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# Developing the ‘outermost regions’ of Europe: Some lessons from economic geography

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## Abstract

The aim of this report is to critically review, in the light of recent economic geography theory, various strategies often suggested for developing the outermost regions of Europe. In so doing, we point out pitfalls and bring to the foreground various relatively neglected aspects. The key messages are as follows. First, insularity, difficult topography and climate, and exposure to natural disasters are not, in fine, insurmountable obstacles to economic development. Yet, a small internal market and excessive reliance on homogeneous products traded in increasingly integrated world markets most certainly are. Second, alleviating remoteness by simply improving infrastructure may backfire, which is one of the main lessons from economic geography. Improvements and development efforts in infrastructure and communications technologies should, therefore, be combined with policies targeting at enhancing and developing relatively immobile local resources, both physical and human.

**Keywords:** outermost regions; ultra-peripheral regions; economic geography; regional development; European Union

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# 1 Introduction

Developing the seven outermost, or ultra-peripheral, regions of Europe (the French overseas departments, the Azores, Madeira and the Canary Islands) is an explicit objective of the European Union, as stipulated by Article 299.2 of the Amsterdam Treaty of 1997. It is also an integral part of a broader social cohesion objective (Article 2 of the Treaty on European Union), made precise in a regional context by Article 130a of the Amsterdam Treaty which stipulates that the “*community shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions or islands, including rural areas.*” The Treaty explicitly foresees that this will be achieved by financial transfers from the EU budget and through lending by the European Investment Bank. Considering only the amounts allocated in the regional programmes over the period 2000–2006 as either Structural Funds or National Matching Funds, over €13 billion have been injected into the economies of these regions. In terms of investment, and compared with gross fixed-capital formation in 1997, this represents about one third of total regional investment in the Portuguese regions and the French overseas departments, and almost one fifth in the Canary Islands. Despite such a significant financial effort, developing the least favored regions and achieving the cohesion objective is a challenging task as the empirical evidence suggests that regional policies may not deliver the expected outcomes (Boldrin and Canova, 2001; Puga, 2002). This seems to be especially true for the outermost regions of Europe, which are known to cumulate several structural handicaps: (i) *remoteness from the continent*; (ii) *small size*; (iii) *insularity*; (iv) *difficult topography and climate*; (v) *exposure to natural disasters*; and (vi) *reliance on a few products only*. In this report, we focus on handicaps listed under (i), (ii) and (vi) as these are in the reach of economic policy. It is nevertheless worth pointing out that, although the other handicaps are beyond the reach of economic policy, they do not constitute per se an insurmountable obstacle to economic development. Several regions of the world characterized by insularity, difficult topography and climate, and exposure to natural disasters have indeed overcome these obstacles and developed quite rapidly.<sup>1</sup> In addition, the outermost regions of Europe enjoy quite favorable natural conditions in terms of, e.g., geothermal resources, sunshine, and regular winds, which can boost the development of the bioenergetic sector. However, we will not say more on these issues in this report because their analysis would take us too

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<sup>1</sup>Japan is an especially illuminating example of a country having developed rapidly despite insularity, difficult topography, and exposure to natural disasters. Several other islands, cumulating partly the same structural handicaps than the outermost regions of Europe, have developed by offering favorable financial and fiscal environments (e.g., Cayman Islands, Isle of Man, Bahamas). Yet, since the ultra-peripheral regions are an integral part of the European Union, a development strategy based on preferential fiscal conditions is not available as it is fundamentally incompatible with the single market.

far from the main purpose of this paper.

The economic effects of handicaps listed under (i) and (ii) are well known. On the one hand, remoteness is expected to create a locational disadvantage because of high distances to input and output markets, thus implying *significant additional production costs*. On the other hand, the small economic size of the ultra-peripheral regions *prevents them from achieving economies of scale* and maps into *a relative economic dependence on a few products*. The effects of remoteness could be partly improved upon, at least from an economic perspective, by gradually reducing the frictions to moving goods, people, and information via infrastructure and information and communication technologies (ICT). Promoting accessibility between the outermost regions and the European continent is clearly an objective pursued by the European Union. Doing so may, however, backfire as reducing spatial frictions usually affects both directions of movement and may, therefore, lead to quite unexpected results. This aspect is developed in the next section and has to be clearly borne in mind when designing economic policy. It constitutes one of the main messages of economic geography and of this report.

The real challenge for developing the outermost regions consists therefore, in our opinion, in improving upon the conditions under which competitiveness and the product range can be boosted. This point is detailed in Section 3. We will see, in particular, that reductions in internal transport costs increase market size and profitability, and we will underline the importance of developing new unique products with high value added per unit of land using strongly immobile local resources. However, it should be noted that even though such objectives are clearly within the reach of economic policy, history and economic theory tell us that the size and specialization of an economy are very difficult to affect given the strength of market mechanisms and the associated hysteresis effects. In any case, one should not expect overnight results.

## 2 Some doubts on remoteness-reducing policies

The most visible structural handicap of the ultra-peripheral regions is certainly their sheer remoteness from the European continent and, almost always, their insularity. Although both of these handicaps have been somewhat alleviated by the secular improvements in transportation technologies and ICT, which have put the ultra-peripheral regions more clearly on the map by making them more accessible, there is no doubt that they are still “remote”. In an economic sense, a market is “remote” when shipping to it from any location, or shipping from it to any location, involves high monetary and time costs of transportation. It is often put forward that one may expect that falling trade costs between the European continent and the ultra-peripheral regions would lead to a gradual development of the latter

by making firms there more competitive. This is why the European Commission proposes for the period 2007–2013 additional funds in order to alleviate difficulties of access due to extreme isolation. However, we voice three doubts about the success chances of such a remoteness-reducing policy, at least when it is not combined with a direct and significant development of local immobile assets: (i) Transport costs are likely to remain quite high because of low volumes of trade between the outermost regions and the European continent; (ii) in the short run, remoteness is a relative concept and the ongoing integration of the internal market may offset any improvements of access from the ultra-peripheral regions; and (iii) in the long run, falling trade costs and better access to the ultra-peripheral regions are likely to harm them, both because more efficient outside firms can supplant domestic industry by selling into their markets and because footloose production factors may relocate to the larger markets to serve the periphery taking precisely advantage of the improved access.

## 2.1 Transport costs are likely to remain high

First, one should note that reductions in transport costs in the international context often arise because of *density economies* in commodity transportation. Roughly speaking, there are density economies when a one percent increase in all outputs, holding network size, production technology, and input prices constant, increases the firm's cost by less than one percent. Density economies are a prevalent features of many shipping modes, especially air and maritime freight. It is indeed a well-documented fact that shipping costs are lower on routes processing large volumes of freight and/or linked to hubs because specialized services and large scale infrastructure can be profitably developed there (the increasing containerization of world commodity trade provides a striking illustration of both aspects). For example, Mori and Nishikimi (2002) observe that transport costs from Japan to a non hub-port in Southeast Asia are approximately 23% higher than to a hub-port in the same region, thus showing that density economies are far from being negligible. How to realize those density economies in the context of the outermost regions is unclear because of the low trade volumes. Furthermore, to exploit density economies by either air or maritime freight requires shipping goods in both directions. Yet, this implies quite naturally that there will be also more sales from outside firms at lower prices in the outermost regions, which might hurt the development of a local industry.

## 2.2 The European continent is likely to remain a ‘fortress’

Even in a world where trade costs take low values, it should be clear that economic remoteness remains a *relative concept*: a market is more or less remote when compared to

another set of markets. Consequently, any change in the geography of demand or supply between two regions in the set of markets has a direct impact on all the other regions by affecting the competitive environment there ('third country effects'; Behrens *et al.*, 2005). The relativity of remoteness is especially important in assessing how the European integration process is bound to affect to outermost regions. Indeed, this integration process largely changes all the relationships between the regional markets as barriers to trade are gradually removed and as new member states join the EU. Although the specificities of the outermost regions have been acknowledged by Article 299.2 of the Amsterdam Treaty, the ongoing integration process is almost surely bound to hurt these regions' export performance. The reason is that economic integration seems to proceed more rapidly within continental Europe than between Europe and the outermost regions, thereby placing them at an additional competitive disadvantage by transforming Europe more and more into a "Fortress" that is impenetrable for exports from the ultra-peripheral regions.<sup>2</sup> It is our contention that European integration and the current eastern enlargement certainly adversely affect the access of the ultra-peripheral regions to the large European core markets. Whether structural spending on infrastructure, transportation technologies, and ICT allow to partly alleviate this problem is more than questionable. It is, indeed, unlikely that the *relative access* of the outermost regions improves when compared to either the old or the new member states. In some sense, one may argue that we face both an economic and a semantic paradox since the *ultra-peripheral* ("situated on the edge") regions are considered as being part of the *internal* ("situated on the inside") market.

## 2.3 Reducing remoteness: a double-edged sword?

Although improvements in transportation and communication links between the ultra-peripheral regions and either the European continent or their regional markets appears to be a tempting idea, one should keep in mind that *infrastructure is a double-edged sword*: it allows domestic firms to easily export, yet conversely allows foreign firms to easily penetrate the domestic market. Although the first effect favors regional development by strengthening the competitive position of domestic firms in foreign markets, production may relocate in the long-run to these foreign markets due to the change in accessibility. There are two reasons for this. First, firms can more easily sell into the domestic market from abroad due to lower trade frictions; and, second, increased import competition erodes markups and operating profits which, when combined with the small size of local markets in the outermost regions, makes firms want to serve the larger market locally to cover more easily fixed costs through increased operating profits. Improved accessibility therefore triggers a

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<sup>2</sup>Head and Mayer (2001) analyze the "Fortress Europe" effect by focussing on how European integration affects the export performance of U.S. and Japanese firms in a large number of sectors.

“straw effect” and economic activity is sucked up by the large markets like orange juice in a glass.<sup>3</sup>

Note, furthermore, that a sufficient decrease in trade costs may even make interregional market access asymmetric in the sense that only firms established in the larger region can profitably export to the smaller one. The intuition is that the competitive environment in the larger markets is fiercer, because there are more firms in that market and these firms are on average more productive (Melitz and Ottaviano, 2005). In such a context, the asymmetry in market access works as a very strong driver for relocation from the small to the large regions, even though firms would have remained in the small region otherwise (Behrens, 2005a). However, it should be underlined that falling trade costs for final goods do not have the same effect on firm location than falling trade costs for intermediate goods. As shown by Gaigné (2004), when transport costs for intermediate goods are high, firms have an incentive to agglomerate in the larger country when transport costs for final goods decrease. Under such conditions, producers of final goods can agglomerate into a region to exploit scale economies and can serve profitably the other regions, whereas producers of intermediate goods locate close to their industrial customers to increase their market size. By contrast, when transport costs for final goods are high, a fall in transport costs for intermediate goods favors the dispersion of the industrial production. Indeed, high trade costs for final goods trigger the dispersion of producers of these goods, whereas low trade costs of intermediate goods enable firms belonging to the intermediate sector to profitably serve different markets from a single location. Thus, any assessment of how integration may affect the outermost regions should carefully study the industrial structure of those regions to identify the strength of the intermediate input linkages. Yet, given that most of the outermost regions rely on a few relatively homogeneous export products (e.g., bananas, dairy products, fishing, sugar cane), which do not appear to benefit from significant intermediate linkages, the first scenario strikes us as being the more likely one.<sup>4</sup>

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<sup>3</sup>Such relocations towards the larger markets have been frequently observed within countries after improvements of inter-regional infrastructure, e.g., in the Paris region or around Tokyo.

<sup>4</sup>The arguments developed in this subsection are relevant for industrial firms which may adjust the location of their production in response to a change in trade costs. However, the effects of falling transport costs for immobile activities (e.g., the production of agricultural products specific to the outermost regions, or for tourism) is more ambiguous for regional development. Indeed, on the one hand, the compensation scheme for the additional transport costs of agricultural products entailed by isolation from the European market could yield positive gains for the outermost regions because agricultural production is not geographical mobile. On the one hand, falling transport costs to the European market should raise the profitability of basic investments in the agricultural sector. On the other hand, recent works have shown that low transport costs of agricultural goods could trigger the agglomeration of industrial production in core regions (Fujita et al., 1999, ch. 7). Consequently, gains arising from the larger size of the agricultural sector in the outermost regions due to decreasing transport costs of agricultural products could be, in the long run, dampened by the declining size of the industrial sector in these regions.

## 2.4 Some policy implications

To summarize the arguments pertaining to remoteness-reducing policies, one should keep in mind that better accessibility for the outermost regions is a necessary condition to promote development, but it is by no means a sufficient one. Furthermore, it is probably illusory to expect to attract footloose activities to the outermost regions by improving transportation links (which may not even be possible in the first place). On the contrary, the relocation of such activities to the European continent is the more likely outcome in the long-run, given the current configuration and the prevailing market forces.

Our analysis hints at two strategies that could be implemented:

1. Given the increasing integration of the European market, one possibility for the ultra-peripheral regions would be to recenter their activity on tying closer links with the trading partners in their geographical areas. Hence, a profitable strategy could be to favor economic integration with the neighboring countries and to increase access to other trading areas, which are close to South America and the ACP (African, Caribbean and Pacific) countries. This is currently one aim of the European Union that will be implemented by reducing the barriers restricting exchanges with very close geographical markets of the Caribbean, the Americas, and Africa. By encouraging their integration into the surrounding region, the outermost regions could expand their closer foreign markets and reduce the effects of remoteness from the European core markets. Preferential agreements between the European Union and non-member countries close to the outermost regions could be applied which, however, must be compatible with WTO and internal market rules. For example, the reduction of trade barriers on intermediate goods from ACP countries or America could promote production in the outermost regions.

2. In addition, just as Hong-Kong in the case of China, the outermost regions could play the role of nodes, or entrepôts, linking different regional trading agreements and providing transshipment and distribution services. Inside an interconnected transport network, shared-shipment nodes are known to often reap advantage. According to Tongzon (2002), Singapore derives its advantage of shared-shipment precisely from being an entrepôt. The total annual revenue of port-dependent firms in Singapore, surveyed in 1991, accounted for 21.5% of GDP for that same year, and currently, more than two thirds of Singapore's container traffic is transshipped from neighboring ports. However, technological advantage, along with geographical advantage, is a crucial factor for an entrepôt in the network to secure a strategic role. Thus, national governments and the European Union must invest much effort on developing the ports as well as related facilities. In addition, if an outermost region becomes a shared-shipment region, trade volumes will increase significantly and, in



turn, unit transport costs will fall because of density economies in transportation (see Section 2.1). As a by-product, agricultural activities established in this region could benefit from a better accessibility to the Europe continent and other core markets.

### 3 Increasing economic size

Remoteness and market size are inextricably linked. For example, in the absence of trade due to prohibitive transport costs, even the smaller region can host a more than proportionate share of firms provided that its immobile population size is not too low and that the goods are sufficiently differentiated (Behrens, 2004; 2005b). In addition, a disadvantageous geographical location *per se* is not incompatible with a region hosting a large share of production (Behrens *et al.*, 2006). However, when the local market size is small, remoteness constitutes a significant locational disadvantage.

As is well known, the EU pattern is such that the continent is the big ‘core’, whereas the ultra-peripheral regions are the very small ‘periphery’. One idea that naturally comes to one’s mind is that it may be possible to accelerate economic development by increasing the economic size of a region. This point is developed in this section where we analyze two different strategies which may increase the economic size of the outermost regions: (i) increasing local demand through transfers of purchasing power; and (ii) favoring the development of new differentiated products using largely immobile resources. The first strategy is equivalent to a demand-side based policy, as largely implemented by the EU in the past; whereas the second is a supply-side based policy, which is more in line with the recent strategies set out in the Lisbon agenda.

#### 3.1 Increasing market size: a hopeless endeavor?

There are two basic ways (or a combination of them) to boost local demand: to increase local spending and consumers’ purchasing power, or to reduce internal trade costs.<sup>5</sup>

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<sup>5</sup>Immigration may also be viewed as a tool to increase market size. Such a strategy is surely bound to fail and, if anything, economic theory tells us that migrants “follow market potential” and will, therefore, flow from the ultra-peripheral regions to the European continent (Crozet, 2006). Note also that policies which aim at increasing the level of general human capital may prove extremely counter-productive. Indeed, numerous empirical studies have shown that the probability of emigration to core markets rises with the education level. Thus, an increase in the education level of a growing fraction of the population in the outermost regions could induce the more skilled to leave those regions. The argument is the same as in the previous section: increasing the mobility of production factors, or favoring accessibility, will most likely backfire. As we argue later, improving the level of location-specific human capital is much more efficient as this capital cannot relocate and, thus, is not affected by a deepening integration.

### 3.1.1 Purchasing power transfers are too weak to counteract market forces

All outermost regions are characterized by a small local market size, both in terms of population and purchasing power.<sup>6</sup> Channeling funds into these regions to artificially increase market size, influence the location decisions of firms, and increase productivity may prove inefficient. At least, there is some empirical evidence suggesting that this is the case in continental Europe, where the peripheral regions do not seem to catch up whereas intra-country core-periphery patterns remain fairly stable (Boldrin and Canova, 2001; Puga, 2002; Combes and Overman, 2004). An undesirable by-product of redistributive policies is that production efficiency is jeopardized as firms locate counter to economic determinants. As is furthermore well known, expenditure-driven redistributive policies do not deliver adequate results in an increasingly globalized world economy, while it is worth stressing once more that market forces are very strong. A particularly illuminating example is provided by the German post-reunification experience which, despite a huge amount of money channeled into it, did not succeed in making East Germany catch up with the rest of Germany.<sup>7</sup> This is surprising since former East Germany is neither remote, nor small, nor geographically or climatically disfavored, yet the expected development did not take place as firms relocated massively to West Germany or simply went out of business. This is even more surprising since it highlights the asymmetric nature and the lock-in (the irreversibility) of geographical economic processes. Indeed, as shown by Redding and Sturm (2006), the border cities in West Germany were initially hurt by the isolation of the eastern part after World War II. Yet, opening the border after the reunification did not lead again to a catching up, as the eastern market was quite small and not attractive after 40 years of planned economy.

We may thus safely state that the lock-in generated by market forces is very strong, thereby inhibiting almost completely the impacts of regional development policies based on the (distortionary) redistribution of purchasing power.

### 3.1.2 Reducing internal transport costs in the outermost regions

The internal market size of the outermost regions could also be improved by favoring agglomeration of its mobile production activities (Krugman, 1991). We know from ‘new economic geography’ that agglomeration can be promoted by either low internal transport

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<sup>6</sup>The Canary Islands have the largest local market with a population of about 1700000 and a GDP per capita of about 91% of the EU-25 average (Figures from the organizer’s MACRORUP report, 2006).

<sup>7</sup>“East Germany with massive support from West Germany has in a decade moved up from 40% to 60% of the West German GDP per head. But such levels of support will not accompany EU enlargement”, and certainly not ultra-peripheral regions (Source: David Pichaud, March 29, 2002, BBC News Europe; <http://news.bbc.co.uk/1/hi/world/europe/1901293.stm>). As argued by Hunt (2006, p.3) “West Germany has sent at least 4% of its GDP to East Germany every year from 1991-2005”, a total of about €1 trillion. Yet, population has fallen, GDP grown slowly and jobs have been lost.

costs or high external costs (Behrens *et al.*, forthcoming). Turning to the improvements of internal infrastructure, such improvements may prove especially efficient for the outermost regions. Indeed, decreasing the costs of moving goods and people within those regions amounts *de facto* to increasing their internal market size, as less resources are wasted for transportation and distribution and may be allocated to production per se (Martin and Rogers, 1995). This could be especially fruitful in the case of the outermost regions composed of several small islands, for which the costs of shipping goods across islands are comparatively high when compared to other areas. As a beneficial by-product of a reduction in internal transport costs, the market becomes more competitive, thereby reducing the outside impact of foreign firms and strengthening the position of domestic firms thus turning the “Fortress effect” penalizing the outermost regions on the European continent to their advantage at home.

Furthermore, the reduction of internal transport costs and the associated increase in the size of the internal market may give rise to other advantages: (i) reducing foreign firms’ penetration capacity (e.g., Behrens *et al.*, forthcoming); (ii) boosting productivity via external effects, driven by increased agglomeration (e.g., Rosenthal and Strange, 2004);<sup>8</sup> (iii) a finer division of labor, boosting productivity (e.g., Duranton and Puga, 2004); (iv) an increase in the number of firms and of varieties (Gaigné, 2006); and (v) the selection of more efficient firms (Melitz and Ottaviano, 2005).

### 3.2 Expanding the product range and using targeted investments

One feature which all the outermost regions share is an excessive reliance on a few relatively homogeneous products. These regions are, indeed, largely specialized in a small number of agricultural products and also in fisheries, particularly the French oversea departments and the Azores.<sup>9</sup> Industrial production is also concentrated in a small number of sectors: the agrofood industry and industries dealing with primary sector inputs. These sectors rely on

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<sup>8</sup>It is worth pointing out that Madeira and the Canary Islands are the best performing ultra-peripheral regions of the EU, which fare better than the rest. Although this may be partly due to the fact that they are located closer to the European continent and “relatively close” to their capitals, we believe that another factor explains their relatively good economic performance: *both have a high population density, whereas the Canary Islands also have a relatively large local population.*

<sup>9</sup>In Martinique, Guadeloupe and Réunion, production of sugar cane and/or bananas accounts for over three quarters of the cultivated agricultural area. In French Guyana, rice production accounts for 40% of the cultivated agricultural area, whereas on the Canary Islands five crops account for over three quarters of the cultivated agricultural area and of the value of crop production. On the Azores, production consists mainly in raising cattle, mainly for dairy products and meat (animal production accounts for over three quarters of final agricultural produce).

fairly traditional technologies and export a very low share of their production.<sup>10</sup> This lack of diversification leaves the outermost regions vulnerable to macroeconomic shocks.

In addition, the specialization in agricultural products in the outermost regions is extremely fragile. Indeed, production for export (mainly tropical and sub-tropical produce) faces tough competition from the ACP countries and the Mediterranean basin, both of which sell a lot in the European market. Local agriculture is also heavily dependent on the outside world for input supplies (fertilisers, seeds, ...) and remote from the sources of supply. Further, the development of extensive agriculture is slowed down by the lack of arable land due to small surface and the increasing urbanisation of rural areas. In the Canary Islands, Madeira, Martinique and Guadeloupe, there is also strong competition for land from the tourism sector. Finally, although the subsidization of agriculture in the outermost regions remains very significant (through the POSEI programmes of the European Union), public subsidies for farmers are decreasing and it is unlikely that there will be any reversal in this long-run trend.

Despite those structural handicaps, one opportunity for developing the outermost regions could be *an investment in niche products that primarily rely on immobile local factors, when combined with investments in location-specific human capital, the right infrastructural investments, and the right legal framework*. The production of new products may be an efficient way to foster economic development in the long run, provided that such products (i) are very differentiated, (ii) mobilize a large array of relatively immobile local resources, (iii) benefit from a brand name tied to the location (eventually via a legal framework), and (iv) have high value added per unit of land required because of the lack of arable land.

The penetration of foreign markets in the presence of high transport costs faced by the outermost regions, requires that the goods be relatively differentiated from those sold in the single European market. It is known from industrial organization theory that price competition in the case of relatively homogeneous goods is especially fierce, in particular on world markets given the current wave of international integration. As Fujita (2006) put it: *“if farmers were to continue producing only generic goods, they would have no way of escaping from the direct competition in price and cost. Then, given the increasingly more severe competition in the commodities markets due to globalization and expanding domestic markets, farmers (except those in the most advantageous locations) would be able to survive only under increasing subsidies and protection, while suffering from the gradual decline in their wages and incomes.”* (Fujita, 2006, pp. 2-3). Product differentiation enables firms to relax price competition and to more easily absorb transport costs and penetrate the foreign markets.

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<sup>10</sup>High export-share sectors include rum for the French overseas departments, tobacco for the Canary Islands, and milk for the Azores.

Fujita (2006) has recently shown how remote rural regions in Japan and other parts of the world have significantly boosted their economic development by specializing in niche products and ‘brand agriculture’.<sup>11</sup> To do so successfully requires three basic ingredients: (i) an exploitation of relatively immobile region-specific assets, including natural, human and intellectual resources; (ii) a timely investment in infrastructural projects and ICT, possibly with the outside help of the EU; and (iii) a continuing improvement and accumulation of location-specific human capital that serves in the exploitation of the immobile region-specific assets to create and improve highly differentiated products that can be competitively sold in remote markets even in the presence of high trade costs and small local market size. Finally, some legal protection of the brands may be required, as it is possible to make some products immobile by tying them to a particular region.

Why is such a development strategy susceptible to work? First, it emphasizes the improvement and exploitation of local immobile resources. Therefore, an improvement in accessibility is not likely to lead to a relocation as the resources are specific to the region. Second, it focuses on the investment and improvement of human capital applied to the exploitation of these region-specific resources. Thus, since it is not general human capital, there is again a lesser chance for relocation as this capital cannot be readily used in a different context. All this implies that targeted improvements in infrastructure and ICT are not very likely to backfire, since (i) the additional import competition will not affect the highly differentiated goods; and (ii) the local resources are not likely to relocate, since they are used together with local and largely immobile resources. Finally, in case there is some competition coming from outside regions which specialize in the same brands, legal actions backed by the European Union to protect the brands produced in the outermost regions may prove useful.<sup>12</sup>

Note that such development strategies are already pioneered in several regions. For example, the French DOM La Réunion produces wine and markets it under a specific brand that recently obtained the label “Appellation contrôlée” and “vin de pays”. The production is now of about 50000 bottles per year, which are marketed via Internet and shipped on a regular basis to foreign countries, including the European market. Note that the climate allows for two vintages per year, thereby boosting productivity when compared

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<sup>11</sup>This movement, initiated in a decentralized way by the remote villages themselves, is known as the OVOP (One village, one product) movement, which originated in Japan with the aim of developing remote rural regions. Since then, it has been adopted successfully in several developing countries, whereas results in some other countries have not been very satisfying.

<sup>12</sup>The European system relying on regional protected brands (‘Appellation régionale protégée’) may prove useful. A recent example is provided by the greek Feta cheese, which can no longer be produced in member countries like Germany and sold under that brand name. This allows Greek producers in relatively remote regions to benefit from some monopoly power and to sell their cheese more competitively in the European core markets.

to other vineyards that have only a single vintage per year. Although transport costs are quite high, this wine seems to sell reasonably well.

## 4 Tentative conclusions and outlook

Investigating the economic questions pertaining to the outermost regions of Europe is a challenging task as the standard tools of economic geography are hard to adapt to match their specific realities. As argued in the foregoing, the development of these regions most probably has to rely heavily on locally available and immobile resources, most of which are linked to brand agriculture and/or tourism and services. Yet, a cursory glance at standard development economics and economic geography reveals that the agricultural sector plays only a marginal role in these literatures. It is put in the background, as development is perceived to stem mainly from the secondary and the tertiary sectors only (Fujita, 2006). In this respect, economic development and regional economics utterly fail to come to grips with the issues under scrutiny and the specific reality faced by the outermost regions.

To summarize our foregoing results, we do not believe that either infrastructural improvements or regional income transfers constitute by themselves viable options for achieving regional development of the ultra-peripheral regions in the light of what economic geography teaches us. Improvements in infrastructure and trade costs are most likely to backfire on the regions, since market access remains highly asymmetric. Although measures intended to artificially increase market size are implementable, the gains stemming from doing so would probably be low given the financial means one has at its disposal. Yet, the picture is not as gloomy as it may seem, since different viable development strategies could be implemented in our opinion:

1. Favoring economic integration with the neighbouring countries and increasing the access to other trading areas, which are close to the Americas and the ACP countries.
2. Some outermost regions could play the role of shared-shipment nodes between neighbouring countries and the European Union.
3. Reducing internal transport costs of commodities and people, as this may allow to make the regional markets more competitive and yield agglomeration gains.
4. The development of highly differentiated products using location-specific factors and immobile assets, when combined with timely infrastructural and ICT investments.

Finally, we must recognize that even if such strategies are expected to foster the development of the ultra-peripheral regions, history and economic theory teaches us that the size and specialization of an economy are something very difficult to affect given the strength of the market mechanisms and the hysteresis effects. Although the development of the outermost regions is not beyond the reach of economic policy, one should not expect quick results.

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