Working Papers in
Trade and Development

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November 2016
Working Paper No. 2016/19

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ABSTRACT

Trevor Swan is commonly considered to be Australia's most distinguished economist. As part of a visiting professorship at MIT during 1958-59 he spent nine months in India to assist in the formulation of India's third five year plan and to contribute to the development of India's premier research institutions. This paper provides an account of his work in New Delhi. Swan's closest associates were Pitambar Pant from the Indian Planning Commission and Ian Little who was visiting from Oxford. Swan was of the view that India's economic problems should be clearly understood and the best policy measures to address these should be devised. This varied considerably from the practice of central planning and state control being practiced in India at that time. Swan was unable to influence the direction of economic policy in India but the economy's subsequent performance would vindicate Swan's views on how economic development policy should have been conducted.

Keywords: India, Trevor Swan, Ian Little, Pitambar Pant, Five Year Plans, MIT Project, Ford Foundation

JEL Classification Code: B19, B31, O10, O21

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> '…the shape which development planning in India takes over the next few months may be as crucial a determinant of world history over the next decade as any other single factor.' (Max Millikan to Trevor Swan, 5 March 1959)

Introduction

Trevor Swan, Professor of Economics at ANU's Research School of Social Sciences (RSSS), and arguably Australia's pre-eminent economist, spent 12 months in 1958/59 as Visiting Professor at MIT's Centre for International Studies, the aim being to participate in the work of the Centre's India Project. After spending three months at MIT he then moved to New Delhi as the senior member of the Centre's team of three international economists stationed in India. The other members were Ian M. D. Little, Fellow of Nuffield College, Oxford, who joined Swan in Delhi, and George Rosen, a former State Department economist, who was to be based in Bombay (now Mumbai). Whereas Little and Rosen later wrote accounts of their Indian experience, Swan did not provide a report of his work in India. What is generally well known is that he became seriously ill with amoebic dysentery, a debilitating disease, which is believed to have been the reason for the subsequent decline in his research output.

This paper examines the background to Swan's work in India and suggests reasons for his disillusionment with the Indian planning process. For Swan, the problem was one of competing ideas, most notably between the Soviet model of central planning adopted by India in the mid-1950s and the more pragmatic approach of identifying India's economic problems and designing effective policies to resolve them. The latter approach was the one favored by Swan and he found it frustrating that it was not being pursued by the Indian authorities.

Swan's criticism of policy discussion in India and the country's approach to planning was highlighted in a paper he presented at the International Economic Association's Round Table Conference at Gamagori, Japan, after his return from India. It proved to be the last theoretical paper he published. (Swan 1964) The paper - 'Of Golden Ages and Production Functions' -

expressed Swan's increasing disillusionment with theoretical growth models and their application. Influenced no doubt by his experience in India, Swan wrote that 'if we were asked to think about a five-year plan for India we would not look to economic theory for ready answers'. Rather, '[w]e would need to learn a great deal about India, about people, about practical techniques and we would not hope for more than that economic theory might help us with some basic insights as to how to set about that task.'[1] He did not elaborate further on the reasons for his dissatisfaction with the approach to economic development being pursued in India. Using information available in the public domain we attempt to unravel the reasons for his dissatisfaction.

The paper proceeds as follows. We first provide a summary of Swan's career before his appointment at MIT's Centre of International Studies (CIS). That is followed by brief overviews of the CIS, its India Project, and the role assigned to Swan. When he arrived in Delhi, India was in the middle of its second five year plan (SFYP), a plan based on the Feldman-Mahalanobis model of central planning, which envisaged large-scale public sector investment in heavy industries and the relative neglect of agriculture and the external sector; some of the difficulties with this type of strategy were already evident at the time of Swan's departure for India. The paper then focuses on the policy background prior to Swan's visit and the arguments advanced for changing the shape and structure of the third five year plan (TFYP) in the light of lessons learnt from the experience of the SFYP. Some of the difficulties that Swan faced when he commenced work in Delhi are outlined and how they were resolved to some extent by the close association that developed between him and Pitambar Pant, the head of the Indian Planning Commission's Perspective Planning Unit. Next we review Swan's reading of the situation in India, including the report that he and Little prepared for the CIS within three months of starting their work in India. We then summarize the work that Swan was able to do in Delhi. The paper concludes with ruminations about Swan's accomplishments in India and the difficulties faced by the India Project after he left the country.

[1] In their Swan obituary, Noel Butlin and Bob Gregory (Butlin and Gregory 1989) highlight the fact that Swan's 'involvement with development did not progress' after his experience in India.

Trevor Swan

Trevor Swan is commonly considered to be Australia's most distinguished economist. John King, the editor of the *Biographical Dictionary of Australian and New Zealand Economists* (King 2007, 271,275), wrote that Swan was '[p]robably the greatest economist ever to have lived, worked and died in Australia…his originality and analytical ability was clearly equal to that of Meade, Modigliani, Samuelson and Solow.' Prime Minister Whitlam referred to Swan as 'the doyen of Australian economists'. (Swan 2006, 14). It has been suggested that three Nobel Prizes in Economics were awarded for work that Swan pioneered – those received by Lawrence Klein (1980), Robert Solow (1987) and Robert Mundell (1999). (Cornish, 2012).

Swan's reputation as an economist rested, however, on the publication of a surprisingly small corpus of outstanding papers.[2] (Butlin and Gregory 1989) One of them ('Principle of Effective Demand – A Real Life Model') was published posthumously in 1989, though a final draft was completed as early as the mid-1940s. The paper featured a quarterly ten-sector forecasting model of the Australian economy and it is considered to be a brilliant precursor of Klein's later work for which he was awarded the Nobel Prize. Another of Swan's papers ('Longer Run Problems of the Balance of Payments') was directed at resolving the problem of internal-external balance and featured the famous 'Swan Diagram'. Though the paper was written in the mid-1950s, it was not published until 1963. It contained some of the ideas for which Mundell was later awarded the Nobel Prize. The work for which Swan's international reputation is largely based is the paper entitled 'Economic Growth and Capital Accumulation', which was published in 1956. It incorporated work that he had presented to a research seminar at ANU in 1955, predating as it did the publication of Solow's 'A Contribution to the Theory of Economic Growth' in June 1956, for which he was awarded the Nobel Prize. (Solow, 1956)

After his appointment to the chair of economics at ANU in June 1950 (Cornish, 2007) Swan developed an interest in the problems facing developing countries. With the adoption of Keynesian policy frameworks in many countries, Swan was confident that the problem of unemployment, which had dominated the interwar period, would be quickly resolved. There remained, however, the problem of reconciling internal and external balance, to which Swan

[2] Lists of Swan's papers, published and unpublished, can be found in Butlin and Gregory (1989) and Swan (2006).

continued to direct attention. But also requiring resolution were the economic problems besetting low income countries. As he wrote in 1956: ‘When Keynes solved “the great puzzle of Effective Demand”, he made it possible for economists once more to study the progress of society in long-run classical terms – with a clear conscience.’ (Swan 1956, 334)

Reflecting this new interest in the problems of economic growth and development, Swan was appointed by the UN Secretary-General in 1951 to a panel of experts to report on ‘Measures for International Economic Security’. This involved an examination of issues confronting developing countries, including the instability of primary export prices. In 1953 he wrote a report with ANU colleagues criticizing Australian banks for their failure to support the promotion of economic development in New Guinea. The following year he was appointed to a World Bank (the International Bank for Reconstruction and Development) mission to Malaya. This involved visits both to Malaya and Singapore, where the potential for development was investigated. (Butlin and Gregory 1989). In early 1957 C V Narasimhan, Executive Secretary of ECAFE (the UN’s Economic Commission for Asia and the Far East), wrote to the ANU’s Vice-Chancellor[3] enquiring whether he thought Swan might be interested in filling the position of Chief of the Economic Section of the organization’s Research and Planning Division. (ANUA 9.2.1.2 pt. 1, Narasimhan to Copland, 16 February; Narasimhan to Melville, 11 March 1957) The letter asserted that this was ‘a position for which he [Swan] is well fitted by training and experience, and one in which he can make an important contribution to the welfare and advancement of the countries of Asia and the Far East.’ Melville was asked whether it might be possible for him to approve Swan’s early release for an appointment of two years in the first instance. Swan, however, informed Narasimhan that he was ‘definitely unavailable’. (ANUA 9.2.1.2 pt. 1, Swan to Narasimhan, 20 March 1957)

Visiting Professor at MIT

The first reference in Swan’s staff files to the possibility of him joining CIS’s India Project is a note of 28 November 1957 from Melville to Sir Keith Hancock, Director of RSSS. (ANUA 9.2.1.2 pt., Melville to Hancock, 28 November 1957) Melville said he understood that Swan ‘is

[3] Narashimhan addressed an initial letter by mistake to the former Vice-Chancellor, Sir Douglas Copland, instead of the current Vice-Chancellor, Sir Leslie Melville.

making arrangements to take study leave next year and has mentioned to me that the plan he has been discussing with the Massachusetts Institute of Technology would mean an absence from Canberra of fifteen months'. Melville believed that Swan was agreeable to taking leave without pay for three of the fifteen months, paid study leave at ANU being granted for a maximum of twelve months. Melville regarded the key issues for the University would be the administration of Swan's department in his absence and the reassignment of responsibility for the supervision of his research students. Replying to Melville, Hancock thought that Swan's plans had not yet been fully determined. (ANUA, 9.2.1.2.pt.1, Hancock to Melville, December 1957) Swan was waiting to hear whether MIT would agree to Hancock's main condition, namely, that Swan 'should work as an individual in association with them, and be able to publish papers under his own signature.' Hancock made it clear to Melville that '[n]either he [Swan] nor I would agree to his working merely as part of a machine'. But, Hancock continued, provided Swan received 'assurance on this head, I am anxious for him to take the opportunity', agreeing that it would be a 'constructive way of using study leave'. He was also agreeable to Swan taking fifteen months if it 'would help him to get full value from the experience.'

In April 1958 Swan wrote to Hancock to inform him that he had received clarification from MIT that he would have 'complete freedom both as to my research activities and subsequent publications'. (ANUA 9.2.1.2. pt.1, Swan to Hancock, April 1958) As a consequence of this confirmation he declared that 'there can be no doubt that the project is squarely within the definition of study leave.' The appointment, he explained, 'interests me, it will be a valuable experience in relation to my more general interests in economic growth, and I shall have the opportunity of meeting a good many of the best people who are working in the field. In New Delhi I shall be in contact not only with others on the MIT project but with [Gunnar] Myrdal and with Indian economists'. His intention was to leave Canberra around the middle of May 1958 and work at MIT until August, when he planned to visit London, Oxford, Cambridge, Geneva and other European centres. He would then travel to Delhi, where he expected to work until at least May 1959. It was possible, he added, that he might find it convenient to spend an additional few weeks in India; if that were to eventuate, he would apply for leave without pay for the period beyond twelve months. Since MIT would be paying his expenses – including accommodation and travel – he would not be seeking a study-leave grant from the University. And since he was currently supervising only one graduate student he was confident that satisfactory arrangements could be made for the supervision of the student while he was away. These plans were subsequently approved by Hancock.

How the initial approach to Swan from MIT came about is not entirely clear. It might have arisen from contacts Swan had made in the United States as a result of his time at the Council of Economic Advisers in Washington in 1948, from his work for the UN Secretary-General in 1951, or from his membership of the World Bank mission to Malaya in 1954. Some of those he met on these occasions may have drawn his attention to the work being planned by CIS, and particularly to the India Project. It is also possible that Solow, who was at MIT, mentioned to colleagues at CIS that Swan might be interested in joining the India project. Solow himself had highly praised Swan's 1956 article on economic growth, informing him in April 1957 that he had 'just finished reading the article you so kindly sent me, and I must tell you that I can't remember when I have enjoyed a piece of economics so much. It was a sheer pleasure.' Dimand and Spencer suggest that Swan's appointment at MIT 'must have been arranged soon after that letter'. (Dimand and Spencer 2009, 114).[4]

MIT's Centre for International Studies (CIS)

After the Second World War individuals and governments in the West began to take an interest in assisting developing countries – many of them newly independent – in their attempts to promote economic growth and development. This interest was motivated in part by altruism, but self-interest was also a potent consideration. It was thought, for example, that accelerated development, leading to improvements in per capita incomes, would reduce global tension and instability. Financial assistance provided by developed countries was considered to be critically important for funding the capital required to accelerate economic growth. For many western countries – especially the United States – there was also the possibility that, by providing economic and technical assistance aimed at promoting economic development, developing countries might be deterred from embracing communism.

[4] Rosen (1985, 121) suggests that Paul Rosenstein-Rodan may also have influenced both Swan and Little to join the India Project. Rosenstein-Rodan was working at the World Bank in Washington at the time Swan was there drafting the Bank's report on Malaya; he may have proposed to Swan at that time, or later, the possibility of spending a year with MIT's Centre for International Studies.

These ideas – especially the latter - lay behind the creation in the early 1950s of CIS. Two of the central figures were the economists Walter W. Rostow and Max F. Millikan. As students at Yale in the 1930s they had taken a course taught by Richard Bissell, later a senior official at the CIA and architect of the ill-fated Bay of Pigs mission to dislodge Fidel Castro from power in Cuba. (Rosen 1985, 28) During the Second World War, Rostow worked at the Office of Strategic Services, the precursor of the CIA; Millikan was the CIA's director of economic research immediately before taking up the position of Director of CIS. Both Millikan and Rostow were associated with Project Troy, a US government project established in 1950 to find a way of circumventing the jamming of Voice of America broadcasts by the Soviet Union (USSR) (Milikan and Rostow, 1957). Millikan was a member of Project Troy, which was based at MIT, while Rostow was engaged to write a book on the USSR. Project Troy was instrumental in the decision by MIT to establish CIS, which secured initial funding support from the CIA. Rostow and Millikan by then were Professors of Economics at MIT. With the establishment of CIS, Millikan became its Director and Rostow was appointed an associate of the Centre. (Rosen 1985, 28-9)

Ideas generated by Project Troy were to influence the work undertaken at CIS, especially research directed by Millikan and Rostow. In an essay published in 1968, Millikan referred to some of the ideas that lay behind his own thinking and that of CIS in its work on international development. 'It is remarkable', he wrote, that 'before World War II no one's list of top priority problems of the world community would have included the economic and social development of the less developed countries.' But, he continued, in '1968 it is inconceivable that it would be left off of anybody's list.' He acknowledged that developing countries themselves had played a major role in bringing about this change, as had key international institutions. Significant, too, was the interest exhibited by developed countries, as evidenced by their provision of financial assistance for the promotion of economic development. For the United States, Millikan observed that 'the decade of the fifties was a period of intense – some would say almost pathological – concentration on the East-West conflict and on the ideological competition with the USSR, particularly in the underdeveloped countries.' It was in this context, he wrote, that 'the United States aid program was presented by the executive branch and defended by its Congressional supporters as making a major contribution to the long-run security interests of the United States through its presumed effect in inhibiting the advance of Communism in the underdeveloped world.' (Millikan 1968, 2, 7)

Financial aid for developing countries, Millikan argued, was important also from a purely economic viewpoint, since economists' theoretical models suggested that 'the essence of the process of development is to be found in an increase in the rate of saving and investment in the less developed countries from the traditional levels of 5 to 8 percent to the required levels of a minimum of 12 to 15 percent.' Accordingly, the 'simple solution to this dilemma was clearly an infusion of capital resources from outside which could be supplied either by individual donor nations or by a multilateral fund to which they would all contribute.' Millikan added that another 'focus of attention in early development assistance activities quite different from the capital-oriented models of the economists was the notion that the top priority in development was the transfer of the knowledge, talents, and techniques responsible for the progress of the developed countries to the underdeveloped world through programs of technical assistance.' By the late 1950s this emphasis on technical assistance, he argued, had progressed further with 'the focus on human resources and institution building.' (Millikan 1968: 7, 8).

As for Rostow, he acknowledged the importance of the Korean War in convincing both Millikan and himself that 'the struggle to deter and contain the thrust for expanded communist power would be long; and that new concepts would be required to underpin US foreign policy in the generation ahead, quite aside from the task of dealing directly with the communist world. We believed that a portion of academic talent should be devoted to generating these concepts…We hoped that we could do more by remaining in academic life than returning to Washington as public servants…We also believed that, if high standards of academic professionalism and integrity were sustained, work on contemporary and foreseeable problems of the active world could add to the body of scientific knowledge.' (Rosen 1985, 28-29) It was, he argued, out 'of the counterpoint between intellectual life and the working experience of governments we can hope to develop…a much firmer grasp on the total process of development and modernization than we now have.' (Gilman 2003, 159) In the 1960s Rostow became a key strategist in the prosecution of the war in Vietnam, working first in the Kennedy White House and later as President Johnson's National Security Adviser.

The India Project

In a submission to the Ford Foundation (FF) soon after his appointment as Director of CIS, Millikan explained that the Centre intended to prepare reports on aspects of economic development in three countries – India, Indonesia and Italy. In the work foreshadowed on India, the principal issue to be explored was the problem of mobilizing adequate resources to meet the increased rates of investment required to accelerate economic growth. He claimed that, 'of all the economic, cultural, political and institutional factors that limit economic development, the scarcity of capital relative to population appears to be strategic', convinced as he was that 'analysis…of the Indian economy…can best be organized around the process of capital formation'. The study, he continued, 'will be concerned primarily with the alternative directions of growth open to the Indian economy. We shall explore various alternative patterns of resource use and their potential yield in terms of real income (and rates of increase of real income), in the light of structural interdependence and given alternative assumptions about…the external environment and the relevant internal parameters…[and we shall attempt to] pose the strategic choice for policy.' India, he explained, 'was one of the three countries proposed for in-depth study because of its own importance, its democratic character, and its importance for American policy, especially in relation to Russia.' (MIT Archives, henceforth MITA)

To execute these studies, Millikan announced that CIS had engaged a distinguished group of senior economists from different countries. Wilfred Malenbaum, from the US State Department, would lead the India study; Paul Rosenstein-Rodan, then with World Bank but later a permanent member of CIS, would direct the work on Italy; and Benjamin Higgins from Canada, who had experience working in Libya (and had briefly been Ritchie Professor of Economics at the University of Melbourne), would head the Indonesia study.[5] Everett Hagen, an American who was returning from Burma, where he had advised the Burmese Government, would work on general problems of development. All these economists possessed impressive academic qualifications, but they also had practical experience working as policymakers and administrators. (Rosen 1985, 33)

Millikan visited India for the first time in September 1953. (Rosen 1985, 35) There, he met the head of the FF's mission to India, Douglas Ensminger, and members of the Indian Planning Commission (PC). These meetings confirmed for him that the 'core' problem of capital

[5] Rosenstein-Rodan was later to succeed Malenbaum as Head of the India Project at MIT.

formation should be a major focus of the Centre's work in India. Other areas for concentration were to include an investigation of alternative technologies that might be applied in large- and small-scale industries; the effects of agricultural change on output, investment and employment; and the relation of business organization and management to private investment. A further aspect of the Centre's work would be to assist research undertaken at the various Indian economic research centres. It was expected also that the India Project would lead to consultation and exchange of information between MIT and Indian universities and the Government of India; the undertaking of joint projects; and the establishment of US-based training programs for Indian scholars and officials.

Following his visit to India, and with the strong backing of Ensminger, Millikan was successful in securing a FF grant of US $750,000 for four years commencing in June 1954, having received smaller, interim grants in preceding years (Rosen 1985, 31, 35, 101) The grant was originally meant to fund work in all three countries, but the Centre's work concentrated increasingly on India alone. (Rosen 1985, 36) Fieldwork began in 1955 when Malenbaum and three other economists under his direction went to India to undertake research on aspects of planning for growth and development and to examine problems inhibiting expansion in the agricultural and industrial sectors: Malenbaum was to concentrate on general issues of planning; George Rosen headed to Bombay (Mumbai) to work on industry economics; while Walter Neale went to Poona (Pune) and Hans Pilhofer to northern India to work on agricultural problems. Rosen, Neale and Pilhofer were not expected to become involved in policy work, the intention being that they would undertake research that would provide a better understanding of the difficulties facing agricultural and industrial development, including the quality of available data and problems of data collection. (Rosen 1985, 110)

In India, Malenbaum was told that he could rely on the cooperation of two of India's leading policy advisers, Tarlok Singh in the Planning Commission, and J.J. Anjara in the Finance Ministry. (Rosen 1985, 112). He met Prime Minister Nehru and discussed with him his comparative work on the Indian and Chinese economies. On his return to MIT Malenbaum criticized the quality of the data used in the preparation of then current Second Five Year Plan (SFYP), the plan's emphasis on heavy industry, the priority that had been assigned to the public sector, and the stress being placed on what he called 'levelling down' rather than on promoting economic growth. Millikan, on the other hand, was inclined to see some merit in a large plan, believing with Rosenstein-Rodan that a ‘big push’ was required,[6] though he admitted that the SFYP’s targets were too ambitious given the proposed level of investment and the expected revenue from taxation. He supported, too, some of Malenbaum’s criticism of the priority given to capital-intensive projects rather than labour-intensive activities in the agricultural and industrial sectors. Above all, there was an urgent need for increased US aid to meet foreign exchange shortfalls that were expected to materialize during the plan. If such assistance were not forthcoming he thought that India would be forced to scale-back the dimensions of its development programs just at a time when China was pushing ahead with its ‘Great Leap Forward’.

Further grants of $750,000 and $560,000 were made to the Centre by the FF specifically for work in India. (Rosen 1985, 101, 112) Millikan now proposed that a rotating core of three or four economists should be sent to India, each remaining for 18 months. They would undertake policy-related research of high academic quality on topics related to economic development and be attached to one of the major Indian research centres. The FF’s grant, under Ensminger’s influence and backed by the Tarlok Singh of the Planning Commission, had envisaged a somewhat more complex arrangement. Four Indian research institutions – the Indian Statistical Institute (ISI), the National Council of Applied Economic Research (NCAER), the new Institute of Economic Growth associated with the University of Delhi’s School of Economics and the Pune-based Gokhale Institute– were expected to cooperate with CIS in a ‘long-range basic study of social and economic research.’ (Rosen 1985, 109) In turn, the FF would fund a plan to enhance the research competence of the four institutions. A coordinating committee would be established as a means of linking CIS’s economists in India with the work of the Indian research institutions. The grant would also be used to bring promising Indian economists to MIT for research and/or training. In the event, a combination of these proposals was adopted. The first group of economists selected under the new grant to work in India included Swan, Little and Rosen: Swan and Little were to work in New Delhi, while Rosen was sent again to Bombay.

[6] The “big push” argument is briefly discussed in the next section.

India's First and Second Five Year Plans

India's First Five Year Plan (FFYP) (1951-56) was largely a compendium of proposals and projects, mainly related to agriculture and the rural sector, put together in the 1940s. It was aimed at stabilizing an economy and society ravaged by the trauma of Partition and the Second World War. It focused on flows and was built around the Harrod-Domar model of growth (Bhagwati and Srinivasan, 1975). Given the growth target and an assumed incremental capital output ratio this plan was concerned about designing the fiscal policy that would yield the necessary savings to finance the implied investment requirement. The FFYP did not involve central planning. In the event, the plan exceeded the targets set for it. Net national product rose at an average rate of 3.7 percent per annum (Bhagwati and Srinivasan, 1975). National income was expected to rise by 11-12 percent during the FFYP period but actually rose by 18 percent (Sarma, 1958). The FFYP had followed the sensible strategy of understanding the key developmental/rehabilitation challenges facing India and addressed them effectively.

There was a very significant shift in the focus of development strategy with the SFYP.[7] Given the existence of mass poverty and underdevelopment in the country policymakers felt an urgent need to achieve a high rate of economic growth of around 5 percent a year for which a substantial rise in incomes was necessary, and which was thought possible through rapid industrialization. A central aim was to eliminate unemployment within a decade. The provision of education, health services and rapid expansion of employment could not take place unless economic growth took place first. The big push needed to achieve these objectives was to be provided by central planning.

At least part of the philosophical argument for India's central planning process can be traced to the work of Rosenstein-Rodan (1943)[8], who argued that developing countries could be at one of two savings-economic growth Nash equilibria. The first was a (non-cooperative) low savings, low investment, low growth equilibrium, and the second a (cooperative) high saving, high investment, high growth equilibrium. A big push was needed to lift the economy from the low

[7] P C Mahalanobis, the principal architect of the SFYP, was once quoted as saying that, whereas the FFYP was an anthology, the SFYP would be the drama.

[8] This argument was later formalized by Murphy, Vishny and Schleifier (1989).

level equilibrium trap to the higher savings-higher growth equilibrium. Central planning was not conceived by Rosenstein-Rodan as necessary for this big push: state control, neglect of agriculture, distorted prices, exchange controls and huge capital-intensive public sector investments were not advocated. In the Indian context, however, the Rosenstein-Rodan argument was combined with the central planning doctrines of the USSR.

It was felt that high growth rates could only come from rapid industrialization for which investment rates would have to rise because large improvements in the incremental output-capital ratio were not possible in the short run. In the longer run higher economic growth would attract private investors to complement state effort. The higher growth would lead to an increase in savings, whence the higher growth rates could be sustained (Bhagwati, 1996).

The logic of this plan required attention to be focused not just on the level of investment but also on its structural composition. Heavy industries, particularly steel, cement, heavy machinery, various metals and alloys, were highly preferred with much of this production to take place in the public sector. In contrast, there was a relative neglect of agriculture, and of the private and external sectors of the economy. This was central planning along the lines of the Soviet *Gosplan*; its ideology-based approach to economic development was largely the brainchild of the Prime Minister, Jawaharlal Nehru, and the statistician, P.C. Mahalanobis.

Around the time of the formulation of the SFYP a number of foreign advisors were brought in to aid India's push to industrialization. The USSR was keen to have its development model adopted in India and, when the results of the SFYP did not meet expectations, to have the Soviet model persisted with in the TFYP. The US saw the belying of expectations by the results of the SFYP as an opportunity to influence the pace and structure of development in an open democratic country like India. In particular, the US was inclined to support and then showcase democratic India's rapid economic development in contrast to that of Communist China (Malenbaum, 1956). Thus, an intellectual Cold War of sorts was played out in India. Nehru, with his policy of non-Alignment, tried to diversify the risks associated with accepting economic advice. Thus, while mostly Soviet economists and policymakers visited India before and during the SFYP, many Western and non-Western economists from the US, Poland, Japan, Australia, the UK and elsewhere - in addition to those from the USSR - came to India to provide policy advice toward the late 1950s and early 1960s. Strong political support for the US effort in India was provided by Senator John F. Kennedy, among others.

The approach adopted in the SFYP created several problems, among them the emphasis placed on industry and the relative neglect of agriculture: public spending on agriculture as percentage of total government expenditure fell from 37 percent to 20.9 percent while that for industry increased from 4.9 percent to 24 percent. Much of the investment in industry was directed toward inefficient public sector enterprises. These enterprises were largely loss-making and could not provide adequate investment goods for downstream industries, which had been the *raison d'etre* for their establishment. Second, low investment in agriculture, drought and the huge jump in public sector investment meant that the beginning of the SFYP was marked by food shortages and high inflation, with the wholesale price index rising at 6.2 percent per annum between 1956 and 1961. Third, the high rate of investment (the foreign exchange component of which was disproportionately financed by aid), stagnant exports and large imports (largely capital equipment for investment purposes), led to a balance of payments crisis in 1957. An import substitution strategy was then vigorously pursued since there was pessimism about the possibility of rapid export expansion. Fourth, the balance of payments crisis led to the imposition of exchange controls as the government's commitment to a fixed exchange rate regime was maintained. Consequently the rupee became overvalued, at least until the 1966 devaluation. India's balance of trade deficit was high during this period and was filled substantially by foreign aid. The trade deficit, which was Rs. 102 crores (1 billion = 100 crores) in 1955, rose by more than 400 percent in one year to Rs. 446 crores in 1956 and further to Rs. 632 crores in 1957, declining only marginally the next year. Finally, there was an excessive dependence on foreign aid: in 1958 foreign aid was actually higher than the trade deficit (Taneja, 1976, Bhole, 1985). With this medium-term plan of short-term pain for long term gain in place the short-run growth rate of the economy would be dictated by the growth rate of the agricultural sector where investment was actually falling.

To compound matters further, in the same year that the SFYP commenced, i.e., 1956, the license-quota *raj* was formally born in the form, most notably, of the *Second Industrial Policy Resolution*. This resolution delineated industries which were off limits for the private sector, industries which were reserved for the private sector and, finally, industries in which both the private and public sectors could function. Seventeen major (mainly heavy) industries were reserved for the public sector, whereas in twelve industries government would take the lead but the private sector could co-exist; all other industries (mainly those producing consumer goods) were left for the private sector. A number of complementary steps were taken to cement the hold of the public sector and heavy industries on what was called "the commanding heights of the economy".[9] A direct implication of this policy was that prices were distorted, with market prices failing to reflect true scarcity.

It should come as no surprise to learn that the SFYP fell short of expectations. National income grew at about 4 percent a year during the plan and the aforementioned problems beset the economy. This prompted policymakers to re-think their priorities for the TFYP, which was to cover the period 1961- 66. A key question was whether India should continue with high industrial investment by the public sector or reduce the plan size and rejuvenate the stagnating agriculture and small scale industrial sectors. The SFYP had envisaged a strategy of relying on foreign capital (mostly international aid) to finance the foreign exchange requirements arising from the plan strategy. In the light of the poor performance of exports this policy, aimed ostensibly at self-reliance in the future, was actually leading India toward an excessive long-term reliance on foreign capital. There had been some political opposition to the development strategy adopted in the SFYP with some economists - and many Gandhians within the ruling Congress Party - favoring an emphasis on agriculture, the rural sector and small, particularly village level, industries.[10] These views, however, were quickly dismissed.

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[9] The First Industrial Policy Resolution (1949) gave government a monopoly in major industries including armaments, atomic energy, and railroads. The government was given monopoly rights over new mineral explorations, shipbuilding, telephone and telegraph equipment, and some other industries. Existing private firms in these industries were given at least ten years to withdraw. Accompanying the Industrial Policy Resolution was a complex web of price and quantity controls. During the Second World War the colonial government had imposed controls over prices, production and the use of foreign exchange. Two Acts (the Industries Development and Regulation ACT of 1951 and the Essential Commodities Act of 1955) were instituted to extend price controls over a large range of commodities. By the late 1950s the government had imposed pervasive controls on prices, investment, imports, exports and the use of foreign exchange.

[10] The Bombay economist, B.R. Shenoy stands out in this regard. Some other economists were also opposed to the central planning approach.

A general impression within the MIT project was that the goals of the SFYP would be difficult to realize for at least three major reasons: (i) estimates of investment required for the SFYP were too low, given India's lackluster export performance, (ii) the suggested foreign exchange requirements (in particular, aid) were gross underestimates, and (iii) the stipulated investment allocation involved too much emphasis on large scale industry (as opposed to small industry) and on the public (as opposed to the private) sector. A more feasible program with a more realistic assessment of foreign exchange requirements, greater effort to raise domestic savings and investment, and a re-orientation of India's industrialization strategy towards small scale industries and the private sector was considered to be a better basis for negotiating US economic aid to India.

A Beginning Beset by Uncertainty and Delay

From the outset there was considerable uncertainty about what Swan would be able to accomplish in India and what sort of intellectual support he would receive there. On his way to Delhi Swan stopped over in London where he received a letter (MITA 18 September 1958) from Malenbaum reporting on his meetings with Indian policymakers, and particularly their reluctance to change the orientation of the SFYP along the lines which Professor Edward Mason, a member of the CIS Board of Advisers, had earlier suggested to Malenbaum.[11] Mason believed that not only would the objectives of the SFYP fail to be achieved but that this shortfall would affect future Five Year Plans.

There was little preparation in India for the work that Swan, Little and Rosen were expected to undertake. On the contrary, they were to encounter a number of difficulties. Millikan informed Swan that V.K.R.V. Rao, one of India's leading economists, was disinclined to assist the MIT team, suggesting that it should work instead with D.R. Gadgil, another prominent Indian economist (MITA, 26 September 1958). Rao's reluctance to become involved with the MIT Project Team was a serious setback since he carried considerable influence in policy circles in Delhi. Gadgil, on the other hand, was based in Pune and his influence in Delhi was limited. Swan and Little arrived in Delhi towards the end of September 1958. George Rosen arrived soon

[11] Edward Mason was Professor of Economics and Dean of Harvard's Littauer School of Economics.

thereafter and spent most of his time in Bombay, where he developed an association with the Reserve Bank of India and the Economics Department at the University of Bombay.

Further uncertainty was to come from the MIT Project's headquarters in Cambridge. In a letter dated 2 January 1959, Millikan informed Swan that Malenbaum would leave the MIT Project in the autumn to take up a professorship at the University of Pennsylvania (MITA, 2 January 1959).[12] Progress on hiring staff for the Delhi Office of the Project was also slow.[13] There was a proposal to have two Indian economists visit MIT every year to participate in research programs related to India or other developing countries, but this made little progress. (MITA, Swan to Gadgil, 21 March 1959).

When he reached New Delhi Swan found the Delhi policy milieu to be a battleground of ideas. With other members of the India Project, he was tasked with two assignments: (i) assist in the formulation of the TFYP, and (ii) develop intellectual links with Indian scholars, economists and institutions. The FF had also taken the view that members of the MIT Project should conduct policy research while they were in India and – most importantly – that they work in close association with the Indian economic research institutions.

In contrast, Swan was primarily interested in providing appropriate policy advice aimed at facilitating India's rapid economic development. Some Indian policymakers were of like mind, including Swan's initial contacts, Tarlok Singh, and J.J. Anjaria, Economic Adviser to the Finance Ministry (Rosen, 1985). But while they expressed a willingness to help, they were too preoccupied with other work to provide much assistance. Swan was offered financial help for work to be done at Indian institutions to complement the MIT Project's work. He also met P. S. Loknathan (director-general of NCAER), who updated them about data being collected at the NCAER; D.R. Gadgil (with whom the conversation was stimulating), who encouraged them to do a deeper study of savings and resource allocation; the Central Statistical Organization (CSO), an organization that was going through a transition but offered to collaborate in the area of investment analysis; V.K.R.V. Rao, who was cross about the MIT Project's inability to

[12] However, Swan himself left India in June 1959.

[13] On the positive side the MIT School of Industrial Management had agreed to get involved in a program of research on India.

coordinate research programs across the four research institutes[14], but who had asked the MIT Project for help (and was offered it) to support the research activities of the Delhi Institute for Research in Economic and Social Growth, in particular its seminar program; and Pitambar Pant, a brilliant young physicist, who gave the MIT team a detailed account of the draft TFYP as well as an outline of the draft Fourth and Fifth Five Year Plans. As Head of the Perspective Planning Division of the PC, Pant was keen to use his interaction with the MIT team to improve his understanding of economic policy and to articulate for the benefit of the MIT team the logic of the Indian planning process. Swan and Little were greatly impressed with his intelligence, his readiness to learn how to go about achieving plan objectives, and – perhaps above all – his desire to set to work immediately. Pant, in turn, had quickly warmed to Swan at their first meeting and thereafter the two had numerous discussions, almost on a daily basis, on matters relating to India's development strategy[15] (Little, 1999). It quickly became evident that, except for Pant, Swan and Little had few productive interactions with Indian economists and policymakers. Millikan also had a favourable view of Pant, meeting him on a visit to India in late 1959. He was particularly impressed with Pant's pragmatic and 'rational approach' to issues, and his generally realistic attitude to the world. Subsequently, after Pant visited Cambridge, Millikan thought there was a "100 percent team spirit between us and him" on analytical issues.' (Rosen 1985, 119-20)

So far as the Indian research institutes were concerned, Swan was not impressed with Rao's institute at the Delhi School of Economics, or its seminar series; nor did he think much of the NCAER, advising against any close association between it and the Centre's work (MITA, Swan to Millikan, 23 March 1959). On the other hand, Swan found Gadgil impressive and easy to work with. Swan quickly came to the conclusion, above all, that what India needed were not researchers who could work on specialized topics, but rather people with a realistic understanding of policy issues that would allow them to make serious contributions to what he

[14] These research institutes were the NCAER, the Delhi School of Economic and Social Growth (under Rao), the NCAER (under Loknathan), the Gokhale Institute of Politics and Economics (under Gadgil) , and the Indian Statistical Institute (under P.C. Mahalanobis).

[15] It appears that Pant, a physicist, wanted to learn from Swan the economics that was relevant to his work whereas Swan fond Pant an intelligent and resourceful person with access to those in authority, including to the then Prime Minster, Nehru. Pant was Private Secretary to Nehru in the latter's capacity as Chairman of the Planning Commission.

called the picture as a whole, by which he meant the capability of addressing economic challenges in a pragmatic manner.

Swan's Observations on Indian Economic Policy

In handwritten undated notes (MITA) Swan expressed his concern that economic policy was failing to address India's existing problems. He noted that 1954 was one of the best years for the Indian economy, essentially because of the good monsoons, which had led to a considerable improvement in food grain production.[16] Since then, however, investment had slackened off and economic growth had slowed. Although the lack of resources was advanced as the most likely cause of this shortfall in investment, Swan wrote that much more could have been achieved by better organization and use of capital and improved entrepreneurship. If it had wanted the private sector to retreat, government should have come up with further investment of its own. Revealing his growing understanding of Indian politics Swan wrote that if government wanted the rural sector to improve the Village Level Worker (VLW) program – a social welfare program for rural workers – it should have been expanded to benefit as many households as possible. And since the Congress Party was largely a rural-based party, the advancement of the VLW program would yield political benefits for the Congress.

For Swan, the downward revision by the government of its estimates of benefits from the SFYP was not a good outcome for India. Nor was it a good show for the international community as it had much at stake in India's successful development as a free, liberal democracy. Hence, at least in these notes, he was explicit about his disenchantment with the SFYP. Swan was advocating a strategy of identifying key challenges which the Indian economy was facing and how best to address them. Formal planning or growth models would not be of much help. After all, policymakers were not contemplating a classroom exposition of India's growth process but rather were meant to be addressing the real challenges faced by the economy.

[16] Raj (1984) argues that the sharp increase in agricultural output during 1952-54 was partly the result of the enhanced investment in agriculture during the first five year plan and the recovery of the wheat crop from severe rust epidemic.

Swan and Little submitted a progress report on their work since arriving in India to the Project's Office in Cambridge on 23 December 1958, barely three months after their arrival in Delhi. The report covered the two areas of their responsibilities: intellectual support for the TFYP and developing research links with Indian scholars, economists and institutions. The report makes for insightful reading of their work so far. Key aspects of report are: (a) Swan and Little wanted the Indians to do the data collection themselves since it was impractical for the MIT Project or some other foreign agency to collect the vast amount of data needed to conduct meaningful planning analysis, (b) most Indian statistics were shaky and one needed intimate knowledge of the data and data sources to make sense of the numbers collected, (c) the only way to get at the true meaning and content of the data was to establish a close working relationship with a widening circle of fellow workers, and (d) those first few months between the crumbling of the SFYP and the first draft of the TFYP were crucial to establish the legitimacy of a change in planning direction. Swan and Little felt that it was more important to get into the inner circle of Indian policymaking than to define precise research topics.[17] This entry point could be a research institution or a government agency like PC.

Swan's Work in Delhi

For Swan and Little, Pitambar Pant became the only significant contact for information as well as for research. Their collaborative work with Pant and his immediate colleagues began in March 1959. Pant had prepared a paper on the approach to the TFYP which was discussed at a meeting of India's National Development Council. Two alternate versions of the TFYP were discussed: (i) a Rs.10,000 crore investment plan with Rs.3,000 crores of foreign capital from all sources, and (ii) a Rs. 7,000 crore investment plan with Rs. 1500 crore in foreign capital. Based on Pant's paper and the deliberations of the National Development Council, the Congress Working Committee released a draft document on 14 December 1958, which was later adopted at the Nagpur Annual Meeting of the Congress Party. This document came down strongly in favor of a large plan – indeed it was largely the SFYP's view of a desirable TFYP. Millikan's desire to see

[17] This would have been at variance with a key expectation that the FF had of the MIT Project.

a change in the direction of the TFYP had clearly not borne fruit.[18] Large lenders, too, including the World Bank, were concerned about the larger plan, particularly in view of the 1957 balance of payments crisis. Some had argued that the larger plan could be supported with only Rs, 1,000 crore of foreign assistance but the Reserve Bank of India disagreed with that view.

Swan and Little up to this point had been struck by the relative apathy to the planning process in policy circles. However, when word came through of the latest Chinese achievements it tended to galvanize policymakers to think more in terms of another big plan. The larger plan was now gaining the support of Little (Little, 1999). But it is not altogether clear whether Swan had come to any firm views on the choice between the two plan sizes. In his privately published autobiography, *Little by Little,* Ian Little reports that both he and Swan went along with Pant's advocacy of the larger TFYP. Neither was opposed to central planning itself, but neither expressed explicit approval of the planning and economic policy framework that had developed in India since the SFYP. (Little, n/d, 103/4)

Swan, in fact, continued to have serious misgivings about the direction that economic planning was taking, expressing these concerns particularly in conversation. But his concerns seem to have fallen largely on deaf ears, especially those of the policymakers. This perhaps was not unusual. Good economic advice often failed to influence policymakers (Seers, 1962, Srinivasan, 1974 and, particularly, Engerman, 2018). Further, and as indicated above, politics, rather than economics, was the driving force behind choosing the larger plan.

On the subject of research, however, Swan and Little identified the following areas as needing further work: (i) Estimating saving investment responses; sectoral responses were needed from (a) agriculture, and (b) private industry to achieve the goals of the TFYP. (ii) Analysis of the resource requirements of the TFYP.[19] Here, Little was tasked with ascertaining the domestic resources that needed to be garnered, while Swan chose to examine foreign exchange requirements and, in particular, the level of foreign aid that would be needed to maintain external stability. Little drafted a long piece on the domestic public finance implications of the TFYP and

[18] Vaidyanathan et al. (1973) argue that Pant was convinced that planning was for the long term and successive five year plans would need to be consistent with the longer-term plan. Pant was an ardent advocate of the use of formal planning models for economic development.

[19] Little wrote a report on the Public Finance requirements of the TFYP in February 1959. See Little (1959) available from the MIT Library Archives.

broadly concluded that the domestic resources required to meet the plan objectives could be generated. Swan, on the other hand, never finished his report on the foreign currency resources that would be required, although both he and Little had long discussions with Pant on issues related to the economic components of TFYP. Rosen is of the view that these discussions probably influenced Pant's view of the TFYP . Swan admitted to Millikan that, from the daily debates with Pant and his colleagues, 'I have learned far more than I ever hoped of the planning process'. He was confident that the final version of the TFYP 'will be based on the best-directed and most efficient effort of purposive team research in which it had been my good fortune to participate anywhere in the world'.[20] (iii) There was need to concentrate on inter-sectoral balance in investment, which would require construction of a dynamic input-output model with emphasis on the complementarity between social overhead capital and manufacturing industry. Also required were derived demand estimates for steel, cement and other key inputs. The relationship between growth of agriculture, industry and the foreign sector needed to be clarified, and a better understanding of transport and location theory, including least cost patterns of investment in transport, choice of technology in the transport sector, road construction and dispersion in space and industrial infrastructure. The agricultural sector, particularly the determinants of agricultural yield, also needed to be thoroughly studied. While the SFYP had emphasized the impact on output, its impact on incomes also needed to be understood. (iv) Given wide disparities across the country regional balance in economic development had to be achieved; this included conducting an analysis of the advantages and disadvantages of concentration on industrial zones.

Clearly, if headway was to be made on this ambitious research program, there would have to be active coordination between Indian economists and the MIT group. However, a formal meeting of a Coordination Committee between Indian economists and MIT project members had to wait until 28th February 1959. The fact that Swan had already been in Delhi for five months before this first formal meeting was held underscores problems in coordination between the two groups and the vital importance of the links with Pant. Those attending the meeting on 28 February included Mahalanobis, Lokanathan, Gadgil and P.N. Dhar (representing V.K.R.V. Rao,) and the MIT group of Swan, Little, Rosen. Gadgil highlighted the long delay in organizing a formal coordination committee meeting, to which Swan said in reply that he did not need any further

[20] However, there was also the apprehension that too close an identification with Pant's views would be counter-productive and send the wrong signals.

assistance from the coordination committee. With the difficulties that he and his colleagues had experienced in the early months of their work in India in mind, Swan proposed that, when choosing future scholars from MIT to come to India, it would be helpful to send in advance a full account of the work to be done. And he asked for the names of Indian scholars who might be considered for visits to MIT as part of the relationship between the MIT and the Indian research centres. He suggested further that, prior to their departure from India, the MIT group should assess the work of Indian economists; he also thought the Coordination Committee should involve itself in the Planning Commission's research program.

Following the meeting, and in response to Swan and Little's report to CIS, Millikan in two letters to Swan suggested that both he and Little undertake two tasks: (i) to give highest priority to research that would feed directly into the formulation of the TFYP[21] (MITA, 5 March 1959) and (ii) develop capacity for economics research in India (MITA, 11 May 1959). Millikan also took the opportunity to commend Swan for the work he was doing with Pant, and inquired about the possibility of getting a first-rate agricultural economist to work with Gadgil in Pune and an econometrician to work with Pant in the Perspective Planning Division of PC. Here, Millikan intimated his concern about the inadequate training of Indian economists and statisticians to use effectively the immense amount of data that was coming out of the ISI, the potential for funding difficulties with the FF, and the coolness in the Planning Commission about the work being done by the MIT Project.

After a slow start, the pace in the last month of Swan's stay in India was hectic with considerable research being undertaken. Collaboration with ISI and Institute of Social and Economic Growth was proving fruitful, although it was recognized that there was a risk of becoming unduly entangled with Pant and the Perspective Planning Unit. For their part, members of the MIT group felt that there was a need for continuity in CIS personnel working in India and that an overlap of personnel was desirable. Particularly encouraging was the fact that Swan Little had succeeded in effectively training several Indian economists who went on to become highly regarded academics and policy advisers.[22]

[21] This would be in line with FF expectations from the MIT Project.
[22] Engerman (2018) discusses how the influx of foreign experts, not just from the MIT Project, helped galvanize Indian research and education in economics. So, the second objective of the MIT Project was achieved.

Brian Reddaway (Swan's replacement) was scheduled to join Swan on 1 June to facilitate the change-over and provide some degree of overlap. Milligan wanted Swan to return to New Delhi from Australia in the autumn. However, in a letter dated 30 May 1959, Swan informed Millikan that Reddaway was actually scheduled to arrive in Delhi on 6 June[23] and that he (Swan) had made efforts to get him associated with ISI. Swan left India on 30 June (MITA, Swan to Millikan, 15 June 1959), indicating that there was no significant overlap with Reddaway. Swan graciously acknowledged that, although his work had little positive effect on the size and shape of the TFYP, he had learned a great deal about the problems associated with central planning. He promised to write a report upon his return to Australia. Although Millikan was to remind Swan about his promise, Swan never got around to writing it. (MITA, Millikan to Swan, 27 August 1959) Nor did Swan return to India, as he had foreshadowed. Yet he had certainly spent nine fruitful months there, an experience that would have been even more instructive – and productive had he not suffered from illness for a significant part of his time in India.

Looking Back at Trevor Swan's Work in India

Swan had arrived in India with the aim of (i) contributing to the formulation of TFYP, (ii) fostering links with economics related institutions in India, and (iii) conducting policy research. But he had encountered a number of difficulties, some of them serious enough to impede the work he had intended to undertake. Certainly there was little active cooperation from many of the leading Indian economists, Swan's intellectual association being largely confined to Pant. Little, Swan and Pant influenced each other's thinking on TFYP but Swan was left deeply disenchanted with the direction that economic policy formulation was taking in India. By his own admission, he had learned a great deal about the problems of formulating policy for development and the limitations of formal growth models in assisting this process. His work and interactions did help a new generation of Indian economists and policymakers. But he was clearly less impressed with the economic institutions that he interacted with.

[23] It is not clear when Reddaway actually arrived.

By the time Swan arrived in India he was already a world-renowned economist and had published his key paper on neoclassical economic growth theory. As well, he possessed formidable policy experience in Australia as well as in the UK and US and did not have to establish his research or policy credentials. He was interested in understanding India's economic development issues and organizing a practical response to the challenges that these issues threw up. Although, by his own admission, he was not able to affect significantly the formulation of the TFYP his time in India and his writing that followed it would provide a lasting critique of the excesses of central planning and its costly failure to meet India's development challenge. So, in a subtle sense, Swan's impact was significant but it was fully realized only after a considerable time lag. It is perhaps ironic that V.K.R.V. Rao acknowledged, in a meeting in the PC in November 1959, that the opportunities for cooperation with the original MIT India group (Swan, Little, Rosen) had been squandered. Indeed, even after the initial paper on possible research (referred to above) had been prepared adequate follow-up steps were not taken.

While a reading of the papers in the MIT archives does not explicitly reveal it, Swan was deeply dissatisfied with the direction and thrust of economic policy in India. In his view, the debate over the size of the TFYP was beside the point. Swan's hand-written notes, referred to above, clearly allude to the importance of agriculture and village level employment, and also to the necessity of public investment to pick up if private enterprise was to be discouraged. In his paper 'Golden Ages and Production Functions' published after his departure from India, Swan expressed scepticism about the usefulness of formal economic growth models in guiding development efforts. Most vividly, in a poem he wrote[24] a few months prior to his departure from India, he seemed to despair at the process of economic policy formulation in India (see Swan, 2006).[25]

In the poem Swan referred to jackals (intellectual or policy scavengers) who live off the work/ideas of others. The jackals howl in unison in voices indistinguishable from each other. It is not altogether clear from the poem whom Swan considered to be the jackals, but it is clear

[24] This poem is reproduced in the addendum to this essay.

[25] Among Indian economists who had worked with Swan, Gadgil also had deep misgivings about the planning framework being used. Gadgil argued that '…the plan frame laid great emphasis on certain estimates of the macro parameters and also on some projections of future requirements. He questioned the reliability of these estimates' (Kumar, 1997, pp.1328). According to Kumar (1997) Gadgil made a number of constructive criticisms, the acceptance of which would have improved the credibility of the planning framework. However, Kumar does not link Gadgil's misgivings with those of Swan.

enough that he was disillusioned with the way policy ideas were adopted in India. Some tentative hypotheses can be advanced. Pant, for example, could be seen as scavenging for ideas to appease the whims of the great ones (Nehru in particular); or the great ones could have been scavenging for ideas of Pant, Mahalanobis, and the foreign economists; or the FF could be the scavenger, trying to push its presuppositions on economic development; or the Soviet planners could be the scavengers, seeking to push their views on the merits of central planning and public enterprise; or, perhaps, all of them were scavengers. Irrespective of who the jackals were, adopting their exhortations would lead in all likelihood to the same fate that befell Ozymandias (Ramses 11), the subject of Shelley's famous poem about how great empires, founded on grandiose but false ideas, invariably collapse, leaving behind them ruins and eventually dust. The Indian analogue to Ozymandias is Ferozshah, who created one of the cities upon which modern Delhi stands. Ferozshah's city later collapsed and soon became a ruin. In short, Swan seems to be saying that the cost of following ill-conceived advice would lead inevitably to catastrophe. Swan himself had his own ideas of what was best for India's economic success and would not have regarded himself as a jackal. The pity was that, in the cacophony of the jackals' shrieks, his advice was drowned out. The 'great' ones went ahead and implemented their plans, which ended soon in grief, as Swan predicted.

Many of the TFYP targets were not realized. Indeed, the five year planning horizon was temporarily abandoned after the TFYP ended and annual plans were adopted until instead 1969 when five year planning was reinstalled. There were several reasons for the lackluster performance of the Third Plan – among them two wars (with China in 1962, and with Pakistan in 1965), a severe drought in 1965-66, which itself could have been the result, at least partially, of underinvestment in agriculture, and the deaths of two Prime Ministers (Nehru in 1964 and Shastri in 1966), which would certainly have been important. However, responsibility for some of the shortcomings of the TFYP must be attributed to the strategy adopted in the plan and to the nature of economic policymaking in general. As a result of policy errors largely associated with the SFYP and the TFYP India's economic performance was poor, and continued to be so until the earlier planning errors were corrected in the 1980s and early 1990s. Millikan's observation (quoted at the beginning of this paper) turned out to be prescient. Persistence with the heavy industry and government directed central planning, together the neglect of agricultural and trade promotion, cost India dearly. Communist China, learning more quickly from somewhat similar mistakes, pulled sharply ahead of democratic India.

Post-India

The next team of economists sent to India by CIS was headed by Don Humphrey, an economist at Tufts University in Boston, who had worked for the US government on problems of trade liberalization. It also included Brian Reddaway of the University of Cambridge, and Harold Lydall, a South African economist working at Oxford, who was later to occupy chairs at the Universities of Western Australian and Adelaide. Other economists who went later to India under the auspices of CIS included Louis Lefeber, Richard Echaus, Arnold Harberger, Alan Manne, Stephen Marglin, Thomas Weisskopt, Donald McDougall, Robert Neild, James Mirrlees, Nino Andeatta, W. G. Hoffman and Pere Sevaldson. The first Indian economist to travel to MIT under the Centre's auspices was Sukhamoy Chakravarty, a theorist and model-builder, who had been trained by Jan Tinbergen at the Netherlands School of Economics, Rotterdam. He was later appointed a Member of the Indian Planning Commission. (Rosen 1985, 122)

Adverse publicity caused by the revelation that the CIA had contributed to the funding of CIS played an important part in the decision to end the India Project in 1965. (Rosen 1985 145-6) Millikan himself insisted that the CIA had not contributed to the funding of the India Project. That may or may not have been the case, but the deterioration in US-India relations, especially after Nehru's death in 1964, led to increased questioning of the work conducted by the Centre's economists in India. In particular, their public criticism of India's planning strategies was not welcomed by politicians and officials. This criticism of planning and the controversy it created was compounded by the allegations of CIA involvement in the CIS and its possible funding of the India Project.

For Millikan and others at CIS the attraction of appointing Swan to the India project was his proven ability to integrate high-powered economic theory with practical policy analysis and advice. Indeed, it is probable that Swan's primary interest was policy work and that his contributions to economic theory were designed for the purpose of elucidating policy problems and assisting with the formulation of policy proposals. As Noel Butlin and Bob Gregory rightly note: ‘As with other great minds, Smith, Ricardo, Keynes, Meade, theory was for him a device to grapple with reality, not a set of abstract theorems…Elegant as his models became, they all had this constraint of reality and social purpose imposed on them.’ (Butlin and Gregory 1989, 370) After leaving the public service in 1950 and joining the ANU Swan had continued to immerse himself in policy discussion and advice. He joined the group of senior academic economics who regularly discussed current economic issues with the Governor of the Commonwealth Bank (H. C. Coombs), and in 1955 and 1956 he was a member of the Prime Minister’s Committee of Economic Advice. After he publicly criticized Prime Minister Menzies for his support of the Anglo-French action against Egypt’s seizure of the Suez Canal in 1956 Swan appears to have been frozen out of any intimate association with economic policy development. But in 1975 he was invited by the last Treasurer in the Whitlam government, Bill Hayden, to chair a committee charged with advising the government on tax options for the 1975/76 budget. In the same year Hayden appointed him to the Board of the Reserve Bank, replacing Sir Leslie Melville; he was reappointed in 1980 by the Treasurer in another government, John Howard. (Cornish 2012)

In his work for Hayden, and as a member of the Board of the Reserve Bank, Swan returned to the type of work he had undertaken during the 1940s in the Departments of War Organization of Industry and Post-War Reconstruction – that of a policy adviser. His advice, to be sure, was informed by his deep understanding of economic theory. But it was also highly sensitive to the particular problems and circumstances that were experienced at the time. It was the critical importance of these latter considerations, Swan believed, that had not been adequately considered by Indian policymakers and their advisers. This neglect, as he correctly predicted in his *Letter From New Delhi*, brought economic disaster to India in the mid-1960s, leading eventually to the slow and painful return to more appropriate strategies of development. (Swan 2006, 15)

ADDENDUM

LETTER FROM NEW DELHI

Suddenly it is summer and the jackal howl
deep in the jungle which is suburban scrub.

In the cool nights too they used to howl
(pleasuring in the dome of Ferozshah,
playing jackal to his Ozymandias)
to keep themselves warm. Soon
with the rains their cadence will fall
outjackalled by the tawny nullah courses
that scurry for Jumna's holy gorging
alms and ashes, rinds and shucks,
water for the taps of Delhi.

Now in the summer do the jackals howl
wantonly, dreaming of a five year plan?

If I were a jackal I'd howl to show
my jackalness. Here a lifted voice,
is answered in brick and plaster by a thousand tongues
non humans but the wallah's
whose cherry-ripe betels his lips. If I
were a jackal mortality would be my friend
and only the vultures my enemy. I could live
on the killings of my friend
and howl without shame.

Trevor Swan quoted in Swan (2006).

Archival Materials

ANUA – Australian National University Archives

MITA – Massachusetts Institute of Technology Archives

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