The Doctrine of Market Failure and Early Development Theory

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Abstract: The economics profession is undoubtedly enjoying a revival of free-market approaches to questions of development. The unfettered market is expected to produce efficiency and growth, and government action is deemed as either unnecessary or as an impediment. A market-friendly approach has not always been the case. Fewer than 50 years ago development economics embraced a more active role for the state. It doubted the efficacy of markets and argued instead that the state was the only economic agent capable of bringing about the fundamental changes required. The interventionist approach of early development economics can be understood as a result, in part, of the rise to prominence of theories of market failure around the watershed events of the 1930s and 1940s. Several theories of market failure, as adopted by development, are explored.

> Today the national plan appears to have joined the national anthem and the national flag as symbols of sovereignty and modernity (Waterston 1965, p. 28).

1 Introduction

It was not too many years ago that a colleague and I had a disagreement about the desirability of relying on markets for development. He asked '….but if the market were demonstrated to be efficient, would you still advocate government action?' As a young economist fresh out of a study of early development thought, I answered 'yes'. I argued that the market does not always produce the desired results even in the rare cases that it does provide efficiency. Perhaps we were both a bit naïve and idealistic but the disagreement demonstrated, in our microcosm, a debate that has plagued the discipline since the Great Depression.

In the West, the massive and long-term unemployment that characterised the Great Depression left few in doubt that the market was incapable of automatically or quickly adjusting to generate optimal results. There were fewer still who felt that the unfettered market could generate development. The extent to which economists dismissed the free market is captured by Sir Arthur Lewis's statement that 'There are no longer any believers in *laissez-faire*, except on the lunatic fringe….the truth is that we are all planners now' (Lewis 1951, p. 14).

In the East, the astounding growth rates and development of the Soviet Union demonstrated to contemporaries the advantages of state direction of the economy. Under the auspices of planning, the Soviet Union moved from a 'backward' agrarian economy to an industrialised superpower in a matter of a couple of decades. Large-scale government direction of the economy had, apparently, proved superior to alternative constructs.

The newly created nation-states of the 1940s-1960s, then, faced two possible development models. The first model was presented by the Western growth experience with a supposed greater reliance on markets, both domestic and international, to generate growth and development. The second model was given by

the experience of the Soviet Union under planning. This approach involved government direction of the economy in place of market mechanisms.

The latter model and its impact on early development theory were discussed recently by James Warner and Kenneth Jameson (2004) in an earlier edition of this journal. Warner and Jameson correctly assert that most development analyses '….called for a strong state to deal with development problems' (Warner and Jameson 2004, p. 71). To what might we attribute the call for increased use of the state? Warner and Jameson emphasise the successes of Soviet planning and mention the role of Keynesian macroeconomics: 'The tenor of the times, with the emergence of Keynesian economics and the reality of Eastern Europe, suggested that they look to the modernising state to lead the development process' (Warner and Jameson 2004, p. 73). Although the authors succeed in making a case for the influence of Soviet planning, that influence alone cannot explain the nearly universal call for increased state intervention. It is most likely correct that Keynesian macroeconomics also had an impact on development, but other theoretical constructs were of import to both Keynesian and development theories. The doctrine of market failure preceded and legitimated the activist state in both.

The Great Depression amply demonstrated, to theoreticians and politicians alike, that the unfettered market was insufficient to ensure accumulation and growth. It is in this environment that the doctrine of market failure rose to prominence. The doctrine made appearances in economic theory prior to this time, but had not been a core concern of the economics profession. The events of the 1930s and 1940s changed that and the doctrine was thrust to the forefront of theory. It found reflection in, and indeed became the theoretical foundation of, development economics. The assertion of various development schools that markets fail lent support to the activist state and legitimated an extensive role for government in the development process.

Development theory emphasised several types of market failure. First, markets could generate incorrect or insufficient signals in circumstances of concentrated market structures, the pervasiveness of externalities or in the cases of interdependent production and consumption functions. When prices do not correctly signal relative scarcities, an efficient allocation of resources, both in the static and dynamic senses, is unlikely. In addition, incorrect signals could serve to impede development.

Second, even in the case of correct market signals, economic agents may not respond, may respond slowly, or may even have perverse responses to stimuli in the circumstances of underdevelopment. A third sense in which markets may fail is under circumstances of domestic factor immobility. If factors did not respond appropriately to signals, it was argued, markets cannot be relied upon to generate growth.

A fourth sense in which markets failed involved the international sector. Mainstream economic theory held that the small size of a domestic market could not be considered a constraint on growth because of the existence and functioning of international markets. Development economics claimed that the international market could not be counted on to provide growth, as it failed to supply the appropriate signals for growth, relying on comparative advantage rather than strategic advantage concepts. Further, international markets might fail because of elasticity values or because of the tendency for declining terms of trade in the case of a market-determined division of labour. Finally, increased international contact and reliance on markets could lead to an international demonstration effect in

which any additional savings would be diverted to leisure consumption or an outflow of capital rather than to domestic production and economic growth.

Other market failures discussed by development economics were the inability of markets to spontaneously generate themselves in the circumstances of underdevelopment. There are several reasons why markets would not generate even in fully developed market economies. The special circumstances of underdevelopment were deemed contributory. In addition, the maldistribution of income in developing nations, a distribution favouring savers, was seen in some cases as hampering economic progress.

2 Signalling Failure

The signalling failures of markets fall into three broad categories: the inability of markets to equate social and private benefits in the presence of monopoly power; incorrect signalling when externalities are present; and inappropriate or faulty signals in the circumstances of interdependent production and consumption functions.

The inefficiencies associated with market concentration are too well known to require further elucidation here. What was of specific import to development economics was the case of monopoly power in new technology and its impact on technology transfer and growth. In this circumstance, prices will not equal the marginal social and private benefits of production. H.W. Arndt argues that '….insofar as monopoly in new technology, such as patent rights, impedes the transfer of technology to developing countries it might be classified as a form of failure' (Arndt 1988, p. 221).

Another way in which the signalling function of the market proved inadequate was under the circumstances of external economies. Although the possible divergence between private and social benefit had been recognised by the profession for a long while, it was Allyn Young's very important 'Increasing Returns and Economic Progress' (1928) which most influenced development theory. In brief, Young asserted that the expansion of a single industry would be cumulative if two conditions were met. The first condition was an elasticity of demand greater than unity. The second condition was the existence of economies of scale in the expanding firm or industry. Expansion in Industry X would only elicit increased supply in Industry Y if these conditions were satisfied. If either or both were not present, the expansion of X would not elicit an expansion of Y and economic progress would not be cumulative.

Tibor Scitovsky (1954) distinguished between the conception of external economies in general equilibrium (or traditional static analysis) and in development economics. The traditional conception applied to fully developed economies and arose outside of market forces. In development economics, external economies were considered a *result* of market forces.

Scitovsky identified four types of externalities or interdependencies. In the first place there may be interdependent utility functions, whereby the utility of one individual affects the consumption of another. A second type of interdependence is where the utility of an individual is affected by the production function of a firm. The output of a firm, furthermore, may be affected by the activities of non-factors through innovation or invention. Finally, the output of one firm may affect the output of a second firm. Development economics focussed on this latter case,

where the output or profitability of one firm or industry would influence the profitability of a second firm or industry.

Scitovsky noted that '….the *profits* of the firm depend not only on its own output', as traditional theory would suggest, '….but also on the output and factor inputs of other firms' (Scitovsky 1954, p. 146). Suppose, for example, that two entrepreneurs, one in the shoe industry and the other in socks, were independently considering the expansion for their respective pursuits. After evaluating the profitability potential of the respective endeavours, both determined that additional investment was not warranted. The entrepreneurs reached their decisions based on the economic situation as it existed and as reflected by market prices and profits. Neither was aware of the possible expansion plans of the other, since neither market prices nor profits conveyed this information. As a result, neither industry expanded and the rate of economic growth was smaller than if the investments had been successfully undertaken. Had they been aware of the expansion plans of the other, the decision to invest may have been different.

The notion of external economies was picked up and expanded by Paul Rosenstein-Rodan (1943). Rosenstein-Rodan argued that the simultaneous expansion of industry on several fronts, termed 'The Big Push', might be needed to overcome the signalling failure of markets. The investment decision of industries can be interdependent, while reliance on market information forces the decisions to be made independently by failing to reflect future plans in current prices. In such a case, the social benefits may be understated by market prices. Pecuniary external economies are a failure of the market's signalling devices. The signalling component of the price mechanism does not function well since 'market prices….reflect the economic situation as it is and not as it will be' (Scitovsky 1954, p. 150). Under such dynamic circumstances, the market mechanism is unable to correctly allocate resources so as to optimise.

There are many other circumstances which would generate pecuniary external economies. Scitovsky discusses four interdependencies. The first type occurs if Industry X is considering expansion of its production facilities and Industry Y is a supplier of an input to it. In such a case, the demand for Y will increase with the expansion of X, leading to greater profitability in Y. A second type posed by Scitovsky was when Industry Y produces an output that is complementary to Industry X's. This is one of the cases where the simultaneous expansion of complementary consumer-goods industries may lead to greater growth rates. Another type of interdependence occurs when the output of Y is a substitute for a factor of production used in X. In this case, expansion of X may force up the factor prices unless X can readily substitute into a cheaper factor provided by Y. Finally, Scitovsky states that when '….an industry whose product is consumed by persons whose incomes are raised by the expansion of X' external economies may arise (Scitovsky 1954, p. 149). In this case, the expansion of an industry would yield higher real incomes. Higher real incomes would stimulate the consumption of complementary consumer products. This last case is an example of pecuniary external economies, as used by both Rosenstein-Rodan (1943) and Ragnar Nurkse (1953) to show that markets fail to ensure rapid accumulation and growth.

In Nurkse's conception of the underdeveloped nation, the small size of the domestic market resulted in a low inducement to invest. Such a low inducement to invest could be circumvented by simultaneous expansion of several consumer-goods industries. In this way, 'A balanced increase in production….creates external economies in the form of enlarging the size of the market' (Nurkse 1953, p. 27).

One of the policy conclusions, reached by Scitovsky and advocated by Rosenstein-Rodan, was that of planned, simultaneous and complementary investment (Scitovsky 1954, p. 150). Planning in order to ensure the simultaneity and complementarity of investment decisions was a way in which an economy could attain an equilibrium, or balanced growth path. With government planning, the pecuniary external economies are internalised, with a resulting increase in profitability and enhanced future investment.

3 Elasticity Pessimism

A second type of market failure frequently cited by development economics was that economic agents respond slowly, perversely, or not at all to market-generated stimuli. There was on the demand side a type of elasticity pessimism operating, such that the price- and income-elasticities of demand were expected to be less than one. In the case of a low price-elasticity of demand, there was little incentive for entrepreneurs to undertake expansion plans in order to reduce per unit costs (Nurkse 1956, p. 366). In the circumstances of a low income-elasticity of demand, any expansion plan which increased the incomes of workers may not be realised in increased sales on domestic products but may result in deterioration in the balance of trade.

On the supply side, a low elasticity of supply, or even a backward-bending supply curve, resulted in little or perverse quantity responses. An example of perverse supply responses is that of a near-subsistence farmer's response to increasing domestic food prices. Generally speaking, economic theory teaches that an increase in price will be met with increasing domestic supplies. The near-subsistence farmer, on the other hand, may withhold food from the market under such circumstances, opting for the security of self-provision of food.

Finally, it was argued that entrepreneurs may be slow to embrace innovations, or behave irrationally by purchasing gold or land instead of intensifying production in response to a price increase. In these ways, the market system failed to bring forth the needed supply and demand responses by agents and therefore must be supplemented by concerted government action.

4 Immobility of Factors

In addition to product market elasticity-pessimism, early development theorists focussed on the immobility of factors that was characteristic of developing nations. The immobility of labour from the rural to urban sector was of primary import for dualism. Sir Arthur Lewis (1954) discussed the inability of the market to reallocate resources quickly, in particular labour, to their most highly valued uses. For Lewis, labour did not migrate to the urban sector unless the urban wage exceeded the wage that labour could obtain in its next highest alternative, the rural sector. The wage that labour could expect in the urban sector was the average product of labour in the rural sector. In order for labour to make itself available in unlimited supply at the prevailing wage in the urban sector, the urban sector wage had to exceed the average product of labour in the rural sector.

At the other end of the scale, the urban wage could not be high enough to interfere with capital accumulation and accelerating growth rates. In other words, consumption gains could not be allowed to interfere with accumulation to the detriment of growth. The role of the state in capital accumulation was to enhance the wage differentials between the two sectors and prevent consumption gains by

the working class. There were a number of policies that government could use to instigate a relative decline in consumption in the circumstances of a labour surplus economy. Two of the means discussed by Lewis were inflation and trade-union cooperation.

In his 1951 work, *The Principles of Economic Planning*, Lewis describes inflation as a process that results in a redistribution of income away from wages and toward profits:

> Inflation causes prices to rise more than wages and salaries. Inflation is a condition in which people are spending on consumer goods more than those goods have cost to produce; every extra penny of this spending, if it does not eat into stocks or upset the foreign balance, must go into profits. (Lewis 1951, p. 42)

With 'Employment Policy in an Underdeveloped Area' he moved from showing how inflation could be expected to harm workers to an analysis of it as a deliberate redistributive policy:

> This is essentially a matter of raising the cost of living without raising money wages….It could be done in various ways...import duties….devaluation….[or] subsidizing employers, presumably levying the taxes on employees, which would reduce their real standards of living [and] at the same time increase profits. (Lewis 1958, p. 51)

A second, non-inflationary, means of redistribution would be to enlist the cooperation of trade unions in an effort to keep wages at, or below, the growth in productivity. Lewis asserted that the old means of disciplining labour, deflation, was no longer acceptable and that 'discipline must find a new basis in the consent of the worker and manager to work together for common ends' (Lewis 1951, p. 41). Government regulation of collective bargaining, or an appropriate incomes policy, could ensure such cooperation.

Other policy measures discussed by development economics that could result in increased rural to urban labour mobility included land reform, education and changes in fiscal systems as the means '….to break down the existing social structures' (Seers 1962, p. 189). The breaking of traditional relations would enhance labour mobility, generating the desired result of downward pressure on urban wages and subsequent enhanced profitability and economic growth.

5 International Market Failure

Early development economists considered the limited size of the domestic market to be an important constraint on growth. Traditional economics argued that the limited size of the domestic market could not be a constraint on growth since the international market was virtually limitless. The possibility of rescue by the international sector was discussed and dismissed by many of the development economists on one or more of the following grounds.

The international market failed because the law of comparative advantage would suggest that developing countries specialise in primary-goods production. Given the tendency of developed economies to have relatively low elasticities of demand, coupled with a relatively stable quantity demanded for these products, it seemed unlikely that even the international market would be of sufficient magnitude to ensure growth for a significant portion of the lesser developed economies (see, in particular, Nurkse 1952). Because of low demand (and possibly supply) elasticities, developing countries could not count on the foreign sector to

augment growth. Indeed, it may even hamper growth by forcing a division of labour according to the law of comparative advantage rather than allowing lesser developed countries to develop industrial complexes.

A.J. Brown (1942) outlined another way in which the international market may fail to bring about desired results. Brown's work was an early paper on the magnitude of elasticities necessary to obtain exchange stability in a system free of central control. He concluded that, under certain elasticity conditions, the devaluation of a national currency will worsen the external balance. 'In these circumstances, it is virtually impossible to maintain free exchanges, since the equilibrium of trade under a free system is unstable' (Brown 1942, p. 43).

Another international market route to development involved the transfer of capital from rich to poor nations as a result of the latter's higher marginal productivity of capital. Given the relative scarcity of capital in developing nations, economic theory would suggest that the marginal product of capital would be high relative to that in developed countries. This would attract capital from the rich countries to the poor, developing the latter successfully.

Ragnar Nurkse (1953) contended, however, that despite the relatively high marginal product of capital in poor countries, there was no guarantee of a capital flow from rich to poor. Indeed, Nurkse asserted there might be a tendency for the reverse. Capital might flow from the poor to the rich due to the extreme poverty, and hence limited size of the market, in the capital-poor nation. Capital might also flow from the poor to the rich nations because of the magnitude of the mass market in the richer countries.

Development theorists also emphasised a decline in the terms of trade as a serious obstacle to growth. Because of low population growth rates in the developed world, coupled with increasing technological innovation in developing-country agriculture, the terms of trade tended to turn against primary goods producers. Generally associated with H.W. Singer (1950) and Raul Prebisch (1950, 1959), such a tendency for a secular decline in the terms of trade would result in decreasing export returns and lower development prospects. Developing countries should focus, it was asserted, on their domestic economies and not attempt development solely or even primarily through an expansion of the export sector.

6 Other Cases of Failure

In all of the cases of market failure above there is some problem inherent in the functioning of markets in the circumstances of developing countries. Another form of market failure, outcome failure, also legitimated greater intervention by central authority. These market failures included the non-existence of markets, the lack of equity in income distribution and the international demonstration effect.

There are several circumstances under which markets may fail to generate spontaneously. The free-rider problem, high information costs or the lack of a futures market may result in generation failure. One of the more important arguments for the price or market system, in contrast to other conceivable systems, is the assertion that markets will develop in response to demand conditions. If markets for goods and services did not spontaneously generate, development economics argued, then the government may have to provide for incentives or actively create them.

The non-existence of markets may also be stretched to cover the case of social overhead capital built ahead of demand. Many of the development

economists argued for the building of such large-scale ventures as roads, dams, electrical power plants and railroads ahead of the demand in order to *generate* the demand. It was asserted that the pre-existence of such facilities would generate greater private investment and stimulate growth. The need for public expenditure of this sort could be defended because of the externalities they produced.

The lack of equity in income distribution, both national and international, was the preoccupation of Gunnar Myrdal (1956a, 1956b). He postulated the notion of a cumulative circular causation where an inequitable distribution of income was augmented by market forces. He asserted that a redistribution of income would have to be accomplished through the active intervention of central authority.

Finally, foreign direct investment was considered harmful to the development process. Direct investment would, Nurkse argued, aggravate the existing interdependence of more developed country and lesser developed country consumer preferences. It was asserted that the introduction to indigenous populations of the relatively extravagant consumption styles of the West resulted in the local populations' attempts at mimicking these consumption patterns. Foreign direct investment would increase foreign contacts, reduce savings, decrease investment, lower the rate of growth and hamper the development process.

7 Summary

There is a growing tendency in our profession to 'live inside the blackboard': to take the theories we teach our students as truth and not as abstractions. Symptomatic of this tendency is a growing emphasis on the desirability of unfettered markets to promote growth. Such faith in markets was prevalent prior to the Great Depression. That crisis, coupled with the perceived successes of Soviet planning, challenged the faith. These watershed events fostered a re-evaluation of economic theory that found traditional economics wanting. The re-evaluation proposed, in the place of traditional theory, a theoretical structure consistent with intervention. Mainstream development theory viewed the intervention of government in the economic sphere as desirable and perhaps even necessary for the advancement of the newly created countries.

The large-scale dismissal of laissez-faire as inappropriate to advance the development aims of lesser developed countries was symptomatic of both the failure of markets, as evidenced by the Great Depression, and the perceived success of Soviet-style planning. These events thrust the doctrine of market failure to the forefront of economic analysis, where it became the theoretical foundation of early development thought.

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