

Freer International Trade and the Consequences for EU rural areas

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SUMMARY: General equilibrium models estimated by various authors and institutions show that, although trade liberalization leads to aggregate welfare gains, there are winners and losers. The aim of this article is to determine to what extent rural regions have won or lost in the trade opening process that has been underway since the 1990s. The economic literature on international trade and regional development suggests the presence of opposing forces, making the global impact of international trade liberalization on rural areas ambiguous. Using a series of empirical studies, the author assesses the impact of trade opening on the European regions, observing a significant proportion of losers in the trade liberalization process among the rural regions of Europe. The article concludes with an analysis of the negative effects of welfare losses on the environment and territorial ordering in many rural regions, and suggests the need to address the problem by modifying current EU policies.

KEYWORDS: Trade liberalization, European Rural regions and rural development policies .

JEL classification: O18.

Comercio internacional libre y las consecuencias para las áreas rurales europeas

RESUMEN: Los modelos de equilibrio general estimados por varios autores e instituciones muestran que, aunque la liberalización del comercio conduce a un bienestar agregado, hay ganadores y perdedores

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cuando se tiene en cuenta la distribución. El objetivo de este artículo es determinar que regiones rurales han ganado y cuáles han perdido en el proceso de apertura de los mercados que está en proceso desde 1990. La literatura económica sobre comercio internacional y desarrollo regional sugiere que la presencia de fuerzas de oposición, hace que el impacto global de la liberalización internacional del mercado sobre las áreas rurales sea ambiguo. Usando una serie de estudios empíricos, el autor asegura el impacto de la apertura de mercados en las regiones europeas, observando una proporción significativa de perdedores entre las regiones rurales de Europa. El artículo concluye con un análisis de los efectos negativos de las pérdidas de protección sobre el ambiente y el territorio, y sugiere la necesidad de dirigir el problema mediante una modificación de las políticas actuales de la UE.

PALABRAS CLAVE: Liberalización de mercado, Regiones rurales europeas, Política de desarrollo rural.

Clasificación JEL: O18.

1. Introduction

International trade is widely recognized as a major source of growth. Trade can positively impact welfare through different channels, the main ones being the well-known Ricardian comparative advantages, technological spillovers from abroad, the competitive pressure for lowering costs and enhancing quality, economies of scales linked to a larger market, and the availability of new products for consumers. However, aggregate gains shown by economic models should not hide that trade liberalization results in gainers and losers. Rural areas, in particular, may benefit or suffer from freer trade, depending on a variety of factors.

The academic literature that links international trade to regional dynamics suggests that opposite forces are involved and that the overall impact of freer international trade on rural areas is ambiguous. Several factors such as sectoral specialization, agglomeration effects, skilled labor bias, etc., could make some rural areas worse-off. The impact could be significant for those that depend most on particularly protected sectors, at least until adjustment takes place.

In the paper, we discuss the challenges for European Union (EU) rural areas. We first discuss the exposure of rural areas to international trade. We then survey which lessons can be drawn from the theoretical literature regarding the consequences of a larger exposure of rural regions to the world market. In spite of the lack of applied studies, we try to assess which regions might be negatively affected. We then discuss how the EU policy instruments could deal with possible negative consequences.

2. Rural areas in the EU economy

EU rural areas. There is no universally admitted definition of what is «rural» and what is not. For example, areas under a given population density (head of population per square kilometer) are deemed rural in EU statistics. According to the Eurostat definition, half of the EU-25 population lives in rural areas, which represent 90% of the

EU territory (European Commission, 2004). Obviously, such definitions hide heterogeneous situations. Researchers have pointed out how different were the dynamics in rural areas closely linked to cities and other rural areas (Cavailhes *et al.*, 2004). Growth in output or employment in rural areas often hides opposite changes between the peri-urban fringe and other areas (Schmitt *et al.*, 2002). The size, but also the dynamics of the resident population engaged in professional activities is often more determinant than the population density as far as the economic prospects of a region are concerned. The issues faced by those regions that have experienced a strong population decline (e.g. Basque country in Spain, or Liguria in Italy during the 1990s), or a large intra-regional migration towards the main cities (e.g., Northern Ireland) are different from those where population is scarce but stable. The age distribution of the population also indicates different evolution patterns for the future (ageing of the population is particularly extreme in some rural Italian areas, for example). Employment also matters, especially when unemployment of young people reach very high levels (one extreme is in the Italian region of Calabria). Isolation of the area is also a particular issue, given the importance of the easy access for some new population categories, such as commuting city workers (Nordic regions, mountainous areas). Because of data limitations, it is very difficult to carry out an analysis that takes into account the above characteristics. One must keep in mind that they often drive the ability of a region to respond positively to an external shock such as trade liberalization, and are seldom taken into account in global analyses.

Regional disparities. Regional disparities are very large, especially between Northern EU and the new member states. According Eurostat there are 21 EU-25 regions in which the employment rate of persons aged 15-64 exceeds 75% (the figures are for 2002). Eleven of them are in the United Kingdom, four in the Netherlands, three in Sweden and two in Finland, as well as Denmark. Among the new Member States, there are only six regions where the employment rate exceeds 65% (four in the Czech Republic, one in Slovakia and Cyprus). On the other hand, there are 19 EU-25 regions with an employment rate below 50%. Six are in Italy, five in France and in Poland, two in Spain and one in Hungary. The employment rate is very low (below 42%) in the French «R union», Italian Sicilia, Calabria and Campania in Italy (see Eurostat, 2005). The percentage of the population over 65 years old is larger than the EU average, and the whole age pyramid more unbalanced, in the Asturias region (Spain). It is the opposite in Flevoland (Netherlands), in Vichodn  Slovensko (Slovakia). The rate of change in the population is also very contrasted, and the rural population ages more in Greece than in Ireland or the United Kingdom (UK). The share of the population employed in the industrial, agricultural and services sector varies a lot. For example, industry accounts for 70% of total employment in the non-financial business economy in some Hungarian and Slovak regions, and exceeds 50% in several German regions. The percentage is less than 10% in Portuguese Algarve.

However, these regional disparities shown by Eurostat figures only partly match a urban-rural distinction. For example, regions predominantly rural in the North of Italy have a higher GDP *per capita* (in purchasing power parity) than more urbanized areas in Spain or Greece. In Southern and Eastern regions of Ireland, also predomi-

nantly «rural», wages and salaries are very high compared to the EU level, in part due to the considerable presence of transnational corporations.

Nevertheless, incomes *per capita* in rural areas are generally lower than those in cities and larger towns in the EU. Differences are even larger in the new Member States. According to the Eurostat definition of «rurality», rural GDP in purchasing power parity (PPP) *per capita* in Estonia is 44 % of national average, in Hungary it is 67% (Bryden, 2003). France is a typical example where one urbanized region around Paris concentrates skilled labor, industry and services and where wages are on average much higher than in rural areas. With the exception of Portugal and Italy, a similar concentration can be observed in most countries, and the highest wages are found around capital cities (Eurostat, 2005). In addition, studies at the national level show that the bulk of the economic activity in rural areas is often located in (sometimes small) local units, which account for the growth of the economy as well as the positive net migration, especially those of a peri-urban fringe.

Agriculture in rural areas. The negative long term trend in the population of rural areas has been linked to the fall in agricultural employment. During the 1990s, the number of full time farmers in the EU-12 fell by roughly 25 percent, and the number of farms declined by 20 percent over 10 years. Countries such as Italy, Spain, Portugal and France lost more than one-third of their farming jobs over 10 years. Bryden and Bollman (2000) estimate that another 6 million people could leave agriculture in the next decade in the EU-25. A considerable adjustment in the farm population is likely to take place in Romania and in Poland in the future.

Agriculture is not as central to rural life than it once was, in most of EU regions. In 1960, for example, agriculture generated 9% of GDP in the EU15 countries, where the figure is now roughly 2%. Over the same period, the percentage of agricultural employment in total civilian employment fell from 21% in the EU-15 to 4%. However, agriculture is still an important sector for some rural areas. In some countries where the more labor-intensive Mediterranean-type production predominates, farming often accounts for close to 10% of jobs. In some of the new of future member states of the EU, the share of population employed in agriculture averages 25% and generates some 8% of GDP. The figures are much higher in the (extreme) case of Romania.

Agricultural production remains important in terms of interaction with a food sector. In some French regions, the food industry accounts for a large share of the regional industrial GDP (Schmitt *et al.*, 2002). Even as a minority in the countryside, farmers are still important managers of the land. Even though the negative externalities of agriculture are often stressed (drainage of wetlands, pollution of rivers) agriculture also contributes to the degree of attractiveness of some regions. Some agricultural activities such as extensive grazing, or polyculture have been proved to be positively value by citizens. Contingent valuation studies show that agriculture generates some considerable social value through its contribution to landscape (Mahé and Ortalo-Magné, 2001). Landscape participates to a quality of life that has spillover effects on the rest of regional development.

A new dynamism of rural areas? Long-term trends suggest that agricultural sector will continue to represent a smaller share of activity in rural areas, and that rural

population will continue to move towards cities. However, some authors point out that many areas show a reverse trend in migratory flow over the last few years, corresponding to the development of new activities. This is the point of view of Gaigné and Goffette-Nagot (2003), whose work mainly focuses in France, but who believe that similar trends exist in other countries. They show that the migration towards rural areas has recently experienced a net positive balance in France, which offsets partially the ageing of original population. Rural employment has increased at a rate comparable to the rate in urban areas (services) or even higher (industry). They suggest that the importance of manufacturing and service activities are underestimated in rural areas.

Eurostat figures also show that the expansion of new sectors can also match the decline of the traditional agricultural sector. Already, employment in tourism exceeds employment in agriculture at the national level in the EU15. This is largely explained by tourism in capital cities, but there are some Germany and Austrian rural areas where employment in tourism now exceeds employment in agriculture (Eurostat 2005). The larger and larger ageing EU population that often retires to rural areas could also help maintaining the provision of collective services and infrastructure, with positive spillovers on business and employment.

Nevertheless, where statistics make it possible to distinguish the peri-urban locations in larger rural areas, it appears that the degree of aggregation largely drives the conclusions that one may draw. It is mainly the urban communities that are growing, while the remote ones lose both population and employment (Schmitt *et al.*, 2002). Beyond the urban communities, there is no visible reversal in the long term trend of a population decline. The development of services does not seem to focus particularly on rural areas, and is often more intense around big cities (Eurostat, 2005). Bryden (2003) also points out that the trend towards lower employment in public services tends to affect particularly rural areas. In some cases the figures show a somewhat artificial level of economic activity. For example, in some Greek or Spanish rural regions, a significant share of employment is in the construction sector, linked to the EU structural programs involving infrastructure building. Such programs could be a one-shot injection of employment. And the long term impact of the large number of roads and highways could either draw economic activity in the area... or it could draw it away!

3. The regional effect of trade liberalization: lessons from the theory

Different theories. The regional impact of international trade can be seen through different fields of the economic literature. Each of them sheds light on a particular aspect of the issue.

Traditional trade theories suggest that trade affects a particular region depending on its endowments (natural resources, but also human and capital endowments). These theories (for example, the Heckscher-Ohlin-Samuelson or HOS framework)

provide indications on the effect of trade on employment across sectors. Because the economy of rural regions is characterized by a predominance of specific sectors (agriculture, mining, etc.), one can draw some information on the local consequences of trade liberalization.

Even though the idea is more to explain trade by different characteristics of a particular region (economic weight, distance to consumption centers, borders, cultural differences, etc.) the approaches based on gravity models provide some linkage between the volume of trade and the location and size of different regions.

The so-called «new» (i.e. 1980s) theories of international trade emphasize the differentiation of goods, together with imperfect competition and economies of scale as determinants of trade. Rural areas, which concentrate specific industries, may respond in a particular way to a larger insertion in the global market.

Geographical economics³ approaches suggest that trade liberalization may lead to the concentration of certain activities in some areas (specialization) or even to the concentration of most of the activities in a geographical location (agglomeration). Under other circumstances, trade could favor dissemination of the activities over the territory, or outside the traditional kernels of economic activities. The dynamics of rural areas depends on such determinants.

Growth economics provide indications on the effect of international trade on the convergence or divergence between regions, often using empirical (econometric) measures. While it has seldom focused on distinguishing rural and other areas, some general lessons can be drawn.

Finally, because rural development studies often focus on a few sectors, and neglect the counterbalancing forces of the general equilibrium theory, Applied general equilibrium (AGE) models can provide a useful contribution to the assessment of trade reforms on rural areas.

It is noteworthy that there is a considerable body of theoretical literature, based on two-region stylized economies, but the empirical literature that could go beyond a simple illustration of possible mechanisms is scarce. There are very few empirical studies on the EU, in particular. Rather than developing the various theories, we will attempt to confront their predictions to the practical question of the effect of growing insertion of the EU in international trade for rural areas.

4. Factors suggesting a marginalization of rural areas

Lessons from classical trade theories. The HOS approach suggests that, when trade barriers are reduced, the import substitute sectors contract whilst the export sectors expand. Trade results in a redistribution of employment away from the import

³ An extension of the «new» theories of trade that specializes in explaining the dynamics of location of activities is sometimes called «economic geography» or «geographical economics». Since the early 1990s, a growing body of literature focuses on the dynamics of spatial concentration/dispersion of industries and more generally on the location of economic activity.

substitute sectors and towards the export sectors. The impact on rural areas will therefore depend on the way local productions compete with imports⁴.

The characteristics of EU rural areas suggest two consequences. First, the sector that remains the most protected, and in which most of the trade creation can take place in case of liberalization, i.e. agriculture, is specific to rural areas. As a result, rural areas are more likely to be affected than others. Note, however, that the EU tariff structure grants a very uneven level of protection across agricultural sectors, and that some EU agricultural sectors could expand under a more liberalized world market (e.g., wine and spirits).

Second, the manufacturing and services activities that are often found in rural areas tend to have often been protected by a «natural» protection provided by distance and transportation costs that made imports more expensive. As a result, these areas have been more insulated from broad market signals, and may not have faced the same pressure for innovation as the ones faced by say, less protected industries in coastal areas. There might be sectors for which this natural protection will survive a decrease in tariffs and the easier trade in service (information technology, fast means of transportation). But in most cases, this natural protection have made industries more vulnerable to international competition following the removal of protective trade barriers (Fuellhart, 1999).

Classical trade theory also suggest that areas that are poorly endowed with both human and physical capital and relatively more endowed with unskilled labor will have a more limited capacity to draw benefits from trade liberalization, say, with China (the Stolper-Samuelson effect). Rural is no synonymous of unskilled, and in some rural areas, the level of education is high (Terluin and Post, 2000, 2003 find little evidence that education determines the development of a EU region). There can be a pool of trained workers for historical reasons. However, the few empirical studies available suggest that the growing inequality between metro and nonmetro portions of the US can be largely attributed to the erosion of low-skilled wages (Leichenko and Silva, 2003). More generally, studies linking international trade to the decline in relative demand for unskilled labor provide indirect evidence that international trade may hurt rural economies⁵.

Competition of foreign products affect low and intermediate skilled workers is through a direct substitution effect. It also affects differently these types of labor through indirect effects described by Rodrik (1997)⁶. Rodrik emphasizes that exposure to trade can endanger standards and consensus. This is not specific to rural areas. However, agriculture and rural industries are particularly exposed to competition with products from countries that apply more lenient technical and quality standards (en-

⁴ Note that the issue is not the competition between the local production and imports within the rural area, but more generally the fact that the production mix in the rural area match the composition of imports in the whole domestic economy supplied by the rural area.

⁵ Bernard and Jensen, 1995, 1997, 2000; Cline, 1997, 2001; Feenstra and Hanson, 1996; Krugman, 1995; Wood, 1998.

⁶ The effects pointed out by Rodrik are that freer trade may undermine a domestic consensus around standards and way of living, increase the need for the implicit social insurance that the government provides to domestic citizen, and conflict with the socialization of risks (Rodrik, 1997).

vironmental standards, animal welfare, restrictions on genetically modified crops, etc.) or lower social standards for workers (Blandford, 2003). Some rural areas have already particularly suffered from the competition of cheaper Asian labor in sectors such as garments, traditional toys, leather, fruits and vegetable.

Classical theory emphasizes the role of Foreign direct investments (FDI). It is a powerful vehicle for transfer of technology and best practices in management. It also contributes to integration of domestic production capacities into global markets. However, FDI are likely to be primarily located in areas with a large pool of skilled and cheap labor, or with large deposits of non-renewable natural resources, or in areas that can access large consumption markets easily. Some rural areas might fall in this category, as shown by the «Celtic Tiger» example of Irish coastal regions. But most are unlikely to meet these conditions more than urban areas do.

Distance from markets. The situation of rural areas is very uneven, regarding natural resources and handicaps. Some rural areas might be ideally located for benefiting from cross border trade, combining easy access and a pool of efficient labor. However, others clearly face natural handicaps, in terms of distance, access and remoteness. There is some evidence that, in many rural areas, the dispersion of activities impose extra transaction costs (the cost of collecting milk in mountain areas is an example). That is, both the gravity approaches and the traditional location theory à la Von Thünen suggest that that remote location is a disadvantage for rural economies when trade is liberalized.

Access to communication technology can also make a difference, given the expansion of distance business, and the growing importance of information exchange. Modern communication technologies might alleviate some of the original handicaps of rural areas (transportation costs). However, they will perhaps ease the transaction costs (congestion) of urban areas in a larger extent. In addition, because of the privatization of utilities in the EU, suppliers are less required to provide universal coverage.

Geographical economics. The recent literature on industry location, which has borrowed to both strategic trade and industrial organization theories, suggests that several forces explain the concentration or dispersion of activities within a region, when international trade becomes easier. The outcome largely depends on initial conditions and on labor mobility. Again, there are only a very few applied studies which provide information on the particular impact on rural areas. However, the conceptual results tend to support the idea that international trade will bring a geographical reorganization of the economic activity that is unlikely to benefit rural areas, through specialization (concentration of certain activities in some areas) or even agglomeration (concentration of most of the activities).

A classical explanation of agglomeration of industries is the existence of technological spillovers, as described by Marshall. This suggests that the impact of trade could be relatively unfavorable to rural areas, which tend to concentrate largely protected activities like agriculture, with a limited degree of technological spillovers on other industries. The effect of the other externalities (the Krugman-type «pecuniary» spillovers, see Box 1) could reinforce the phenomenon. If we assimilate rural areas

Box 1. GEOGRAPHICAL ECONOMICS AND RURAL AREAS

The geographical economics approach. Modern literature on economic geography draws heavily on Alfred Marshall's ideas, that there are some positive external effects to concentrate activity. First, the concentration of several firms in a single location offers a pooled market for workers with industry-specific skills, ensuring both a lower probability of unemployment and a lower probability of labor shortage. Second, localized industries can support the production of non-tradable specialized inputs. Third, informational spillovers can give clustered firms a better production function than isolated products. In addition to these classical externalities, Krugman (1991) suggested that there might be some concentration effects with «pecuniary» externalities arising only from the desirability of selling to and buying from a region in which other producers are concentrated. The consequence is that an industry can become differentiated into an industrialized «core» and an agricultural «periphery». The interactions are quite complex since manufacturing firms tend to locate in a region with larger demand, but the location of demand itself depends on the distribution of manufacturing. That is, initial conditions play a role, and emergence of a core-periphery pattern depends on transportation costs, economies of scale and the share of manufacturing in national income (Krugman 1991). Extensions of the model by Ottaviano et al (2002), Ottaviano and Thisse (2003) and Behrens et al (2003) have shown the importance of trade costs, transportation costs, but also of worker's expectations.

The role of the underlying assumptions. Head and Mayer (2004) show that some key elements determine the dynamics of a region. These are: *i/* increasing returns to scale (IRS) that are internal to the firm (economic geography models assume a fixed, indivisible amount of overhead required for each plant); *ii/* imperfect competition⁷, and most of the literature assume a particular market structure (Dixit and Stiglitz model of monopolistic competition); *iii/* trade costs, i.e. the outputs and inputs used by firms are tradable over distances but only by incurring costs. *iv/* endogenous firm locations, since by assumption, increasing returns implies that firms have an incentive to select a single production site and serve most consumers at a distance; *v/* endogenous location of demand, since expenditure in each region depends upon the location of firms. Some of the results of the geographical economics can be driven by these specific assumptions.

Robustness of the results for rural areas. When geographical economics is applied to rural areas, some of the above assumptions may lead to overestimate the agglomeration forces. This is particularly the case with the assumption of imperfect competition, which gives market power to the firms and therefore may limit the dispersion forces. Gagné and Goffette-Nagot (2003) show that the more competitive the sector, the more the dispersion forces are likely to benefit rural areas, and that the conclusions on the future of the «agricultural periphery» could be affected. In addition, given the assumption on transportation costs and the «love of variety» (implicit to the Dixit-Stiglitz framework), the price index effect will be lower when the share of the industrial sector in the region is large. This is a major driving force for population to move where firms concentrate. The diversity of goods, the higher real income, the fixed costs, all these forces play in the sense of more agglomeration. Possible forces that oppose the concentration of activity include high transportation costs for the agricultural (or homogenous) goods, low transportation costs of industrial goods, and transaction costs in the urbanized region (congestion, cost of commuting), and an increase in the demand for homogenous (rural) goods.

⁷ With internal increasing returns, marginal costs are lower than average costs. Hence, one cannot assume perfect competition because firms would be unable to cover their costs.

to Krugman's periphery, his approach suggests that the sectors characterized by economies of scale (i.e., manufacturing) will concentrate in a few locations. Those with constant returns to scale are less likely to do so, and even less likely when they use an immobile factor such as land (i.e., agriculture). The few sites selected by the sector with economies of scale would be close to demand. Demand induced by the manufacturing sector could create a circular effect, which could lead to the agglomeration of activities. This circular effect would be strong when the economies of scale are large, when the share of the population involved in agriculture is low, and the society spends a large fraction of income on non-agricultural goods and services. Under these conditions, a cumulative process where population starts to concentrate and regions to diverge could feed on itself.

Initial factors are determinant in the process, and the outcome can be different for rural regions. For example, Krugman and Livas-Elizondo (1996) suggest that a decrease in international transaction costs between two countries, such as the one corresponding to a decrease in tariffs, may foster the dispersion of economic activity inside the home country under some conditions⁸. It suggests that some rural areas can benefit from trade, especially if the initial demand is large, if transportation costs are low, and if spillovers such as the local accumulation of skills are important. Overall, even though the final outcome is the result of contradictory forces, and that models tend perhaps to stress the ones that play against dispersion of activity in rural areas, the literature suggest that trade liberalization is more likely to enhance agglomeration of economic activity⁹.

5. Factors suggesting brighter prospects for rural areas

The academic literature nevertheless provides some indications that forces may counterbalance, or at least to dampen these effects.

The «convergence» theory provides some more optimistic prospects for rural areas. This point draws on empirical evidence, in general based on comparisons between countries, to suggest that trade and integration tend to benefit to all regions, by increasing factor productivity and income levels. Relying on some growth regressions, tenants of this theory claim that custom unions, for example, lead to convergence between the regions that form a free trade area (Iranzo, 2004). The econometric evidence is particularly strong within the EU. Eurostat (2005) shows that the prospect of integration has resulted in a large growth of most of the countries that joined the EU in 2004, even in most rural regions. Preliminary figures for 2004 also suggest a large increase in output and income in these regions. However, in the EU case, the role of structural policies and the role of inter-regional trade are difficult to

⁸ Cases where trade liberalization has involved the relocation of industries away from traditional industrial areas (Mexico city) to rural areas (areas close to the US border) are sometimes quoted, although this is perhaps a particular case, and not a genuine dispersion of activity.

⁹ Alonso-Villar, 2001; Montfort and Nicolini, 2000; Paluzie 2001; see Crozet and Koenig-Soubeyran 2002 for a review.

disentangle, and the extension of the generous payments to the new members must be taken into account¹⁰.

The product differentiation argument. It is well known that comparative advantages and the HOS pattern only explain part of international trade flows. The HOS framework fails to explain intra-industry trade, in particular. Other factors are at stake, and the linkage between more (less) exports and a reduction (increase) in unemployment predicted by HOS is not straightforward. The fact that expansions/contractions occur largely within the same industry supports this claim.

In some areas, a significant share of production is differentiated, either vertically or horizontally, even though some other productions (e.g. sugar) are not. Because differentiated products involve a certain degree of market power, the substitution effect could be limited and some rural areas will be able to expand the sales of their differentiated products (wine, cheese, etc.) on a broader market.

Assuming that Krugman-type agglomeration effects hold, some EU rural areas may be able to respond to this urban demand, especially in countries where distances are limited, transport infrastructures are efficient, and big cities are located in the hinterland. If we focus on agricultural products and services, the growth in consumption of a range of products that are differentiated (and often less protected by the EU tariff structure), has largely outpaced growth in agricultural commodities that are most likely to be affected by trade liberalization. Because trade liberalization will result in extra income gains, even if they are unevenly distributed across regions, there is a potential for new food products and services, responding to particular aspiration of the population whose income will rise.

The ability to prevent new entrants to produce similar products, or products whose attributes are close enough to capture a significant share of consumption will be determinant. For example, a rural area that will specialize in organic products will eventually face import competition once third countries will start producing. Some policies, in particular in the field of intellectual property can play a role. The EU policy of linking quality labels with geographical origin in the food sector (the Protected denominations of origins) could help maintaining this differentiation, even though the long term sustainability of this constructed advantage is uncertain (as testified by the debacle of some medium quality French wines in front of Chilean and Australian wine exports in the EU market).

A «rural» agglomeration of activities? The Krugman type approach suggests that rural areas may be in an unfavorable position regarding technological spillovers, positive externalities of infrastructure. However, as explained in Box 1, the results are partly driven by the lack of competition between firms (monopolistic competition, involving market power) and transportation costs (Gaigné, 2000). Ot-

¹⁰ The example of the EU integration, can be misleading. Kaminsky (2002) shows that the impact of the adoption of a common set of rules, involved much more than trade. In addition, if trade has been liberalized between countries, agricultural products that are particularly important for rural areas have remained highly protected from third countries exports. In some cases, the regional integration has even resulted in more protection and higher prices for agricultural products (case of the UK, Ireland, Sweden and most of the 10 new members). Finally, regional integration went together with considerable structural, support and cohesion policies that involved significant transfers to the rural areas.

taviano *et al.* (2003) show that commuting costs with the regional centers are sufficient to yield a dispersion of activities when trade costs are sufficiently low in the Krugman model. In addition, the congestion effect is largely ignored in the Krugman type approach, which would also favor dispersion after a certain threshold. The existence of other rural activities than agriculture, for which transportation costs are different, may invert the dynamics and generate dispersion forces, as illustrated by Kilkenny (1998).

Some rural areas are also characterized by factors that can provide positive externalities and attract firms, leading to the cumulative demand driven effect described by Krugman. The presence of particular natural resources, whose extraction would expand with international integration, is clearly one of them. Some may also attract some of the industries that respond to an increase in trade, thanks to local endowments. In the EU, Northern rural Italy, rural Cambridgeshire, the French Alps some Scottish or Irish regions provide examples where the conditions for dynamic, high technology non-urban growth are present. Even though they are «rural», these regions can take part to the concentration of activities. The conditions include the proximity to a university or another major research center, and an accessible (preferably international) transport node, a declining industry making under-used resources available, especially labor and buildings. A tradition of small-scale entrepreneurship is also an asset in some regions. These features are not common to all EU rural areas. However, some of them have high quality landscape and an uncontaminated natural environment, which attract skilled workers and make them accept lower wages.

If the above conditions are present, new technological developments may ease natural handicaps and remoteness. Indeed, the growing importance of technology may provide some opportunities for rural areas to capture a share of the trade-induced relocation of activities. Public policies may play a role (some countries such as Finland invest in the coverage of remote rural areas with broadband connections as a major component of rural development). It is even possible that in some cases, rural areas skip directly from pre- to post-industrial conditions, eliminating the intermediate stage.

While economic geography plays a central role to the positive externalities in explaining location of activities, negative externalities may also dampen the impact of trade-induced growth. In a similar way, the decline in some activities because of international trade may reduce these externalities¹¹. Finally, even if, initially, trade liberalization will lead to the concentration of economic activity away from the rural areas, some real adjustment will take place. After some critical value, the inten-

¹¹ The case of French Brittany is an illustration. Trade liberalization has resulted in a major contraction of the poultry production, because of increased competition from Brazil, Thailand and the US on traditional export markets as well as in the EU market. The economic effects have been very significant, and a whole cluster of industry linked to the poultry production (pharmaceuticals, feedstuffs, food processing) has suffered heavily, costing thousands of jobs in the region. Local producers blame it on unfair competition with countries that are not subject to the same constraints on production (labor rights, social security, animal welfare and environmental constraints). One of the indirect effects is that, in the longer run, the collapse of the poultry industry may reduce one (of the many) source of water pollution, and very acute problem in this area which affects tourism (seaweeds).

sification of trade liberalization could result in factor prices differentials (real estate) and congestion costs that would lead to the relocation of some activity to the de-industrialized areas. That is, the relationship between trade integration and agglomeration might display an inverse-U shape¹². Cavailhes *et al.* (2004) show that in developed countries, what they call «urban costs» (housing and commuting costs) represent between one third and one half of the household's budgets, and has been growing recently, affecting firm's performances. On the basis of French regions, Gaign  *et al.* (2002) show that in some sectors, the cost of living contributes to location decisions, while in other sectors, the quality of labor available remains the main determinant.

6. Some empirical evidence

The usual definition of «rural areas» based on density population is clearly too limited to draw general conclusions regarding the economic impact of trade liberalization. The determinant of agglomeration and development mentioned above would require distinguishing rural areas with greater mobility («rurban» commuters) or modern communication media, those with a viable age structure, involving generally a positive net-immigration; a diversified economic base, maintaining or even increasing employment rates; good health services and education system; high rates of locally financed and initiated new enterprise start-ups, with low costs of doing business, involving easy access and transportation. However, data constraints have so far limited detailed analyses. In practice, several approaches are typically used to gauge the international exposure of regions:

- Measures of export production (by both place of production and location of shipment).
- Measures of industrial structure (import/export orientation of a region's industries), that emphasize the linkage of the region's industrial mix to the pattern of international trade across industries. The relevant issue associated with imports is not direct local competition with imports, but whether a region's economy contains a large share of sectors that compete with imports at the national level, and the relative prices of those imported goods.
- Measures of exchange rates at the regional level. These measures are used as a proxy for the effects of changing prices of export and import goods at the regional level (Bernard and Jensen, 2000).

However, most empirical studies have been conducted on the United States. In addition, few approaches are actually conclusive on actual the impact of international trade on rural regions (see the review by Leichenko and Silva, 2003). For example, studies using the first approach itemized above have generally found a positive association between foreign exports and regional production, although with mixed effects

¹² Note, however, that the large degree of protection in agriculture suggests that rural Europe might still be on the ascending part of the U-shaped relationship between trade integration and agglomeration; see Iranzo (2004).

on export growth on employment. Studies using the second type of measure focus on how regional economies with industry mixes that are more export or import-oriented perform in comparison to regions that are less trade-oriented. They show large regional differences in employment sensitivity to changing trade patterns (Markusen *et al.*, 1991). However, the empirical conclusion is unsurprising: some areas benefit from export expansion, while at the same time, others have experienced job losses as the result of growing imports (Noponen *et al.*, 1997).

The few US studies that focus on rural areas find that international exports made a positive contribution to economic activity in those areas, but that these areas benefited less from international insertion than the more urban ones. Rural areas lag the nation in shares of shipments and employment that are accounted for by foreign exports. Firm and industry-level research provides additional evidence that rural areas may be especially vulnerable to competition from imports (Leichenko and Silva, 2003).

In the EU, a detailed study was funded by the EU Commission. The analysis has focused on 9 lagging rural regions and the 9 ahead rural regions over the 1980-1995 period. Possible explanations of the divergence between these regions were studied in detail (Terluin *et al.*, 1999; Terluin, 2001). They suggest that the determinant of the growth in rural areas is not linked directly to the production mix. Indeed, agricultural employment declines in both cases. While in some areas service activities played a significant role (tourism), it is mainly the employment in the manufacturing and construction sector that made a difference. Some rural areas are «better placed» than others to adapt to the «opening up», although the causal factors are not obvious: factor endowments, factor prices, entrepreneurial capacities, social capital, amenity, proximity to a wealthy urban population, etc. (Terluin and Post, 2000; see also Bryden et Hart, 2003; Bryden and Bollman, 2000; Bryden *et al.*, 2001).

Studies that focus the impact of trade on different sectors also suggest that the impact of international trade on unemployment of low-skilled workers can be significant, which would affect particularly rural areas (Wood, 1994). Note, however, that Terluin *et al.* (1999) find that some areas could be quite dynamic even without highly skilled labor, but with a pool of trained and specialized low-skilled labor, such as the one existing after the closure of a traditional industry. Greenaway *et al.* (1998) carried a very detailed study on the UK using panel data, and accounting for the interaction between trade and wages, as well as trade and productivity. They concluded that international trade does explain some of the decrease in employment observed during in sectors that are dominant in rural areas (mineral extraction, manufacturing of metal, leather industries. In the food, drink, tobacco and textile industries, the impact was also significant)¹³. The situation seems to be different in France, where the decline in the manufacturing sector exposed to international competition appears lower in rural areas than in urban areas (Schmitt *et al.*, 2002).

¹³ Note, however, that they find a higher negative impact on employment in the case of trade with developed countries than developing countries. This suggests that the competition with low-skilled labor is perhaps not the main issue.

7. The effects of trade liberalization on EU rural regions

Trade liberalization often incurs significant distributional impacts. Until recently, these distributional impacts were largely ignored when assessing the effect of trade liberalization. Recent efforts have led to considerable progress in the assessment of the distributional effect across individuals (Hertel et al, 2004). However, few efforts deal with European countries. And even fewer deal with the distributive effects across regions or other geographical areas.

Trade liberalization and the EU agricultural sector. Although agriculture is becoming increasingly marginal in rural areas, it remains an important determinant of the effects of trade liberalization on these areas. One reason is that it is the sector that will be most affected by tariff cuts. A difficulty is that the effects of the «decoupling» of farm payments decided in June 2003 and the effects that can be directly attributed to trade liberalization are difficult to unravel. Trade liberalization should particularly affect the EU production of beef. Indeed, over the recent period, EU beef imports (especially from Brazil) have soared, while beef products face a tariff ranging from 80% to 120% depending on the cuts. With a much smaller tariff, it is likely that imports would increase dramatically. Because two thirds of the beef consumption come from byproducts of the dairy herd (and that dairy production is likely to be less affected by trade liberalization), a considerable pressure would be put on the suckling cows sector, which is a significant economic activity for some rural areas. The production of maize would also be affected by trade liberalization, much more than the production of wheat and barley. The sugar sector would contract significantly and concentrate in a few efficient regions. Most models predict a large fall in farmers' revenues, especially in the scenarios where the direct payments must be reduced over time, a likely evolution of the EU budget (Gohin, 2005; Bouët *et al.*, 2005).

General equilibrium assessment. If we focus on the whole economy rather than the agricultural sector, trade liberalization will have intersectoral and macro-economic effects that require using general equilibrium approaches. A recent effort by the CEPII makes it possible to assess the impact of trade liberalization at a regional level. The CEPII's DREAM model distinguishes EU regions at the NUTS-1 level, i.e. 119 regions for the EU. Simulations with this model suggest that the direct effect of competition between domestic production and imports will affect agriculture and sectors that relying on low skilled labor, which are disproportionately located in rural regions (Jean and Laborde, 2004). In these sectors, lower market prices for products that will face competition from cheaper imports will translate into lower revenues for producers. Industries that provide inputs to these sectors will also be affected.

Global trade liberalization tends to raise global income, but the resulting increase in the demand for food and agricultural products is likely to be limited, and higher demand is more likely to benefit to products which will only marginally produced in rural areas.

Trade liberalization in the some sectors such as textile or manufacturing would affect particularly the regions of Nordrein-Westfalen, Bayern, Baden-Wurttemberg

(Germany), Lombardia (Italy), Portugal. In some regions, including most regions in Ireland and Spain, but also particular regions in other countries, the negative impact on agriculture represents a significant shock in the economy. This is particularly the case in the poorest regions of the EU-15, where agriculture represents more than 35% of the regional GDP. Locally, the shocks could be even larger in highly specialized regions, since variations are dampened by the NUTS-1 level of aggregation. The simulation carried out by Jean and Laborde of the consequences of a rather realistic agreement under the Doha Round suggests a significant fall of agricultural production in some regions. The impact would range between 2% and 8% of aggregate agricultural output at the regional level, with an average of 5.3% at the EU-25 level, if all tariffs and export subsidies were eliminated and domestic support cut by 50%. For example, animal production would fall by 23% in Ireland, by 13% in the «Sur» and «Centro» regions of Spain, and by 10% in the «Ouest» region of France. Cereal production would decrease by more than 10% in Denmark, in the «Sur» region of Spain, in the «Ouest» and «Basin Parisien» regions of France. The larger economic losses would be experienced in the food sector in Ireland, in the «Vlams» region of Belgium, in the «Este» region of Spain, in the «Ouest» region of France, and in Denmark. In all cases, the loss would correspond to production losses ranging between 2.6 bn euros 1997 (Eire) to 1.2 bn euros (Denmark).

In some Danish or French regions there are some offensive interests in liberalizing agricultural trade, while the impacts are mainly negative on the farm sector in most of Greece, of Portugal, Ireland, France's West, Spain's Center and South, Southern Italy, Malta, Cyprus, several Polish and Slovak regions, where agricultural activity would decline. This is particularly troublesome since poorest regions not only tend to specialize on agriculture, but in the productions that would not benefit from export opportunities on third markets.

The results also show that the main sectors where trade liberalization would result in higher output would be in the industrial machinery sector (several regions in Germany and Sweden), and the transportation equipment sector (several regions in Germany and Belgium). Trade liberalization would also benefit the service sector in some regions, which are often the richest regions. Indeed, the increase in service will create employment, but it is unlikely to be in the rural areas (regions that benefits include the French «Ile de France», the German «Bayern» regions, where the service sector is mainly located in or close to large cities. Ireland is perhaps an exception, with the development of services in the South and Western parts of the country). The sector of transport and communication is among the ones that expand most. In the EU, however, it is particularly concentrated in wealthy regions (West Netherlands, Flander).

Trade liberalization would result in significant capital flows across regions. However, the investment would mainly be directed in several new member regions (Baltic states, Malta) and to regions with a large capital city in Austria, the Netherlands, France, Hungary and the Czech Republic. Again, the EU -15 regions with a large agricultural orientation would experience a net outflow, which can be partly explained by the removal of some CAP support. The capital flow is particularly negative in

most Greece regions (except Athens), Ireland, Portugal, the West of France, the South and Center of Spain.

8. The overall welfare consequences

Is a potential negative impact on rural areas a real issue? The negative sectoral and regional impact of trade liberalization should not conceal that the simulations carried out by Jean and Laborde show a small welfare improvement as a whole, since welfare (measured as equivalent variation) increase by 0.19%. This results mainly from lower consumer prices, and a reallocation of resources to other sectors. Aggregate gains mean that there is scope for compensation and redistribution towards potential losers, including in rural areas.

In addition, one may wonder whether the slower economic development of rural areas, or even a decline of these areas is necessarily a bad thing. There are lower transaction costs if population is more concentrated (at least in efficiently designed cities, which are not affected by congestion). Ottaviano and Thisse (2002) find that agglomeration is socially desirable at high and low trade costs but undesirable at intermediate costs. Forslid et al. (2002) argue that welfare is positively associated with the location of the increasing returns manufacturing sector because the locations where activity tends to concentrate enjoy higher than average growth rates. A decline in rural areas might only result in a new form of using the EU territory.

However, the fact that the gains of international trade are distributed in an uneven way across rural areas raises concerns. If population and economic activity decline, so does a range of services that makes life more attractive in an area. The closure of schools, postal services, and hospitals is not yet offset by the development of electronic communication, and there is a risk of a snowball effect. Agglomeration also results in congestion and negative externalities. The market mechanisms will obviously account for these extra costs, and this will participate to the inverted U curve of activity location described previously. However, it is uncertain that market forces will provide an appropriate reaction, both in time and in intensity. Ottaviano et al (2003) show that the market yields agglomeration for values of the trade costs for which it is socially desirable to keep activities dispersed. Hence, while they coincide for high and low values of the trade costs, the equilibrium and the optimum differ for a domain of intermediate values. In this case, there is room for regional policy interventions grounded on efficiency considerations.

An uneven repartition of the benefits of freer trade may also have widespread consequences in terms of political economy. For example, trade liberalization may meet important oppositions where economic activity is threaten. The opposition to regional agreements that would endanger a particular production (EU-Mercosur agreement in beef producing regions; EU-Euromed agreements in fruit producing regions) is an example. Given the decision-making structure in EU institutions, a well-coordinated minority of potential losers can block agreements.

In addition, the ethical aspects of reforms that have very uneven effects are an important concern in the EU, compared to many other countries, whose cultural heri-

tage focuses less on equality and solidarity. There are mechanisms designed to cope with inequalities (e.g., direct compensation for losses, such as in the successive agricultural policy reform, or solidarity mechanisms, such as in the structural funds policy). But their funding is now limited by tight budgetary guidelines.

9. Are EU rural development policies appropriate?

An issue of concern is that the EU is probably not very well equipped for dealing with the negative shocks on particular regions. Now, most regions are under a fixed exchange rate system (the Euro area) or a currency that is de facto pegged to the Euro. A particular region has no degree of freedom as far as the monetary instrument is limited. Limits set on fiscal and budgetary instruments make it difficult to implement a local expansionary policy, especially if the shock occurs when the country's public deficit is already high. Recourse to supply side adjustments is hampered by the marked inertia of certain factors of production, and labor mobility is low in the EU because of rigidities and cultural and linguistic obstacles to migration between Member States. As a result, areas heavily affected by the decline in a particular sector may experience prolonged shocks. The adjustment in real wages and real estate will take time.

In such circumstances, one of the few ways to prevent a sectoral shock from triggering a recessionary spiral is to make transfers from other countries and sectors. This may be done through the Community budget or interregional stabilization mechanisms. The instruments of cohesion and rural policy that can be mobilized are presented below.

The rural development instruments of the CAP. The Agenda 2000 laid the foundations for a rural development policy that supplements market-focused traditional agricultural policy. The Agenda 2000 offered a «menu» of 22 measures for rural development, taken in a broad sense. Member States choose from this menu those measures that suit the needs of their rural areas best. The «rural development» regulation or RDR, which came into force in 2000, emphasizes the multifunctional role of agriculture and forestry, the environmental aspects and an integrated approach to the rural economy through multisectoral development. All rural development policy was put into a single regulatory framework (Regulation 1257/99). Since January 2007, all the RDR measures have been funded by the European Agricultural Fund for Rural Development (EAFRD).

The June 2003 CAP reform extended the main instrument of rural development policy set out under the Agenda 2000. The introduction of decoupling and «cross-compliance» reinforces the role of agriculture as a provider of public goods in its environmental and rural functions, and rural areas in their development. The modulation (reduction in direct payments for bigger farms) results in additional rural development funds of EUR 1.2 billion a year being made available. There is evidence that the rural development or more generally the «second pillar» measures of the CAP benefit more to rural areas through spillovers with other sectors and more

evenly spread benefits on the national territory than the «first pillar» measures (CJC 2002).

The November 2003 Salzburg conference, is seen as a landmark for the definition of future rural policies. The Commission stressed the role of agriculture and forestry in shaping the rural landscape and in maintaining viable rural communities. The role of public policy to help farmers take up their multifunctional role as custodians of the countryside was restated. So was the justification for public support for EU rural development policy to facilitate the process of agricultural restructuring, the sustainable development of rural areas and a balanced relationship between the countryside and urban areas. The conclusions of the Commission also emphasized the importance of encouraging diversification both within and beyond the agricultural sector, seen as indispensable in order to promote viable and sustainable rural communities. Access to public services in rural areas and the need to solve the issue of employment opportunities, in particular for women and young people was also emphasized. Other recommendations included pursuing the efforts for promoting food quality and safety, the importance of a partnership between public and private organizations and civil society, the principle of subsidiarity, and the need to simplify EU rural development policy. On 20 February 2006, the Agricultural council adopted guidelines for rural development. The 2007-2013 policy focuses on three areas: improving competitiveness for farming and forestry, environment and countryside, improving the quality of life and diversification of the rural economy. A fourth axis the «Leader axis» builds on the experience of the LEADER+ initiative and introduces possibilities for locally based bottom up approaches to rural development (The Leader+ initiative aims at promoting integrated strategies for sustainable development, with a focus on partnership, networks and exchange of experiences).

The structural funds. The structural funds were established to ensure the economic and social cohesion within the EU. They are a central policy of the EU, accounting for one third of the EU budget. EU cohesion policies have multiple objectives, ranging from the funding of the adjustment to new activities for areas suffering from the decline of traditional industries, long term unemployment in urban areas or change in farm structures. The Agenda 2000 has simplified the structural funds, which now cover three objectives (objective 1 is to support the development of less prosperous area; objective 2 is to revitalize areas in great difficulty, objective 3 is the development of human resources). Since the 1989 reform, structural funds have concentrated on a limited number of priorities such as the improvement of communications (primarily upgrade of basic infrastructures), assistance to industry, crafts and business services, tourism, development of agricultural resources and rural development, support of infrastructures for economic activities and development of human resources. These funds involve significant transfers between member countries. It is admitted that transfers from the EU through structural funds have played a major role in the development of countries that have caught up with the rest of the EU such as Ireland and Spain, during the last 20 years.

The 2007-2013 financial framework reorganizes the structural funds. The European Regional Development fund (ERDF) still aims at reducing imbalances between regions or social group. It therefore plays a particular role in objective 1 and objec-

tive 2 regions. The ERDF concentrates mainly on productive investment, infrastructure and the development of small businesses. The European Social Fund (ESF) targets projects for employment. The ESF concentrates on vocational training and recruitment aid. The new Cohesion fund focuses on the new member states as well as Greece and Portugal. The FIFG (Financial Instrument for Fisheries Guidance) assists the structural adjustment in the fisheries sector.

The 2007-2013 financial perspectives, adopted by the Council in December 2005 after very tough negotiations, and then amended by the EU Parliament, set the budgets for the structural and cohesion policy. For the 2007-2013 period, the 864 billion euros of total commitments include 382 billions for «sustainable growth», 371 billions for «preservation and management of natural resources», including 293 billions for the CAP market managements and farm payments. The rural development are mainly dealt with within the 74 billions left in this item, and with the 308 billion devoted to growth and employment in the «sustainable» growth item.

The EU policy instruments and trade liberalization adjustment. Overall, the EU rural development policy can now rely on a variety of measures that can be financed with the structural funds, including the EAFRD. Some of them are structural measures, such as the funding of infrastructure, the revitalization of large areas, training programs, diversification programs, or financial assistance for investments in businesses. They could play a role in the adjustment of particular rural areas that would be affected by trade liberalization. Through the RDR, the EU also funds a series of measures aimed at promoting the development in these areas. Funding can cover land improvement, basic services for the rural economy and population, renovation and development of villages, diversification of agricultural activities to provide alternative or additional incomes, agricultural water resources management, encouragement of tourist and craft activities, and protection of the environment. The EU now has over 640 geographical indications and designations of origin (in addition there are over 4,000 registered designations for wines and spirits) which can play a role in keeping the product differentiation rent into a particular rural area. Finally, special measures make it possible to transfer resources to areas facing natural handicaps (mountainous terrains, soil, conditions, climate, etc.), classified as «Less favored areas».

However, it is uncertain whether the EU cohesion policies can provide the necessary margin of maneuver for coping with the regional effects of trade liberalization. The institutional situation in the EU does not easily lend itself to fine tuned sectoral and regional transfers. In the US, the federal budget has a strong stabilizing effect when a particular State goes into recession, and generally restores the balance across regions unevenly exposed to business cycles, via lower taxes and social transfers. This is not the case in Europe, where countries retain their autonomy over social policymaking. The EU budget is very small (hardly more than 1% of Community GDP) and its structural funds are limited. They cannot play the stabilizing role that the federal budget does in the US. In addition, the structural funds are not particularly flexible and proactive. Their allocation is subject to considerable policy pressure from Member states, and they can hardly be used as an emergency measure to support a

particular area or industry affected by an external shock such as a collapse of a major production... structural funds are perhaps too «structural».

The rural development measures are more flexible and decentralized, and could be more easily fine tuned to ease adjustment in a particular sector and location. Since 2005, countries have a large degree of freedom for using extra «modulation» provisions. However, the amount of money available is limited. Most of the budget under the «preservation and management of natural resources» item is devoted to traditional CAP measures, including market management and direct payments to farmers. For the rural areas, these CAP payments provide an inflow of resources that is clearly significant, and which would not be endangered by trade liberalization, unless the «green box» category of payments was challenged under the WTO. For the farmers themselves, the CAP direct payments now represent a very large share in farm income (it reaches 90% in French beef production). The effect of larger imports and lower prices on producer's income would be dampened by these payments. But now that the CAP payments are decoupled, they do not provide any incentive to maintain production. In the case of trade liberalization, say in the beef or sugar sector, production is likely to decrease, and the first transformation industries might suffer a lot. Finally, there is no guarantee that direct payments will persist after 2013.

10. Conclusion

Given the specific characteristics of the rural sectors, both traditional trade and economic geography theories tend to suggest a relatively unfavorable outcome of trade liberalization for some (many?) EU rural areas, at least relatively to the more industrialized ones. Rural economy could suffer from the concentration of industrial activities near the main demand (domestic, i.e. urban centers, and international, i.e. close to borders). This may have cumulative effects, since the demand in these areas would decrease, and agglomeration could result in serious divergence in regional growth (Brulhart 1998). Eventually, some adjustment will take place because the cost of labor and real estate has made the region less (more) attractive to investors. However, examples suggest that a long time lag can be necessary before the adjustment takes place (e.g. it took decades before the car industry invested the US Appalachian regions after the collapse of traditional industries). And efficient infrastructure and communication means would be required, which would be difficult or very costly in some areas.

Should trade be liberalized and particular rural areas suffer from it, the EU would have only a limited range of policy instruments available. Structural funds cannot easily be reallocated to ease the adjustment costs within one sector. And the rural development payments are too limited in funding and are also now so targeted in their utilization that they are unlikely to match the challenge. Trade liberalization is unlikely to take place suddenly. In case of an agreement under the WTO, some transition period should be used to build capacity for adjustment procedures in some particular sectors and particular areas that depend a lot on the most affected sectors.

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