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**Working Paper**

## Globalization, geography and regional policy

ADB Discussion Paper, No. 27

**Provided in Cooperation with:**

Asian Development Bank Institute (ADBI), Tokyo

*Suggested Citation:* Weiss, John (2005) : Globalization, geography and regional policy, ADBI Discussion Paper, No. 27, Asian Development Bank Institute (ADBI), Tokyo

This Version is available at:

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ADB Institute Discussion Paper No. 27

## **Globalization, Geography and Regional policy**

**John Weiss**

**April 2005**

John Weiss is Director of Research at the ADB. The views expressed in this paper are the views of the author and do not necessarily reflect the view or policies of the Asian Development Bank Institute.

## Introduction

Regional policy can be defined simply as the deliberate use of public policy to influence the flow of resources in a national economy in favor of particular disadvantaged or backward regions. Most governments in Asia continue to have either 'strong' or 'weak' versions of such policy, either on the grounds of equity, because important pockets of poverty are located in particular regions, or on the grounds of allocative efficiency, where it is deemed that the returns to immobile factors in a region are below their potential.<sup>1</sup> Despite the skepticism in some circles over attempts to over-ride or influence market outcomes, a persuasive theoretical case for some form of regional policy can be argued from a range of perspectives. In this paper we reflect on what recent theorizing on trade and geography, that attempts to explain globalization patterns and their consequences, can add to the discussion on regional policy. The 'new economic geography' of the 1990's, is itself arguably a variant of the 'new international trade theory' of the late 1970's and 1980's. Much of this literature focuses on trade between national economies and it is useful to assess how far it can be used to throw light on trends within national economies. Here we do not offer a precise definition of globalization, nor do we enter into discussions of whether current trends are entirely new or simply a revival of those from the pre –1914 era. We simply take globalization as a process in which there is an accelerated movement of commodities and capital between economies and a significant decline in the cost of transport and communications and reflect on what, if anything, this implies for regional policy.

We commence with a brief review of ideas from this literature before relating these specifically to regional policy interventions.

## Geography matters

In the theoretical framework of perfectly functioning markets that underlies Neoclassical views on development (as in Little 1982), regional policy has only a very modest role, since with factor mobility returns can be equalized as labor and capital can move between regions. Thus markets can remove regional disparities if they are allowed to work freely. Public policy has a limited role in overcoming specifically defined market rigidities, since provided fiscal problems are overcome, tax-subsidy solutions can be used to offset market imperfections, with the optimal solution designed to minimize by-product distortions. In traditional growth theory that provides the dynamic side of this story income convergence between regions is predicted (at least allowing for other characteristics in so-called 'conditional convergence'), although the time path will be uncertain. The essential policy conclusion is thus to encourage factor mobility to speed up this process.

However a quite different view of development both across countries and regions is obtained from the 'new economic geography' literature. For the purpose of exposition we simplify a complex literature into a number of basic propositions and relate their implications to regional policy under globalization.<sup>2</sup>

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<sup>1</sup> In the UK for example whilst in earlier decades regional policy was driven by considerations of pockets of high unemployment in particular regions, its current version is rationalized in terms raising productivity in more backward regions, so that 'every region can perform to its full potential' (HMSO 2003).

<sup>2</sup> These are drawn from some of the overviews of this literature, such as Krugman (1998) or Venables (2001).

### *Proposition 1*

*Distance between nations (and regions) creates 'trade costs' and these can have a powerful impact on incomes between countries (and regions).*

Trade costs are considerably broader than conventional transport costs and cover the costs of doing business over geographic space, in the broadest sense. They include as appropriate

- transport and shipping costs
- time costs of the period spent in transit
- search costs, that is the cost of searching for a trade partner
- control and management costs in organizing a supply chain of operations and transactions
- policy-induced barriers, in the form of import tariffs, tariff equivalents of quotas and 'unofficial' payments.

Globalization impacts on all of these costs. In the models that form this literature trade cost is a powerful explanatory variable, hence globalization has potentially powerful consequences.

Trade costs can be used, for example, to explain wage levels in different locations with locations further way from established markets or production centers only able to support lower wages, as domestic value-added is squeezed as trade costs payable on intermediate inputs or on final output rise.

### *Proposition 2*

*Substantial agglomeration benefits and cumulative causation explain the concentration of manufacturing in countries (and regions within countries).*

As increasing returns to scale (both internal and external to enterprises) are assumed in some activities (with manufacturing taken as representative of this category) there will strong tendencies towards geographic concentration or 'clustering'. The process is cumulative as firms in a location support each other. The external benefits associated with spatial agglomeration typically arise from

- technological spillovers as 'good ideas' become adopted and adapted by others;
- a specialist workforce skilled in the activities of the area;
- a network of specialist input suppliers, who can generate backward and forward linkages and pecuniary externalities.<sup>3</sup>

The first two of these mechanisms have been referred to as 'horizontal' and the third to 'vertical' linkages.

At an international level the prediction is of a divided world of 'north' and 'south' in response to the benefits of agglomeration. The process is not without limit, however, and can be reversed through negative externalities, such as congestion costs, or reductions in trade costs. Simulation models tend to show that large (so-called 'catastrophic') changes in trade costs may be required

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<sup>3</sup> The role of linkages and externalities both technological (non-market mediated) and pecuniary (market mediated) has long been understood, but Venables (2001) argues that the mechanisms are critically dependent on market imperfections, since if firms price at marginal cost there can be no pecuniary externalities. The response, of course, is that Hirschman (1958) and Scitovsky (1958) would never have dreamt of couching their expositions in terms of competitive markets.

to cause de-concentration and that at intermediate levels of trade costs concentration remains high.

Figure 1a and 1b (adapted from Venables 2001 to give a regional slant) illustrates the logic involved. We consider two regions (1 and 2) of the same country. In the country the number of firms is fixed (at  $n$ ). The horizontal axis gives the number of firms in each region measured by the distance between the right and left hand ends of the axis respectively, so that a point on the axis measures the division of the industry between the two regions ( $n_1 + n_2 = n$ ). The vertical axis gives profitability of a single firm in each location ( $p$ ) and here it is assumed that profitability is a function only of the number of other firms in the same region. In a standard Neoclassical model with diminishing returns the profit lines for each region would be downward sloping as in figure 1a (for example because with more firms the price of a scarce factor is bid up). There is a unique equilibrium at E where the returns are the same in both regions and there is no incentive for any firm to move. As drawn  $n_1 < n_2$  at E, so the assumption is that region 2 has a comparative advantage in the industry.

Figure 1b introduces positive externalities that are strong enough to offset any tendency towards diminishing returns, so that the profit lines are now upward sloping, since the profits of any one firm rises with the number of firms (perhaps due to knowledge sharing through technology spillovers). The intersection at U is now an unstable equilibrium, since although profits are equal in both regions, if any one firm moves that would raise the number of firms and hence the profit rate in the recipient region relative to the other region, and other firms would have an incentive to follow in a cumulative process. There are now two stable equilibria, where there is no tendency for any firm to move. These are at points  $E_1$  (where all firms are in region 1) and  $E_2$  (where all firms are in region 2). These are 'multiple equilibria' and theory cannot predict which will be the outcome. History will play an important role and once established in a region firms can build on 'first mover advantages' in a cumulative manner.

Falling trade costs with the world economy as part of globalization can be introduced by allowing one region to obtain an advantage over the other, for example through improved air or rail communications abroad. This is shown as an upward shift in the profit line for region 1. However in this simple example a large change in trade costs will be required to alter the equilibrium, since they will only have an impact on equilibrium when the dotted profit line for region 1 is reached. Only at this point is  $p_1(0) > p_2(n_2)$ . This is required for any firm to leave region 2 for region 1. At any lower profit line  $p_1(0)$  will be below  $p_2(n_2)$  and if equilibrium is at  $E_2$  it will be undisturbed. Hence here we illustrate a 'catastrophic' change in trade costs that is sufficient to overcome a first-mover advantage in region 2.

Insert figure 1a

Insert figure 1b

### *Proposition 3*

*Market size (in both countries and regions) can provide a basis for comparative advantage, so that large market size will be associated with net exports of goods subject to increasing returns.*

Once one introduces both increasing returns to scale and trade costs on output and inputs firms will be faced with location choices, since it will be inefficient to split production with a view to minimize trade costs, because of the increasing returns that are foregone. There will be tendency for firms to locate production where markets are large to take advantage of increasing returns. This tendency will only weaken with large falls in trade costs or the emergence of serious negative externalities in the established production center. As firms concentrate geographically in a region this will attract labor in-migration from elsewhere in the country and the demand from the newly employed workers will further increase market size, again in a cumulative process. Thus countries or regions with a large internal market will tend to have a disproportionate share of activities subject to increasing returns; this is the 'home market effect.'

#### *Proposition 4*

*Trade liberalization and trade cost reductions will lead to some de-concentration of economic activity both between and within countries.*

Insofar as an important force for clustering is the network of backward and forward linkages between firms located in geographical proximity, trade reform (and reductions in trade costs more generally) will weaken these local ties, as more backward linkages are supplied by imports and more forward linkages are to export sales. Hence the extent of local concentration in particular regions may diminish. Internationally the models predict some shift away from established national economies due to the combined effect of negative externalities (like congestions costs), rising real wages in established producers, and falling trade costs. Globalization is the final stage in new economic geography models where trade costs fall significantly to allow some global de-concentration of production and the development of global production networks in activities where gains from vertical specialization outweigh location generated externalities.

However the spread of manufacturing and other increasing return activities to new producer economies is not uniform, but will go to a small number. This matches the simple model above, since if one follower economy gets ahead of the others a cumulative process sets in and new activities locate there at the expense of the others. Hence the spread of manufacturing from the old established centers (the north) to the periphery (the south) is gradual and limited.<sup>4</sup> Within an economy labor mobility will be far greater than internationally and labor migration can be expected to act as drag on wage rises in more concentrated or dynamic production centers thus weakening tendencies to de-concentration of activity (or at least those due to rising wages).

In summary, of these insights, the key relevance to our concerns on regional policy are

- a focus on trade costs at different locations and the distinction between their different components, with distant locations at a clear disadvantage
- the stress on first mover advantages, large home markets and various external effects with the implication that whilst there are growth poles (or positive cumulative effects), so there can also be growth sinks (with a lock-in to declining activities and negative cumulative effects).

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<sup>4</sup> This story of course mirrors the rise of a small number of newly industrialized economies in the late twentieth century (Puga and Venables 1996)

## Implications for regional policy

Any assessment of this literature must acknowledge first that much is a re-statement (welcome nonetheless) of old style development thinking dressed in somewhat more formal garb. Furthermore much is economic rather than geographic in disciplinary terms, so there is a sense in which this body of work is 'neither new nor geography' (Martin 1999). There are a range of familiar ideas here relating to - linkages, cumulative causation, technological and pecuniary externalities, balanced growth and effective protection. To these are added the rigor of mathematics and simulations that allow demonstrations of outcomes in formal terms, when increasing returns are introduced into trade models. As the key figure in this literature comments

'the new economic geography might best be described as a 'genre': a style of economic analysis which tries to explain the spatial structure of the economy using certain technical tricks to produce models in which there are increasing returns and markets are characterized by imperfect competition" (Krugman 1998: 10).

However, like the new international trade theory that this work builds on, it provides insights of considerable value (or supports ones that had been long neglected) rather than providing direct policy recommendations. Once one introduces increasing returns into trade models there is the possibility of rents (or supernormal profits) accruing to producers in one country, at the expense of producers in another country, through 'strategic' interventions in trade that allow the capture of first mover advantages. Nonetheless theory has been relatively unhelpful in designing simple policy rules and there is the dilemma that whilst in principle there may be high returns to a strategy that targets firms to invest in a country or region, if all national and regional authorities do this effectively the returns to the any one individual country or region may be low or even negative.<sup>5</sup>

As noted above, we define globalization as a process characterized by declining transport and communications costs, as well as falling trade barriers and increased capital mobility in both direct and portfolio investment. The first two of these will contribute to declining trade costs between countries and as we have seen are expected to lead to some de-concentration of industry to new industrial centers. However the new economic geography literature has rejected the 'death of distance' interpretation of globalization.<sup>6</sup> The death of distance implies that dramatic falls in communications and transport costs will render a high proportion of economic activity footloose, so that location and proximity between producers will greatly reduce in importance as, provided economies have good telecommunications facilities, many activities can be digitized and in effect become 'weightless' with zero transport cost. The impact of this technical change in communications is less dramatic for location theory and policy than might appear at first sight. This is in part due to empirical factors; the value of activities rendered weightless remains low as a proportion of global economic activity. It seems also that the main reduction in transport and shipping appears to be in time-savings rather than in freight rates charged (Venables 2001a). More fundamentally there is a basic distinction between information, which can be codified and standardized, and knowledge, much of which is tacit and transmitted through direct contacts and local proximity. Whilst the marginal cost of supplying information across distance may now be close to zero in many cases, the marginal cost of supplying

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<sup>5</sup> In his review Neary (2001:556) comments that perhaps this may "encourage a new sub-field of 'strategic location policy' perhaps drawing on fifteen years work on strategic trade policy... (which) has produced much interesting theory, but no simple robust rules to guide policy making"

<sup>6</sup> Economist September 30<sup>th</sup> 1995 put forward the original case arguing that 'The death of distance as a determinant of the cost of communications will probably be the single most important economic force shaping society in the first half of the next (ie 21<sup>st</sup>) century.'

knowledge can still rise significantly with distance (Audretsch 1998). Paradoxically given the death of distance argument, the knowledge spillover externality that has been linked with the benefits of local clusters and agglomeration is now seen as more significant with technical change, not less. For example, in the US the propensity for innovative activity to cluster tends to be higher in technologically dynamic sectors, such as precision instruments and electronics and innovative activity is more likely to occur within close geographic proximity to the source of the knowledge, whether from university laboratories, corporation research departments or the knowledge of skilled employees (Audretsch and Feldman 1996). Although the strength of these effects will vary over different stages of a industry life cycle and in most developing economies one will not talking about world frontier innovations.

Furthermore whilst declining trade costs have manifestly had an impact on global location decisions, however there is no reason to believe that agglomeration benefits will be removed entirely by globalization, leading to an undermining of clustering. Following Marshall (1890) agglomeration benefits are conventionally analyzed on the basis of three externalities noted earlier – knowledge spillovers, a specialist labor market and a network of suppliers. Clustering in high technology activities appears to have strengthened not weakened in recent years and labor is still largely immobile internationally, hence it is only really the third of these mechanisms that is challenged by declining trade costs. There is clearly an expectation that with declining trade costs some local supply sources would be displaced by linkages to suppliers located in other regions or abroad. Hence, globalization is likely to raise considerably the importance of horizontal (knowledge spillovers and labor market effects) relative to vertical linkages.

Support for clusters of firms that can build on agglomeration benefits is a clear message that emerges from the new economic geography literature, although it is a conclusion that is far from new and can be linked with a variety of intellectual perspectives, from the ‘business school’ (Porter 1990) to ‘flexible specialization’ (Schmitz and Nadqi 1999) approaches. The basic idea is that small and medium sized firms, in particular, can benefit from externalities of the type outlined above, and also from deliberate collective action (such as sharing information on markets and technology and by choosing to specialize in different product lines). It is now conventional wisdom that regional policy should aim to support clusters, but there can be considerable disagreement on what this actually means in practice, since it can range from simply setting an enabling environment by improvements in the investment climate to active support through the provision of factory space, public utilities, finance or marketing advice. In developing countries clusters have ranged from very traditional activities like footwear to the technologically sophisticated, like software, and there is the impression that the more successful emerged largely without public support. What clusters will develop in particular locations may be difficult to predict.

In the developed world (and perhaps also in Republic of Korea and Taipei,China), however, the cluster story is associated particularly with innovative and dynamic small firms many of whom benefited at their early stages from public support in the form of venture capital and R and D funding. This policy has to be in large part locally or regionally driven as the type of knowledge spillovers, on which these clusters thrive are spatially limited, and has provided a new role for regional policy. As one authoritative observer has commented in the developed economy context

“Thus an irony of globalization is that even as the relevant geographic market for most goods and services becomes increasingly global, the increased importance of innovative activity in the leading developed countries has triggered a resurgence in the importance of local regions as a key source of comparative advantage” (Audretsch 1998: 26).



That regional policy in all economies should aim to support technological dynamism ranging from simple adaptations of known technologies to genuine frontier work is agreed. What remains in some dispute are the relative merits of different policy instruments.

The reverse of cumulative benefits is a downward spiral of cumulative costs and logically if a dynamic agglomeration can create one, a stagnant agglomeration should create the other. This will arise where a locality is locked into a concentration on activities with no technological dynamism and poor demand prospects. In this situation skilled workers are either redundant or the more enterprising leave the area. In the absence of supporting networks of suppliers entrepreneurs will look to invest outside the region and this risk is heightened by the global mobility of capital associated with globalization. If wages in the stagnant region are flexible and become sufficiently low, there will be the prospect of inward investment either from other regions or abroad. However, low wages on their own are unlikely to be sufficient to reverse this spiral. Furthermore falling trade cost will undermine any protection either policy-induced (through tariffs and quotas) or natural (through transport and related costs). Breaking such a downward spiral by easing the closure of contracting activities and promoting dynamic ones is probably the key challenge for regional policy.

This challenge is heightened by the competition between regions and countries created by trade and capital mobility. It is now a truism that it is firms, not countries or regions, that compete, and that neither trade nor FDI flows are a zero-sum game.<sup>7</sup> All in principle can benefit from increased trade and FDI if countries, regions and firms can specialize along the lines of their own comparative strengths. However, the important insight of the new economic geography is to extend the idea of trade cost beyond simply the costs of transport and import tariffs. Once the concept is broadened to include the costs of doing business and of managing a supply chain over a distance, it raises important issues of competitiveness at both national and regional levels. It is in everyone's interest for countries, and regions within these, to lower their trade costs and this is not a problem that can be resolved at the enterprise level, but requires a public policy response. The need to chart this issue has been addressed in recent years by 'investment climate' studies that essentially attempt to assess the situation in terms of infrastructure and transactions costs in different economies.

Reductions in trade costs at the regional level imply the need for improved infrastructure, whether ports, road and rail links to ports, telecommunications or power supplies. But the concept is wider and includes the time and cost involving in marketing and setting up contracts both with suppliers and customers and managing a local supply chain. There may also be payments to officials either formal or illicit to allow business to take place. The impact of these elements of trade cost is widely recognized at the national level and they are now seen, in an age of globalization, as a key deterrent to investment (World Bank 2004). However in geographically large countries regional variations in these costs, or the so-called 'investment climate', can be substantial and a major hindrance to the development of particular regions.

Given its size PRC offers the clearest example of such regional variations. Dollar et al (2004) document quantitative estimates of the quality of the investment climate, which focus on the regulatory framework and physical and financial infrastructure in 23 cities in PRC. Not all of their indicators relate to 'trade costs', but some do (principally the indicators of infrastructure quality,

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<sup>7</sup> For example, despite much talk of a 'China threat' there is econometric evidence that the absolute size (not the proportionate share) of FDI flows to other countries in Asia are positively, not negatively, related to FDI flows to People's Republic of China (Chantasawat et al 2003).

domestic entry and exit barriers, informal payments, tax burdens, and court efficiency) and the range in values for these across the country is instructive. Not surprisingly the Yangtze and Pearl River Delta areas have the best investment climate, while cities in the west and parts of the north-east lag far behind, with the cities in the central region somewhere between these groups. To illustrate the impact of these variations the authors explain a number of performance indicators (like sales or total factor productivity) by a model that includes the various investment climate indicators and then ask how individual cities would have performed if their investment climate indicators were at a hypothetical best-practice level. Some of the results show very big gains; for example Changchun in the north east would increase its total factor productivity level by 45% and its sales growth by 8%; Xian in the north west would increase its productivity by 7% and its sales growth by 12%. A key role for regional policy is this to improve the local investment climate by reforming what is under regional control.

Globalization may also create a significant shift in a region's foreign trade patterns, as once import tariffs and customs clearance barriers are reduced and capital flows liberalized, this may open access to the markets of neighboring countries. In geographically large countries this may mean that trade costs between a region and other parts of the country are higher than between the region and the market in the neighboring country, leading to a reorientation of trade towards the latter.<sup>8</sup> This should be beneficial, but it does make the exporting region vulnerable to macro-economic cycles in its neighbor. Perhaps the clearest example of this is development in Mexico in the 1990's with the northern region of the country becoming closely integrated with the US to the north in terms of trade and investment flows. Hanson (1998) reports the result that prior to trade reform in the mid 1980's there was no correlation between employment growth and distance to the US, whilst after the reform there was a strong negative correlation. However the heavy dependence on sales to the US and on FDI from there has made Mexican industry vulnerable to competition in the US market, principally from PRC.<sup>9</sup>

## **Policy Instruments**

It is well known that national policy – whether in terms of fiscal, monetary or trade policy – can have critical impact on regional development. Given the heterogenous production structure across regions in most countries it is highly unlikely, for example, that the impact of devaluation, an interest rate change or of tariff reform will be felt equally across regions in any one relatively large country. Also regions will be affected differently by international changes in prices and foreign investor sentiment. However specific policy instruments have been used to affect decisions at the regional level.

Regional policy has in the past been associated with a range of fiscal incentives and subsidies, such as profits tax holidays, and access to subsidized credit, power or factory space designed to encourage inward investments in to a particular region. In some countries this has even gone as far as upfront cash payments to international firms to come to a region. This form of intervention (in both developed and developing countries) has been criticized as eroding the fiscal base, and distorting incentives, whilst ignoring some of the more fundamental issues relating to an enabling environment, a good investment climate and a skilled workforce. Firm-level surveys

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<sup>8</sup> For the north east region of PRC for example the ADB Institute is exploring the possibility of developing trade links with Japan and Republic of Korea (Wall 2004).

<sup>9</sup> A further possibility is that this growth of cross border US-Mexico trade actually worsens income distribution in both economies, since the goods whose production shifts from the US to the north of Mexico are unskilled-labor intensive when produced in the US, but skilled labor-intensive relative to other exports from Mexico (Feenstra and Hanson 1996).

have typically found that executives downplay the impact of fiscal incentives on their location choice, although there is some (although perhaps weak) econometric evidence that relative tax rates do matter.<sup>10</sup>

Furthermore regional fiscal incentives, like lower tax rates in priority regions, may have much weaker impact than trade policy, whenever relative high trade taxes or quota barriers are in force. Again using the Mexican example, Hanson (1998) suggests that one of the unintended consequences of the import substitution era in Mexico was to create a concentration of industrial activities near to the main market around Mexico City and an initially unintended consequence of trade reform has been a weakening of this tendency. A set of investment tax incentives designed to promote decentralization of industry was in operation in Mexico during the import substitution era with relatively little effect with the effective protection generated by the trade control system outweighing the modest impact of tax incentives (Weiss 1984). Hence the implication is that in the 1980's after the trade liberalization, the pull of the external market combined with lower trade costs to create a shift that investment incentives could not achieve.

In principle regional incentives are meant to compensate enterprises either for the disadvantage of operating in a particular location or for the benefits they confer on others, for which they are not remunerated financially. As such they are viewed in theory as policies to correct for 'market distortions' and their implications were analyzed in depth in the trade and welfare literature of the 1960's (Corden 1974). The upshot of this was the clear recommendation that tax-subsidy interventions to offset distortions should be targeted directly at the cause of the distortion (for example, if the labor market fails to clear then a wage subsidy is required) to minimize by-product costs. Tariff protection or an interest rate subsidy are an inefficient means to offset a labor market problem as they in turn create their own distortions. This literature does not recommend inactivity in the face of market failures, but it does imply careful selection of policy instruments and in general suggests 'functional' interventions that do not discriminate between firms. In this tradition the instruments recommended most frequently now are subsidies for labor training (to offset a labor training externality) and for R and D activity (to offset knowledge spillovers), as well direct provision of information on both markets and agglomeration benefits (to offset lack of information). Credit subsidies are not recommended as an offset for any of these effects because of their by-product effects on technology choice and because of their consequences for the financial institutions that offer the funds.

However, this theoretical literature has not gone unchallenged in that there is still support for tailor-made incentive packages negotiated on an individual basis with foreign firms and often un-transparent (Lall 2001). These packages often go well beyond simple subsidy solutions to offer a complex set of incentives including tax holidays, training grants, tariff rebates and possibly cash payments. Success with this sort of measure has been achieved in a number of small economies in which large international investors have been attracted by the package on offer. Singapore, Ireland and in recent years Costa Rica are well known illustrations of the use of this approach, which is generally credited with creating a major positive impact.<sup>11</sup> However whilst this may work in small national economies, it is a riskier strategy for an individual region of a country

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<sup>10</sup> For example, for a group of Asian countries and PRC Chantasawat et al (2003) find corporate tax rates negatively and significantly related to FDI inflows. A similar although statistically weaker, result is obtained for investment by Swedish multinationals (Braunerhjelm et al, 2000).

<sup>11</sup> Braunerhjelm et al (2000) discuss some of the key features of Ireland's incentive program stressing its discretionary nature including investment grants, training grants, subsidized credit, and R and D grants. The scale of grants varied with the nature of the project, including jobs created, location within the country and 'strategic potential', although there was a maximum rate of grant per job created. Grants were paid upfront with repayment only required if job targets were not met, and uncertainty was reduced by 'exceptional policy continuity over the decades.'

as there is a serious risk of regional competition as local authorities bid against each other to attract inward investment. If this strategy is to be pursued it makes far more sense for it to be done centrally with one national location offered to investors to avoid what would be damaging competition from the national viewpoint.

Another aspect of regional strategy applied in many cases is heavy public sector infrastructure investment in backward regions. Investment in the South of Italy in the 1960's and 1970's and in the western region of PRC in recent years are obvious illustrations. This is of course another aspect of measures to reduce trade costs from disadvantaged regions. The controversial issue is how far such investments should precede market demand and attempt to stimulate it (the classic case of unbalanced growth recommended by Hirschman (1958)). Current thinking cautions against excessive use of the 'build it and they will come' philosophy, but that is not an argument for neglecting infrastructure in regional development. It simply implies making sensible demand projections when justifying large road, rail port or power investments in a particular region.<sup>12</sup> Further the importance of well planned infrastructure initiatives in the form of packages of infrastructure activities, often on a relatively small scale, emerges in the theoretical discussion on 'spatial poverty traps' (Ravallion and Jalan 1999). This is a restatement in modern terminology of the negative side to cumulative causation noted above and is based on the idea that the returns to household assets can be raised by investment in a package of related infrastructure measures, which are more effective in combination than when undertaken in isolation.<sup>13</sup>

As noted at the outset, equity, and in a development context, poverty considerations have often been important in regional policy. Location-based poverty targeting, that is distributing funds for poverty alleviation on a regional basis, has been a policy instrument used in many countries. Its attraction is its relative simplicity as a means of distinguishing between poor and non-poor, by simply assuming the poor are located in 'poor areas.' However the poverty literature of the last 15 years or so provides plenty of evidence that location-based targeting is a fairly 'blunt instrument' for reaching the poor. The essential problem is that in most countries, whilst some provinces or regions or other administrative units may have more poverty than others, it is rarely the case that all households within a given area are poor or that all the poor reside in designated 'poor areas,' hence the risk of both under-coverage of the poor (type 1 targeting error) and leakage of benefits to the non-poor (type 2 targeting error). PRC used location targeting extensively in the 1980's and 1990's with a 'poor county' system and the targeting errors there have been documented clearly. Although there is evidence that receipt of poverty funds raised incomes in the counties concerned relative to what would have been expected, there is no evidence on how these benefits were actually distributed (Wang 2005). Furthermore in some countries stated policy on regional allocations was not always followed. In Thailand it has been shown that there has been no relationship between average provincial incomes per capita and the allocation of central government funds. This lack of relationship holds not just for general expenditures categories, but also for what were designed to be targeted poverty reduction expenditures (Warr and Sarntisart 2005). The strong implication of this experience is that allocation of poverty funds on a regional basis (or to some smaller geographic unit) is not a substitute for careful identification and targeting of the poor within a given area, and that once

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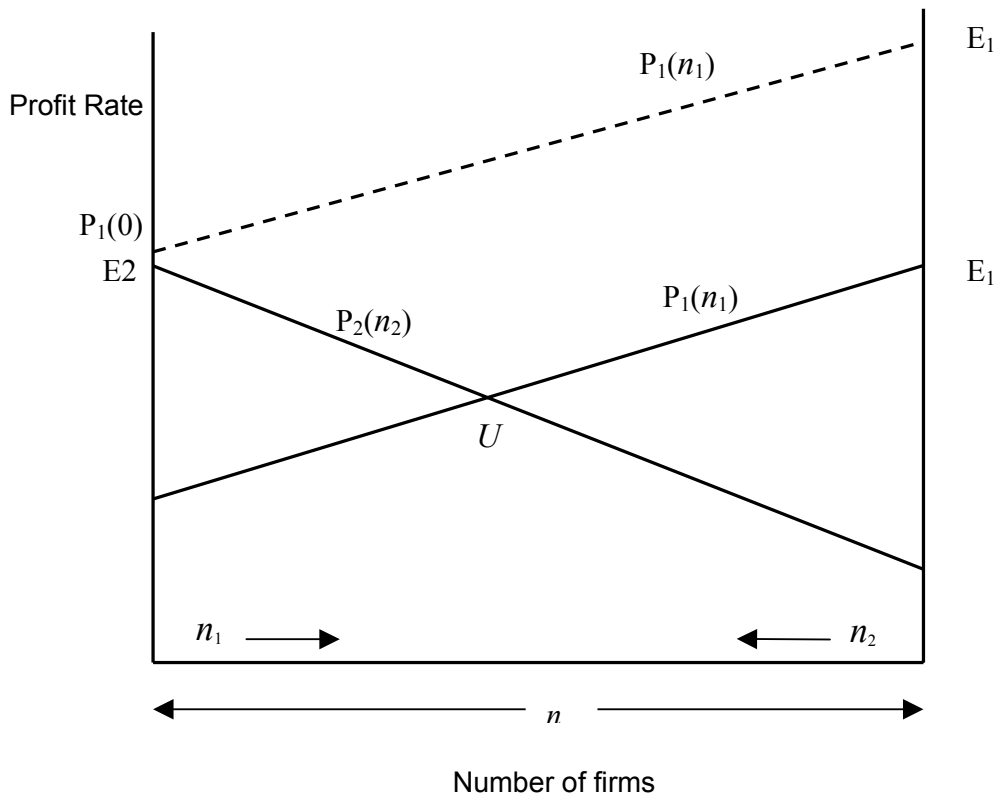
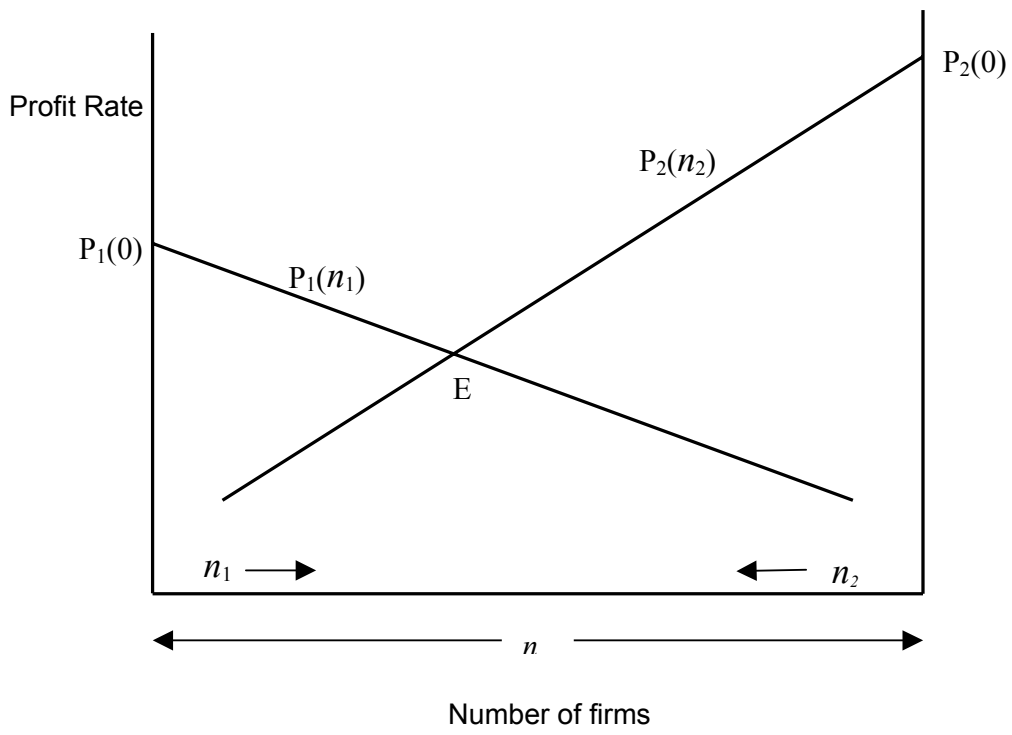
<sup>12</sup> For example, Krumm and Kharas (2004) chapter 5 documents the importance of improved supply chain logistics in East Asia.

<sup>13</sup> This analysis, which has applied to rationalize the location targeting of poverty efforts in PRC implies that returns to individual households in a locality can be depressed by 'geographic capital', such as poor road and water systems in an area. Coordinated infrastructure investment can break this poverty trap.

local funding allocations are identified some screening of beneficiaries within that location is still needed.

## **Conclusions**

What can we conclude from this discussion for regional policy under an environment of liberal trade and mobile capital? Globalization implies heightened trade and investment flows and therefore the potential for inward investment from abroad. We suggest that the forces of globalization have rendered critically important a focus on trade costs in the broadest sense, whilst they have not yet undermined the potential agglomeration benefits to be achieved from clustering and the strengthening of local infrastructure. The case for a regional policy that support clusters remains as 'the death of distance' seems greatly exaggerated, as that physical proximity continues to matter. Raising regions to their full potential requires investing public funds in activities where national returns are high, whether in physical or social infrastructure, and encouraging private investment where public support for it can be justified. However identifying particular activities to target for clustering in a particular location may be difficult to do, but cannot be ruled out. Of the policy instruments available, clearly focused support for training, R and D and probably job creation can be justified, provided they do not impinge on regional fiscal constraints. Excessive competition between locations to attract large mobile inward investment should be avoided, as that can make all regions worse off, and if specific FDI activities are to be targeted this should be determined nationally. Finally whilst regional poverty targeting has a role in a national poverty reduction strategy there must still be some intra-regional targeting mechanism.



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