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# ALBERT HIRSHMAN, LAUCHLIN CURRIE, 'LINKAGES' THEORY, AND PAUL ROSENSTEIN RODAN'S 'BIG PUSH'

BY

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# Albert Hirschman, Lauchlin Currie, 'linkages' theory, and Paul Rosenstein Rodan's 'Big Push'[1]

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ABSTRACT

This paper introduces a hitherto unpublished 1970 paper written by the distinguished development economist Lauchlin Currie (1902-93) on Paul Rosenstein Rodan's famous 1943 paper on the "Big Push" which led to the balanced-unbalanced growth debate to which Albert Hirschman (1915-2012) was an important contributor. Both Currie and Hirschman had been key economic advisers to the Colombian government and their respective views on development planning are contrasted. In particular, it is shown how Currie's 1970 paper illuminates the theory behind the 1971-74 national plan for Colombia that he prepared and helped deliver; and how the related institutional innovations have had an enduring impact on Colombia's recent economic history.

This paper introduces chapter 19, "The Big Push and Balanced and Unbalanced Growth", of a hitherto unpublished manuscript of a book on economic development that Lauchlin Currie (1902-93) wrote in 1969-71 at Simon Fraser University, Canada.[2] This book and especially this chapter 19 on Paul Rosenstein Rodan's (1943) theory of the "Big Push", offer insights into a significant period in Colombia's recent economic development that was heavily influenced by Currie's role as a top policy adviser.

I was Currie's research assistant at SFU from June to September 1970. In April 1971, Currie, who had been resident in Colombia for all but five years since 1949, returned there at the urgent behest of President Misael Pastrana to advise Roberto Arenas, the new director of the Departamento Nacional de Planeación (DNP).[3] Currie thereupon shelved his book project to concentrate on *Guidelines for a New Strategy of Development* (Currie 1971) which Pastrana outlined in his Presidential Message to Congress in July 1971. This was followed by *The Plan of the Four Strategies (El Plan de las Cuatro Estrategias)*, launched in December with Currie its driving force. This emphasised (i) a new index-linked housing finance system to encourage a big increase in non-inflationary savings and a corresponding increase in real demand for (mainly urban) housing and related infrastructure; (ii) realistic exchange rates to promote exports; (iii) incentives for increased agricultural productivity, based on an expected increase in demand for food and raw materials; and (iv) improved income distribution from the creation of higher paying urban jobs for migrant rural workers.

Currie had long been concerned with the issues that motivated Paul Rosenstein Rodan's seminal 1943 paper that argued the need for a "Big Push" industrialisation plan to break the interlocking vicious circles of underdevelopment that appeared to be trapping millions of

[1] An earlier version of this paper was presented on my behalf by Mario Garcia at the Latin American History of Economic Thought (ALAHPE) conference, University of the Andes, Bogota, Colombia, on December 1, 2017.
[2] Reprinted by kind permission of Currie's daughter, Elizabeth Currie.
[3] Arenas was previously head of the Centro de Investigaciones para el Desarrollo (CID) at the Universidad Nacional, having replaced Currie when he left for Canada in 1967.

disguisedly unemployed workers in extreme rural poverty. He had first visited Colombia in 1949 as head of the World Bank's first comprehensive country mission. Rosenstein Rodan had himself been at the World Bank since 1947 and was the organiser of a preliminary survey of available information about Colombia, ahead of the Currie mission. Lionel Robbins, whom Currie knew (but did not warm to) from his undergraduate days at the LSE, 1922-25, was one of those approached to be head of the Colombia mission but he declined.[4]

A native of Nova Scotia, Currie studied for two years at St Francis Xavier University, but then transferred to the LSE in 1922, followed in 1925 by Harvard. There Allyn Young had the profoundest influence on his subsequent work. Rosenstein Rodan, Ragnar Nurkse and others such as Hans W Arndt (1955) and Maiju Perälä (2006) also acknowledged Young's influence on their thinking about the "Big Push" and the "balanced-unbalanced growth" debate.[5]

After Young's departure for the LSE in 1927, Currie completed his PhD dissertation on "Bank Assets and Banking Theory" (January 1931) under John H Williams, but kept in touch with Young, including a visit to London in 1928 in connection with his PhD work. There, Young spoke of his satisfaction with his upcoming (September) presidential address to the British Association on "Increasing Returns and Economic Progress" (published in *The Economic Journal* in December 1928, just three months before his untimely death).

At Harvard Currie was a teaching assistant for Ralph Hawtrey and Joseph Schumpeter (both of whom were replacements for Young while Young was on leave in London). In the summer of 1934 Jacob Viner, a special adviser at the US Treasury, recruited him for his "Freshman Brain Trust" to propose reforms to the Federal Reserve System that would strengthen monetary control. At the Treasury, he teamed up with Marriner Eccles, another special adviser who shortly after was appointed chairman of the Federal Reserve Board. He took Currie with him and the 1935 Banking Act followed soon after, reflecting reforms Currie had recommended at the Treasury.

Currie led the spending wing of the New Deal (Herbert Stein, 1969, p.165), and from 1939-45 was based in the White House as President Franklin Roosevelt's adviser on economic affairs. During this time he was involved in lend-lease operations for war-torn China which he visited in 1941 and 1942 for talks with Chiang Kai-shek (and also met Zhou En-lai). In 1943-44 he was acting head of the Foreign Economic Administration; and in February 1945 headed a tripartite mission to neutral Switzerland to persuade them to freeze Nazi gold in Swiss banks and to halt supplies passing through Switzerland to German forces in Italy.

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[4] Michele Alacevich (2009, ch.2) gives the recruitment details and a balanced account of the tensions between Currie and Hirschman in 1952-56 when both were in Colombia. A somewhat less balanced account is in Jeremy Adelman's (2013) outstanding Hirschman biography, reviewed in Sandilands (2015b). See also Sandilands (2015a) and my Currie biography (Sandilands 1990).

[5] Allyn Abbott Young (1876-1929) was president of the American Economic Association, the American Statistical Association and the British Association, a unique record. It was his 1928 presidential address to the British Association on "increasing returns" that was seminal for the "Big Push" debate and continues to influence modern "endogenous growth" theory (Sandilands 2009). Currie devoted much of his later career to explaining its theoretical and policy implications, including in a posthumous publication (Currie 1997). His tribute to Young as a teacher is in Sandilands (1999).

When the World Bank survey mission arrived in Bogota in July 1949 they found many city-centre building were still burnt-out shells from the recent "Bogotazo" that followed the assassination of a popular political leader, Jorge Eliécir Gaitan. Currie's report, published in September 1949, found the same conditions that underlay Rosenstein Rodan's 1943 paper on the need for a 'big push' to absorb a mass of disguisedly unemployed rural poor. Currie's report stressed the poor transport and communications links between what were essentially four relatively isolated regions. Improving those links was a priority in a programme to boost overall productivity by extending the effective size of the Colombian market, along Adam Smithian (and Allyn Youngian) anti-mercantilist lines.

Traditional labour-intensive agricultural practices underlay low productivity, and high birth rates were exacerbating this low productivity by putting population pressure on land, while discouraging more productive, capital-intensive techniques. This was one of the vicious circles of underdevelopment later stressed by Ragnar Nurkse (1963) and Harvey Leibenstein (1957), for example.[6] Much of the country's best land, notably the relatively flat, fertile Sabana de Bogota was being used for extensive cattle grazing instead of intensive cultivation of crops. A land tax was one solution recommended.

Over time, however, the Green Revolution greatly increased agricultural productivity. This reduced labour inputs (per ton of output) much faster than the growth of (relatively inelastic) demand, even after allowing for export opportunities. Too few observers understood that in these conditions an increase in *productivity* is not the same as an increase in *production*, still less an increase in rural employment. Instead, the net result is labour displacement, more disguised unemployment and more rural poverty. This is true even in the face of so-called labour-intensive innovations such as new seeds and fertilizers (as opposed to capital-intensive tractors). To believe otherwise is to commit a fallacy of composition: that what is true of some innovating farmers – who need more workers to bring in a bigger harvest – is also true if all farmers are innovating. A doubled output with a much smaller increase in demand results in smaller farm incomes and displacement of workers.

Currie found little of this in his survey of big-push literature (including Hirschman's), but it was central to Currie's own perceptions ever since he arrived in Colombia in 1949 and especially in the 1960s when he launched a concerted political campaign in favour of a massive "breakthrough" plan, "*Operación Colombia*" (Currie 1961), elaborated in his award-winning *Accelerating Development: The necessity and the means* (1966).[7]

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[6] Thus Currie supported Leibenstein against Hirschman's "calmer view" of population growth. He also criticised Hirschman's interpretation of Nurkse and Rosenstein Rodan (who both acknowledged Young's influence) as "balanced-growth" theorists, though elsewhere Currie criticised Nurske for excessive emphasis on the supply of savings and capital as (autonomous) causal constraints on growth. He instead stressed the (endogenous) dependence of savings and investment on demand-side constraints capable of being relaxed in non-inflationary ways, including action to remove market imperfections that repress demand for key sectors (see below).

[7] In Hirschman's (1967) review of this book, he doubted Currie's belief in elastic agricultural supply; rejected his claim that land redistribution would not help; and criticised his 'breakthrough' plan as requiring emergency controls at peak efficiency "for at least a generation" before the rural labour force could fall below ten percent of the total – another case of an unrealistic big push. However, he applauded his "commendable desire to tackle the present situation with the means at hand instead

In his paper below, Currie appraised Hirschman's critique of Rosenstein Rodan's Big Push that would involve comprehensive planning across many industries to overcome indivisibilities and complementarities through a simultaneous investment programme, underwritten by foreign aid. This could ensure that while a small number of investments may not generate sufficient demand for firms to operate at a technically efficient scale, a 'Big Push' would overcome this problem and make modern industry competitive against traditional low-wage, low-productivity, labour-intensive handicrafts.[8] Currie believed Hirschman and others had distracted attention from the issue of whether a Big Push was necessary or feasible toward what Currie saw as a separate issue, namely whether Rosenstein Rodan's Big Push would involve a 'balanced' or an 'unbalanced' approach, with those terms not clearly defined.

He also criticised as "a completely false issue", Hirschman's argument (1958, p.63) that "the advantage of a see-saw advance over 'balanced growth', where every activity expands perfectly in step with every other, is that it leaves considerable scope to *induced* investment decisions and therefore economizes our principal scarce resource, namely genuine decision-making". For, wrote Currie, "the possibility of an expansion where every activity is perfectly in step with every other in any underdeveloped country (or developed!) is ludicrous."

To economise on the "principal scarce resource", Hirschman advocated deliberate creation of bottlenecks, tensions and disequilibria that would more powerfully provoke those induced investments. This would be helped along by the 'Principle of the Hiding Hand': the deliberate concealment of the true costs and benefits of projects so that industrialists would undertake projects on which they otherwise would not risk their money. Hirschman suggests that in this way the strategy would produce net benefits to the economy as a whole even if the initial investors lose their money (not the planners'). It also ignores the adverse incentive effects of those losses on future investors. Hence Currie's rebuke that the Hiding Hand principle is "not only dubious economics but even more dubious morality".[9]

Hirschman goes on to suggest that those benefits would be greatest, the greater the net external economies generated. And the gain would be best achieved by identifying industries most connected to others through the greatest number of 'backward and forward linkages', or technical input-output coefficients. Hirschman (1958, pp.106-07) has a chart that ranks different industries according to this criterion, with interdependence and complementarities measured by the ratio of their backward and forward inter-industry purchases and sales. These are given as percentage measures that would be greater or lesser *irrespective of the*

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of waiting for some *deus ex machina* – be it large-scale foreign aid, improved terms of trade, an interregional common market, or revolution."

[8] This is the focus of Paul Krugman's (1993) reformulation of Big Push theory, with particular reference to Hirschman (1958). Alacevich (2007, p.13, n.32) also discusses Krugman in the context of Hirschman's defence of the decision to build an integrated steel plant in Colombia, on the basis of technical input-output linkages (rather than on its likely absolute size which depends on the potential size of demand for the industry's own output).

[9] Bent Flybjerg (2017) reviewed Hirschman's *Development Projects Observed* (1963) and concluded that empirical support for a benevolent "Hiding Hand" was weak, being subject to "optimism and sample biases". It was more often a *malevolent* Hiding Hand. He thus disputed Cass Sunstein's (2015) suggestion that the Hiding Hand supported his own "nudge" theory in behavioural economics.

*absolute value of sales output*.[10] Furthermore, (a) those sales would have been measured on the basis of past output, *not on the basis of the future demand potential* (which Hirschman nowhere discusses in this context); and (b) input-output tables usually assume fixed coefficients, whereas in reality the ratios vary as the size of the market increases.

However, what struck Hirschman was that "the industry with highest combined linkages score is iron and steel. Perhaps the underdeveloped countries are not so foolish and so exclusively prestige-motivated in attributing prime importance to this industry!" (1958, p.108). Thus Hirschman (1957), supported a decision in 1950 to accede to pressure groups, against the strong advice of the World Bank (and Currie), in approving a highly subsidised integrated steel mill in a poor and remote region of Colombia. However, this is to neglect negative linkage effects. In this steel project the negatives were due to the poor quality of the local iron ore, exorbitant transport and mining costs, and a ban on much cheaper and higher quality steel previously imported from Venezuela. User industries, taxpayers and final consumers suffered the consequences for decades. But politics and regional interests prevailed and Hirschman too optimistically wrote that this project "will probably turn out to be... an effective development move compared with any program to provide such an area with plentiful social overhead capital whose capacity may go *begging* for many years." (ibid.)

Alacevich (2007, pp.9-14; and 2009, pp. 98-102 and 176-77; also Currie 1981, ch.12), gave a detailed history of this project and suggested there were "hidden rationalities" in both Hirschman's unbalanced, incrementalist "project loan approach" and Currie's balanced, comprehensive "programme loan approach". The steel industry eventually developed more incrementally than first planned, and thus Alacevich thought the protagonists were not so far apart. In this connection, Adelman (2015, p.401) also emphasised the "centrality of side effects" in the form of linkages and tensions. Thus, effectively, even though Colombia's steel mill was unprofitable, failure may be counted success – by ignoring the negatives.

However, there is a fundamental difference in the implications of Hirschman's and Currie's complementarities and side effects. A domestic iron and steel industry may have the greatest number of interdependencies but the main issue is whether it also enjoys a large demand, at unsubsidised competitive prices, currently and prospectively. Even with subsidies, Colombia's steel industry still imports only half of the local demand for steel, and itself accounts for only a very small proportion of Colombia's GDP, despite its linkages to other industries. For Currie, this means it is not an industry that could play a significant leading role in boosting the economy's overall growth rate. Instead, it would be a 'follower', more dependent on growth of the overall economy and the demand arising from that.[11]

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[10] In this, Hirschman differs from Nurkse (1953) whose "horizontal" and "vertical" inter-industry complementarities allowed for individual sectors to grow at different rates according to differing elasticities of demand; i.e. he called for a balance of sectoral supply with the *unequal* growth of sectoral demand. It did *not* mean that all sectors should be expanded at the same rate or according to input-output coefficients. This is consistent with Currie's leading sectors model of growth, spelled out in Currie (1974) to explain the theory behind the 1972-74 Colombian national plan. See also Chandra (2006) and Chandra and Sandilands (2006).

[11] Currie (1974) specifies the conditions that would qualify a sector as a *significant* potential leader rather than follower. Currie (1983) discusses these in the context of different "multiplier" concepts,

In other words, it is not only the industrial or sectoral *composition* of GDP that matters. *Size* matters too, currently and potentially, as does the size of the overall economy. They are of course interrelated. Thus, while Currie favoured a Big Push, he also sought balance between supply and demand potentials at the sectoral levels. Effort should be concentrated rather than diffused, with focus on a very few strategic sectors chosen not according to input-output coefficients but by the size of their potential demand and the resultant impact of that size on the overall economy through reciprocal demand and supply elasticities. His approach follows Young's (1928) conception of the interrelations that potentially produce self-sustaining, cumulative increasing returns, best achieved to the extent that competitive market forces successfully balance supply with demand at both the sectoral and overall levels:

> In an inclusive view, considering the market not as an outlet for the products of a particular industry, and therefore external to that industry, but as the outlet for goods in general, the size of the market is determined and defined by the volume of production. If this statement needs any qualification, it is that the conception of a market in this inclusive sense -- an aggregate of productive activities, tied together by trade -- carries with it the notion that there must be some sort of balance, that different productive activities must be proportioned one to another.
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> Modified, then, in the light of this broader conception of the market, Adam Smith's dictum amounts to the theorem that the division of labour depends in large part upon the division of labour. (1928, p.533)

The question, however, is whether market forces, especially in less developed countries, operate sufficiently freely for the fullest possible degree of this kind of cumulative causation.

Currie's answer was that the volume of rural labour displaced by the Green Revolution (in all of its revolutionary manifestations) has been imposing too great a burden on the mobility mechanism in Colombia (and many other countries) *under current institutions.* Too much of the displaced labour was retiring into subsistence farming or migrating to towns and cities unable to provide enough well-paying jobs for the numbers arriving. Unemployment, open and disguised, was burgeoning. Overall income growth, especially in per capita terms, was anaemic.

Currie's view was that the mobility mechanism was severely weakened by particular market distortions associated with a history of chronically high and unstable inflation rates. Money was not neutral. Instead, monetary inflation severely discriminated against two major sectors for which demand had been repressed much more than elsewhere, namely in the market for long-term mortgage finance and for exports.

In housing finance, double-digit inflation had caused nominal interest rates in Colombia to average 16 percent. This creates a severe cash-flow (or front-end loading) problem for new borrowers, even if in real terms the rate was sometimes negative. At the same time, with the main provider of mortgages being the monopolistic Banco Central Hipotecario, savers would receive perhaps only 10 percent which was even more severely negative in real terms. This

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including the "input-output multiplier". He believed the latter cannot be computed independently of price and income elasticities of demand in the real or "reciprocal" sense of J B Say and Allyn Young.

deterred savers from placing their savings in banks; they preferred to hold gold, dollars or jewels. Since most people rely on mortgages to finance home purchases, the reduced volume of savings further reduced the effective demand for housing. In addition, the risk to banks from the high nominal interest rates (as well as the equally serious problem of highly variable rates that mirrored volatile inflation rates), meant they would demand high down-payments and maximum terms of 15 years instead of 25 or 30 years as in other countries. All of these considerations had a serious repressive effect on demand for housing – as well as for government borrowing for large infrastructure projects associated with housing.

These inflation-related problems are far less serious for short-term finance – industrialists' commercial loans for 'working capital' or for consumer credit. The discrimination was mainly against the long term. This was clearly related to the mobility of labour from low-paying agriculture into higher paying urban jobs, to the severe detriment not only of growth but also of better income distribution.

At the same time, and closely related to the housing problem, exports were being artificially repressed by inflation because of a mistaken but too commonly held belief that inflation was a structural rather than a monetary phenomenon, and that a depreciating exchange rate was a cause rather than a symptom. Thus the central bank would prefer to control the exchange rate than the money supply and deficit spending. A chronically overvalued exchange rate then made exports uncompetitive (along with import-substitutes). All of this reduced urban employment and homes for actual and potential migrants in search of a better life. It also meant that real incomes were below potential. This impacted on real demand for consumer goods and services across the board. Where in the Big Push and balanced-growth literature was this so forcibly explained as in Currie's publications and innumerable briefings and memoranda for policy makers?

That was theory. The main institutional reforms needed to make the difference in practice consisted in (i) the introduction of a new, competitive, index-linked housing finance system; (ii) an exchange rate regime that was also adjustable with inflation to maintain export competitiveness; and (iii) Currie's tireless education of ministers, the central bank, and the country's brightest students in monetary theory and policy, of which he was a leading world authority. All this aimed at separating central banking from development banking. The central bank needed to concentrate on monetary control, with expansion of the money supply kept closely in line with the growth of the real economy (which largely determines the non-inflationary real demand for money). So long as central bank management was dominated by spending ministers, monetary control was at risk. And with monetary control at risk, so too was inflation, housing, exports, jobs and economic growth generally. Meanwhile, development banking – and especially long-term finance, including mortgages – needed to rely on real savings out of real incomes (not new money) for non-inflationary lending.

How did index-linked housing finance help? The basic principle was to set a real interest rate at, say, 4 percent on index-linked savings accounts and 6 percent on borrowers' index-linked mortgages. This would do two things. Firstly, it would encourage real saving in 10 new, competitive private housing finance corporations known as Savings and Housing Corporations (*Corporaciones de Ahorro y Vivienda* [CAVs]) that would invite deposits in units of constant purchasing power (*unidades de poder de compra constante,* UPACs) that would earn interest fixed in real terms though daily adjustment in line with the consumer price index.[12]

Secondly, the great increase in savings in no way saturated an equal (or greater) increase in demand for them, thanks to the great easing of borrowers' "front-end loading" problem despite the increase in the real interest rate they paid on their outstanding mortgages.

Though some of the increased savings captured by the CAVs diverted savings from other financial institutions that then had to cut back on consumer credit, for example, there was no fall in consumer demand or business investment because wages and profits increased as the economy moved to a higher growth rate. This higher rate could have been sustained for a longer period – Young's endogenous 'increasing returns' effect – had growth not been slowed by exogenous policy mistakes by the monetary and fiscal authorities. There was also acquiescence to interest groups. These were mainly borrowers who, once they had obtained their mortgages (previously very hard to get) then lobbied for relaxation of the index linking, to the detriment of savers. This then reduced funding for future mortgage applicants and a weakening of the leading sector's economic dynamo effect.

One may conclude that a critical minimum effort is not enough. The effort and understanding on the part of policy-makers must be sustained. However, there is an *underlying tendency* for a higher growth rate to sustain itself, endogenously – through ever-increasing opportunities to increase specialisation as the market expands – and to be capable of reducing the damage from policy mistakes, natural disasters and other exogenous events. Much can be learned from the debate sparked by Rosenstein Rodan's seminal paper in 1943; even more from Allyn Young's seminal paper on macroeconomic increasing returns; from the provocative encounters between Albert Hirschman and Lauchlin Currie on related ideas; and from the institutional reforms that were driven by Currie who believed that ideas were not just *"petites idées"* to play with, but to use.

[12] Rosenstein Rodan (1984, p.214) worried about "an indivisibility in the supply of saving" needed for a "high minimum quantum of investment". He thought there was a "zero (or very low) *price* elasticity of the supply of savings", but a high *income* elasticity with a higher growth rate once a critical minimum effort was achieved. Currie was much more confident about the response of savings to a higher real return – the price elasticity – as well as the income elasticity. The results amply justified Currie's optimism. See Sandilands 1990, ch.10; his ch.11 also describes Currie's key role in innovative urban design and government capture of unearned land values as the urban population burgeoned. See also Currie (1976).

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# The Big Push and Balanced and Unbalanced Growth

**Lauchlin Currie**[13]

The need for a massive effort to activate or accelerate the growth process, to achieve the take-off, to escape from the vicious circle of poverty or from the trap of under-development, to make the critical minimum effort for sustained growth, to make a big push, to achieve the breakthrough or transition to the developed category, and the means by which this might be done, which should have been the main issues with which underdevelopment literature and policy are concerned, have never been given adequate consideration. Part, at least, of the reason can be found in the creation of a false issue – that of balance vs unbalance – and the absorption of the real issue underlying the big push into this false issue, or the identification of the big push proposal with a particular theory of growth.

Hence the necessity and character of the critical minimum effort never received the attention its importance merited. For this reason attention is devoted here to the question of balanced vs unbalanced growth, as in reality the subject appears to have run into the ground and is disappearing from current literature (though not from collections of readings and graduate examination requirements.)

It is a very curious story as in retrospect it does not appear that there ever was a real issue. At least, no prominent writer[14] ever elaborated a theory of balanced growth in the sense of explaining growth in terms of balance, unless it can be said that the idea of balance is implicit and inherent in the functioning of the free enterprise or market economy and in the pricing mechanism. At bottom the concepts of balance, equilibrium and efficiency are indistinguishable – the allocation of factors in response to or in anticipation of demand, and the relation to marginal costs, so that there is a tendency for equalization of returns. The concepts of maximum output and of social welfare are concepts of striving toward (though never attaining) a condition of equilibrium or balance. As Scitovsky has said, the existence of profits is in itself an indication of disequilibrium; in a condition of perfect equilibrium, profits would disappear. But this, it hardly needs saying, is only a concept which no one expects to be realized. In short, just as equilibrium implies an allocation or "balancing" of productive effort according to demand, or equating of marginal costs with marginal utilities as reflected in demand, so it implies simultaneously disequilibrium or unbalance since we never attain equilibrium.

Thus a "theory" of balanced growth, if offered as an explanation of the growth process, would be only that the concepts of profit maximization, of incentives to improve one's condition or to "succeed", of mobility, of competition and of the operation of the pricing mechanism would, in a suitable physical and social environment, lead to development or growth. Actually, this appeared to be what had happened in the case of the non-socialist developed

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[13] This is Chapter 19 of an unpublished book on economic development that Lauchlin Currie (1902-93) wrote in 1969-71 at Simon Fraser University, Canada. Reprinted by kind permission of his daughter, Elizabeth Currie.

[14] Nurske (1961 [1957]) came close to doing this in his 1957 lectures at Istanbul which were relatively unknown but not, I shall argue, in his well-known *Problems of Capital Formation in Under-Developed Countries* (1953) on which the attacks were levelled.

countries in their earlier history. Attempts to explain their development in terms of state intervention – of non-market forces – are unconvincing except possibly in the case of Japan. Even in this case, however, the matter was treated as a case of the state intervening not to create disequilibrium or unbalance but rather to make the environment more favourable for the functioning of the market forces. The other type of state intervention – to correct deficiencies in distribution and to provide services not adequately provided by the market mechanism – could be explained and defended on these grounds and not as a means of creating "unbalance" leading to "decision making".

Generally, the "doctrine" or "theory" of balanced growth is attributed to three writers – Rosenstein-Rodan, Scitovsky and Nurkse. It is interesting to return to the original sources and consider what these writers actually said.

The pertinent article of Rosenstein-Rodan was published in1943 under the title of "Problems of Industrialization of Eastern and South-Eastern Europe." The main thrust of the article was a proposal to accelerate the post-war industrialization of South-Eastern Europe by a massive programme of foreign aid utilizing the super-abundant labour resources, or the disguised agricultural unemployment, in a widely diversified expansion of wage good industries, It was most definitely not presented as a "theory of growth", but as a specific proposal to meet what the author thought would be an emergency situation (and was) just as the Marshall Plan was proposed and adopted a few years later to accelerate the reconstruction of Western Europe.

In its support, however, Rosenstein-Rodan used two arguments that were seized upon by his critics. One related to the external economies that would follow a large-scale spending programme. Doubtless some internal and external economies of scale would follow from an increase in the size of the market, as Allyn Young (1928) had earlier argued, but this was not really necessary to Rosenstein-Rodan's point. All he needed to demonstrate was that ***<u>a growth in the overall market itself</u>*** would justify or induce many investments not otherwise justified. He conceived the problem as one of assuring that consumer demand increased sufficiently to provide a market for the product of the new consumer good industries he proposed so that there would be a continuing market for the production of the currently underemployed. For this purpose he should have been more concerned to make more explicit the implications of inelasticity of demand for individual consumer goods and with the necessity of continuing offsets to leakages or growth in savings than with the reduction in per unit costs that might result. It was as though Keynes had sought to justify his proposal for an expansion of aggregate demand in the depths of the depression by citing the economies of scale that would follow such an expansion, rather than in concentrating on the direct growth in output and employment resulting from the spending. The introduction of the argument for external economies, while valid, tended to divert attention from the main issue.

The concept of balance was implied in the idea that "the industries producing the bulk of the wage goods can be said to be complementary" (p.206) in the sense of creating a demand for each other's products which in turn suggests that in allocating the investment funds attention be paid to indicated varying income elasticities of demand, which is surely a reasonable suggestion if such an investment programme were to be undertaken. The stumbling block of inelasticity of demand for goods of mass consumption is not mentioned explicitly, but is clearly implied in the often-cited shoe factory example and the idea of complementarity which in turn rested in the idea that for all consumer goods the income elasticity of demand is unity. (He was clearly aware of Keynesian leakages but did not suggest how they might be offset – a lack easily remedied.) Nurkse applied the concept of inelasticity of demand for any one good more clearly later, but failed to grasp its far-reaching implications for the nature and rapidity of the growth process and for policy purposes.

One can imagine that Rosenstein-Rodan must have been startled to find later that his bold suggestion of state intervention to accomplish quickly what the market mechanisms would accomplish only slowly, if at all, should have been transformed into a statement of a theory or doctrine of growth – and not only of growth but of balanced growth or development. It was a policy proposal and it would just as reasonably have been cited as a suggestion for unbalanced growth – the deliberate expansion of the non-agricultural consumer good sector of the economy to correct the unbalance caused by excessive numbers in the agricultural sector, and a shortage of external sources of capital. The anticipated expansion of the market, in turn, was expected to create "disequilibrium", tensions and profit possibilities" and have "horizontal and vertical linkages," all of which would act to induce further investment and further absorption of the redundant agricultural forces and the growth of certain sectors relative to others. One could, in other words, just as plausibly list Rosenstein-Rodan as a protagonist of unbalanced as of balanced growth. Neither characterization would be apt as what he was really concerned with was the desirability, in the circumstances then prevailing, of a deliberately large effort to accelerate industrialization.

Ragnar Nurkse, in (1953), can with more justice be credited with a more generalized and more extended treatment of balanced growth, though again it was not his central thesis. It appeared not as a theory of growth but rather as an explanation of the functioning or faulty functioning of Say's Law and the pricing mechanism. Again in the statement, "The difficulty vanishes, at least in principle, in the case of a more or less synchronized application of capital to a wide range of different industries" (ibid., p.11), the idea of balance in the sense of expanding output and hence investment in accordance with varying effective demands appeared as an implication of different ways of escaping from the underdevelopment trap arising from the inelasticity of demand for any one consumer good. The greater the production, provided no miscalculation is made, the greater the demand for other people's products, and the better Say's Law functions. This is where the idea of "balance", i.e. balance between additional production and income elasticities of demand at a profitable level, enters.

It is important to note that in his 1953 book Nurkse did not place much emphasis on the matter of balance. He spoke of "more or less synchronized application" and he cited with approval Schumpeter's concept of waves or outbursts of innovations and investments and was not in the slightest perturbed by the idea of growth proceeding in oscillations above and below a trend line. If he subscribed to any particular theory of growth, it was that of Schumpeter. He was also, however, prepared to accept the desirability of governmental intervention to promote growth. "It may be that … the forces that are to defeat the grip of economic stagnation have to be deliberately organized to some extent, at any rate initially" (ibid, p.15), and cited with approval the early economic intervention of the Japanese government. He warned that such intervention may result in mistakes – "unbalance" – but went on to remark that "[d]isproportionalities of one kind or another have also been a feature of the cyclical booms through which economic progress was achieved by private enterprise" (ibid, p.16). The fact is that he was not here really concerned with the ***methods*** of accelerating development or with a theory or explanation of development but rather with the key or central role he conceived capital formation or its lack plays in the process. Indeed, it was this insistence, which I considered excessive, which led me to consider that the influence of his work was not as constructive as it might have been, and to neglect the constructive passages on the possibilities and desirability of large scale but "more or less" synchronized methods of enlarging the market, output and employment mentioned above.[15]

The third writer generally cited as a proponent of the theory of balance is Scitovsky (1954). In his well-known article on external economies he repeated the observations of Rosenstein-Rodan and Nurkse on the problems posed by a small market. He extended the concept of external economies to cover all the benefits of larger markets so that when a firm's operations make other firms' operations more profitable, its calculations of private profitability understate its social desirability, the difference being accredited to external economies. After dealing with the two-industry model, he concluded that limitations on investment arising from the smallness of the market "can be fully removed only by a simultaneous expansion of both industries". To this extent he supported the policy of the big push, stating that "profits in a mixed economy are a bad guide to economic optimum so far as investment and industrial expansion are concerned, and they are worse the more decentralized and differentiated the economy" (ibid., p.149).

Is this, then, an argument for balanced growth? Again it is a matter of semantics. Scitovsky (1954) himself identified balance with equilibrium and equilibrium as the antithesis of growth. Later, Scitovsky (1959) wrote an article setting forth this view at length. In his earlier piece he stated that the analysis of an equilibrium theory becomes applicable when there are no profits. He gave even less consideration to the implementation of planned expansion than did Rosenstein-Rodan. To place him in the balanced growth camp would necessitate placing all the emphasis on his casual use of the words "simultaneous" and "integrated". In short, his interest and concern lay in extending a concept of external economies and not in elaborating a "theory" of growth – balanced or otherwise. He believed, however, that the concept of pecuniary external economies gave support to a *planned* expansion of investment in an underdeveloped economy, which would be a *development policy*.

It is interesting to note that none of the three writers commonly credited with holding or elaborating a "theory of balanced growth" regarded themselves as doing so. They were all, in more or less degree, concerned with the problem of accelerating development (or with current inadequate rates of growth) and stressed the obstacle imposed by an initial small market in inducing investment. They all believed that success breeds success or that growth breeds growth, that the more widely based the development movement, the more likely is it to beget demand, employment, profits, investment and further growth. If investment, whether private or public, is planned, it should, they believed, be in relation to anticipated demands so that losses or unutilized capacity may be minimized. It is this last feature that was singled out as the essential characteristic and to which the label "balanced growth" was attached. Actually, however, Rosenstein-Rodan was mainly concerned with accelerating postwar industrialisation and employing excess agricultural labour, Nurkse with ways and

[15] See also my discussion of Nurkse's views in Currie (1966), ch.9.

means of stimulating the demand for and the supply of capital, and Scitovsky with clarification of concepts of external economies.

Marcus Fleming, writing in (1955) with the title "External economies and the doctrine of balanced growth", remarked that "the argument that the adoption of investment projects, which, though unprofitable individually would be profitable collectively, and hence is a good thing," is frequently referred to as the doctrine of balanced growth. So by this date one feature of Rosenstein-Rodan's proposal, via Nurkse's (1953) discussion of the underdevelopment trap and the incentive to invest, and Scitovsky's (1954) discussion of external economies, had become identified in the literature as the doctrine of balanced growth. The merits of the original proposal became bound up with Nurkse's discussion of the circle of poverty. One of the strange things in this strange episode in the history of economic thought is that Nurkse did not really appear to be much interested in Rosenstein-Rodan's proposal, and in his exposition of the underdevelopment trap made assumptions directly counter to those of the latter. For example, it was fundamental to the validity of the latter's proposal that there should be virtually unlimited supplies of "surplus" labour. In his discussion of the case for a widely diversified range of investments, Nurkse assumed, on the contrary, as Fleming brought out, an elastic supply of capital and a given labour supply.

By 1957, however, Nurkse (1957) had accepted the designation of the balanced-growth "principle", "doctrine", "notion", but saw the issue more in terms of international specialization vs internal industrial or agricultural development for under-developed countries. Scant attention was paid to the big push in *The Problems of Capital Formation* (1954) and none at all in the 1957 article.

In short, Nurkse, in the chapter that received so much attention, never set forth "balance" as a principle or doctrine of growth, but rather as a limiting factor or a condition. He states this explicitly: "Balanced growth may be a good thing for its own sake, but here it interests us mainly for the sake of its effects on the demand for capital." (p.12) As an economist, he would doubtless have preferred that investments, if made, should be utilized and be profitable. However, the main concern of his book was in increasing the output of under-developed countries by increasing their capital formation. Balance was not something to be sought for its own sake, but only as a condition of growth – the acceleration of growth through the inducement to invest and the goodness of investment. It is a pity that Nurkse did not wrestle more with the problem of "the underdevelopment equilibrium" (p.10) on the side of the inducement to produce, rather than on the conditions of the supply of capital, as he ended up by stressing the importance of capital formation in growth, but not in setting forth any very positive policy of achieving larger investment and neglecting other factors in the growth process. Whether or not the existence of Schumpeter's innovation waves is valid history, they hardly constitute the basis of a conscious and deliberate policy of development, and this is what is evidently needed, unless, of course, it is felt that the forces of the marketplace can be relied upon to enable the rapidly growing population of underdeveloped countries to take full advantage of modern technology.

It is tempting to review the subsequent literature to which many distinguished writers contributed, including Fleming, Singer, Streeten, Sheahan, Scitovsky, Montias, Lipton and Mathur among others, but this would take me too far afield from the main argument of this work. I shall limit myself, therefore, to a discussion of Hirschman's treatment as I feel that much of the unfortunate confusion stemmed from his work, which was widely cited, and which Hirschman attempted to develop into a theory of growth and a basis for policy.

In Hirschman's (1958) treatment of the issues, he succeeded in confusing it thoroughly by identifying the big push with the discussion of balance, and lumped the two together as a "theory of development", which most assuredly it never was. Having created something that never existed, he then proceeded to demolish it.

As we have seen, Rosenstein-Rodan mentioned the necessity of producing what people wanted as a <u>condition</u> of planned large-scale expansion. He was concerned with a specific suggestion to <u>accelerate</u> industrialization in a specific group of countries under specific circumstances. Nurkse's earlier discussion of balance, to which Hirschman devoted his attention, occurred, as was remarked previously, in a discussion of the vicious circle of poverty, in which "balance" – the necessity of investing in the production of things for which there is a demand – appeared, in conjunction with indivisibility of capital and inelasticity of demand, as conditions limiting the rate of growth rather than explaining it. Nurkse's formulation of the vicious circle or trap is open to criticism, as I have attempted to show, but these were not the bases of Hirschman's criticisms. Nurkse's rather casual remark that the requirement of balance could be met by increased investment in a "number of different industries" over a "wide range of activities" as Rosenstein-Rodan had advocated or by the Japanese government type of intervention or, as Nurkse evidently preferred, by Schumpeter's waves of innovation, hardly seems sufficient grounds for setting forth Nurkse's "theory of growth" as one of "balance" and even less for identifying this with Rosenstein-Rodan's big push, as Hirschman proceeded to do.

In the latter's treatment, the doctrine of "balanced growth" becomes a particular form of the big push wherein "a people" or a government is to set up "a whole flock of industries that are going to take each others' output." Having transformed the big push into a theory of balanced growth, he proceeded to criticize balanced growth by insisting that Rosenstein-Rodan's version of the big push required skills an underdeveloped country does not possess. "For this is of course the major bone that I have to pick with the <u>*balanced growth theory*</u>: its application requires huge amounts of precisely those abilities which we have identified as likely to be in very limited supply in underdeveloped countries." (Hirschman 1958, p.53. Italics mine.)

For the sake of clarity, it is useful to separate out the various elements that have been lumped together and combined as the doctrine of balanced growth:

There is first the diagnosis of inadequate growth that stresses the impediments arising from small and slowly growing markets and "lumpy" capital requirements and rapid growth in population. This concerns problems centering around lack of sufficient inducements to invest, of factor proportions, of investment criteria, and of the use and allocation of resources. It cannot be accurately described as a theory or doctrine of balance. It has already been discussed in Chapter XVII.

Secondly, there are the repercussions of one investment on others, or of one demand on others. This is an extension of the concept of external economies of scale to the impact on the demand for the product of an individual project arising from the growth of the market in general. Allyn Young linked the old concept of the advantages of the division of labour to the Marshallian concept of internal and external economies and Rosenstein-Rodan and Scitovsky extended this to economies arising from any growth in demand. The latter distinguished between technical economies and pecuniary external economies. The widely pervasive nature of the repercussions of one type of activity on another was made much of by Schumpeter. In this catch-all category, therefore, are repercussions that range from the Keynesian multiplier effect of an initial expansion in expenditures through induced investments to "true" economies of scale resulting in lower cost per unit of production resulting from the growth in the market – again taking in much of economics.

Thirdly, there are the various senses in which the word "balance" is used, ranging from the allocation of resources to meet the effective demand resulting from a given distribution of income – the general sense in which Rosenstein-Rodan and Nurkse use the term – to the strict sense of perfect equilibrium in which profits disappear, which Scitovsky pointed out. Or one can speak of a "balance" between full employment savings and voluntary investment, or of "unbalance" in which excess or deficient capacity is conceived to have a stimulating or induced effect on other investment, so that the meeting of demand over time is consistent with short run losses resulting from (temporary) overshooting or undershooting of current demand. There is also the popular sense in which the term is used as synonymous with constant relations of employment or output such as "balance" between agriculture and industry, which must result in "unbalance" if relative demand and relative technological progress are changing.

Finally, there is the uncertainly as to whether "balance" occurs by itself and is therefore a theory of growth in response to the forces of the market, or whether growth is something that has to be induced or stimulated, and if so whether stimulation is by creating and meeting demands, or by stimulating investment by not meeting demands, and the role of the state in the acceleration of development in a non-socialist underdeveloped country. This discussion, in turn, touches on another related issue, whether rapid growth has to proceed by steps or requires simultaneity in investment in a number of fields.

It is apparent that the theme has become very broad and diffused and can mean all things to all men, which suggests that the subject of development cannot be usefully discussed in terms of balance and unbalance. As a case in point, again consider the treatment of the subject by Hirschman (1958). Although he refers constantly to the "theory" or "doctrine" of balanced growth, he directs his principal criticisms against the "big push", or a specific policy proposal to accelerate development. On what actually causes development in the absence of intervention he is not clear. On the one hand, he speaks of "the ubiquitous poverty and inefficiency, the immensity of the task and the interlocking vicious circles" which suggest the necessity of vigorous countervailing measures. On the other hand, the big push proposal is dismissed as "escapist" and "defeatist" since an underdeveloped country is by definition incapable of undertaking simultaneous development on many fronts (1958, p.53), and those who suggest the need neglect "the abundant historical evidence about the piecemeal penetration by industry that competes successfully with local handicraft and by new products which are first imported and then manufactured locally." (ibid.) Yet he himself apparently does not rely on this evidence either, as he advocates a deliberate policy of "unbalanced growth".

Thus we are left without a theory or explanation of development, but with the need for intervention. It is never satisfactorily explained why an underdeveloped country is capable of a deliberate policy of unbalanced but not of balanced development, perhaps because the term unbalance as used by Hirschman implies production without reference to the market and the certainty of losses and/or bottlenecks over a more or less extended period and it is easier to produce at a loss than at a profit. Thus a condition which earlier writers treated as an impediment to growth – the possibility of losses – becomes a positive benefit. Support for this interpretation is afforded by his claim that an underdeveloped country lacks the skills to undertake a number of projects simultaneously (ibid., p.55). Either the unbalanced projects do not require skills since they are expected to result in losses or they are taken up piecemeal and successively. But then what happens to the numerous projects made possible by the "linkages"? The greater the linkages the greater the skills and decision-making qualities required in order to realize the anticipated profits, which expectation gives rise to the linkages that lead to further investment.

Hirschman argues that "the advantage of see-saw advance over 'balanced growth', where every activity expands perfectly in step with every other, is that it leaves considerable scope to <u>induced</u> investment decisions and therefore economizes … genuine decision-making" (ibid., p.63). This is a completely false issue. The possibility of an expansion where every activity is perfectly in step with every other in any underdeveloped country (or developed!) is ludicrous. Underdeveloped countries need not be restrained from making "correct" investment decisions on the grounds of the possible disappearance of profits or because the tendency of profits to equalize would discourage further investment. As Adolph Lowe (1965, p.310) dryly observes, "When we face up to the limited success which even the strongest efforts of balancing economic development are likely to achieve in most of the regions concerned we need hardly worry about too little disequilibrium." It appears more likely that the greater the number of unprofitable investments, the less incentive there would be to make new investments. Moreover, the distinction between an "induced" decision to invest and <u>genuine</u> decision-making does not exist.

This, then, is Hirschman's answer to the possibility of "the underdevelopment equilibrium", or a too slow rate of growth. It does not exist, since developed countries experienced piecemeal industrial advances, but if it does it can be broken by inducing international lenders and local capitalists and governments to make unbalanced ("mistaken" in terms of current effective demand) investments which create disequilibrium and tensions, which induce further investments to correct the mistakes, and so economizes decision making! This might be called the strategy of lurching development as the progress would somewhat resemble that made by the efforts of a drunk to recover equilibrium and get ahead as he lurches from side to side. Even population pressure is conceived to provoke counter pressures and these latter then aid the cause of development. Thus Hirschman is led to take a "calmer view" of the population explosion (ibid., p.182) since it "qualifies as an inducement mechanism …" (ibid., p.181).

On the other hand, the insistence on the shortage of decision making ability in underdeveloped countries suggests that he is not satisfied with the rate of growth actually being experienced by piecemeal efforts since a "shortage" must be in relation to some condition. It is difficult to believe that Hirschman actually means a shortage of "decision making ability", even though he uses this term frequently. What he must surely have in mind is insufficient inducement to invest rather than ability to make a decision. If the former is the case this would suggest that his diagnosis differs little from that of Nurkse and numerous other writers who have stressed the point of insufficient inducements. His real quarrel is not with a "theory of development" but with a specific proposal to accelerate development which he has named the "theory of balanced growth." He does not rely on market forces as he thinks there is a "shortage" of "decision making ability"; he believes that state or other intervention to stimulate investment, output and employment, if designed to meet actual and newly created effective demand, is unrealistic and naïve but that intervention to stimulate investment that will not meet effective demand is realistic. For some unexplained reason, the latter type of intervention is expected to generate "linkages" (forward, backward, vertical, horizontal and sideways) with repercussions on other firms and on demands and so create other investment (balanced?) opportunities, whereas interventions to induce investments to meet demands do not have such linkages. Finally, one learns by making mistakes but not by doing the right things.

It is interesting to note the stress Hirschman places on linkages, as the very concept of linkage rests on the efforts or response of the economic system to restore balance or equilibrium created by a profit opportunity (disequilibrium or unbalance) or the desire to minimize loss by overcoming bottlenecks (disequilibrium). Having cast out the desire to make profits by anticipating effective demands as a motivating force, he then relies upon it for the investments that are expected to follow original mistaken (unbalanced) investments "induced" by linkages. One might ask why attempts to anticipate demands are unrealistic in one case but realistic in the other or why skills are lacking for the projects designed to accelerate development by anticipating created demands but are amply available for the projects that result from other initial efforts to increase output and demand. There is no discussion of the point, which is a rather vital one, as Hirschman's main criticism of the big push type of approach lies precisely in the alleged lack of adequate skills to initiate and carry it out. One might even unkindly point out that it would be consistent with Hirschman's argument if skills to make profitable investments were lacking, as in this case losses would be incurred and "disequilibria, pressures and tensions" would be created whose solution would result in a "learning" process. Hence Hirschman's main criticism of the big push type of approach is not consistent with the approach he favours. He would doubtless retort that he does not favour any project but only those particular ones which entail the maximum linkages or repercussive value or in which a country learns the most. However, this argument does not enable him to escape the charge of inconsistency as both their selection and execution require "decision making ability" and "skills" which he has argued are lacking to carry out a balanced type of development.

Hirschman was not content to set up and then demolish a theory of balanced growth. He proceeded to espouse a policy of unbalanced growth. At the beginning of the exposition of his positive theory, he distinguishes between the "pure" theory of balanced growth and the less rigorous one that allows for a "see-saw" effect, a balance only over time and considerable scope for induced investment. This sounds like Nurkse's position except that Nurkse allowed for temporary unbalance arising from forces on both the supply and demand side, and Hirschman has restricted the statement to forces on the supply side. Two questions immediately arise: who espoused the "pure" theory of balanced growth, and wherein does "unbalanced" growth differ from the "less rigorous" statement of balanced growth just cited?

In answer to the first question, Hirschman quotes Scitovsky who, after remarking upon the actual see-saw characteristic of growth, wrote, "equilibrium is reached only when successive doses of investment and expansion in the two industries have led to the simultaneous elimination of investment in both" (quoted by Hirschman, 1958, p.66), and only when there are no further pecuniary external economies does private profitability corresponds with social desirability. This will be recognized by any fair-minded reader as simply an academic device of exposition of the striving of the pricing mechanism toward the attainment of an ultimate goal of equilibrium that is never reached, and will be related to Scitovsky's concern with the nature of external economies. Hirschman, however, chooses to interpret it as <u>*advocacy*</u> of a theory on the part of Scitovsky, charging that he proposes "to short-circuit" the process of investments inducing other investments and "to reach in a single jump a new point of equilibrium where 'the elimination of investment' has been accomplished." (ibid.) He continues, "development policy must concern itself with the judicious setting up of the kind of sequences and repercussions so well described by Scitovsky, <u>rather than with any attempt to suppress them</u>" (ibid., p.66, italics added). It was possibly this grotesque charge that led Scitovsky (1959) much later to write an article specifically espousing the fast growth attainable through "unbalanced" growth (which, however, he pointed out is compatible with balanced growth in other contexts.) In other words, it appears highly questionable whether any writer espoused the "pure theory of balanced growth."

We are then left with the interesting question of wherein the "unbalanced theory" differs from the "less rigorous balance theory" presumably attributed to Nurkse. It is a difficult question to answer. Both would appear to be concerned with inducements to invest. In Hirschman's view "the task of development policy is to maintain tensions, disproportions and disequilibrium" (ibid., p.66) whereas Nurkse sees "disproportionalities" as a necessary consequence of government intervention or Schumpeter-type waves of innovations. It appears to be a matter of emphasis. Scitovsky and Nurkse looked upon the desire to make profits as an incentive to investment. But Hirschman does not appear to dispute this. In discussing "complementarity" and "entrained want" he remarks that complementarity exists in "any situation where an increase in the demand for commodity A and the consequent increase in its output calls forth an increased demand for commodity B at its existing price" (ibid., pp.67-68). Rosenstein-Rodan, Nurkse and Scitovsky could have subscribed to this. Hence Hirschman's apparently paradoxical statement that "the sequence that 'leads away from equilibrium' is precisely an ideal pattern of development" (ibid., pp.66-67), appears to be no more than a play on words. He seeks to create an issue here by asserting that the conventional meaning of "induced investment" is that investment which is directly related to past increases in output (ibid., p.70), whereas his concept of induced investment is restricted to those investments which are expected to benefit more from external economies than they will benefit other industries by creating external economies, i.e. they "must be <u>*net beneficiaries*</u> of external economics" (ibid., p.71). This tortuous bit of reasoning is promptly abandoned by saying "we shall continue to speak of investment inducing other investments and shall simply be aware that there are widely varying degrees of 'inducements'" (ibid.). In thus extricating himself he neglected to point out that he was also abandoning his attempt to distinguish his treatment of inducements from that of the writers he was criticizing.

Another attempt at a distinction between his "unbalanced" growth position and the "less rigorous" balanced growth position is made in his concept of the major constraint on development – the scarcity of "decision making ability." But if this is to make any sense, it must surely be a curious way of referring to lack of sufficient inducement to invest. Anyone who has worked in underdeveloped countries will attest to the fact that there is no lack of grandiose projects and proposals – i.e., no lack of ability to "make decision" – but rather the lack is the ability to make "good" decisions; i.e., good from the point of view of development, and the lack of adequate inducements to invest because of an unfavourable environment, lumpiness of many investment processes, the smallness of the market, the exchange constraint and so forth. However, it is possible that Hirschman actually does mean what he says – lack of ability to make decisions – as in a later work (Hirschman 1967) he appears to come dangerously close to advocating concealing discouraging facts while exaggerating expected benefits in order to encourage decision making. This piece of dubious economics and even more dubious morality is exalted into "the Principle of the Hiding Hand" – "a way of inducing action through error, the error being an under-estimate of the project's costs or difficulties" (ibid., p.29).

It might be thought that because of his emphasis on complementarity, linkages and induced investment, Hirschman might be expected to espouse the big push approach to the acceleration of development. His main reason for not doing so – the underdeveloped countries' alleged lack of ability to plan and the lack of requisite skills – has nothing to do with balanced or unbalanced growth and is equally present in the type of projects he advocates. He surely cannot reject the approach because of the danger that it may be so superbly successful as to result in perfect equilibrium and no further inducement to invest. Since he feels that underdeveloped countries are completely incapable of a more or less synchronized big effort, he should logically advocate it for the "tensions, disproportions and disequilibria" it would create and the valuable learning that would arise from efforts to correct the disequilibria that would result:

The conclusion that would appear to emerge from this examination is that the balanced vs unbalanced theory of growth issue does not exist and much valuable time and effort was dissipated in dealing with it. Worse, it diverted attention from real and pressing issues, which were consequently neglected. The main issue raised by Rosenstein-Rodan, Scitovsky and Nurkse and later by Nelson, Leibenstein and Myrdal was that of the underdevelopment trap or vicious circle or more simply and generally, the inability of the forces of the market to make adequate headway against the depressant factors. Different writers stressed in different degree the nature and strength of the depressant factors and hence the solutions, which was probably natural, but all writers mentioned concurred on the central point that conscious and deliberate action was probably necessary to break out of the trap and accelerate development. Even Hirschman recognized a specific impediment and proposed means to alleviate it. However, this identification of the big push with balanced development and his general condemnation of both undoubtedly had an influence in causing the main issue that concerned the writers he criticized to be ignored or slighted. The identification of growth with a positive rise in the GNP per capita and the statistical demonstration that virtually all underdeveloped countries were experiencing such a rise, and possibly the substitution of the terms “developing” or “lesser developed” for “underdeveloped” countries, all conspired to create a feeling that an underdevelopment trap does not exist, that growth is proceeding slowly but surely, and that therefore no big push or heroic measures of any sort are called for. But this is another story.

Here it only remains to appraise Hirschman’s positive proposals. That all economic phenomena are related and that every price change, innovation, investment, change in demand and in factor supplies have far reaching repercussions on other economic phenomena is the core of equilibrium theory, pricing theory and the growth process. One can hardly make a useful theory out of disequilibria and advocate disequilibrating as a conscious policy. What one can do is to appraise the relative strength of the income-stimulating and depressant factors, the forces making for innovation, technical progress and investment against the forces making for continuance of dualism which leaves a major sector of the economy advancing little if at all, and advocate measures to strengthen the former and weaken the latter. The idea that underdeveloped countries and lending agencies should concentrate their efforts on particular projects selected deliberately because they create tensions and disproportionalities and attempt to compare them by calculating the possible extent and nature of the probable repercussions or linkages appears to be a completely impractical one. What, for example, is likely to be the net outcome of the repercussions set up by deliberately undershooting or overshooting the demand for electric power as contrasted with trying to estimate the probable demand and build it? As Michael Lipton (1962) later pointed out, Hirschman ends up with a frighteningly involved model with distinctions between social overhead and directly productive activities, compelled and induced activity, state and private activity, and in basic and consumer goods activities. Not only must projects be classified in these categories, but the subsequent linkages are unknown. Moreover the approach, while involved, omits many of the more important income stimulating and depressant forces. The sequence that leads away from equilibrium as an ideal pattern and the espousal of unbalanced growth may be intriguing ideas to some academic writers but hardly furnish workable investment criteria to attain better factor proportions.

It is interesting to note Rosenstein-Rodan’s (1961) brief further discussion of the theory or, more properly speaking, the policy of the big push, delivered in a paper presented at a meeting of the International Economic Association in Rio de Janeiro in 1957, but not published until 1961. This was entitled “Notes on the Theory of the Big Push” and was a brief, highly condensed statement. He had not read Hirschman but had been, I should judge, influenced by Nurkse as he remarked that “the theory of growth is very largely a theory of investment” (1961, p.57). With the passage of time and the emergence of new conditions, the treatment shows some interesting changes. The most significant modifications appear to be the much greater stress placed on indivisibilities in supply, especially in social overhead capital, and in external economies. There is still the basic argument that a number of simultaneous investments – the Big Push – will create the requisite demand for their output. But this is related in the later [(1961)] version more directly to an increase in the incentives to invest rather than to employment and output, and the necessity and indivisibility of social overhead capital appears as the first and major hurdles that must be overcome, perhaps amounting in terms of investment, in a closed society, to three-quarters of the whole.[16] He finds the explanation for Nineteenth Century lack of growth in underdeveloped countries in the deficiency of social overhead capital. International trade reduced the size of the minimum quantum of investment but does not dispense with the need for a big push. An interesting additional point is added on the psychological impact of speed and size of development and the probability that a number of isolated and small efforts may not add up to a sufficient impact on growth (ibid., p.66). "Balance" is not mentioned except by implication when reference is made to the fact that "low elasticities of demand make it much more difficult to fit supplies to demand"(ibid., p.63), a point earlier made by Nurkse.

Nurkse was a discussant of Rosenstein-Rodan's paper. The latter's change of emphasis to social overhead capital apparently was entirely acceptable to the former. He stated that to him "the more important substantive point, stressed in the paper before us, is that public overhead investment creates investment opportunities in directly productive activities" and that "overhead capital may have to be built ahead of demand" (Nurkse, 1961, p.75). So the writer characterized as the leading exponent of a "theory of balanced growth" found no difficulty or inconsistency in advocating the creation of capacity in certain circumstances in advance of demand. Again, there was no mention of balance. However, Rosenstein-Rodan's change of emphasis to social overhead capital, while it made the theory of the Big Push more acceptable, also diminished the force and impact of the earlier presentation. Nurkse queried why the label "Big Push"? "Is there a competing theory of the little push? We are nearly all agreed on the importance of public overhead investments, on the complementarity of consumers' wants, on the need for large savings and the vital role of enterprize, private and public, i.e. the drive for development" (ibid., p.74). Even though later he conceded that "to rely solely on the price system for the structural changes that constitute development may not be enough" (ibid, p.75), the basic issue of the necessity or desirability of a critical minimum effort was blurred and lost sight of. Disguised unemployment or grossly underutilized manpower drops out of the picture. Balanced growth was introduced into the discussion in the summary of Alexandre Kafka (1961), who attributed to Nurkse the thought that "the principle of balanced growth did not seem to him to be a necessary component of the big push theory" (p.78). On the whole, the discussion was rather unsatisfactory and failed to center on what should have been the key issue, whether a big push or a critical minimum effort was necessary or desirable to accelerate development. It did indicate, however, that as late as 1957 neither Rosenstein-Rodan nor Nurkse thought there was any real issue between balanced and unbalanced growth, nor did they identify the proposal to accelerate development by a massive effort with "the theory of balanced growth".

If "balance" is understood in the sense of the basic motivation and drive of the free enterprise system, it constitutes a defensible "theory" of growth in explaining the historical sequences in most currently developed countries. But this is only another way of saying that in certain favourable environments, the system has within itself a sufficient drive toward innovation and cost reduction. It hardly appears appropriate or descriptive to characterize this as "the

[16] Ibid., p.60. It was this emphasis on social overhead capital that caused me to give too scanty recognition to the value of Rosenstein-Rodan's contribution and the close relation of the Big Push to my own Breakthrough, in *Accelerating Development* (Currie 1966), pp.74-75.

theory of balanced growth." Writers who directed their criticisms at balanced growth were aiming at the wrong target.

An integral part of the argument of the present work is that the changing environment has worsened the chances that the system can perform for the underdeveloped countries as it performed for the developed, except in increasingly rare cases where the environment is favourable. Hence what needs examination is not so much the basic forces of economic change as the changing conditions and circumstances under which they operate. The balance vs unbalance issue was a red herring which served only to distract attention from more important problems.

It is tempting to by-pass the balanced-unbalanced growth discussion as having only interest for the historian of economic thought. The reason for dwelling on it at some length is the unfortunate impact it had on proposals for a massive attack on the problem of underdevelopment. The "big push" appeared to pre-empt this field and it, in turn, became identified with balanced growth and became the target of many criticisms directed at this concept. No writer so far as I know attempted to separate the issues or to reformulate Rosenstein-Rodan's proposal to meet the valid criticisms. He himself did not attempt to push it beyond the idea stage stating that "attention is confirmed here to what ought to be done rather than how it is to be done." He did not even defend the idea for a period of fourteen years (eighteen if we go by date of publications) and then settled for an infrastructure programme of public works which all governments and international agencies were actually pushing. Nurkse remained convinced of the inadequacy of the price mechanism, unaided, to achieve sufficiently rapid growth, but settled for an eclectic and diffused programme. For some inexplicable reason, Leibenstein's (1957) masterly argument for the necessity of a critical minimum effort was not identified with the necessity of a big push and not spelled out in specific terms for specific countries. My own attempt (Currie 1966) undoubtedly suffered from its somewhat hasty and unconventional presentation.

Nevertheless, the need for a big push or critical minimum effort is daily becoming more urgent in most underdeveloped countries. Conventional aid programmes and the reported steady growth in the meaningless reported GNP per capita figures only serve to conceal the alarming deterioration in the demographic and political environmental, the widening gap in consumption levels and the growing deprivation effect that make the possibility that the functioning of the price system will prove adequate less and less promising. Underutilized and poorly utilized domestic resources, poor mobility, inadequate and misused exchange resources, technical indivisibilities, inelasticity of demand, poorly functioning price and competitive systems, worsening ability to compete in international trade, rapidly growing populations and unfavourable political and social environments – all these in varying degrees and combinations must be taken into account if a new attack on the problem of underdevelopment is to be effective. If not, the job may well go by default to different economic systems better equipped to mobilize economies for a breakthrough on this front.

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