

# Comments

**Jere R. Behrman:** This is a nice paper on an important program. I organize my comments around four topics: some critical aspects of PROGRESA from the point of view of evaluation; the Skoufias-Parker study; questions for future research on PROGRESA; and lessons for future evaluations of similar programs.

## Critical Aspects of PROGRESA

PROGRESA is a well-known Mexican rural antipoverty and human resource investment program that was initiated under the Zedillo government. The program has several striking and unusual features that are relevant for social scientists and policy analysts. First, PROGRESA based some of its essential components on the outcomes of social science research in the scholarly literature. Transfers were given to women, for example, because previous research on intrahousehold allocations suggests that income received by mothers has larger associations with human resource investments in children than income received by fathers.

Second, PROGRESA used modern social science tools to guide its decisions. For instance, discriminant analysis was used on census data in the initial stages of identifying target communities and households within those communities, and geographic information systems (GIS) were used to systematize information on the location of schooling and health services relative to the communities.

Third, PROGRESA recognized that baseline data and longitudinal household and service-provider data with treatment and control groups were essential to serious evaluation of the program. The program coordinators implemented the collection of baseline data prior to the introduction of the program (which is always the intent but often not the reality), together with longitudinal follow-up and random assignment to treatment and control communities.

Fourth, PROGRESA contracted an outside research agency, the International Food Policy Research Institute (IFPRI), to undertake an extensive evaluation of the program. This Washington-based organization is a member of the Consultative Group on International Agricultural Research (CGIAR), and it has a strong history of data analysis and evaluation in developing countries. In addition to IFPRI staff, the evaluation team consisted of myself and three other academic economists, namely, T. Paul Schultz of Yale University, Paul Gertler of the University of California at Berkeley, and Petra Todd of the University of Pennsylvania.

These are important features of PROGRESA. The program and the key individuals behind it, in particular the program's first director, the late José Gómez de León, should be commended for incorporating such elements in their program plans and for giving them sufficient priority that they were carried out reasonably well during the incredibly difficult period of program development, implementation, and rapid expansion, all within an environment characterized by considerable political pressures. PROGRESA has already served as a model for the development of related programs elsewhere. The hope is that these and other programs will not only build on the substantive aspects of PROGRESA, but also learn from and improve the evaluation process that has been carefully designed and given such high priority by PROGRESA.

### **The Skoufias-Parker Study**

Skoufias headed the IFPRI evaluation team, while Parker first worked for PROGRESA and then joined the IFPRI evaluation team. Together, they bring considerable knowledge of and expertise on PROGRESA to this study. While other complementary works examine aspects of the program's impact on schooling, this is the most satisfactory study available on child time use in both school and work. This is an important topic because investments in schooling are widely thought to shape options over the life cycle and because time spent in labor activities competes with time invested in schooling. The paper blends related aspects of PROGRESA, institutional knowledge, modeling of behavior, use of distinctive data, and estimation. Of particular interest is the impact of the nonlinear incentives created by the PROGRESA cash transfers that are conditional on

schooling and how those incentives differ depending on what household decisionmaking would have implied for the schooling-work choice in the absence of the program. The empirical estimates consider the program's impact on the probability of working in market, domestic, and farm activities; the hours worked in market, domestic, and farm activities; the probability of being enrolled in school; and the hours spent in leisure. Differences are found by age categories and by gender. For boys, particularly of secondary school age, the reductions in all types of work are comparable to the increases in schooling. The reduction in work is relatively less for girls, apparently because the domestic work in which girls primarily engage can be combined more easily with schooling (at least for limited hours) than can the work in which boys engage. The authors thus come to the interesting conclusion that work broadly defined is an important deterrent to schooling for all children in rural Mexico, but particularly for teenage boys. One reason that this gender result is of interest is that some details of PROGRESA were based on the assumption that girls were disadvantaged relative to boys because their enrollment rates were lower; slightly higher payments were therefore established for girls than for boys at the secondary school level.<sup>1</sup> This result suggests the possibility that if work detracts from progress in learning as a result of competing time demands, increasing payments to boys relative to girls might have a higher payoff in terms of learning.

## Questions for Future Research on PROGRESA

One question that arises from the present study is what is happening to time allocations among other members of the household. Are other members of the household increasing their time in some tasks to compensate for the reduced time spent by the children? Another question is whether the difference in responsiveness by gender reflects differences in the time elasticities of demands for different tasks. For example, if girls specialize in

1. The lower preprogram enrollment rates for girls largely reflected the fact that girls progressed through school more rapidly and with less repetition than boys. On average, boys had greater gaps than girls between the schooling attained conditional on age and the schooling they would have attained if they had started at age six and successfully advanced by completing one grade each year (see Behrman, Sengupta, and Todd, 2001).

caring for sick younger siblings, might such demands be fairly inelastic, with the result that policies directed toward improving the health of children would increase the time flexibility of girls? Yet another question is whether it would be possible to investigate empirically the implications of the nonlinearity of the incentives created by PROGRESA. If information could be used to identify in which segments of the nonlinear constraint the children from different households are located, then in principle the program could be made much more effective by focusing on the critical children.

Given the currently available data, one way to explore empirically the implications of the nonlinearity in the PROGRESA payments schedule, as well as some other important aspects of the program, would be to estimate a structural model of the household behaviors that relate to these decisions. This would permit simulated exploration of the impact of this nonlinearity and other dimensions of the program, such as the possible impact of changing the grades covered (for example, excluding some of the upper primary grades and including upper secondary grades), altering the amount of the payments, adjusting the gender differentials, and shifting more resources to schools rather than to households. Such explorations would enrich understanding of the current program, conditional on additional assumptions regarding underlying behaviors. This is a major research project if such behaviors are placed within a dynamic context, as would seem desirable for exploring this program. Two of my colleagues, Petra Todd and Ken Wolpin, are now engaged in such an effort, but results are not likely to be available for a number of months.

### **Lessons for Future Evaluation of Similar Programs**

Other programs could usefully emulate the strengths of PROGRESA in terms of building on existing social science research, data collection, and evaluation. This requires a substantial commitment to giving priority to these matters in the presence of all of the great pressures and unanticipated problems that a new program inevitably faces. The advantage of such an approach is that it holds the potential for a much better evaluation of the program itself and of how it or other programs can be modified to improve the attainment of the objectives.

Beyond emulating the program's strengths, other programs could improve on PROGRESA by enhancing the evaluation possibilities.<sup>2</sup> First, the evaluation design could explore a number of aspects that are difficult to explore with the present PROGRESA data or that require imposing a lot of structure to do so. Randomly assigned variations (perhaps across communities to avoid invidious comparisons within communities) could be implemented, for example, in the payment schedule for attending different grades of school by gender; in whether the payments are made to mothers, fathers, or the children themselves; in whether payments are made to the demand side (households, individuals) or directly to suppliers (schools); in whether other components of the PROGRESA package are included; and in whether payments are conditional on attending schooling.

Second, the data collection and evaluation process could be made more independent of the implementing agency. For example, the evaluating agency could be contracted by a different arm of the government rather than by the implementing agency, and the evaluating agency could be given direct responsibility for collecting the data to be used, including both primary data and secondary data from other governmental agencies. Data could also be made available for public use earlier. These changes would increase credibility based on the degree of independence of the evaluation, and they would encourage multiple evaluations, which would be informative with regard to the robustness of the estimates.

Substantial gains could be made in terms of understanding social programs if other programs would share and act on PROGRESA's commitment to data collection and evaluation, preferably not only by imitating PROGRESA in these regards, but also by improving on PROGRESA's design.

**Carola Pessino:** The paper by Emmanuel Skoufias and Susan Parker forms part of an important research effort to analyze the impact of PROGRESA on beneficiary households' school enrollment, labor force participation, nutrition, and health status. PROGRESA distributes cash to very poor mothers in rural households, conditional on their children attending school (at least 85 percent of the time) and making regular visits to health clinics (for younger children). PROGRESA also distributes

2. Of course, some of these improvements may have political and other costs, but I do not discuss them here as I have no special insight on the issue.

nutritional supplements for pregnant and lactating women and for young children in beneficiary families. In essence, households are provided a strong incentive for sending their children to school and participating in periodic health and nutrition interventions. Implicit in the program—and in the paper—are the beliefs that investing in poor children's formal education will result in their higher earnings in the future and that short-term liquidity constraints play a greater role in accounting for low school attendance than does long-term poverty.

Other studies have shown, however, that long-term poverty (resulting, for example, from family background in terms of low education and skills) is a more important determinant of school attendance than short-term liquidity constraints. Heckman and Pessino, who study skill formation in Argentina, conclude that subsidies to adolescents to promote school attendance (as in the Scholarships for Youth program) fail to recognize that long-term factors mainly account for success in school attendance and performance in school.<sup>1</sup> Dropping out of school is not typically caused by short-term employment opportunities that lure students from school or by short-term financial constraints that put pressure on their families. In fact, several estimates of the contribution of such short-term factors show only a weak effect. While programs similar to the Argentine Scholarships for Youth Program have been shown to reduce dropout rates in the United States, they generally have had small and mixed effects. These findings indicate that sound policy advice for a skill-formation strategy might be to invest in young children. The younger the age of this investment, the higher will be the returns to it, because delayed investment substantially impairs young people's ability to develop skills and compensating for delayed investments is costly.

This view of skill formation emphasizes the importance of the family and early childhood experiences in producing successful students, workers, and citizens. It plays down the importance of formal educational systems in producing skills. Schools can be effective only if families and the institutions that foster early childhood development are effective. Every rigorous study of this question reveals that families and early environment are the keys to successful schooling experiences. One question, therefore, is whether PROGRESA might be more successful if it included

1. Heckman and Pessino (1999).

a component of early childhood development, such as preschool or other early interventions.

A related but different point is the presumption that investing in formal schooling has higher returns than other mechanisms of skill formation. Even if children from poor families complete high school, the rates of return to their education might be lower than those for people who self-selected into education. Even in the absence of self-selection, rates of return to education have been found to be highly convex to years of schooling.<sup>2</sup> Evidence from many studies in Latin American and Caribbean countries and elsewhere demonstrates that rates of return to secondary schooling are low even for people that self-selected into it. Evidence on rates of return to education for poorer people are not only lower in relative terms, but also quite low in absolute value.

The Skoufias and Parker paper implies that a good outcome of the program is for children to put more time into formal secondary schooling (most already go to primary school) and less into market work (for boys) and domestic work (for girls). However, given the results mentioned above, market or domestic work might not be such a bad tool for skill formation among children of secondary school age, because many high schools in Latin American countries suffer from a so-called academic bias and hence do not necessarily equip their graduates with the skills that are required by the market.

Regarding the estimations, I am surprised by the results in table 5, which indicate a very low effect of PROGRESA on enrollment in school. For example, for boys aged 14 to 15 the probability of attending school is approximately 40 percent. This suggests that the program has increased attendance by 5 percentage points, whereas one could reasonably anticipate a significantly greater increase compared to attendance levels by those not participating in PROGRESA (see figure 1).

One factor accounting for the relatively small increase in formal schooling could be inadequate monitoring of the program by PROGRESA officials. Additional effects may stem from selection bias (for example, some eligible households may choose not to participate in the program out of fear that their children will not be able to compete with others) or attrition bias (that is, there may be certain systematic factors associated with dropping out of the program). The foregoing factors suggest the need for

2. Legovini, Bouillon, and Lustig (2001); Ferreira and Paes de Barros (1999).

a more sophisticated way of assessing the real impact of PROGRESA, including its apparently limited impact on formal school attendance.

Finally, I am skeptical of using the results of this research or of other literature on PROGRESA as the basis for recommending that the program be applied in other countries. Heckman, LaLonde, and Smith note that under ideal conditions, social experiments identify the effect of the treatment on the treated.<sup>3</sup> While such experiments help to mitigate measurement bias, they do not eliminate it. Thus they cannot answer other evaluation questions, such as the effect of a program on a random participant, without incorporating further assumptions and econometric manipulations. The self-selected nature of the samples generated by social experiments means that the data produced from them are far from ideal for estimating the structural parameters of behavioral models. This makes it difficult to generalize findings across experiments or to use experiments to identify the policy-invariant structural parameters that are required for econometric policy evaluation. For these reasons, evidence from social experiments conducted on programs with different and complex participation and eligibility rules, such as PROGRESA, do not cumulate in ways that are readily interpretable. The lessons from PROGRESA, whatever they might be, cannot yet be generalized to other countries.

3. Heckman, LaLonde, and Smith (1999).



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