Review of *Multinational firms, innovation and productivity* by Castellani and Zanfei

Marc-Andreas Muendler*
UC San Diego and CESifo

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When business writers and consultancies advocated their management-by-buzzword recommendations of the 1980s and 1990s, expatriats at multinational firms were mocked for management by helicopter: expats would be flown in by surprise, swirl up much dust upon landing, and be lifted out for replacement before the dust had settled. In their monograph *Multinational firms, innovation and productivity* Castellani and Zanfei don't shy buzzwords either, of the economic sort in their case. Multinational firms (MNFs) are "asset-seeking" or "asset-exploiting" or both, they form "double networks" to realize their "exploration potential," and they "bridge innovation systems" through their "embededness" against "cultural resistance," the "liability of foreignness" and the "incompatibility of knowledge." But Castellani and Zanfei emphasize the long-lived links that persist after the expat dust has settled. Castellani and Zanfei point to knowledge transfers and innovations that MNFs might be uniquely fit to pursue and implement across their locations.

In the first chapters, Castellani and Zanfei march through the topic in bold steps. Select theories serve as landmarks for orientation, and potentially conflicting evidence is cleared from the way, mainly to arrive at the authors' descriptive notion of MNFs as double networks: internal networks of affiliated companies and external networks of suppliers, clients, and cooperation partners. Given the unavoidable omissions under the authors' fast moves, this reader expected them to head towards a similarly bold ultimate thesis as a reward. Along the way, an implicit proposition seemed to emerge: that today's MNFs tend to seek otherwise inaccessible or

*muendler@ucsd.edu (*econ.ucsd.edu/muendler*), corresponding. Ph: +1 (858) 534-4799

unexploited foreign knowledge assets in order to integrate the innovation throughout their multinational networks to their own competitive advantage. Starbuck's integration of local hot-drink specialties and sweets from around the world into its global standard menu might be the emblematic example—admittedly outside the authors' focus on manufacturing. But the authors stop short of such a clear stance. Instead, Castellani and Zanfei stress firm-level diversity as an overwhelming feature of the data and document, for instance, how productivity responses vary across Italian manufacturers depending on their export status, their contractual cooperation with local firms, and their ownership by foreign or Italian MNF parent companies. It is unifying theory behind the heterogeneity, however, that this reader most longed for. How much foreign direct investment is asset seeking and under what conditions do MNFs choose what form of network?

Stimulating discussion awaits the reader in part II of the monograph with a synopsis of alternative strands of research into firm-level heterogeneity and its relationship to market structure and international integration. Recent economic research emphasizes, as a cause of multinational expansion, the heterogeneity in firm-level productivity—productivity being the economist's common proxy to what management researchers would call a source of competitive advantage (Nelson 1991). Castellani and Zanfei contrast this idea with the viewpoint that a firm's pursuit of competitive advantage is an outcome of its exposure to competitors' internationalization strategies and improved access to foreign markets. Castellani and Zanfei consequently appeal to the economist that "one should consider that firms' international involvement can further reinforce their advantages and hence contribute to generating heterogeneity" (Castellani and Zanfei 2006, p. 86). To broaden the concept of competitive advantage, Castellani and Zanfei use innovation measures alongside with, and as distinct from, productivity in most of their empirical exercises in part III. Data limitations, however, do not allow the authors to follow through on the theoretical view that firm-level productivity and its distribution endogenously respond to the competitive environment.

Congressman Charles Rangel, the ranking Democrat on the House Ways and Means Committee, recently joked that U.S. legislation encourages MNFs to send "everything but their mailboxes overseas." Mailbox communication maybe the reason why merely 13 percent of the managers at MNFs in 1997 found that their companies were "adept at transferring knowledge held by one part of the organization to other parts" (Ruggles 1998, p. 81). Castellani and Zanfei, in contrast, provide evidence that at least Italian MNFs are getting better at the knowledge transfer.

The economic rationale by which MNFs enter contractual relationships with suppliers, clients, and cooperation partners, and by which they choose to own affiliates, are closely related to our understanding of the boundaries of the firm. Much research lies ahead to clarify the emergence of firm boundaries, but existing theories of transaction costs, contractual imperfections and property rights offer valuable guidance. Recent models of MNFs use this guidance, identify frictions to production and exchange, and show how firms can alleviate the frictions through contracts and property-rights assignments. A strength of Castellani and Zanfei's exposition is the integration of many strands of literature, ranging from business surveys and case studies of management strategies to the economic literatures on international trade and investment. Surprisingly, however, none of the usual explanations for firm boundaries—Klein, Crawford and Alchian (1978), Williamson (1985), Grossman and Hart (1986), or Hart and Moore (1990)—makes it into the monograph's discussion or reference list. Its otherwise broad view on many literatures notwithstanding, the monograph leaves out the drama of case-oriented business books and the anecdotes of journalistic work. Instead it traces economic thought on firm-level competitive advantage to its early origins and presents an informed assessment of empirical evidence on productivity and innovation at multinational firms and their local competitors.

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