Readers might infer from the paper by Devarajan, Squire, and Suthiwart-Narueput and from Hammer’s applications of that methodology to health projects, that the authors are proposing fundamental modifications of the standard techniques and of received theory of cost-benefit analysis (otherwise known as applied welfare economics and in some uses as social or economic project evaluation). Such an inference is not warranted, however. So far as I can see, nearly everything the authors propose fits quite easily within the inherited corpus of applied welfare economics. The steps that they advocate are modifications not of standard cost-benefit analysis, but of habits that have developed over the years and decades both in the World Bank and quite generally among practitioners of economic project evaluation.1

Hammer nicely summarizes Devarajan, Squire, and Suthiwart-Narueput’s main prescription: there should be a firm rationale for public involvement if a project is to be done in the public sector; the project should be compared with a clear “counterfactual”; the fiscal impact of the project should be clearly identified and should be assigned a properly estimated cost; and the issue of fungibility of funds should be clearly addressed in weighing the economic consequences of project loans.

Establishing the Counterfactual

Perhaps just as professors in introductory economics courses harp on the difference between “average” and “marginal” costs, revenues, productivity, and so on, professors of project evaluation try to hammer home the dichotomy of “with” versus “without” a project. Ideally, we build a running scenario of the world “without” the project, a moving picture going ahead ten or twenty years, depending on the project’s economic life. Into this scenario we then insert the project, duly noting all the relevant differences between the two scenarios. These differences are the basic inputs into project evaluation. Usually we start with the
project’s own purchases and sales or other flows of direct costs and benefits. But we really should go on to assess differences that arise outside the project. This is what we are doing when we use, say, the economic opportunity cost of foreign exchange, or of capital, in project evaluation. These opportunity costs capture the fact that the use of foreign exchange in the project displaces other imports. The tariff revenue lost on these imports is captured in the economic opportunity cost of foreign exchange. If the project pays tariffs on some of its own imports, those tariffs are captured as part of the difference between the project’s financial benefits and its economic benefits.

Economists as a profession are pretty good at capturing the external effects that are summarized in the opportunity costs of capital and foreign exchange because these are visualized as being generated when any new demand is inserted into the corresponding (foreign exchange or capital) market. Economists are not nearly so good at capturing types of displacement that are unique to each project. Not all evaluators even look for them; others may look in a perfunctory way and turn up some, but not all, of the relevant externalities. I know of no one, even among those who have made the most serious efforts, who would state flatly that no important externality has escaped his or her net (in a real-world project evaluation).

Economists know what they should do in principle, and they recognize this when they give lectures and ask or answer examination questions. But when they are out in the field, evaluating real projects with limited time and resources, they practice far less than they preach.

**Issues of Public-Sector Involvement**

Traditional project evaluation and traditional applied welfare economics have been color-blind about whether a project is located in the public or the private sector. All they are interested in is the profile of the project including all relevant externalities. If profiles A and B are the same, the projects get the same evaluations, independent of the sector in which they are situated.

I do not believe that Devarajan, Squire, and Suthiwart-Narueput would disagree with this statement, but they might say several other things. First, that many public-sector projects have been evaluated without properly tracking the counterfactual. If a public-sector textile project displaces a certain amount of private-sector textile capacity, then such things as the taxes that would have been paid by the private sector but are not paid with the public-sector project must be counted as costs.

Second, they may impute to the public sector a lower degree of efficiency or a slower adaptation to economic change—or both—than the private sector. The assumption here is that private firms will adopt cost-reducing technologies more quickly and will abandon nonviable lines of production more rapidly than will public sector firms. Economists used to find this hard to say, but they now un-
derstand that the public sector’s sluggishness in these respects arises out of real political pressures. Recognition of this fact has been one of the factors behind the recent worldwide wave of privatizations. The current response to pressures that prevent state-owned firms from being economically efficient is to privatize those firms and thus get the government out from under.

Thus if the project is in the public sector and can be expected to supply goods to the public at a higher real cost, on average, than would a private producer, that should be enough to condemn the project to the discard pile, for one of the most fundamental precepts of project evaluation is that one should not ascribe to a given project a benefit that is greater than the alternative cost of providing that (or an equivalent) benefit by another route.

I believe that in these and similar cases, old-fashioned project evaluators would have followed a path very similar to the one recommended by Devarajan, Squire, and Suthiwart-Narueput. The nuance of differences that might exist (and I am far from sure that it does) could be that Devarajan, Squire, and Suthiwart-Narueput might really prefer the private-sector project to the identical public-sector project, which comes close to implying that they might opt for the private-sector project even if its true benefits were somewhat less than the public-sector project.

**A Shadow Price for Fiscal Funds**

On this point I have a confession to make. For some three decades I have ardently defended the convention, in cost-benefit analysis, of assuming that the marginal source of project funds was (government) borrowing in the capital market. I did so (and still do) because this is where marginal increments of money typically come from (as governments increase debt to cover deficits, both foreseen and unexpected) and go to (when either foreseen or unexpected surpluses appear). This convention is useful because the capital market (the banking system in some developing countries) is the actual source to which governments turn. It is also useful in that the ultimate sources of funds are determined by elasticities of supply and demand in the capital market. These are likely to be far less capricious than the weights that would apply to successive tax changes, which tend to be very different in their impact from one tax law (eliminating investment credits) to another (an alcoholic beverages tax or an increase in a value added tax) to yet another (a reduction in income tax rates and a partial integration with the corporate income tax).

I thought I had made a very strong case for a capital market “convention.” And I felt little pressure to make a stronger one, because nearly every framework for project evaluation uses the capital market convention anyway. So there was no vocal group out there clamoring to be convinced.

My complacency was interrupted, about a year ago, when I was writing a sort of current status report on economic project evaluation. One of the topics I
was asked specifically to address was that of shadow prices for fiscal funds. My first reaction to the idea of such a shadow price was negative, because I thought that it meant abandoning the widely accepted convention of sourcing in the capital market. But further reflection revealed to me that it meant no such thing. Indeed, it was not only fully compatible with that convention, but in fact was arguably a natural complement to it.

First, consider a public-sector project that just pays for itself in budgetary funds, discounted at the economic opportunity cost of capital. For such a project one can either use a shadow price for fiscal funds or not. If fiscal costs equal fiscal benefits, then fiscal costs multiplied by \((1 + \lambda)\) equal fiscal benefits multiplied by \((1 + \lambda)\). \([(1 + \lambda)\] is the shadow price of a dollar of fiscal funds.\]

Now consider a project that does not generate enough fiscal revenue to cover its costs. One option would be to assume, following the convention, that the funds (say, $10 million) initially came from the capital market and that project revenues were sufficient to pay back, say, $6 million (in present value terms). What should be done about the remaining $4 million? My old assumption seemed to imply that this $4 million of present value gets incorporated into the debt that never will be repaid. Seen in this light, the assumption does not seem too wise.

The next step was to assume that at some point during or after the life of the project, the government would use fiscal revenues to pay off the project’s remaining debt. Raising those revenues would carry an excess burden because all real-world taxes are distortionary. It is difficult to measure that excess burden because the pattern of tax rates that will be used to cover the project’s deficit cannot be predicted. This particular dilemma does not disappear when one moves from a “fiscal finance convention” (rejected by me and by most) to a “shadow price of fiscal funds” (proposed by Devarajan, Squire, and Suthiwart-Narueput and accepted at least by me). My suggestion at this point is that one should work with the lower end of the plausible values of \(\lambda\) (the excess cost per dollar of fiscal funds). That would mean leaning toward the 0.17 end of Devarajan, Squire, and Suthiwart-Narueput’s reported range of 0.17 to 0.56 (for the United States).

In any case, if one assumes that the project’s fiscal deficit is covered by fiscal funds raised by taxes, one might think of applying the factor \((1 + \lambda)\) just to the fiscal deficit. But once again, simple accounting identities come to the rescue of economists. One way to apply this factor to the fiscal deficit of the project is to apply it to all the fiscal outflows and all the fiscal inflows, that is, to treat it as a shadow price of fiscal funds generally. I take this to mean all the cash outlays on the project that are done with government money (own or borrowed) together with all the inflows from the project into government hands.

My final conclusion is that I am not at all troubled, indeed I am pleased, with the idea of using a shadow price of, say, 1.20 or 1.25 for all fiscal flows on a project. I believe this order of magnitude would be on the low side (as I think it should be) not only for the United States, but for nearly every other country.
On the Fungibility of Funds

Standard project evaluation does not deal with the fungibility of funds because it focuses on the project rather than on the means of financing. Put somewhat differently, the capital-market-sourcing convention says that the money spent on the project could always simply be dumped back into the capital market, where, by definition, its true economic return (counting all externalities) would be the opportunity cost of capital. That is why the economic opportunity cost is used as the discount rate. (There is some literature that advocates treating “soft loans” differently from regular sources of funds, but I believe that most serious thinking on this subject comes to the conclusion that all projects should pass the test, using the opportunity cost of funds as the discount rate, no matter how much soft money happens to be put at the project’s disposal.)

I believe that these observations imply an implicit recognition of the fungibility of funds, but it is from a different angle. Devarajan, Squire, and Suthiwart-Narueput look at the problem from the standpoint of the lending agency, and when push comes to shove, they seem to be as interested in evaluating the loan as in evaluating the project. This is perfectly sensible and straightforward. In fact, life becomes very simple once one recognizes that two different evaluations are involved.

If one focuses on evaluating the loan, one can bypass the project that it ostensibly finances and try to track down the project that it really ends up financing. But trackers will find the jungle very murky here. Rarely will it be possible to identify the specific projects that the loan will finance.

What is the solution? My opinion has always been that a good alternative for international lending agencies as well as foreign aid agencies is to insist that not only must the project be evaluated by sensible criteria, but also that the host country use similar criteria to evaluate its other projects.

This may be close to what Devarajan, Squire, and Suthiwart-Narueput prescribe, but I think there is some element of difference. I would emphasize the importance of a country’s developing—and institutionalizing—its own project evaluation capability. I have participated in a few exercises in this direction and can assure readers that it is a difficult row to hoe. It is critical to have technically sound (and morally upright) people in charge of such an effort. One does not often have that at the beginning. So the row turns out to be a long one, with the lending and donor agencies planting the seeds and nurturing the seedlings as they grow.

This sort of work is a prior step to what Devarajan, Squire, and Suthiwart-Narueput recommend for sectoral public expenditure reviews. But certainly we are all on the same side of the fence when it comes to prescribing how to deal with the problem of fungibility. My position is fully compatible with their call for periodic sectorwide reviews of the results of past projects, the likely need for new ones, and public expenditure allocations in general. A great deal of attention has been focused on limiting the size of government and enhancing its effi-
ciency, but I suspect that old-fashioned project evaluation theory, if well applied, would not only lead to a similar conclusion, but to one that was based on considerations of economic efficiency.

One way to limit the government’s reach would be to impose, in evaluations of public projects and programs, a penalty on the use of funds by the government. This is where we come out in the end, but the penalty of \( \lambda \) is motivated in both our cases by standard efficiency considerations—the excess burden associated with all real-world forms of taxation—rather than stemming from a bias against the public sector as such.

The well-known problem of the fungibility of funds remains just as difficult as ever. In the end, evaluators must despair of knowing where the money really went when loan funds are used to finance a project that would have been built anyway. Devarajan, Squire, and Suthiwart-Narueput and I respond to this problem by urging greater vigilance in all projects and programs. If all of them pass the cost-benefit test, fungibility entails no serious cost. Because the actual level of vigilance is so bad in nearly every country, there are many paths that would lead to its improvement. The paths urged by Devarajan, Squire, and Suthiwart-Narueput (public expenditures reviews) and by me (institutionalizing the widespread employment of cost-benefit analysis) are both sensible directions.

**Observations**

The four issues examined here go to the core of applied welfare economics. As one delves into them, one discovers conceptual subtleties that often go unrecognized. One also realizes how rudimentary are many of the practices that have become habitual among project evaluators.

It all goes back to the mantra of project evaluation courses—comparing the situation “with” and “without” the project. If only evaluators could do this really well, all or even most of the time! Part of the concern over whether a project should be undertaken by the public sector may stem from the ethos of our time—a time in which budgetary problems have been a prime concern, in which issues of efficiency in government have come to the fore, and in which privatizations and other forms of downsizing have helped make at least some governments significantly smaller than they were in the recent past. I believe that evaluators as well as donors can be sensitive to these considerations without appealing to any antigovernment bias simply by specifying the relevant alternatives much more carefully than they have in the past, by using in their discounting a properly calculated economic opportunity cost of capital, and by greatly improving the quality of the work they do, using tools of applied welfare economics that have been available all along. In short, the fundamental conceptual framework need not be modified, but there is plenty of room to improve what is actually done within that framework. Devarajan, Squire, and Suthiwart-
Narueput have performed a useful service by pointing out several important directions in which such improvement is needed.

**Note**

Arnold C. Harberger is professor of economics at the University of California, Los Angeles, and Gustavus F. and Ann M. Swift Distinguished Service Professor Emeritus at the University of Chicago.

1. For at least a couple of decades, it was common to speak of social project evaluation and of social opportunity costs of labor, foreign exchange, and capital. In the 1970s or early 1980s, economists began referring to economic project evaluation and to the economic opportunity costs of productive inputs and outputs. This change in terminology involved no change in meaning that I can detect. I believe it was motivated by a desire to avoid people’s misinterpreting the concepts via an association of the term “social” with things like “social policy,” “social services,” “social problems,” and so on. That linkage was never really present, and the use of the adjective “economic” better reflects this fact.