

Lewis on Industrialisation and Industrial Policy

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1 Introduction

Industrialisation is central to structural change. Historically, as most economies have evolved, workers have left the land to take up jobs in factories, mines or construction sites, attracted by the possibility of higher and more stable wages. Early theorists of development saw industry, most particularly its manufacturing branch, as critical to the transition of economies from low income to higher income status because of the higher productivity and technological dynamism associated with manufacturing. When Arthur Lewis wrote of the possibility of a modern sector absorbing surplus labour at a constant real wage he had in mind that manufacturing would be the dominant 'modern' employer creating jobs for workers from agriculture (Lewis, 1954). The Lewis model is widely cited and its implications for the transfer of workers from low productivity to higher productivity jobs have been reflected in recent discussions of 'growth-retarding' structural change in economies where the manufacturing share in GDP is declining (McMillan and Rodrik, 2012). What is less well known is Lewis' recommendations on industrial policy in the context of low income economies. These are stated very clearly in his report on Industrialisation in the Gold Coast (now Ghana) published in 1953 (Lewis 1953). This paper examines these recommendations and some of Lewis's more general comments on economic growth in the light of the revival of interest in industrial policy in both the academic and policy literature and recent empirical work which chart trends across countries in relation to industrialisation. Whilst many aspects of the world economy have changed dramatically since the early 1950's many of Lewis's policy recommendations sit remarkably well with current thinking on 'new industrial policy' and many of his assessments from the early 1950's have broadly stood the test of time very well.

The normal historical pattern has been that in poor countries the share of manufacturing in total economic activity is very low, but that as growth occurs and workers move out of agriculture it rises rapidly, but that after a threshold income level is passed the relative share of manufacturing starts to decline as demand shifts towards services. In his more general work *Theory of Economic Growth* Lewis saw this clearly

.. 'there is without doubt a considerable increase in the proportion of manufacturing activity as income per head grows. Census figures show as little as from five to ten percent of the population in manufacturing in the poorest countries..... The proportion rises to twenty-five percent or so in the richest countries if they do relatively little trade in manufactures (USA) and to as much as thirty five percent or more if they earn their living in foreign trade by exporting say one third of their manufactures (UK, Belgium). The proportion in manufactures

rises because the demand for manufactures increases much faster than productivity, as income grows, and also in over-populated countries, because exporting manufactures is the only way of providing full employment and food. The proportion engaged in manufacturing is therefore, like the proportion engaged in agriculture, one of the clearest indicators of the degree of economic growth.” (Lewis, 1955: 335)

In a general sense he was also aware of arguments about the dynamic side of comparative advantage and of the potential for government intervention to accelerate industrialisation and growth.

“Neither is it a matter of comparing only current costs, since the whole point of development is that it brings down costs. One has therefore to think about the effects of industrialisation on costs when deciding what is the right policy to follow. If the rate of industrialisation were left exclusively to decisions made by private enterprise, it would nearly always be below the economic rate.” (Lewis, 1955:348)

Lewis was not particularly pessimistic about the prospects for industrialisation in poor countries and argued that in countries with surplus labour, by his definition, industrialisation was the only way to absorb large numbers of workers in productive employment and in doing so generate a surplus for reinvestment. .

“...In such countries ...industrialisation is a substitute for unemployment, and is necessarily one of the two major objectives of economic policy, the other objective being to maximise the output of agriculture” (Lewis ,1953: para 222).

He saw two alternative routes to industrialisation – one based on manufactured exports and the other on a dynamic agricultural sector, with productivity growth in non-labour-surplus economies freeing workers to work in industry and providing a market for manufactures. For large labour surplus economies with low agricultural productivity, however, he saw the expansion of manufacturing based initially on exports as critical, anticipating the ideas behind ‘export-led growth’.

“In such economies industrialisation in no sense waits upon agricultural expansion, even though it remains true that they should give great attention to agricultural production. Such countries have therefore to give urgent attention to increasing the export market for their manufactures since, in the last analysis it is the rate of growth of exports, which sets the limit to their internal expansion” (Lewis, 1955: 278).

The rest of this paper is in four sections. The second reviews the current information on patterns of industrialisation and links these with Lewis's views. The third considers the policy recommendations for the Gold Coast in Lewis (1953) in the light of current debates. The fourth picks up Lewis's comments on the prospects specifically for African industrialisation. A fifth section concludes briefly.

2. Manufacturing: patterns of development

Developments since the 1950's have seen a dramatic growth in manufacturing in what were then poor or 'developing countries', albeit with a very uneven distribution of this growth between countries. Comparable statistics are difficult to obtain and country classifications have changed over time. Countries identified as 'developing' in the 1950's excluding China accounted for no more than 8 percent of global manufacturing in 1960 (Szirmai et al. 2013: Table 1.4). Unevenness was already present on a regional basis in 1960 with Latin American developing countries taking nearly 5 percent of global manufacturing value added, South and East Asian countries (excluding China) taking 1.8 percent and African countries 0.8 percent. By 2004 the same set of countries (excluding China) now took just under 20 percent of global manufacturing with much of the increase in Asia driven by the rapid industrialisation in Korea, Singapore, Malaysia and Taiwan together with more modest growth, but a large absolute increase, in India. In 2004 China accounted for 8.5 percent of global manufacturing.

Alternative estimates distinguish between 'industrialised' and 'industrialising' economies, with the former higher income group now including Korea, Singapore, Taiwan and Malaysia as graduates from the developing country classification due to their rapid growth and industrial development. With China included in the industrialising group, these countries accounted for 18 percent of global manufacturing value added in 1992 and as much as 35 percent in 2012. However, the poorer, or least developed, countries in the industrialising group accounted for 9 percent of the total value added of the group or little more than 3 percent of the global figure (UNIDO 2013, table 5.2). In addition, in some countries principally in Latin America and sub-Saharan Africa, industrialisation has proceeded slowly, and has regressed in some countries (Tregenna 2015).

A similar pattern occurs in relation to manufactured exports. The share of the developing country group (including Korea, Singapore, Taiwan and Malaysia) in world exports of

manufactures was estimated at just below 6 percent in 1963 rising rapidly to just below 31 percent in 2005 (Szirmai et al. 2013: Table 1.5). Using the 'industrialised' and 'industrialising' classification, the share of the industrialising group in world manufactured exports rose from 14 percent in 1997 to 30 percent in 2011, although nearly half of the share in 2011 (or 13.5 percent of world exports) was accounted for by China (UNIDO, 2013: table 53).

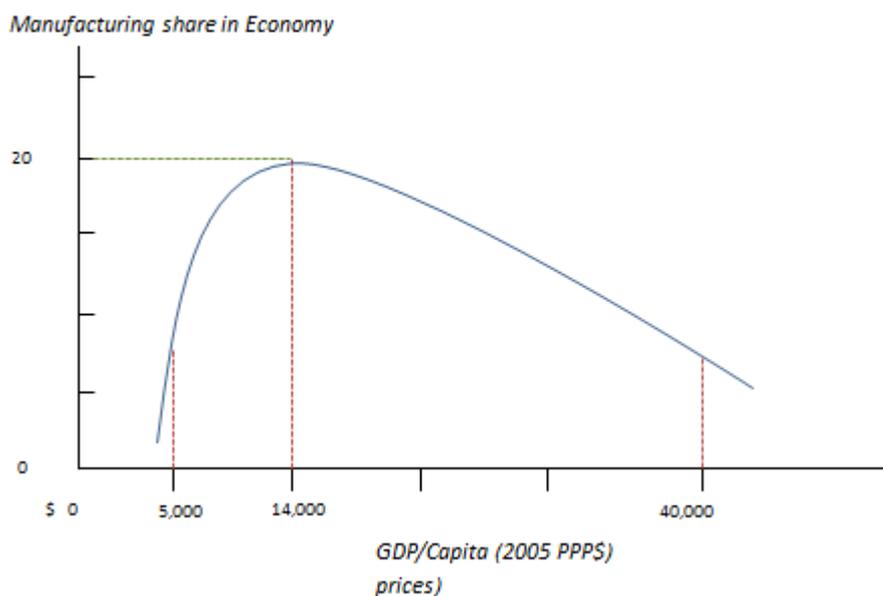
Comparable employment data are available for a shorter time period commencing in 1970, but they match the trend in value-added and exports with manufacturing jobs shifting to the developing country group and away from the established industrial centres of Europe, North America and Japan (UNIDO 2013, 2.1). It is striking that less than 25% of formal sector manufacturing employment was located in Europe and North America in 2010, down from 43% in 1970. This was offset by substantial increases in manufacturing employment in the industrialising countries, particularly in China and other parts of East Asia, with China's share in global formal employment in manufacturing rising from 10 percent in 1970 to 34 percent in 2010. East Asia as a whole took nearly 50% of global manufacturing employment in that year. All industrialising regions showed a net growth in formal manufacturing employment over this period, although the increase and the absolute employment numbers are low for sub-Saharan Africa. However, these employment figures exclude informal sector manufacturing, which is proportionately greater in lower income economies, and also manufacturing-related jobs in services which have become far more significant in the last two decades as manufacturing firms have out-sourced services to specialist providers. With these omissions included the total of manufacturing jobs would be much higher.

Shares in GDP

Lewis may not have anticipated the scale of these changes but as noted he clearly anticipated there would be a strong link income growth and a changing share of manufacturing in economic activity, although generalisations about the association between income levels and the role of manufacturing need to be qualified carefully to allow for country circumstances. Analysis of the relationship between the level of income in an economy as measured by GDP per capita and the share of manufacturing in GDP has long recognised the existence of an inverted U-shaped relation with the share of manufacturing rising sharply at low income per capita, as labour moves out of agriculture, accelerating once a threshold income level has been passed and then stabilising at a peak before declining as income per capita rises further and high productivity services become more important in GDP (Kuznets 1957, Chenery 1960).

Recent work provides an important update and extension of previous analyses by pooling data on 100 countries (industrialising and industrialised) and estimating the relation between the manufacturing share and income per capita for different time periods (UNIDO, 2013, Haraguchi 2015). For the period 1963-80 the manufacturing share reaches a peak at around 24 percent of GDP an income per capita of US\$14,000.¹ At a very high income per capita of US\$40,000 the manufacturing share falls to approximately that found at an income of around US\$5,000, where industrialisation is starting to take off; hence the inverted U-shaped relation; see figure 1. However the analysis confirms the results of earlier work, which found that this relationship has weakened over time. The same analysis for a later period (1991-2007) finds that the manufacturing share peaks at a higher income per capita of \$16,000 and at a lower share of GDP (20 percent instead of 24 percent), so that the curve has shifted downwards and to the right. The post-1990 period is associated with an opening of the world market suggesting that with globalisation on average a given level of GDP is associated with a lower share of manufacturing activity, possibly because of the increase in internationally tradable activity classed as services.

Figure 1 – Relationship GDP/per capita and manufacturing share



It is recognised that factors like population size, resource endowments, institutions and policy decisions can all influence the manufacturing –GDP relationship. Evidence for the

¹ All dollar figures cited here are at 2005 PPP dollars.

importance of the first two of these is obtained where the sample of 100 countries is split into natural resource-rich and non-resource-rich, and into large and small economies, in relation to population size. As expected, in resource-rich economies the importance of manufacturing is lower at any given level of income and its share starts to decline at an income per capita of US\$13,000. Again, as expected, population size creates the opposite effect. Large economies with large domestic markets can support a larger manufacturing sector and manufacturing takes a higher share of GDP at all levels of income in large as compared with small economies. In large economies (defined as populations above 12 million) manufacturing reaches a peak at 24 percent of GDP and at a per capita income of US\$24,000.¹ Given the diversity of experience noted above we would not expect individual countries to adhere strictly to this relationship, and in general the faster growing countries have had higher levels of manufacturing in GDP than predicted by this type of cross country regression (ADB 2007: 294).

Differential rates of output expansion across sectors have important implications for total productivity in an economy where both the level and growth of productivity differ between sectors. Historically manufacturing has had high levels and growth of productivity although in recent decades the internationally tradable parts of services and some non-traded ICT-based functions have had rapid increases in productivity (Timmer et al 2015). Analysis across countries for the past two decades shows that for low and lower middle income economies relative productivity is highest in mining and some public utilities (neither of which can absorb much labour).² In all but the very poorest countries productivity is higher in manufacturing than in services, and is always higher than in agriculture. The productivity gap between sectors narrows as countries incomes grow, so that for high income countries productivity levels in manufacturing, mining and utilities and services have converged and are very similar (UNIDO 2013: 24-28).

Change within manufacturing

It has long been suggested that there are regularities in the expansion path within manufacturing as economies expand. Lewis cites Hoffman (1958) in support of the view that for most countries early industrialisation will have a heavy bias towards consumer as opposed to capital goods. He argues that capital goods production requires fuel and metallic ores and that 'countries which have not such fuel and ores cannot get far in building up such industries' (Lewis 1955: 336). In discussing which industries might be developed in the Gold

² Relative productivity for a sector is calculated as the ratio of value-added share in GDP to employment share in GDP.

Coast he highlights the limited advantages of local producers, which are principally low wages and local resource availability. In resource-based activities he argues the role of transport cost and weight change is crucial with developing economies having a cost advantage in the processing of raw materials which lose weight significantly in the manufacturing process. For goods aimed at the home market in addition to wage rates, the general operating environment and transport costs, the size of the local market and its relation to the minimum efficient scale of production is highlighted as critical (Lewis 1953: para 15).

There is a widely held view that there are regularities in the expansion path within manufacturing that hold across countries. This allows a classification into 'early, middle and late industries' depending on their growth rate relative to GDP at different levels of income (Chenery and Taylor 1968). Early industries were typically food processing, leather goods and textiles which matched by the criteria set out by Lewis of a reliance on low wages and resource availability. As GDP per capita rises their share in manufacturing declines and a combination of capital intensive medium technology activities (such as metal products, basic metals and chemicals) and the labour-intensive elements of high technology activities (such as electronic goods) become more important. There are deviations from this general picture allowing for country characteristics. A recent reworking of this analysis links these concepts of early, middle and late with technological intensity (Haraguchi and Rezonja, 2013: Tables 4.7 and 4.8; UNIDO, 2013 chapter 3).³

In general, of the early labour intensive industries, the food and beverages sub-sector shows the most stability in value added as income per capita of an economy increases. This contrasts with other labour-intensive activities such as clothing and textiles where value-added starts to decline at around US\$15,000 per capita, and rising wages lead to production shifts to lower wage competitor economies (UNIDO, 2013: Figure 3.7). Medium technology capital intensive activities show a decline in value added at much higher levels of income per capita (at around US\$35,000) in the case of basic metals, non-metallic minerals and fabricated metals (UNIDO, 2013: Figure 3.8). High technology activities generally continue to expand at higher levels of income (above US\$ 40,000), although it is important to distinguish between labour-intensive simple assembly activities and more technologically complex product development and production, with value-added in the former contracting as incomes and wages rise. As is to be expected, country size influences these patterns with large countries, as defined above, tending to be able to support a more diversified set of

³ Early, middle and late industries can be defined based on the level of income per capita at which their value-added per capita reaches a peak. Dollar values cited below are at 2005 PPP.

industries. Those industries where scale economies are important, such as motor vehicles and chemicals, and where technology is complex with high R and D content, such as electrical machinery, tend to be large in per capita terms in large economies.

Most of this would be unsurprising to informed observers such as Lewis writing in the 1950's. What was less easy to predict was the 'early' emergence of some high technology production at relatively low income levels due to product fragmentation in global value chains, as labour-intensive aspects of the production process were relocated to low wage locations. Changes in transport and communications technology combined with trade liberalisation have led to dramatic falls in 'trade costs', which made product fragmentation economically viable. Trade in intermediates, often used as a proxy measure of the spread of global value chains has variously been put at between a quarter and a half of total world trade. The consequence of this is that economies which have become closely integrated into such value chains, like China, the Philippines and Mexico for example, have had a structure of exports and production which has a higher proportion of high technology goods than would be expected for their income level (Lall, 2000). This is widely accepted as a misleading indicator of the technological depth of their manufacturing sectors however, given the focus on the labour-intensive activities in a production chain, and the fact that the technology used was generated by the lead firms in the chains typically in their home base.

3. Lewis on Industrial Policy

How far governments can and should intervene to influence both the growth of manufacturing in the aggregate and its composition is an important policy issue and one which has evoked strong opinions. Recent thinking stresses that an active industrial policy needs to be applied flexibly and pragmatically, as far as possible involving the private sector in discussions on the key bottlenecks for industrial expansion (Hausmann and Rodrik 2005, Hausmann et al 2008, Crespi et al 2014). Furthermore some countries which are recognised as having 'good' investment climates (in the sense of an efficient un-intrusive bureaucracy, good quality infrastructure and a respect for property rights) have also had active industrial policies, so the two approaches need not always be incompatible (Weiss 2013a). However there is no agreed blue-print and in any specific situation there are a range of policy options. From this perspective the policy advice of Lewis from the early 1950's for a very poor colony in Africa with very little manufacturing is of considerable interest.⁴

⁴ There are a number of recent surveys of industrial policy; see for example Peres and Primi (2009), Warwick (2013) and Weiss (2013a, 2013b, 2015).

His starting point is that prospects for industrialisation are limited for two main reasons – the low productivity in agriculture which limits the growth of the home market and the relatively high local wages due to a high land-labour ratio which makes exporting difficult. Only a limited number of resource-based activities (bauxite, timber, oilseeds and cocoa) are judged promising exports on the basis of the weight transformation referred to above. A limited number of possible activities are identified for the home market as import substitutes – where raw materials are available locally, there is natural protection from transport costs and the capital and skills requirements are not too demanding. Using these four criteria a number of items currently imported are identified for further study. The most likely (termed Favourable Industries) are some of the classic early industries noted above – food processing, salt, beer, bricks, cement, glass, industrial alcohol, chemicals, and wood products. A longer list of possible activities (termed Marginal Industries) is also produced. These are based on imported raw materials, which do not lose weight in manufacturing. Weaving (based on imported yarn) and foundry products (based on imported pig iron) are signalled out as offering the greatest scope for expansion and employment growth. In general the conclusion is that

“The list of ‘favourable’ industries is very short, because the Gold Coast does not have many industrial raw materials. The ‘marginal’ industries are also not numerous, mainly because the demand for any consumer goods other than textiles is rather small. This list will grow as the standard of living rises.” (Lewis, 1953: para 89).

It is acknowledged that some marginal industries could be successful without assistance, whilst others would need ‘nursing’, some for a considerable period of time. By identifying activities with potential from a list of imported products, Lewis is implicitly adopting a vertical as opposed to horizontal approach to policy with incentives tailored to the needs of individual product ranges (or firms) rather than available to all.

Incentives

Like many commentators of his day Lewis saw trade protection as a natural starting point in discussions of options for supporting new activities, citing infant industry issues.⁵ In addition, for the Gold Coast he saw a case to support manufacturing to diversify the economy and interestingly to provide employment for female workers who unlike males were in surplus by his definition. However his recommendations for trade protection were modest (up to a 20% tariff equivalent) and time-limited (no more than 5 years). In addition, he raises

⁵ Tribe (2000) reviews the literature on infant industries in the African context.

the possibility of price controls for industries subject to trade protection to prevent excessive exploitation of consumers in the protected market

“ ... the government should be prepared where necessary to give some assistance to any of the industries listed... as ‘favourable’ or ‘marginal.’ The assistance should be for a short period only, say not exceeding five years, and should be limited in amount, say to the equivalent of a 20% tariff on imports. Industries which are not likely to be able to stand on their own feet without longer or greater assistance should not be supported.” (Lewis 1953: para 234).

He argues for extending import duty drawbacks (available at the time for capital goods) to raw materials used by industry. As some raw materials attracted a 20% duty the introduction of a drawback would raise protection on value-added (that is effective protection) for activities processing these to above the 20% nominal rate that he recommends as modest short term protection. This is far from a blanket recommendation for import substitution behind tariff barriers and is line with current thinking on the need to avoid a perception of permanent protection. Also by setting the initial nominal rate relatively low (even if the effective rate would be higher) it is likely to ensure that the activities viable at this level are those in which the economy has a ‘latent comparative advantage’ even if not yet an actual one and therefore avoids leaps into the production of goods far removed from existing capabilities (Lin and Monga, 2010).

Furthermore in line with current thinking about ways of supporting industry in a generally open economy environment, he is clear that support need not be solely through trade protection, which he sees as a practical expedient for fiscal reasons, but one with risks, due to its possible negative incentive effect.

“The disadvantage of protection, however, is that protection from competition frequently shelters inefficiency. Except in the particular case mentioned (sic prejudice against local products) it is usually better to contribute specifically to some abnormal item of cost and to leave industry otherwise to hold its own’ (Lewis 1953: para 235).

He points out a number of costs that might be subsidised including power tariffs, interest rates and engineering facilities, but really only recommends a labour training subsidy, a familiar argument in relation to externalities; ‘governments can, and should, meet the cost of the initial training of the labour force’ (Lewis 1953: para 236). This could either be offsetting training costs against tax liability or meeting firms’ training costs directly (Lewis 1953:para 191). Governments can also supply factory space and risk capital. He points out that government procurement contracts are also a means of creating a domestic market for local suppliers. This argument has been revived recently in discussions of ways of circumventing

WTO rules against specific subsidies, since very few countries have signed up to restrictions on the use of government procurement (Singh 2014). He largely discounts tax incentives like pioneer tax holidays on offer at the time in the Gold Coast, on the grounds that double tax agreement can nullify these for foreign firms and that it is more important to help firms make profits than to grant an exemption once a profit is made.

These comments refer specifically to the Gold Coast. Interestingly, however, Lewis distinguishes between resource poor and labour scarce economies like the Gold Coast and resource-rich and labour surplus economies like India, and China, where he implies there is an 'infant economy' case for a sustained period of general protection of up to 20 years to achieve what he terms 'an enormous increase in industry'. These are economies where he feels the prospects for industrialisation are good but that time is needed to build up not just skills and expertise but a network of efficient suppliers and a good infrastructure. Recent economic history suggests that several successful economies broadly followed this recommendation. A 20 year period is not very far off the periods of protection in early stage industrialisation in Korea from the 1960's to 1980's and in China from the initial steps in market reform circa 1980 to the WTO entry. These (and that of Japan earlier) are examples of trade liberalisation from a position of strength after a period of protected growth, which allowed competitiveness to be built up.

It should also be noted that this general protection argument can be rationalised in neoclassical terms as correcting for market failure in the labour market (where as in Lewis's own labour surplus model industrial wages exceed the opportunity costs of surplus workers) or in the credit market (where risk-averse banks charge excessive risk premia on loans to industry). Tariff protection is a means of overcoming these transitional market failures, although the neoclassical literature pointed out that tariffs were second-best means of offsetting these 'distortions' (Corden, 1974). Lewis appeared to anticipate this objection by qualifying his support for protection though the quotation cited above and the historical evidence since seems to confirm that second best measures in a theoretical sense can be the most effective (Chang, 2002).

Co-ordination

Co-ordination effects, as a form of market failure, provide a major part of the theoretical rationale for industrial policy within the neoclassical tradition (Rodrik, 2007). These are invoked by Lewis in the discussion of possible subsidies. His examples relate to the links between agricultural raw materials and processing activities (tobacco for cigarettes, fruit for canning, fibres for sacks and vegetable oils for soap). The problem is that

“There is not enough market for the crop to be grown until the factory is established; and it is uneconomic to establish the factory until the crop is large enough to supply is.” (Lewis 1953, para 207)

Solutions suggested are either the government setting up a plantation for the crop concerned or probably his preferred option (given his comments on the limited scope for public ownership) of offering small farmers a temporary subsidy by guaranteeing a high enough ex-farm price to cover their costs. No specific recommendation along these lines is included in the final list of policy recommendation, which suggest he may have mentioned this for completeness, but the example shows an awareness of the argument, which was topical at the time in the discussion of balanced growth (Nurkse, 1953). What is suggested as part of a government co-ordinating role, is that a directory of engineering services be created to publicize the availability of spare capacity in firms who are willing to contract to supply others from their own in-house facilities (Lewis,1953: para 187). This may seem a modest suggestion but it should be borne in mind that Lewis saw a lack of engineering services, by which he seems to be mean largely repair services, as an important constraint.

“Because general engineering services are not available on the Gold Coast, a factory has to do its own engineering work. It needs a workshop of its own, costly machines which are not fully occupied except when there is a breakdown, and more specialised and expensive engineering staff than it would otherwise have to carry....it is particularly a handicap to factories employing say 300 workers or less” (Lewis 1953: para 185).

Funding for industry

In relation to finance Lewis (1953) anticipates arguments about the need for governments only investing where the private sector is unwilling to invest, by suggesting that priority for public expenditure should be expanding public services, including health, education and infrastructure. None the less citing Japanese experience he does see a limited pioneering role for public ownership.

“In countries where entrepreneurs lack experience or confidence there is a case for the government to lead the way by establishing industries with its own money and to show that they can be operated successfully; in the expectation that it can withdraw from industry once the pioneering stage is over.” (Lewis,1953: para 139).

However foreseeing later problems in much of Africa he warns.. “There is therefore grave danger of entrusting an expensive undertaking to people who are not fully qualified to run it.” (Lewis 1953: para 141). His solution anticipates public-private partnerships by either

engaging private (presumably foreign) management for a management fee or by inviting private (again presumably foreign) capital in a joint venture, which can draw on the managerial expertise of the private sector.

In relation to development funding he argues that the Industrial Development Corporation should continue its lending to African-owned small firms, despite the relatively weak repayment rate, since it commenced the programme in 1948. However he argues for a major change in policy with the Corporation providing managerial and technical advice, tighter supervision and approving any major change in direction for the business of the borrower. Focus should shift away from lending to new activities and towards established firms with a track record.

“No loan should be made until the Industrial Development Corporation is satisfied as to the technical and managerial experience of the borrower, as to his character and as to his past record. A Development Corporation is not a device for helping lame dogs over stiles.” (Lewis 1953: para 156).

This business approach to development lending anticipates much of the later criticism of the ‘development banking model’ of financial intermediation, which came to the fore in the 1970’s. In relation to lending large firms the role of Development Banks in other countries is referred to. Lewis’s preference in the context of the Gold Coast appears to be for the government to invest in factory space which can be leased to private firms, as part of a policy of setting up industrial estates, rather than undertaking significant direct lending to large firms. This, he suggests, is a relatively lower risk strategy ‘since if the firm fails the factory can be let to someone else’ (Lewis 1953: para 219).

Foreign investment

In relation to the prospects for industrialisation he sees lack of managerial expertise as the key obstacle to African entrepreneurs and hence views the experience of foreign investors in this area as their critical benefit. He stresses that in strictly economic terms the nationality of ownership (foreign or domestic) should not be an issue, although he accepts it is often a significant political one. For foreign investors in his view the key issues are that they train local labour and managers and reinvest their profits in the local economy. He sets out ideas for the government to attract foreign investment that look very similar to the work of modern investment promotion agencies. He points out there is a need for highly paid Chief Executive to travel internationally to establish contacts and to reflect the needs of foreign investors in policy discussion and critically in relation to access to infrastructure services, like power, water and telephones.

“All countries that are anxious to stimulate industrialisation appoint a senior official, whose duty it is to be a friend of industrialists in their negotiations with government departments and to ensure that these departments take full account of the priority which the Government attaches to industrial expansion.” (Lewis, 1953:para 183).

As part of this promotion activity a specific recommendation (illustrating government action where the private sector is unwilling to act) is for government investment in a modern hotel in Accra which can provide the facilities foreign business people expect when they visit an investment location. It is noted that such a hotel might not be profitable, so either direct government investment or a government guarantee to private investors is seen as necessary. However the importance of the initiative is stressed....‘ this is one of the cheapest ways in which the Government might contribute to industrialisation’ (Lewis, 1953: para 178).

An industrial estate policy is seen as a route to encourage both foreign and possibly local investors. Although the modern term of ‘agglomeration economies’ is not used the idea is clearly the same. Due to economies of scale in providing infrastructure and a network of specialist suppliers, including engineering services, as well as the development of a labour market ..”It is much easier to create the framework required for industrialisation if factories are together than if they are scattered all over the place” (Lewis, 1953: para 201). One of the specific policy recommendations is that the government purchases land outside the urban centres of Accra and Kumasi for the purpose of setting up estates.

4. Prospects for Africa

In putting forward a series of policy ideas to support industrialisation in the Gold Coast, Lewis is also clear that whilst industrialisation is a useful way to diversify the economy and create employment (particularly for women) it is “...not of number one priority. A small programme is justified, but a major programme in this sphere should wait until the country is better prepared to carry it” (Lewis 1953: para 252). He sees a stagnant agriculture as the key bottleneck to successful industrialisation and without rising productivity in agriculture, the home market will remain small, there will be little domestic surplus for investment and labour will not be released for manufacturing. Number one priority is raising agricultural productivity and number two is raising the quality of public service. Industrialisation on a selective basis with modest support for activities that can be competitive in a relatively brief period is the third priority.

If this diagnosis is valid for the Gold Coast it was probably true also for a number of African economies in the early 1950's, which suggests that at least some of the import substitution industrialisation programmes of the 1960's and 1970's were 'premature.' Opinions differ on the causes of the failure of early import substitution more generally in Africa - misguided and protectionist serving small domestic markets and highly import –intensive or applied inappropriately with insufficient attempt to support local linkages (Lawrence 2015). Lewis would probably have opted for the first of these, but it remains the case that Ghana (as the independent state that the Gold Coast became) is still one of the least industrialised economies. In the 1960's it had one of the lowest shares of manufacturing in GDP (at 2%) of any of the countries listed by Sutcliffe in his textbook (Sutcliffe 1971: table 2.1). Currently its share at just below 7% is around the average for sub-Saharan Africa (excluding South Africa) (UNIDO 2013, tables A.3.1 and A.6.2). None the less whether or not the initiatives for industrialisation in the 1960's and 1970's were premature most African economies would now benefit from a larger and more dynamic manufacturing sector even if their resource endowments imply that its share in GDP would be less than in economies with lower land-labour ratios.⁶

In addition to a stagnant Agricultural sector, Lewis identifies key features of the Gold Coast and by extension other African economies, which hinder industrialisation and which remain relevant to contemporary policy debates. First there is issue of factor endowments and whether those of the Gold Coast and other African economies imply that a specialisation in industry is justified. Lewis argues that the land-labour ratio is such that in the Gold Coast it is land not labour (or at least not male labour) which is the surplus factor.

"... there is a shortage of labour in the sense that at the current level of wages employers cannot get all the labour they want, in spite of the fact that there is considerable immigration from the French Territories" (Lewis 1953: para 223).

This means that for male workers whilst money wages are low by European standards they are high by the standards of other underdeveloped countries.

This argument from the early 1950's has been used many times since then to assess Africa's comparative advantage in manufacturing and explain its continued relatively low level of manufacturing production and exports (Wood and Berge 1997, Collier 2000). Cross country firm-level surveys confirm relatively high African wages in some, but not all, countries relative to competitors at similar income levels (Clark 2012). Furthermore even where African wages are below those in emerging economies like China and Vietnam they

⁶ In 2011 average manufacturing value added per capita in sub-Saharan Africa (excluding South Africa) was only US\$48 (at 2005 PPP dollars). This is less than one third of the next least industrialised region South and Central Asia (UNIDO 2013: table A.6.1).

are offset by the productivity differentials, so unit labour cost of production is higher in most African producers than in these key competitors (Dinh et al 2012).

The second disadvantage in the Gold Coast highlighted by Lewis is the high cost of what he terms public services – as these are listed as electricity, water, gas, telephone and transport facilities, they would be termed today physical infrastructure. Discussion of the inadequacy of infrastructure in most of sub-Saharan Africa continues and it is commonly accepted as a continued constraint which has still not been addressed (Page 2013). The firm level data cited above suggests that high logistics and infrastructure cost is a more serious disadvantage than wage cost (Clarke 2012). The combination of relatively high wages and high transaction and infrastructure costs has meant that sub-Saharan Africa has largely been excluded from global manufacturing value chains (although there is evidence of successful links with food and horticultural-based chains for international retail sales).⁷

A third issue mentioned in relation to the Gold Coast which is still relevant in some countries is access to land (Dinh et al, 2012). Lewis suggests that getting secure titles to land for factories is difficult, because of ambiguities in the application of customary titles. This concern motivated his suggestion that the government should facilitate the process of securing a title to land by buying blocks of land and selling these to entrepreneurs or using the land to set of industrial estates.

In a couple of areas however Lewis's interpretation of African problems looks a little less convincing from a contemporary standpoint. First, his assertion that female labour is in surplus whilst male labour is not probably oversimplifies what is now known about the role of females in agricultural households, where work sharing is probably more common than he allows. Second, in categorising problems faced by African entrepreneurs Lewis highlights managerial expertise over technical knowledge, which he argues can be acquired by training or placing local staff in foreign firms. The difficulty in building up a technological base of engineers and scientific researchers no doubt held back the development of a 'national system of innovation' in Africa. Given the weight placed on technical change and adaptation in most interpretations of growth, the very limited adaptation and modification of foreign technology that has occurred is likely to have contributed to the relatively weak performance of manufacturing. Equally however lack of managerial expertise in Africa continues to be highlighted by some observers, so it is not as if this aspect has been resolved (Sonobe et al 2012). Thirdly, at least in his slightly dismissive comment, Lewis tends to downplay the credit constraint that plagued small firms in Africa for many decades.

⁷ As a crude indicator manufactured exports were only around a quarter of total exports for sub-Saharan Africa excluding South Africa in 2011, as compared with over 70% for all industrialising economies (UNIDO 2013: table A.6.6)

“What potential African industrialists lack is not primarily money; it is rather technical knowledge and experience of factory organisation” (Lewis, 1953:para 151).

Many firm level surveys however have revealed access to funding as an important issue and building up an effective system of financial intermediation based around commercial banks has proved a major challenge in many cases (Dinh et al, 2010).

None the less it is unreasonable to expect an analysis from 1953 to be able to predict all of Africa’s development problems over sixty years ahead.

5. Conclusions

The world has changed greatly since the early 1950’s and the spread of industrialisation to most of what were then thought of as developing countries has been a major feature of recent economic history. Lewis’s recommendations for industrial policy remain relevant in the context of some of today’s less industrialised parts of the world. The emphasis on modest and temporary levels of support (either through trade protection or other means), with government provision of infrastructure and support for training is now a standard part of policy discussion. The reference to a business oriented lending programme to small firms, investment in industrial estates and the creation of an investment promotion initiative is also standard advice. At a conceptual level co-ordination failure and agglomeration economies provide part of the theoretical rationale for an industrial policy. His discussion omits the ‘self-discovery’ focus that justifies special support for innovators and says little about establishing a dialogue with the private sector, but these omissions aside looks relevant for lower income economies thinking about support for industry.

Lewis did not set out to solve the problems of African development and his comments on the Gold Coast are not intended as generalizable policy prescriptions. None the less he highlights problems in relation to wage levels and infrastructure costs that still figure in contemporary policy discussions.

Finally, although it was not the focus of the discussion on the Gold Coast, the surplus labour model that he is best known for has provided a simple and compelling means of understanding industrial development, particularly in the context of China. There the rural labour surplus employed at a relatively constant real wage provided the basis for sustained industrialisation for around 30 years and only relatively recently are there signs that it is being exhausted. Lewis would probably not have been surprised by the present distribution of industrial development across countries. He stated that there was a potential for rapid growth in the over-populated countries, like China and India, for whom industrialisation

should be a priority. In Africa he thought the prospects were relatively poor. He certainly was well aware of the phenomenon of changing leadership and shifting shares of trade in the world economy and it is highly unlikely he would have been surprised by the absolute decline in manufacturing employment recorded in the old industrial centres in the last couple of decades.

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