

Physical capital, knowledge capital, and the choice between FDI and outsourcing

Capital physique, capital de connaissance, et le choix entre l'investissement direct à l'étranger et la sous-traitance.

Yongmin Chen, Ignatius J. Horstmann, James R. Markusen

First published: 22 February 2012

<https://doi.org/10.1111/j.1540-5982.2011.01684.x>

Citations: 24

Markusen is also affiliated with the School of Economics, University College Dublin, NBER, and CEPR. We thank two referees and participants at a number of seminars and conferences for helpful comments and suggestions. Presentations were at the NBER ITO Working Group Meeting in Cambridge, the ERWIT conference in Appenzell, the ETSG conference in Warsaw, and the Norface conference in Munich, all held in 2008, and the Swiss Federal Institute of Technology and Hitosubashi University, Japan, held in 2009. Email: yongmin.chen@colorado.edu; ihorstmann@Rotman.utoronto.ca; james.markusen@Colorado.edu

Abstract

EN ES

Abstract There exist two approaches in the literature concerning the multinational firm's mode choice for foreign production between an owned subsidiary and a licensing contract. One approach considers environments where the firm transfers primarily knowledge-based assets and assumes that knowledge is non-excludable. A more recent approach takes the property-right view of the firm and assumes that physical capital is fully excludable. This paper combines both forms of capital assets in a single model. There are subtleties, and added structure is needed to establish what ex ante seems a straightforward testable hypothesis: relatively physical-capital-intensive firms choose outsourcing while relatively knowledge-capital-intensive firms choose FDI.

References

Antrás, Pol (2003) 'Firms, contracts, and trade structure,' *Quarterly Journal of Economics* 118, 1375–418

[Web of Science®](#) | [Google Scholar](#)

Antrás, Pol (2005) 'Incomplete contracts and the product cycle,' *American Economic Review* 95, 1054–71

[Web of Science®](#) | [Google Scholar](#)

Arora, Ashish (1996) 'Contracting for tacit knowledge: the provision of technical services in technology licensing contracts,' *Journal of Development Economics* 50, 233–56

Caves, Richard E. (2007) *Multinational Enterprise and Economic Analysis*, 3rd ed. (Cambridge : Cambridge University Press)

Chen, Yongmin, Ignatius J. Horstmann, and James Markusen (2008) 'Physical capital, knowledge capital and the choice between FDI and outsourcing,' NBER Working Paper No. 14515

Davidson, William H., and Donald G. McFetridge (1984) 'International technology transactions and the theory of the firm,' *Journal of Industrial Economics* **32**, 253-64

Ethier, Wilfred J., and James R. Markusen (1996) 'Multinational firms, technology diffusion and trade,' *Journal of International Economics* **41**, 1-28

Feenstra, Robert C., and Gordon H. Hanson (2005) 'Ownership and control in outsourcing to China: estimating the property-rights theory of the firm,' *Quarterly Journal of Economics* **120**, 729-61

Fosfuri, Andrea, Massimo Motta, and Thomas Rønde (2001) 'Foreign direct investments and spillovers through workers' mobility,' *Journal of International Economics* **53**, 205-22

Glass, Amy J., and Kamal Saggi (2002) 'Multinational firms and technology transfer,' *Scandinavian Journal of Economics* **104**, 495-513

Grossman, Sanford J., and Oliver D. Hart (1986) 'The costs and benefits of ownership: a theory of vertical and lateral integration,' *Journal of Political Economy* **94**, 691-719

Grossman, Gene, and Elhanan Helpman (2002) 'Integration versus outsourcing in industry equilibrium,' *Quarterly Journal of Economics* **117**, 85-120

Grossman, Gene M., and Elhanan Helpman (2004) 'Managerial incentives and the international organization of production,' *Journal of International Economics* **63**, 237–62

[Web of Science®](#) | [Google Scholar](#)

Hart, Oliver D., and John Moore (1990) 'Property rights and the nature of the firm,' *Journal of Political Economy* **98**, 1119–58

[Web of Science®](#) | [Google Scholar](#)

Horstmann, Ignatius J., and James R. Markusen (1987) 'Licensing versus direct investment, a model of internalization by the multinational enterprise,' *Canadian Journal of Economics* **20**, 464–81

[Web of Science®](#) | [Google Scholar](#)

Jinji, Naoto, Xingyuan Zhang, and Shoji Haruna (2011) 'Does Tobin's q matter for firms' choices of globalization mode?' RIETI Discussion Paper Series 11-E-061

[Google Scholar](#)

Mansfield, Edwin, and Anthony Romeo (1980) 'Technology transfer to overseas subsidiaries by U.S. firms,' *Quarterly Journal of Economics* **94**, 737–50

[Web of Science®](#) | [Google Scholar](#)

Markusen, James R. (1995) 'The boundaries of multinational enterprises and the theory of international trade,' *Journal of Economic Perspectives* **9**, 169–89

[Web of Science®](#) | [Google Scholar](#)

Markusen, James R. (2001) 'Contracts, intellectual property rights, and multinational investment in developing countries,' *Journal of International Economics* **53**, 189–204

[Web of Science®](#) | [Google Scholar](#)

Markusen, James R. (2002) *Multinational Firms and the Theory of International Trade* (Cambridge , MA : MIT Press)

[Web of Science®](#) | [Google Scholar](#)

Maskus, Keith E., Kamal Saggi, and Thitima Puttitanun (2005) ' Patent rights and international technology transfer through direct investment and licensing,' in *International Public Goods and Transfer of Technology under a Globalized Intellectual Property Regime*, ed. Keith E. Maskus and Jerome H. Reichman (Cambridge : Cambridge University Press)

[Google Scholar](#)

Morck, Randall, and Bernard Yeung (1991) 'Why investors value multinationality,' *Journal of Business* **64**, 165–87

[Web of Science®](#) | [Google Scholar](#)

Morck, Randall, and Bernard Yeung (1992) 'Internalization: an event study,' *Journal of International Economics* 33, 41-56

[Web of Science®](#) | [Google Scholar](#)

Smith, Pamela (2001) 'Patent rights and bilateral exchange: a cross-country analysis of U.S. exports, FDI, and licensing,' *Journal of International Economics* 52, 411-39

[Web of Science®](#) | [Google Scholar](#)

Teece, David (1986) *The Multinational Corporation and the Resource Cost of International Technology Transfer* (Cambridge, MA : Ballinger)

[Google Scholar](#)

Wilson, Robert W. (1977) 'The effect of technological environment and product rivalry on R&D effort and licensing of inventions,' *Review of Economics and Statistics* 59, 171-78

[Web of Science®](#) | [Google Scholar](#)

Yang, G.F., and Keith E. Maskus (2001) 'Intellectual property rights and licensing: an econometric investigation,' *Weltwirtschaftliches Archiv* 137, 58-79

[Web of Science®](#) | [Google Scholar](#)

Citing Literature



[Download PDF](#)

ABOUT WILEY ONLINE LIBRARY

[Privacy Policy](#)

[Terms of Use](#)

[About Cookies](#)

[Manage Cookies](#)

[Accessibility](#)

[Wiley Research DE&I Statement and Publishing Policies](#)

[Developing World Access](#)

HELP & SUPPORT

Contact Us
Training and Support
DMCA & Reporting Piracy

OPPORTUNITIES

Subscription Agents
Advertisers & Corporate Partners

CONNECT WITH WILEY

The Wiley Network
Wiley Press Room

Copyright © 1999-2025 John Wiley & Sons, Inc or related companies. All rights reserved, including rights for text and data mining and training of artificial intelligence technologies or similar technologies.

WILEY