# Introduction[1]

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The location choices of multinational firms for their production plants is an important topic, not least because this phenomenon is accompanied by so many fears in the public debate. Recent experiences prove that the most important concerns are linked to trade integration episodes. During the process of North American Free Trade Agreement (NAFTA) adoption and implementation, expectations were strong that firms would relocate to Mexico their manufacturing activity in order to serve the North American market as a whole from this new low-cost base (the 'Giant sucking sound' of Ross Perot, being only the most vivid and famous expression of those widespread fears). The 1986 enlargement of the European Union (EU) to Spain and Portugal already witnessed similar concern. The next enlargement to 10 countries – mostly Central and Eastern European countries – programmed for May 2004, reinvigorates the arguments of those claiming that 'Old Europe' countries will lose in the process the little manufacturing industry production left from previous international opening of markets. By contrast, in 2002, some multinational firms like Canon or Philips have relocated their assembly plants or their common parts production from Mexico to China or Thailand.

Will such a large-scale change in the European economic geography take place? Faced with such questions, we believe that economists should (and actually can) provide answers. Their work can use different tools, but we will focus here on two types of methodologies typically employed. A first approach starts by noting in the examples above that *location patterns are largely the result of decisions by multinational enterprises (MNEs)*. Therefore, a clear understanding of what drives the 'internal geography' of multi-plant firms (where the MNE decides to locate each of its plant) is very useful in order to apprehend global changes in international production patterns. There is now a quite large literature aimed at assessing the theoretical and empirical determinants of the international organization of production by MNEs that can be usefully mobilized. A second path of research analyses the equilibrium pattern of international production more globally as the result of a *conflict between agglomerative and dispersive market forces*. It seems clear that the two approaches should interact.

Firm-level location choice analysis suffers when abstracted from more general phenomenons like, for instance, the local equilibria on each labour market, which is clearly both influenced by location choices of MNEs in the long run and in return affects their production costs and hence their location decision. Conversely, general equilibrium models depicting international production patterns lose a lot of their convincing power if they fail to account correctly for the individual decisions by firms. This book is an attempt to promote such interactions which, while much needed, seem not to emerge so frequently and spontaneously.

The volume is hence the result of the encounter of two types of scientific literature and researchers: the analysis of foreign direct investment location choices, on the one hand, and the work studying the forces at work in the shaping of the international economic geography, on the other hand.

The work on the determinants of location choices of multinational firms has a long and productive history based mostly on industrial organization and international business theories. The empirical applications in this field increasingly benefit from an improvement of data and methods availability – particularly at the level of the firm and of its affiliates (following this trend, most chapters in this volume use firm-level data). One of the frequently mentioned limitation of this type of research is its focus on partial equilibrium, where what happens in an industry is usually disconnected from the rest of the economy.

In parallel, the last decade has witnessed very important developments in what has been named the 'New Economic Geography'. The initial impulse was mostly theoretical and used tools familiar in international trade theory to predict general equilibrium patterns of industries' agglomeration (see Fujita, Krugman and Venables, 1999, for a complete overview). The theoretical developments were very rich but, until recently, the empirical aspects of the economic geography have clearly been left aside, to the point that the leading theorists in the field are now calling for more rigorous empirical implementations and care in the data used to explain international location patterns of increasing returns industries.

While the two fields obviously have a lot in common, it has only been recently that researchers have acknowledged the similarities of their approaches and the possible complementarities. Some were obvious but oddly left uncovered until now. On the theoretical side, one of the most interesting parallels is the analysis of location choices as a trade-off between trade costs and scale economies. This trade-off is deeply rooted in traditional regional and urban economics that led to recent new economic developments (Fujita and Thisse, 2002, p. 93, even call it the 'fundamental trade-off in spatial economics'). It is also central in the modern theory of foreign direct investment: Brainard (1993), among others, explicitly formulates the choice of a firm to invest abroad as a means to reduce trade costs to consumers (proximity) that has to be balanced with the rise in average production cost caused by the split of production between smaller plants (concentration). This is the famous 'proximity–concentration model' which is opposed to the 'factor endowments' model. The complementarities also concern the empirical assessment of likely causes of the degree of spatial concentration we observe in a lot of modern industries. This volume is the outcome of the meeting of those two strands of research, materialized in the very rich two-day workshop held in Paris in May 2002, where many scholars could exchange views on the current state of the art and the direction research should take in those topics.

The book is organized in two parts each comprising five chapters. The first part deals with agglomeration behaviours of MNEs in the context of international (mostly regional) integration. Leo Sleuwaegen and Reinhilde Veugelers propose an empirical index of agglomeration in the EU using detailed plant-level production data of the industry 'leaders'. The goal is to assess the impact of the Single Market Programme (SMP) by looking at the evolution of concentration at three points in time (1987, 1993 and 1997). The key and important improvement of their approach is that they can isolate in the overall changes what part is caused by a *reorganization of production inside the firm*. The authors find an overall trend towards dispersion of production inside the EU. They are then able to show that while leading firms still have a large share of their production at home, the share of production in other member countries inside the same firm increases significantly during the period. This 'internal' aspect is therefore important in the overall trend towards dispersion, with a slight shift towards southern member states.

In the second chapter, Jean-Louis Mucchielli and Florence Puech provide further evidence on firm-level location choices determinants inside the EU. They focus on the location choices of French affiliates abroad in seven EU countries comprising of 47 EU regions. They are particularly interested in the geographical structure of those location choices, assessing the importance of national borders in the location choice. It appears that investors consider regions as closer substitutes in their decision when those regions belong to the same nation, signalling the fact that the impact of national borders persists even within the single market. They also find stronger evidence of agglomeration effects at the regional level and detect a deterrent effect of high wages at the national level (following the way others work, in Mucchielli, 1998). The influence of borders on location choices is not limited to this aspect. Indeed, it has been shown repeatedly that national borders have a surprisingly high (negative) impact on trade flows (McCallum, 1995; Head and Mayer, 2000; Anderson and van

Wincoop, 2003). For a multinational firm, this means that locating its affiliate in a particular European country does *not* guarantee an easy access to consumers in surrounding countries, even in the EU. Also important, it means that an affiliate will be relatively insulated from third countries' competition on the specific market it is located in. Consequently, the impact of borders on trade flows has to be correctly assessed, which is the goal of José De Sousa and Anne-Célia Disdier in their chapter focusing on EU trade. They improve upon the econometric methods used in the existing literature, controlling for unobservable characteristics of bilateral trade relationships between country pairs. Their central result is that the level of market fragmentation revealed by the impact of national borders was previously slightly underestimated.

As stated above, NAFTA also yielded important issues about relocation of activity from the USA to Mexico. Sylvie Montout and Habib Zitouna study in their chapter this question for a particularly important industry: the car industry, for which Mexican production experienced drastic changes over the recent period, almost entirely due to MNE decisions. This case is particularly interesting as it deals with an example of a major North–South regional integration, for which the delocation expectations are highest. The determinants of automobile production in Mexico are analysed using here again firm-level data over a long period of time where important changes in public policies took place. Apart from confirming that the distribution of car production between Mexico and the USA is influenced in the expected way by relative labour costs and demand (with labour costs seemingly dominating the location choice), NAFTA is found to exert an important positive influence on the production of cars in Mexico.

Those first four chapters mostly deal with firms choosing a *national* location site and how regional integration affects those choices. However an increasingly important question is the impact of regional integration on location patterns *inside countries*. This issue is specifically important in Europe where regional policies rank very high on the political agenda. With the coming EU enlargement, many candidate countries fear that economic activity might become more polarized creating internal tensions as well as more pressure on the European budget if current rules for regional policy European funds allocation are kept unchanged. The vast recent changes in the Mexican economic geography underlined by Hanson (1997) suggest that those phenomenon might be important empirically. The theory is still unclear on those issues and it is important to know whether the observed recent dispersion trend in Mexico is what we should *generally* expect. Matthieu Crozet and Pamina Koenig-Soubeyran provide a much needed generalization of the original model by Krugman and Livas (1996). While Krugman and Livas (1996) claimed that external trade liberalization yields less concentration inside the liberalizing country, Chapter 5 shows that this result is in fact not robust to a generalization of the model and that the conclusions are, in fact, much more subtle. When regions inside a country have a symmetric access to the rest of the world, the original conclusion is reversed, and we should expect international trade integration to foster agglomeration. The outcome when regions have different access to international markets, is that trade integration generally favours the border region, except where competition from foreign firms is too fierce.

One of the most important result underlying the New Economic Geography is the Home Market Effect (HME). In a model with increasing returns and trade costs, there is a general tendency of countries with a large share of overall demand to attract a more than proportional share of output and/or to pay higher factor incomes. This result is a key determinant of spatial concentration, and is studied in detail in the second part of the book. Keith Head, Thierry Mayer and John Ries use this characteristic to investigate if New Economic Geography is indeed the dominant explanation of the observed agglomeration of MNEs. There can be numerous alternative explanations for spatial clustering, one of the most popular being the existence of localized technology spillovers. However this technological spillovers explanation does *not* yield a Home Market Effect as opposed to the increasing returns/trade cost theories. The authors use over 1400 individual location choices by Japanese firms in both the USA and the EU to investigate which of the two explanations seems more valid. The empirical analysis provides little support for the Home Market Effect and is much more positive for the spillovers explanation.

The HME relationship has been shown to hold in a variety of (though not in all) models with imperfect competition and trade costs, and to be inconsistent with perfect competition models where trade is caused by factor endowments differences or national product differentiation. Federico Trionfetti adds to those results through a theoretical investigation of the effect of market size on specialization and production patterns in a Ricardian model of trade. He reveals quite distinctive features of this model. The size of markets matter for production even in the absence of trade costs, which is an important difference with the factor endowments model. The more than proportional reaction of the output share to the demand share can also arise for sufficiently large demand size asymmetries. In the work on HME, the emphasis has so far been entirely focused on the theoretical foundations and the empirical quantification of this phenomenon. There has been surprisingly little work on the welfare implications of the HME, despite clear normative consequences of the location patterns of firms in this type of model. Gianmarco Ottaviano proposes a normative analysis of the existence of Home Market Effects. His main results point to a tendency towards excessive agglomeration of increasing returns to scale industries in terms of welfare. This pattern is all the more pronounced when the HME is important, that is, when scale economies are strong and trade costs are low. Policy implications are therefore that regional policies tend to have a theoretical justification, but that they should take into account the structural differences across industries in their action.

Important as market size considerations may be, they are certainly not the only determinant of location choice. The last two chapters of the volume reintroduce knowledge-related determinants in the decision as to where to locate a plant. Fragkiskos Filippaios, Constantina Kottaridi, Marina Papanastassiou and Robert Pearce study the location of US foreign direct investment (FDI) flows in Organization for Economic Co-operation and Development (OECD) countries during the past two decades. They find that their so-called 'knowledge-seeking' variables (the research and development [R&D] employment variable in particular) indeed provide additional explanatory power to more traditional determinants, and in particular to market size. Looking across time, the authors show in particular that knowledge-seeking determinants appear more important in the latest years. If knowledge is so important for FDI, then multinational firms will have an incentive strategically to use those determinants. This is the issue tackled by Etienne Pfister in the final chapter of this book. This chapter deals with location choices in a context of different intellectual property rights' protection levels across countries. There are some important, and somehow initially surprising, results arising from the interaction of FDI and property rights protection. It is shown that higher levels of protection do not systematically increase the attractiveness of a country, in particular when market size is important relative to trade costs and when imitation costs are so high that the FDI strategy by the multinational firms involves deterring entry by local competitors.

## NOTE

1. This volume is the outcome of a workshop held in the University of Paris I Panthéon-Sorbonne, on May 2002, while many of the authors were visiting the international trade group of research centre TEAM. The organization of this workshop has only been made possible by the help of young researchers at TEAM and, most notably, Anne-Célia Disdier and Pamina Koenig-Soubeyran, who also took a crucial role in preparing this volume.

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