate Vyborny developed several of these concepts at the workshop and contributed the main draft for this section.
6. The foreign exchange rate in 2007 was about 10.80 Mexican pesos per U.S. dollar.
7. An alternative option would be to multiply the number of students completing by the improvement in students scores for a given cohort. In other words, the students' test scores would be compared with the scores of the same students on the ENLACE test would be administered to students at the beginning and end of upper secondary school. This option would take longer to begin triggering payments, but would be particularly useful if there were significant demographic change (say, due to migration) affecting the composition of students from year to year.
8. *Mexicanos Primero* already publishes a composite index of effectiveness calculated by state. On school report cards, see EQUIP2 (n.d.-a, n.d.-b).