

Impact case study (REF3b)

Institution: Heriot-Watt University
Unit of Assessment: C19: Business and Management Studies
Title of case study: Enabling International Financial Institutions to Better Evaluate the Business Environment in Developing Countries
<p>1. Summary of the impact (indicative maximum 100 words) Research at HWU in collaboration with economists at UCL, Toulouse and international financial institutions led to the development of a framework for analysing the relationship between company performance and the business environment in developing countries. The framework has been and is being used by the World Bank and the European Bank for Reconstruction and Development (EBRD) to analyse survey data on tens of thousands of firms. In the words of the Office of the Chief Economist of EBRD, the framework has enabled them to “<i>identify interventions that policy makers should prioritize to improve the public infrastructure with which firms operate.</i>”</p>
<p>2. Underpinning research (indicative maximum 500 words) Since the late 1990s, the World Bank, EBRD, and other international organisations have been surveying companies around the world about the quality of the business environment in which the companies operate and the main constraints on growth that they face. As of August 2013, the Enterprise Surveys project (http://www.enterprisesurveys.org/) has collected data on approximately 130,000 firms in 135 countries. These data are used by the World Bank and EBRD for conducting policy analysis; they are also made available to the public.</p> <p>Deriving robust and useful policy conclusions from these datasets faces important challenges, however. The key problem is that what companies identify as constraints depends not just on the constraints, but also on the companies themselves. For example, a company might report that corruption is not a problem because officials are honest. But it might also report that corruption is not much of a problem because the company is small, lossmaking firm that corrupt officials ignore because the pickings are better elsewhere. This problem appears across the board for the constraints measured in the Enterprise Surveys project, e.g., rapidly growing companies will report bigger problems with electricity supplies because they are growing rapidly and putting increased demands on the electricity infrastructure, and not necessarily because the infrastructure itself is very poor. While there are econometric methods that can be used in a non-experimental setting to attempt to address this problem (e.g., instrumental variables), use of these estimators faced important obstacles relating to data requirements that made employing these methods difficult or impossible.</p> <p>Mark Schaffer, working with Wendy Carlin (UCL) and Paul Seabright (Toulouse), developed an alternative analytical framework for using these data that does not have such stringent data requirements. In this framework, responses of companies to questions about the constraints they face on their operations are treated as “shadow prices” – in effect, as valuations of the costs that these constraints impose on the companies. These costs are predicted theoretically, and are shown empirically, to vary systematically across companies in countries. Because the surveys collect data on a range of public inputs provided by government (electricity, transport links, customs, policing, courts, etc.), the framework enables the identification of the most important public goods for the state to improve, and provides an alternative to the laundry lists of reforms often prescribed by international institutions and other policy advisors for developing countries. The costs of constraints also vary systematically across countries, and the framework enables the cross-country ranking and comparison of the obstacles to company growth.</p> <p>While originally developed as a policy-oriented tool for data analysis, the framework also has academic and pure research applications; the Carlin-Schaffer-Seabright economic history paper on the evaluation of the legacy of decades of central planning is an example.</p>
<p>3. References to the research (indicative maximum of six references) [1] Wendy Carlin and Mark E. Schaffer, “The Business Environment in the Transition”, in Paul Hare</p>

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and Gerard Turley (eds.), *Handbook of the Economics and Political Economy of Transition*, Routledge 2013. Available on request.

- [2] Wendy Carlin, Mark E. Schaffer and Paul Seabright, "Soviet power plus electrification: what is the long-run legacy of communism?", *Explorations in Economic History*, Vol. 50, No. 1, January 2013, pp. 116-47. DOI: [10.1016/j.eeh.2012.07.003](https://doi.org/10.1016/j.eeh.2012.07.003)
- [3] Wendy Carlin and Mark E. Schaffer, "Understanding the business environment in South Asia: evidence from firm-level surveys", *Policy Research Working Paper Series 6160*, The World Bank, 2012. DOI: [10.1596/1813-9450-6160](https://doi.org/10.1596/1813-9450-6160)
- [4] Wendy Carlin, Mark E. Schaffer and Paul Seabright, "A Framework for Cross-Country Comparisons of Public Infrastructure Constraints on Firm Growth", *CEPR Discussion Paper 7662*, 2010. <http://www.cepr.org/pubs/dps/DP7662.asp>
- [5] Pradeep Mitra, Marcelo Selowsky and Juan Zaldueño, *Turmoil at Twenty: Recession, Recovery, and Reform in Central and Eastern Europe and the Former Soviet Union*, World Bank, 2009. Available on request.
- [6] Reema Nayar, Pablo Gottret, Pradeep Mitra, Gordon Betcherman, Yue Man Lee, Indhira Santos, Mahesh Dahal, and Maheshwor Shrestha, *More and Better Jobs in South Asia*, World Bank, 2012. Available on request.

4. Details of the impact (indicative maximum 750 words)

The framework developed by Schaffer and colleagues has been used by the EBRD and the World Bank in a series of policy analyses and publications, framing localised responses to national issues. The framework provides researchers and policymakers with tools for a data-based diagnostic of the state of the business environment in their countries and for developing strategies for reform. The EBRD values the fact that "*the framework that you proposed ... identifies interventions that policy makers should prioritize to improve the public infrastructure within which firms operate*", and they regularly use the framework in their analyses of the data collected in the joint EBRD-World Bank survey of companies, the Business Environment and Enterprise Performance Survey (BEEPS).

The EBRD made extensive use of the framework developed by Schaffer and colleagues in their EBRD Transition Report 2010, EBRD Transition Report 2012, and Diversifying Russia report. This work was done by the EBRD's economics staff without the direct input of Schaffer et al. More recently, Schaffer and Carlin have been working with the EBRD's Office of the Chief Economist to quantify the impact of business environment constraints on companies' costs. In order to do so, the EBRD has developed, with input from Schaffer and Carlin, a series of follow-up questions on business environment constraints and are currently implementing them in surveys of thousands of companies in 30 countries in Eastern Europe and Central Asia, as well as in 10 countries in the Middle East and Northern Africa region.

EBRD's Office of the Chief Economist states, "*A great advantage of the framework you proposed is that it identifies interventions that policy-makers should prioritize to improve the public infrastructure with which firms operate. We have used a version of your framework in analysing the results of BEEPS V Russia, which covered 37 Russian regions, and we have presented them to a number of regional policy makers in Russia in December 2012. ... Your work has had a significant impact on the way we interpret the business environment constraints and their use in policy dialogue, which we hope will improve the business environment for the firms in the EBRD countries of operation.*" [S2]

In its Diversifying Russia report, the EBRD undertook a survey of 37 of Russia's Regions with over 4,000 companies applying the framework developed by Schaffer et al. The application of the framework in the survey suggests that even neighbouring regions often have very different profiles

in terms of their business environments. For example, in the Primorsky Region, where the Far Eastern seaport of Vladivostok is located, companies perceive corruption, competition from the informal sector and access to land to be the most important obstacles to doing business. By contrast, in the neighbouring Khabarovsk Region, various aspects of infrastructure appear to constrain local businesses most: transportation, access to electricity and telecommunications (page 46).

The World Bank used the framework for two flagship reports. The first was *Turmoil at Twenty* (2009), a twenty-year retrospective on the experiences of economies of Central and Eastern Europe and the former USSR since the collapse of communism in 1989-91 and the start of the transition to market-based economies. The second was *More and Better Jobs in South Asia*, a forward-looking evaluation of the labour markets of the 8 economies in the World Bank's South Asia regional operations. Schaffer and Carlin served as consultants for both reports, contributing directly to the analysis and to drafting of portions of the reports. The most important of the findings, as identified by the World Bank, that were based on the framework developed by Schaffer and Carlin were that (a) in the transition economies, physical infrastructure and labour market skills during those twenty years had become significantly more severe constraints to the operations of companies in transition countries compared to non-transition countries at similar levels of per capita income; (b) in the economies of South Asia, notwithstanding the notable diversity of those countries, the top three constraints affecting the operations of firms that had added jobs in South Asia were the lack of reliable electricity supply, bribes paid to the utilities and tax authorities, and political instability, and addressing these constraints should feature on any agenda for job creation.

The World Bank's Chief Economist for the Europe and Central Asia Region [S1] when the work for the first report was initiated was also a member of the World Bank team that drafted the second report. He writes that "*These results emerged from a rigorous and imaginative application of the framework developed by Mark Schaffer and his co-authors. They have had a clear impact on the way World Bank economists working on these issues think about the business environment.*"

5. Sources to corroborate the impact (indicative maximum of 10 references)

[S1] Former World Bank Chief Economist for Europe and Central Asia will confirm that he used the framework to analyse a complex set of statistics for the World Bank and make recommendations for policy direction based on the analysis. The work has had a clear impact on the way World Bank economists working on these issues think about the business environment.

[S2] Office of the EBRD Chief Economist and Director of Research will confirm that the framework is used to identify interventions that policy-makers should prioritize to improve the public infrastructure with which firms operate. The EBRD used a version the framework in analysing the results of BEEPS V Russia.

[S3] <http://www.ebrd.com/downloads/research/economics/publications/specials/diversifying-russia.pdf> In the EBRD report "Diversifying Russia", chapter 4, *Improving The Business Environment In Russia's Regions*, describes the application of the Schaffer et al's Framework for Cross-Country Comparisons of Public Infrastructure Constraints on Firm Growth in Russia