The **United Nations Research Institute for Social Development** (**UNRISD**) is an autonomous agency engaging in multidisciplinary research on the social dimensions of contemporary problems affecting development. Its work is guided by the conviction that, for effective development policies to be formulated, an understanding of the social and political context is crucial. The Institute attempts to provide governments, development agencies, grassroots organizations and scholars with a better understanding of how development policies and processes of economic, social and environmental change affect different social groups. Working through an extensive network of national research centres, UNRISD aims to promote original research and strengthen research capacity in developing countries.

Current research programmes include: Civil Society and Social Movements; Democracy, Governance and Human Rights; Identities, Conflict and Cohesion; Social Policy and Development; and Technology, Business and Society.

A list of the Institute's free and priced publications can be obtained by contacting the Reference Centre.

UNRISD, Palais des Nations
1211 Geneva 10, Switzerland

Tel: (41 22) 9173020
Fax: (41 22) 9170650
E-mail: info@unrisd.org
Web: http://www.unrisd.org

Challenges of Economic Development

Alexandre Rands BARROS

Draft paper prepared for the discussion at the UNRISD meeting on
“The Need to Rethink Development Economics”,
7-8 September 2001,
Cape Town, South Africa.

Introduction

In recent times, the world has experienced important changes, both ideologically and in relation to the economic environment. These changes have posed serious challenges to the analysis of economic development and to its policies proposals. Some previously well settled conceptions have completely fallen apart. Historical evidences and empirical investigations made conceptions previously considered opposite to one another go to the same side of debates. Many ideas were placed upside down.

Four theoretical developments have been quite important in promoting such changes in conceptions and in the analysis of economic development. The first one is the New Growth Theory, which reached conclusions on economic development that were reasonably different from those obtained from traditional Neoclassical Growth Theory.[1] The ideas proposed strengthened some conceptions forwarded by Latin American Structuralists and weakened some liberal dogmas.

The second theoretical development is the idea of Rent Seeking. When the liberal conception that markets are able to promote efficiency falls down and it is shown that government interventions may produce positive results, the analysis of possible instruments brings the concern with Rent Seeking behaviour and the idea that agents tend to react rationally to policies searching to maximise their own utility. This last conception is the underlining hypothesis of the Lucas Critique and a direct consequence of the rational expectation hypothesis.[2]

The third theoretical development is the idea of the role of clustering on efficiency. Clusters emerge from the potential gains of efficiency from positive externalities and sectorial economies of scale.[3] These ideas stressed the role of adequate local strategies and collaboration among agents in economic development. It posed serious doubts to the dominant conceptions predominant in institutions such that the World Bank in the early eighties that macroeconomic equilibrium was the only essential strategy for

[1] See Barros (1993).
[2] See Lucas (1987) and Turnovsky (1995).
[3] See Barros (2000) and (2001) for examples of papers which unveil some of these potential gains of efficiency. See Porter (1998a and 1998b) for a general exposition on the role of clustering for economic development.

economic development. Even conceptions based on the idea of international relations strategies or sectorial macro policies, such as those forwarded by Latin American Structuralists, were challenged by the emphasis on the role of clustering.

The fourth theoretical idea that is also playing a relevant role in changing views on economic development is the new conceptions on social capital. It is still at an early stage, since not even the basic concepts are well settled.[4] The role of social capital on economic development was first highlighted by Putnam (1993) in a study on Italy. Other researches followed his analysis stressing its role on development.[5] This line of analysis is certain to promote many changes in the notion of efficient economic policies.

This paper summarises the major consequences of these theoretical developments to the ideas about economic development and the proper strategies to its promotion. The major hypothesis is that the best path to economic development, which all these notions point to, is in fact a combination of some recipes stressed by Structuralists and by Liberals in the early stages of economic development.

The paper is organised as follows: the next four sections present overviews of all these theoretical developments. Section 6 proposes a general framework that helps to understand the relationship among these individual contributions. It also indicates the individual contributions of each of these developments in this framework. Section 7 briefly summarises some consequences of these theoretical contributions to development policies and presents the major conclusions.

Clustering Analysis

The ideas of cluster and clustering are becoming increasingly popular, especially among those who focus attention on economic development. The recognition that institutions play a major role to explaining economic development[6] and that market inefficiencies, such as the existence of externalities, play a major role on productivity and growth, have strengthened this view.[7] Many developing countries have promoted the Liberal reforms praised by international institutions such as the World Bank and International Monetary Fund. Nonetheless, they still did not succeed in reaching high incomes. Some of them have shown that even under such Neo Liberal environment they are still slow on growth.[8] As a consequence, researchers started to search for other sources of differences in economic development, which could explain the huge differences found in per capita incomes among countries.

The World Bank and UNIDO's recent concern with the promotion of cluster experiences in the third world, as was the cases of Northeast of Brazil and

[4] For unifying frameworks, see for example Glaeser, Laibson and Sacerdote (2000) and Glaeser and Scheinkman (2000).
[5] See for example Helliwel (1996).
[6] See for example Parente and Prescott (2000).
[7] The literature on New Growth Theory stresses the role of externalities on growth. See for surveys Barro and Sala-i-Martin (1995).
[8] See for example Jindia (2001) for examples on Sub-Sahara Africa and Dornbusch (1991) for a general statement like this to the world.

Guatemala, called the world's attention to the methods and concepts involved. Moreover, the existence of concrete successful experiences in the third world, for example Chihuahua, in Mexico, and the one in Malaysia, also shaped the idea that this kind of policy can succeed in the less developed parts of the world.

In spite of this broader dissemination, the idea of clustering has been used in several different ways, and sometimes for purposes different from its original ones. For this reason, it has created expectations that either exceed its original purpose or do not correspond to its potential. Such problem most certainly leads to disappointments with the outcome of such development policies and may eventually reduce its credibility, in spite of its ability to promote economic growth. In addition to the problem of inadequate expectations, there are also difficulties in implementing such strategy, caused by specific inner features of each society. Therefore, misuse or inadequacy of clustering policies implementations may eventually undermine their credibility, unnecessarily dampening its ability to contribute to economic growth.

A. Some Basic Concepts

Before proceeding, this subsection will present a few basic concepts which are essential to Clustering Analysis. Cluster is a set of firms, which includes some key companies that generate wealth through the trading of products and/or competitive services. Besides these companies, there are others that provide them with inputs and services and all the organisations that offer qualified human capital, technology, financial resources, physical infrastructure and adequate business environment to the final output by the companies firstly mentioned.

An alternative concept can be found in Michael Porter's words:

> "Clusters are geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition. They include, for example, suppliers of specialised inputs such as components, machinery, and services, and providers of specialised infrastructure. Clusters often extend downstream to channels and customers and laterally to manufactures of complementary products and to companies in industries related by skills, technologies, or common inputs. Finally, many clusters include governmental and other institutions - such as universities, standards-setting agencies, think tanks, vocational training providers, and trade associations - that provide specialised training, education, information, research, and technical support." (Porter, 1998a, pp. 78).

The concept presented by Michael Porter shows that a cluster includes a broad spectrum of companies and institutions that develop a relationship throughout the process of determining the efficiency of a certain good or service which is negotiated with agents from outside their production chain. It is important to say that consumers are also included in clusters, when they form vast markets, which correspond to a significant share of the total demand for its final products. For example, in the case of the clusters of grains, large trading companies, which take in a great percentage of its final products, are often included as part of the clusters.

Clustering is the policy which promotes the development of clusters. Although it is common sense that clusters have the tendency to be built naturally as a consequence of market forces, there are benefits in their strengthening and integration, which are not captured by agents though market signalling only. When a new agent enters a cluster, other agents benefit from productivity gains that are not possible to be charged through market mechanisms by the new entrant. Thus, the incentive for the agent to join the cluster is smaller than the returns for the whole cluster. That is true not only for the incorporation of a new agent, but also for the inclusion of new activities and relationships that did not exist in the cluster before. This fact makes market signals alone inefficient for the building and strengthening of clusters, and therefore, justifies the emergence of active policies designed to foster clustering. Such policies are defined as clustering policies.

For example, a trader supplying a given input, and as such, already a member of a particular cluster, may suddenly start to produce this input within the cluster. As an earlier member of the cluster, that trader will only be introducing a new activity. For the other members purchasing this input, this change in its source may be an opportunity to a better adjustment to their real needs, improving their efficiency. If this happens, the major part of this additional gain of productivity, however, will be captured by users of this input, rather than by the new supplier. Therefore, the incentive of the new producer will be smaller than the benefits that the whole cluster will have. In this case, the introduction of this new activity should be encouraged by a clustering policy.

B. Theoretical justification of the reliance on clustering policies

Clustering policies may be justified by the existence of market failure, which may be overcome through collaboration among agents who are in the same cluster. The possibility of enhancing economic welfare through policies when there are market failures is a well-settled result in economics. More strictly liberal economists only criticise government interventions under such circumstances relying on the argument that they may not produce the desired effect and may lead the economy to an even worse state of welfare.[9] Nevertheless, the theoretical possibility of efficiency enhancement through rational intervention in markets when there are market failures is a well-settled result.

There are many market failures which can justify clustering policies. The existence of externalities,[10] agglomeration effects and increasing returns to scale[11] are certainly the most important ones. The existence of public goods is also relevant, although less important than the others. A crucial source of market failure, which can justify the existence of clustering policies, is the existence of goods whose consumption are not subject to rivalry, although they are subject to excludability. Technology is a good with this feature, as argued by Romer (1990). Under all these alternatives, clustering policies may increase efficiency and welfare.

---

[9] See Krueger (1991) and Balassa (1982).
[10] See Barros (2000).
[11] See Krugman (1991) and Barros (2001).

Another important justification to the reliance on clustering policies as a development enhancing devise is the existence of social capital as an important productive factor. The economic literature has progressively recognised the role of social capital as a factor of production.[12] However, its accumulation is not subject to the same rules as physical and even human capital. Market forces do not work properly in this case. As clustering policies have as one of its major by-products the construction of social capital, the simple relevance of this on production justifies clustering policies. Under such approach, clustering policies may be seen as one of the major way to build social capital in the short and medium term.

There are already some examples of models in the literature which show rigorously how externalities may justify the use of clustering policies. Barros (2000) have used the case of externalities on image, on an environment of imperfect information for consumers, to show that it is possible to emerge coordination failure among agents to shift from a previous equilibrium to a new optimal one, after an external shock. This model unveils the most important failure whose effect is more appropriately offset through clustering policies. When there is coordination failure, fiscal and monetary policies are normally not efficient as an instrument to move the economy to its optimal equilibrium. Clustering policies are more efficiency enhancing in this case.

Barros (2001) shows that in some circumstances when there are important economies of agglomeration, a clustering policy may also play a crucial role in gathering agents to take collective actions to benefit from the potential gains. The logic in this model is quite simple. Sometimes when there are few producers in a specific sector, the cost of production is high and that particular output may have costs which are enough high for not justifying its production. Nevertheless, if there are several producers, who start producing all at the same time, it is possible that such production become highly efficient. The economies of agglomeration may shift the efficiency order of two technologies or even assure the efficiency compared to other regions. Clustering policies are the most appropriate to promote producers collaboration to act collectively and to gain from positive agglomeration effects.

The role of externalities as a source to make clustering an efficient policy is similar to the one of agglomeration effect. Collective actions may bring the relevance of external positive effects as an important determinant for action. This again may be obtained through clustering policy, without needing to introduce complicate tariff systems. Clustering policies may lead beneficiaries of externalities to undertake some of the costs of collective actions, offsetting their extra gains from group actions.

Public goods always have the difficulty for their financing, as their costs are superior to the marginal benefit for individuals. Clustering policies, as instruments to gather agents to act collectively, may collect the necessary contributions to justify investments on such goods. Of course in this case fiscal policies are more efficient, as they are faster and rely on compulsory contributions to obtain the necessary resources to finance the chosen investments. Nevertheless, clustering policies may still be more effective for some particular investments, as they may be paid by collaboration of a

[12] See for example Glaeser, Laibson and Sacerdote (2000).

limited number of producers who strongly benefit from them. If they rely on fiscal policies, they will have to convince all other agents of the relevance of such investment to set the necessary resources to finance them. Therefore, although a clustering policy is not more efficient in terms of effort to mobilise the resources, when the decision to make that investment is made, it may be more efficient to assure some public goods productions, when only a small set of agents benefit from them.

New Growth Theory

New Growth Theory introduces important ruptures to the Neo-classical general equilibrium model as developed by Arrow and Debreu. The proponents of such models recognise that any economy in the real world faces several distortions from the basic assumptions of the general equilibrium model. The most relevant ones to understand long term growth, which have been emphasised in the literature are: (i) non-convexities in the production function and (ii) the existence of imperfect information. Positive externalities arising from the accumulation of some factors of production, such as (i) human capital;[13] (ii) economic infrastructure;[14] and (iii) technology development[15] deserve special attention in the first group. Still among the non-convexities in the production functions, there are also the economies of scale,[16] which can lead to market imperfections, and the existence of public goods. Both phenomena also jeopardise the optimality of a competitive equilibrium. Their simple existence introduces the possibility of policies to foster welfare without making anyone worse off.

The existence of imperfect information normally is taken as generating mainly short term distortions, such as price and wages rigidities, short term unemployment and so on. Nevertheless, it may also generate some coordination failure, which can again jeopardise long-term growth.[17] If the idea that information is a non-rival good[18] is accepted, it is possible to show that some cooperation for its production would lead to gains of efficiency in production. Therefore, coordination failure would arise from the very nature of information as a productive input.

The possibility of public policy interventions arises from all these sources of distortion of reality with respect to assumptions on the Arrow-Debreu model. Governments can move resources from sectors and regions with lower social return to others with higher social return, although market forces direct resources to different applications. In other words, individual returns of distinct applications of resources differ from social returns. If the government moves resources across regions and sectors, it can make some consumers better off without making anyone worse off.

[13] See for example Lucas (1988).
[14] See Barro (1990) and Barro and Sala-i-Martin (1992).
[15] See for example Romer (1990) and Young (1991) and Aghion and Howitt (1997).
[16] This is the special emphasis of the original texts on regional disparities in Brazil by Furtado (1959 and 1976), among others.
[17] See Barros (2000).
[18] See Romer (1990) for arguments in favor of this idea.

Social Capital

Social Capital theory incorporates two well-settled ideas among development and macroeconomic policies practitioners, namely:

i. There is no full information in any economy and, consequently, a huge amount of resources is invested to improve the trust on available information. Therefore, societies with stronger social relations and more trust among individuals tend to reach a higher welfare level, as its growth rate is higher.[19] At a micro-level, individuals with higher social capital, which means with higher social networks and credibility, tend to have higher income.[20] The social aggregated result arises from the micro level conclusion.[21]

ii. Information flow has a cost. Consequently, individuals with a higher level of social interactions and networks tend to have higher income as they are able to gather more information about other agents and to give information about his/her own endowments to others through cheap social interactions and networks.[22] Furthermore, a society with higher level of social interactions and networks tends to develop more, as the cost of information flow is lower and there is more efficient allocation of resources.[23]

Such conclusions are crucial for the understanding of differences in economic development, either within the same country or across countries. Furthermore, such differences in social capital tend to demand specificities in social institutions. Consequently, lessons from a particular country have to undergo several adjustments when used to shape policies in another country. Another important consequence of such theoretical developments is that culture plays a relevant role on development according to this framework.

Another relevant comment is that the hypothesis that social capital plays a relevant role in determining development does not imply that this is the only relevant determinant. Such factor is only one more among many other possible determinants.

Rent Seeking

The hypothesis of Rent Seeking extends a logic strongly emphasised by