

Bellak, Christian; Leibrecht, Markus

**Research Report**

## Improving infrastructure or lowering taxes to attract foreign direct investment?

Columbia FDI Perspectives, No. 6

**Provided in Cooperation with:**

Columbia Center on Sustainable Investment (CCSI) - A joint center of Columbia Law School and the Earth Institute, Columbia University

*Suggested Citation:* Bellak, Christian; Leibrecht, Markus (2009) : Improving infrastructure or lowering taxes to attract foreign direct investment?, Columbia FDI Perspectives, No. 6, Columbia University, Vale Columbia Center on Sustainable International Investment (VCC), New York, NY

This Version is available at:

<https://hdl.handle.net/10419/253840>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



VALE COLUMBIA CENTER  
ON SUSTAINABLE INTERNATIONAL INVESTMENT  
A JOINT CENTER OF COLUMBIA LAW SCHOOL AND  
THE EARTH INSTITUTE AT COLUMBIA UNIVERSITY

## Columbia FDI Perspectives

Perspectives on topical foreign direct investment issues by  
the Vale Columbia Center on Sustainable International Investment

No. 6, June 3, 2009

Editor-in-Chief: Karl P. Sauvant ([Karl.Sauvant@law.columbia.edu](mailto:Karl.Sauvant@law.columbia.edu))

Editor: Lisa Sachs ([Lsachs1@law.columbia.edu](mailto:Lsachs1@law.columbia.edu))

### **Improving infrastructure or lowering taxes to attract foreign direct investment?**

by

Christian Bellak and Markus Leibrecht<sup>1</sup>

A crucial challenge to all countries in the current economic crisis is to stimulate investment, including foreign direct investment (FDI). Countries striving to attract FDI often resort to two types of policies: improving infrastructure or lowering taxes, as a means of attracting new FDI, or keeping existing FDI. Indeed, recent empirical studies (e.g. Bénassy-Quéré et al. 2007; Bellak et al. 2009) confirmed that both lower taxes and improved infrastructure exert a considerable influence upon multinational enterprises' decision to invest in a particular country, when controlling for other important location factors (like market size, labor costs etc.).

Excellent infrastructure is not only a key determinant for foreign investors but also helps to improve the competitiveness of domestic firms. High taxes – corporate income taxes in particular – are often seen as a deterrent to MNEs, as they directly reduce their after-tax profits. Alternative locations with a lower tax burden – and otherwise similar investment conditions – can change the investment decisions of multinational enterprises (e.g. DeMooij and Ederveen, 2008).

Policy-makers are pressed by limited budgets to find the optimal policy mix to maximize FDI at a minimum cost to the government and tax payers. Given the important effects of improved infrastructure and lower taxes on FDI, policy-makers must consider two important questions when designing their policies:

1. What is the *relative* importance of lower taxes and improved infrastructure for attracting FDI?
2. How does the possible negative effect of high taxes on FDI change if a country invests more in infrastructure? This is an important question, since often both policies, i.e. lowering taxes *and* investing in infrastructure, cannot be achieved simultaneously, since the former are required to fund

---

<sup>1</sup> Christian Bellak, Department of Economics, Vienna University of Economics and Business. He can be contacted at ++43 1 31 336 4505 or [bellak@wu-wien.ac.at](mailto:bellak@wu-wien.ac.at). Markus Leibrecht, Department of Economics, Vienna University of Economics and Business. He can be contacted at: [markus.leibrecht@wu-wien.ac.at](mailto:markus.leibrecht@wu-wien.ac.at). **The views expressed by the individual authors in this article do not necessarily reflect the opinions of Columbia University or its partners and supporters.** The authors wish to thank Agnès Bénassy-Quéré and Jack Mutti for their helpful comments on this *Perspective*. *Columbia FDI Perspectives* is a peer-reviewed series.

part of the latter. It is worth noting though, that in most cases infrastructure is not funded solely by taxes on mobile factors but via general budget revenues including debt.

The empirical study by Bellak et al. (2009) revealed that taxes are somewhat less important as a location factor (standardized coefficient of -0.25) than infrastructure (0.27). Moreover, the study revealed that, among the various types of infrastructure, information and communication infrastructure is more important (0.45) than transport infrastructure (0.19) and electricity generation capacity (0.06). Moreover, the significant impacts of taxes and infrastructure are robust not only across different specifications but also with respect to countries included in the analysis.

Concerning the latter, the study is based on FDI measured by bilateral FDI outflows of seven major home countries of FDI (AUT, DEU, FRA, GBR, USA, NLD and ITA) to eight important Central and Eastern European host countries (CZE, HUN, POL, SVK, SVN, BGR, HVN and ROM) during the period from 1995 to 2004. The gross national product at current market prices per head of population was as follows in 2004, in 1.000 Euros (Source: AMECO database): AUT: 28.3, DEU: 27.1, FRA: 26.8, GBR: 30, USA: 32, NLD: 31, ITA: 23.8, CZE: 8.2, HUN: 7.7, POL: 5.2, SVK: 6.1, SVN: 13.4, BGR: 2.6, HVN: 7.2, ROM: 2.7. The EU average value was 21.7. Therefore, the results are derived based on a set of countries with a wide range of development. Finally, it has to be stressed that the host countries of FDI included are rather heterogenous in both key variables, the tax burden levied on FDI as well as the endowment with infrastructure.

With respect to the second question, the study also measured the interaction between taxes and infrastructure, and the analysis shows that the negative impact high taxes have on FDI are negatively correlated with a country's infrastructure endowment ; in fact, the negative effect of taxes even vanishes for countries with relatively high levels of infrastructure (see also Bénassy-Quéré et al. 2007). Put differently, infrastructure generates specific advantages of a location which allow higher taxes on profits from FDI without discouraging such investment.

## **Conclusions**

The policy implications of this important result for a country seeking to attract FDI (especially countries currently debating the relative merits of cutting taxes versus increased spending, such as the United States) actually depend on the tax regime of the country.

*High tax countries* should continue to invest in infrastructure, and do not have to participate in the “race to the bottom” in tax rates, as well-developed infrastructure will negate the potentially negative effects of high taxes on attracting and keeping FDI. Countries with an above average infrastructure endowment can – at least in part – afford to finance their infrastructure by taxing corporations. In other words, a policy of contributing to improvements in productivity investments in production-related infrastructure in fact compensates MNEs for higher taxes.

The remaining policy issue for such governments is how much they should invest in infrastructure and which types of infrastructure should a country focus on. As mentioned above, information and communication infrastructure has been shown to be the most effective for attracting FDI, followed by transport infrastructure. Moreover, information and communication infrastructure is shown to be more important than corporate taxes as determinant of FDI (standardized coefficients of 0.45 and -0.25, respectively). Thus, it would be better to invest in information and communication infrastructure than lowering corporate taxes to attract and keep FDI.

For *low tax countries* with an inferior infrastructure endowment, like many developing countries and transition economies, the importance of tax policy is still relatively important, since the infrastructure endowment does not compensate for the costs of high taxes. The silver lining, however, is that FDI does react to changes in tax rates, so such countries can adjust their tax policies to attract more FDI. In the short term, such countries will likely be most successful in attracting FDI by relying on a strategy of low corporate income taxes. In the longer term, however, these countries should harness the positive contribution of FDI in their countries to invest in improving their infrastructure.

These results are of relevance to the current economic crisis, where countries have been scrambling to design stimulus packages that will increase investment, by domestic firms and foreign MNEs.

### References

- Bellak, C., M. Leibrecht and J. Damijan (2009) Infrastructure endowment and corporate income taxes as determinants of Foreign Direct Investment in Central- and Eastern European Countries, *The World Economy*, Vol. 32, Issue 2, February: 267-290.
- Bénassy-Quéré, A., N. Goyalraja and A. Trannoy (2007) Tax and Public Input Competition, *Economic Policy*, 22: 385–430.
- R. A. de Mooij and S. Ederveen (2008) Corporate tax elasticities: a reader's guide to empirical findings, *Oxford Review of Economic Policy*, 24(4): 680-697

*The material in this Perspective may be reprinted if accompanied by the following acknowledgment: "Christian Bellak and Markus Leibrecht, "Improving infrastructure or lowering taxes to attract foreign direct investment?," Columbia FDI Perspectives, No. 6, June 3, 2009. Reprinted with permission from the Vale Columbia Center on Sustainable International Investment ([www.vcc.columbia.edu](http://www.vcc.columbia.edu))."*

*A copy should kindly be sent to the Vale Columbia Center at [vcc@law.columbia.edu](mailto:vcc@law.columbia.edu).*

For further information please contact: Vale Columbia Center on Sustainable International Investment, Karl P. Sauvant, Executive Director, (212) 854-0689, [Karl.Sauvant@law.columbia.edu](mailto:Karl.Sauvant@law.columbia.edu) or Lisa Sachs, Assistant Director, (212) 854-0691, [Lsachs1@law.columbia.edu](mailto:Lsachs1@law.columbia.edu).

[Vale Columbia Center on Sustainable International Investment](#) (VCC), led by Karl P. Sauvant, is a joint center of Columbia Law School and The Earth Institute at Columbia University. It seeks to be a leader on issues related to foreign direct investment (FDI) in the global economy. VCC focuses on the analysis and teaching of the implications of FDI for public policy and international investment law.

### **Previous Columbia FDI Perspectives**

- No. 1. Karl P. Sauvant, "The FDI Recession has Begun," November 22, 2008.
- No. 2. Mark E. Plotkin and David N. Fagan, "The Revised National Security Review Process for FDI in the US," January 7, 2009.
- No. 3. Anne van Aaken and Jürgen Kurtz, "The Global Financial Crisis: Will State Emergency Measures Trigger International Investment Disputes?" March 23, 2009.
- No. 4. Gert Bruche, "A New Geography of Innovation—China and India Rising," April 29, 2009.
- No. 5. Ken Davies, "While Global FDI Falls, China's Outward FDI Doubles," May 26, 2009.