

Bent Flyvbjerg with Nils Bruzelius and Werner Rothengatter, *Megaprojects and Risk*. Cambridge: Cambridge University Press, 2003. 218 pp. ISBN 0521009464, £15.99 (pbk).

Megaprojects mushroom everywhere. Soaring bridges, massive dams, elaborate highway systems, virtuoso railways are all the rage in cities and nations around the globe. But, say Bent Flyvbjerg and colleagues, not only have many such projects had strikingly poor performance records, but alarming cost overruns and market shortfalls have not deterred advocates from pressing forward with yet more monster designs.

The authors provide impressive documentation of megaproject shortcomings, including case studies of three major megaprojects, and data reflecting performance from several hundred large projects. The massive Central Artery/Tunnel Project in Boston leads the overrun chart at 196 percent over forecast. The authors found that the difference between actual and estimated investment cost was on average 28 percent, but 45 percent in the case of rail projects. The main cause of overruns has been a lack of realism in initial cost estimates. 'Cost underestimation and overrun have not decreased over the past seventy years. No learning seems to take place' (p. 16).

While costs often run out of control and threaten project viability, below-forecast revenues frequently compound the problem. Thus Channel Tunnel ridership in the first year of operation was only 18 percent of forecast and was only 43 percent of the forecast for the first year after more than six years in business. Rail projects have suffered particularly from actual ridership levels that have often turned out to be well below those forecast. The authors cite a Martin Wachs study (Wachs, 1990) that found that a pattern of highly misleading forecasts could not be explained by technical issues, but seemed more likely the result of lying, particularly lying under political pressure. They add that their current large sample of data statistically substantiates a pattern of underestimated costs and overestimated benefits consistent with the Wachs claim. 'The use of deception and lying as tactics aimed at getting projects started appears to best explain why costs are highly and systematically underestimated and benefits overestimated in transport infrastructure projects' (p. 47).

The authors identify the main causes of the megaprojects paradox – which they define as 'the irony that more and more megaprojects are built despite the poor performance records of many projects' – as inadequate deliberation about risk and a lack of accountability in the project decision-making process. In contrast to the predictable Newtonian world of cause and effect assumed by megaproject proposals, 'In reality, the world of megaproject preparation and implementation is a highly risky one where things happen only with a certain probability and rarely turn out as originally intended' (p. 6).

Because power play dominates deliberative approaches to risk, the authors see the key to better decision making in institutional arrangements that promote accountability, rather than better and more rational information and communications alone. Their analysis of problems in megaproject development leads to recommendations for four instruments of accountability. They call for transparency, with all documents made public and steps taken to engage stakeholders and the public. Public hearings and independent peer review should be important parts of the evaluation process and professional expertise used to plan and implement transparency and participation. Lobby groups should be given less opportunity to influence outcomes.

Second, while project development and appraisal traditionally take the form of technical analyses, a discussion of policy objectives and public interest requirements should precede discussion of technical alternatives and performance specifications should be identified and spelled out up front.

Third, the regulatory regime should be set out and risks of a political nature identified and as far as possible eliminated.

Finally, private risk capital without government repayment guarantee should provide at least one third of the total capital needs. This would result in more realistic risk assessment as well as a shift in risk away from ordinary citizens.

A project development process is outlined, including a series of documents to be provided in what appears to be a rational and deliberative process.

There is much that is admirable about the principles the authors outline, but surely the issue is not the need for such principles but how to bring them into practice? Despite the criticism they make that megaproject developers assume that everything will go according to plan, the authors appear to have an overconfident belief that the neat rational process they specify can bring sense to the megaproject appraisal process.

Unfortunately, life is more complicated. To start with, the power relationships that the authors note briefly are not going to evaporate. Megaproject politics are the preserve of the other recent megaprojects book, *Mega-Projects: The Changing Politics of Urban Public Investment* (Altshuler and Luberoff, 2003). Authors Alan Altshuler and David Luberoff argue convincingly that when business interests unite behind projects that are often carefully structured to garner business support, other organizations fall into line. They describe a public entrepreneurship model of government, furthermore, in which government could not be further in its objectives or methods from the calm and rational appraiser and regulator Flyvbjerg et al. would have in place but, rather, has been an enabler of projects subject to shifting political constraints. In fact, to read from their argument, many megaprojects (including ones Flyvbjerg et al. would consider worthwhile) would simply not happen without such a public entrepreneurial role. It is problematic, therefore, that Flyvbjerg et al. do not give us a path to show how government can be brought to adopt their rational evaluation prescription.

If we are not told how government is to be brought into line how in democratic societies are we to change the behavior of lobby groups as desired by the authors? How are we to move to public meetings that have a real rather than rubber stamping role or to obtain truly independent peer review in a world where the authors see so much lying taking place?

Perhaps even more difficult, how are we to move from a system where megaprojects are brought into play as politically acceptable apparent solutions to a variety of policy objectives to one where policy objectives are properly addressed before projects are discussed? The very formulation of

the process the authors propose, with its focus on project evaluation legitimizes the megaproject ideal. What of needs for more effective management of existing resources at far lower cost than megaproject alternatives? Where is there place for the low-key and the mundane?

A large part of the problem lies in what drives the glowing perceptions of megaprojects by their sponsors and supporters, territory skirted by both megaprojects books. Megaprojects are by their nature a part of a mythical world in which large-scale works symbolize concrete solutions to abstract and complex problems (Wachs and Schofer, 1969). Thus, in my study of rail transit in Los Angeles, I found that beliefs in rail transit to cure congestion, clean the environment and even connect the urban poor to employment opportunities were powerful. Most significantly, I found that such beliefs were for the most part genuine and not part of a pattern of lying. In fact, symbolically they made sense and even nested together coherently in a strange sort of logic of the insane. Trains go fast; therefore they will be better than buses. In fact, they will be so fast that people will not mind the inconvenience of getting access to them. Trains run on electricity and will therefore be cleaner than diesel-belching buses. Trains have fewer drivers and so will cost less to run than bus alternatives. A rail line forms a physical connection between rich and poor areas of the community and so will help provide social equalization. People will not vandalize a nice-looking train as they will a bus. Every great city has trains, so if we have trains we will also be a great city, and so on (Richmond, 1998, 2004).

The reality is far more complex than this, but ordinary people – and that includes the majority of political decision-makers – respond more to symbolic beliefs than to piles of dry data. Megaprojects are great for ribbon cutting and show achievement in a highly physical way. Just as we need religion to escape our fear of death so we need megaprojects to demonstrate that we can gain control over aspects of the environment – congestion, polluted air and so on – that seem all too intractable.

What this means is that we need to find a path to reflection, to uncovering our weakness for the symbolically powerful easy answers that megaprojects constitute. Alas, that is no easy answer but any change will have to come about through a process, and not through adherence to a set of rational principles, however wonderful they may be. Such a process, I would argue, must be essentially educational and runs not only to educating decision-makers to reflect but to making the educational systems in our schools and universities more reflective. And still megaprojects will have their pull because to be human is to be symbolic and there is great comfort to be drawn in a symbolic answer to so many of our woes whatever the more rational analysis might say.

Flyvbjerg et al. have a substantial achievement in the dazzling array of data they have collected on problems of megaproject performance. They have successfully documented the alarming tendency to not only underestimate costs and overestimate market but also for demand for megaprojects to only accelerate in the face of such results. They document the spin

tactics of proponents, they show how essential aspects of risk are ignored; they highlight the bizarre failure to learn from failure. They come up with an admirable wish-list for more responsible institutional arrangements. What they do not do, however, is tell us how we are to implement such arrangements in the face of both the political power plays and symbolic appeals that drive megaprojects into reality. As such, their remedies appear naively presented. It is unrealistic to assume, furthermore, that either an effective selection process or policy solution is possible when its design fails to consider political and symbolic factors. This is a great book, nonetheless, for all students of planning and policy as well as for politicians and professionals, for it can at least create awareness that there are problems that need to be fixed even if the path out of them is ultimately beyond its scope.

## References

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