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Colonialism and Industrialization: A Critique of Lewis

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Abstract

This paper presents a critique of W. Arthur Lewis' economic explanation of the division of the world into industrial and agricultural countries. First, Lewis' claim that industrialization in the tropics was held back by small markets and adverse factoral terms of trade is flawed in its logic, and lacks empirical support as well. Second, his rejection of the imperialist origins of poverty is poorly argued, and his claim that colonial policies did not differ from policies of sovereign countries is not supported even by his own evidence. He also ignores the strong correlation between loss of sovereignty and poor growth performance.

JEL Categories: N10, O14, O50

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*Mulla Nasrudin entered the tea house and declaimed:
'The Moon is more useful than the Sun.' 'Why, Mulla?'
'We need the light more during the night than during
the day.'*

Shah (1978: 52)

1. Introduction

I propose to show that W. Arthur Lewis' (1978a: 4) economic explanation of the great divide – what he calls the division of the world into “industrial countries and agricultural countries” – does not work. It fails because of logical flaws and empirical inaccuracies.

Lewis explains the great divide as the work of market forces; but unlike the structuralists and neo-Marxists, he does not blame this on any irremediable failure or asymmetry in the operation of markets. Instead, this divide has its roots in large *initial* differences in agricultural productivity between temperate and tropical countries; acting upon these differences, the markets created a global division of labor which assigned industrial production to temperate regions and primary production to the tropics. Since this division is rooted in a backward agriculture, its correction does not call for the kinds of government intervention – protection, planning, and public ownership – that had been popular in developing countries since the 1950s. The poor countries only needed to raise their labor productivity in food; this would raise their wages, improve their factoral terms of trade, expand their markets for manufactures, and pave the way for industrialization.

Lewis constructs a grand narrative that purports to explain the evolution of the global economy since the Industrial Revolution. He works on a broad canvas that takes in all segments of the global economy: it deals with manufacturing, primary exports, and subsistence activities; it incorporates trade, labor migrations and capital flows; it displays a broad understanding of global structures and local conditions; it walks us through all the stages in the evolution of the global economy since the industrial revolution; and, weaving all these elements together, it presents a carefully controlled narrative that unfolds around a small number of key concepts and mechanisms. Lewis has labored hard to construct this narrative; but it fails on several counts. In his anxiety to construct an “economic explanation” of the great divide – the political forces in the global economy are considered but summarily rejected – he falls into logical inconsistencies, gets some of his facts wrong, and

fails to appreciate that economic forces operate within parameters that are determined politically. In sum, his economic explanation of the great divide is flawed. It does not stand up as theory, and it is not supported by the facts – even some of his own facts. We can begin to analyze these problems once I set out the essentials of Lewis’s story.

2. Lewis’ Narrative

Lewis’ late entry into the debate on the great divide is not without significance; he took his time to develop a mainstream response to the heterodox theories of the global economy that had gained prominence during the 1950s and 1960s.¹

His first contribution to this debate appeared in 1970 with an introductory essay in *Tropical Development, 1880-1913*, which rehearses some of the ideas that he would present in his later works. These ideas were developed further in another essay, “The Diffusion of Development,” (hereafter *The Diffusion*) published in 1976. His definitive contribution to this debate appeared in 1978, in *Growth and Fluctuations: 1870 to 1913*, which is also the capstone work of his scholarly career. In the same year, he published *The Evolution of the International Economic Order* (hereafter *The Evolution*), which was an adaptation of the previous work for a lecture audience. These four texts constitute my sources for Lewis’ narrative of the evolution of the global economy between 1800 and 1950.

Lewis (1978a: 9) brushes aside the claim that colonialism had blocked industrialization, and goes on to develop an “economic explanation” of the great divide around the concepts of an industrial revolution, agricultural productivity, market size, investment climate, international labor migration, and temperate and tropical regions. The industrial revolution got underway in Britain in the first decades of the nineteenth century with the harnessing of steam and new technologies in textiles, coal mining and steel making. It created two opportunities for the rest of the world: they could follow Britain’s lead and industrialize, or they could specialize in primary production and trade with the industrial countries. The industrial option was immediately available, but only a handful of countries – France, Netherlands, United States, and Germany – could seize this option; they went on to form the core industrial countries. All the others had to wait for the trading option to open

1 In Lewis’ (1970: 43) estimate, the heterodox theories are “mostly somber”, and abounding in terms like “colonialism,” “monoculture,” “exploitation,” “source of raw materials,” “drain,” “periphery,” and “unstable.”

up, but this would not happen till the 1880s. This was the opening act in the division of the world into industrial and agricultural countries.

According to Lewis (1978b: 10), the chief obstacle to the diffusion of industrialization during the nineteenth century was the smallness of markets for manufactures; another was the absence of an “investment climate”, a condition blamed on the dominance of backward landed classes hostile to industrialization. The new industrial methods could only be introduced into countries that already had an industrial sector or where an agricultural revolution was rapidly creating one. The countries which did not immediately adopt the industrial revolution were largely subsistence economies; their low labor productivity in food production, only a sixth or seventh that in Western Europe, left them with little or no surplus with which to support an industrial sector. In other words, the limited spread of industrialization during the nineteenth century was due to an economic condition: the backwardness of subsistence agriculture in the tropics.

Those countries which failed to industrialize in the first round could of course take up the trading option which became available in the 1880s. But this option too was not open to everyone. In Eastern Europe, the backward landowning elites were unwilling to develop agriculture since this threatened to undermine their political power. Countries like India and China faced a different set of constraints: they did not have the empty lands or year-round rains needed for developing tropical primary exports.² Further, the opportunities opened up by primary exports were not the same for temperate and tropical countries. The exporters of temperate agricultural products, the countries of temperate settlement (CTS), rapidly developed substantial industrial sectors, and by 1913 they were on their way to catching up with the core industrial countries. On the other hand, by 1913 few exporters of tropical agricultural products had made any progress in industrialization.

Lewis attributes this divergence to the subsistence sectors of two Asian countries – India and China – and Western Europe. The Asians were only about a sixth as productive in food as the Western Europeans, ensuring that wages in India and China would bear the same relation to wages in Western Europe. In addition, two large streams of migrants – one from India and China to the tropics, another from Western Europe to the CTS – recreated the same wage inequality between the tropics and the CTS. As a result, the exports of a tropical worker had only about one-sixth the value of the exports of a worker in CTS. This sealed the fate of the tropical countries. Their lower wages – combined with adverse terms of trade for tropical exports – limited their imports of manufactures and, at one remove, their ability

2 Lewis (1978b: 165; 1970: 18).

to industrialize *via* import substitution. The tropics also faced deficiencies on the supply side: they could not use their rising incomes from exports to prepare the conditions for an industrial takeoff. In this respect the self-governing countries in Latin America, with their backward landed elites, “were just about as defective as the colonial states.”³

The industrialization of the tropics was also set back by the two world wars and the intervening depression. Lewis (1978a: 12-13, 21) maintains that the rapid growth of tropical exports between 1880 and 1913 had brought important changes to the tropics: it had raised incomes, financed the building of railways and ports, and improved literacy. But these improvements could not be sustained. After growing at a rate of 3.6 percent per annum during 1880-1913, the growth of tropical exports declined modestly to 3.1 percent between 1913 and 1929, and then dropped more steeply to 1.5 percent between 1929 and 1955. The terms of trade also worsened after 1913, declining from a base of 100 in 1913 to 91 in the 1920s and 62 in the 1930s.⁴ Had it not been for this “great depression” stretching from 1913 to 1955, Lewis (1970: 33) maintains, “several tropical countries would already have reached self-sustaining growth by 1950.”

Lewis’ construct of the global economy rests on two propositions. The chief constraints to industrialization in the tropics were deficiencies in the demand and supply of manufactures, although the first constraint was the more serious of the two. In turn, the thesis of a demand constraint is supported by a theory which links factoral terms of trade in the tropics and the CTS, *via* two large streams of migration, to large disparities in food productivity between two Asian countries and Western Europe. I will present my critique of the first proposition in sections three and four. Section five examines Lewis’ theory of the factoral terms of trade. This is followed by a critique of the arguments Lewis employs to reject the imperialist origins of the great divide. A concluding section explains why Lewis’ theories were received so uncritically.

3. The Missing Locational Barriers

Lewis’ economic explanation of the great divide turns on a disappearing act. His thesis about a demand constraint on industrial growth in the tropics makes sense only if we dismiss all locational barriers to the diffusion of industrialization.

Lewis (1978a: 7) asserts that “the challenge to imitate and have one’s own in-

3 Lewis (1976: 150).

4 Lewis (1976: 146).

dustrial revolution was immediate. In North America and Western Europe, a number of countries reacted immediately. Most countries, however, did not, even in Central Europe.” This thesis of an “immediate” challenge to industrialize – and one whose impact was equal and simultaneous in all countries – will not pass muster. It makes sense only in a world without geography and history, where there are no natural or historical barriers impeding the flow of goods, labor, capital and ideas across borders. Further, Lewis makes no allowance for national rivalries and the role they have played in motivating social and economic changes.

First, consider how Britain’s industrial revolution would challenge a country to industrialize. This would depend on the actual or expected loss of markets to British manufactures, or the military advantage Britain was likely to gain from the industrial revolution. On both counts, the challenge to industrialize would depend on a country’s locational proximity to Britain. As a result, the challenge to industrialize would have been stronger in Western Europe, Russia, and United States, countries close to Britain, in terms of geography, history and rivalries; the challenge would be weaker in countries such as China, Iran, Argentina or Thailand, remote from Britain and the rivalries of power in Europe. At least until the 1840s, when Europe began to project its power to the farthest regions of the globe, the economic and military challenge to imitate the industrial revolution would be more acute in Germany than in China, in Russia than in Japan, and in Egypt than in Iran.

Similarly, a country’s opportunity to industrialize would increase with its locational proximity to Britain. Lewis (1978a: 8) correctly argues that the technology of the industrial revolution “was available to any country that wanted it, despite feeble British efforts to restrict the export of machinery (which ceased after 1850), and Englishmen and Frenchmen were willing to travel to the ends of the earth to set up and operate the new mills.” In the nineteenth century, technology was disseminated mostly by skilled emigrants, though firms, travelers, diplomats and industrial spies also played their part. Once again, this brings geography, culture and politics into play. A British worker would cost considerably more in Egypt, India or Peru than in Germany, Austria or Italy. Some colonies labored under stronger handicaps. It is doubtful if British textile machinery could be brought into India before 1850 –India being a British colony – in violation of the British ban on such exports. Any other country, not a British colony, would not be inhibited by the ban.⁵

5 Stearns (1993: 41-43) acknowledges that “the countries that first imitated Britain did so not only because they shared many of the same features that had produced the British surge but also because they were geographically close (or in the case of United States, historically and

Clearly, the absence of locational barriers is a vital component of Lewis' account of the great divide. A great deal of the pattern of industrial diffusion during the nineteenth century could be explained in terms of these barriers alone. More than a hundred years after it got underway in Britain, the industrial revolution had not traveled too far beyond her closest neighbors. Not counting Britain, a list of the fifteen most industrialized countries in 1913, as measured by output of manufactures per capita, consists of three sets of countries: ten of them are in Western Europe, four are CTS, and one is in Eastern Europe.⁶ The four CTS are no exception to our rule about locational proximity; all are former British colonies who received most of their immigrants from Britain. It is hard to resist the conjecture that Lewis may have ignored the locational barriers because of the competition they offered to his theory of industrialization based on market constraints.

The missing locational barriers also prop up Lewis' (1978a: 9) dismissal of a connection between colonialism and industrialization. If independence facilitated industrialization, he reasons, we should expect *all* the independent countries, regardless of their locational characteristics, to launch their industrialization at about the same time. However, Latin America and East and South East Asia (excluding Philippines and Java), though still independent, showed no signs of industrializing in 1850. He cites Africa as another example of the absence of any link between independence and industrialization; there were no signs of an industrial revolution in Africa before its colonization in the 1880s. Again, Lewis has chosen not to control for the locational barriers to the diffusion of industrialization. There are other problems with this line of argument, which I take up in section five.

4. The Market Constraints

Lewis identifies two constraints on industrialization, affecting the demand and supply of manufactures respectively, though the former is the more important of the two.⁷ This thesis runs into trouble even in the absence of locational barriers.

culturally close) to the industrial island." Not surprisingly, there were 15,000 British workers in France in 1830, working mainly in textile and metallurgical plants.

6 Available in Lewis (1978b: 163), this list includes: USA (100), Canada (84), Australia (75), Belgium (73), New Zealand (66), Germany (64), Switzerland (64), Sweden (50), France (46), and Denmark (46), Netherlands (44), Norway (39), Norway (39), Austria (31), Czechoslovakia (28). The numbers in parentheses are indices of output of manufactures per capita in 1913 (USA = 100).

7 He describes the demand constraint as "the most important" economic factor affecting the slow spread of the industrial revolution.

According to Lewis (1978a: 9, 10, 15, 18) the spread of industrialization was constrained by “the smallness of the market” for manufactures, a condition blamed on low labor productivity in agriculture. In a closed economy that is still overwhelmingly agricultural, the market for manufactures depends on the surplus which agriculture can produce over and above its own consumption, and, in turn, this “is a function of agricultural productivity.” It is this connection that ensures the “dependence of an industrial revolution on a prior or simultaneous agricultural revolution.” This explains why the industrial revolution first occurred in Britain, the country with the highest agricultural productivity; and the first countries to follow Britain’s example – United States, France, Netherlands, and Germany – had high agricultural productivity or were raising it during the first decades of the nineteenth century. The few primary exporting countries which joined the industrial club – Canada, Australia and New Zealand – also had high agricultural productivity. On the other hand, the tropics, where labor productivity in food was only about a sixth or seventh the levels in Western Europe, had made little or no progress with industrialization even as late as 1950. Lewis offers this correlation between agricultural productivity and industrialization as evidence of a demand constraint on the spread of industrialization.

Ironically, Lewis (1976: 137) is unaware that his thesis of a demand constraint on industrialization is contradicted by his own claims – which are correct – about the technology of the Industrial Revolution. Writing about the technology of the industrial revolution, he asserts that there were “no great economies of scale, so that the skills required for managing a factory or workshop were well within the competence and experience of what we now call the third world.” Although some manufactures had grown more complex and operated on a larger scale in 1880, Lewis (1978b: 160) thinks that they were “still relatively simple and within the competence of entrepreneurs in almost any part of the world.” In the presence of such limited scale economies, it is unlikely that demand constraints could have blocked industrialization in any but the smallest countries. The early development economists also worried about a demand constraint in the 1950s, but their too concerns were quickly laid to rest by the rapid growth of manufactures in most lagging countries.

Another problem with Lewis’ argument is that it equates the *size* of markets for manufactures – or the agricultural surplus – with agricultural productivity.⁸ This

8 Lewis (1978b: 200). Lewis (1976: 137-38) repeats this argument in terms of a proxy for agricultural productivity: “We get some idea of the hierarchy [of agricultural productivity] by comparing the proportions of the industrial population around 1911: Germany 0.41, Italy 0.26, Hungary 0.17, Japan 0.16, India 0.12, Roumania 0.08.”

equation is obviously erroneous. The agricultural surplus depends on agricultural productivity *and* the size of the agricultural population. In addition, productivity in tropical agriculture was not one-sixth or one-seventh that in Western Europe. According to Bairoch's (1991:12) estimates for 1800, the index of agricultural output per worker was 6.4 for Europe and 6.0 for the now developing countries in Asia, Latin America and Africa.⁹ Since many of the most industrialized countries in 1913 had quite small populations, while many of the largest countries in the tropics were the least industrialized, this means that the correlation between industrial success and the size of markets vanishes altogether.¹⁰

A comparison of the size of industrial output – a direct measure of the size of industrial markets – across countries in the early nineteenth century does not support the thesis of a market constraint on the spread of industrialization. Bairoch's (1991: 3) estimates for 1830 show that per capita industrial output for the tropical countries was 6 compared to 11 for Europe; the index is calibrated on a base of 100 for per capita industrial output in Britain in 1900. Only Britain (25), United States (14), Belgium (14), and France (12) had indices significantly above the average for the tropical countries; the remaining 19 European countries in Bairoch's sample have indices equal to or less than 9; Canada and four European countries had indices equal to or less than 6.¹¹ Since the larger tropical countries had populations several times larger than the most industrialized countries in Europe and the CTS, their failure to industrialize cannot be attributed to any demand constraints.

9 Only five countries in Bairoch's sample for 1800 – Britain, United States, Canada, Netherlands and Denmark – were significantly ahead of the average yields for Europe: their indices were 13.2, 20.5, 8.6, 9.0 and 8.0. In 1910, when the disparities in agricultural productivity between Europe and the tropics were much larger (15.8 compared to 5.7), there were several countries in Europe with agricultural productivity at the levels of the tropics, but which had much higher levels of industrialization: compare Russia (7.4: 20), Italy (6.8: 26), Greece (4.7: 19) and Portugal (3.7: 14); the same indices for India (5.4: 2), Brazil (9.4: 7) and Mexico (3.9: 7). The first figure in the parentheses is the index of agricultural productivity; the second number is the index of manufacturing output per head. All the data are from Bairoch (1991: 3, 12).

10 Amongst the most industrialized countries in 1913, Lewis (1978b: 163) lists Belgium (73: 5.1), Canada (84: 3.7), Australia (75: 1.6), New Zealand (66: 0.3), Sweden (50: 3.5), Denmark (46: 1.9), Netherlands (44: 3.1), Norway (39: 1.4), Finland (27: 1.8), Argentina (23: 1.8) and Chile (17: 1.9); the two numbers in the parenthesis are output of manufactures per head in 1913 (USA=100) and the population in 1870 in millions. The population data are from Maddison (1995: 104-13).

11 An adjustment for net imports of manufactures would improve the position of the tropical countries in these comparisons; at least three of the tropical countries in Bairoch's sample were net importers, while several of the European countries were net exporters of manufactures.

Although Lewis does not make this point, it can be argued that an agricultural surplus may not always translate into demand for manufactures. The land-owning classes, who appropriate the agricultural surplus, may choose to spend it on labor consumption services; they may support a class of entertainers, servants, soldiers and guards. However, it appears doubtful that the landed classes even in the tropics would spend the greater part of their earnings on such services during the nineteenth century when a growing variety of consumer goods could be imported if they were not produced locally. In any case, we have seen that this could not have been a problem since the levels of industrial output per capita in tropical countries were quite comparable to those in countries that industrialized successfully.

There is some indication that Lewis may have been aware of the inconsistencies in his thesis of a demand constraint on industrialization. In *Tropical Development*, Lewis (1970: 44) tries to save his thesis by arguing that the tropical countries were “essentially subsistence economies until the coming of the railway, in contrast with Europe or North America where the road and canal revolution had already created large market economies at least a century before, and when the agricultural revolution had already, before 1800, made possible a substantial industrial and urban class.” This is insupportable; differences in agricultural productivity between Europe and the tropics were quite small in 1800, and in some cases favored the tropical countries. Implicitly, Lewis (1978a: 10) takes a similar position in *The Evolution*: the “countries of low agricultural productivity, such as Central and Southern Europe, or Latin America, or China had rather small industrial sectors, and there it [the industrial revolution] made rather slow progress.” On the other hand, Lewis (1978b: 163) concedes in *Growth and Fluctuations* that most countries in the nineteenth century “already had a sizable industrial sector.” This included the whole of Europe, most of Latin America, and “all that part of Asia where the peasants’ surpluses were supporting landowning, merchant or other aristocracies consuming industrial products.” Only Africa, and arguably not all of it, was excluded from pursuing the industrial option in the nineteenth century. But if this is Lewis’ position, what is left of his narrative?

The diffusion of industrialization was also retarded by supply constraints arising from deficiencies in a country’s productive capacity or supply conditions. Lewis (1978a: 10) argues that Asia, Africa and most of Latin America lacked the capitalist environment – the people, skills, ideas and institutions which sustain industrial entrepreneurship – that Western Europe had been creating since the eighteenth century and perhaps earlier. In many countries, including those in Latin America and Central and Southern Europe, these supply deficiencies could be linked to a political structure, where power “was still concentrated in the hands of

landed classes, who benefited from cheap imports and saw no reason to support the emergence of a new industrial class.”¹² This argument has several problems.

It is not clear that the institutions which facilitated industrialization in Britain are a *sine qua non* for industrialization in other countries. This is the old thesis about pre-requisites of development, which became a center-piece of Rostow’s (1956) stages-of-growth theory, but which was discredited by Gershenkeron (1952). In a brilliant paper, Gershenkeron had shown that late industrializing countries in nineteenth-century Europe responded to the industrial challenge by inventing a variety of short-cuts to get around their supply constraints. France and Germany created investment banks to substitute for primitive capital accumulation; and where this did not work, as in a more backward Russia, this task was taken over by the state itself. Further, all late-industrializing countries concentrated on large-scale and capital-intensive projects to make up for the shortage of industrial entrepreneurs and an industrial labor force. If such substitutions were available to Europe, and even in backward Russia which had just emerged from feudalism, one supposes that most tropical countries too could have come up with their own home-grown substitutes.

The plausibility of supply-side constraints on the industrial revolution hangs on the nature of demands imposed by the industrial revolution. It is unlikely that the new industrial methods required skills, values, and institutions which were in critically short supply outside of Western Europe and the CTS. Lewis thinks that the technology of the industrial revolution was simple, and, apart from railways, demanded little capital and few skills. In addition, if the technology required skills that were lacking in the indigenous population – and, in most cases, they were not – this could be remedied by the foreign traders who dominated their export-import trade, or by Englishmen and Frenchmen “willing to travel to the ends of the earth to set up and operate the new mills.”¹³ We know that entrepreneurs from Britain, France, and other advanced countries did move to the tropics to start mines, planta-

12 Lewis (1978a: 10-11). Lewis (1976: 145-46) makes the same argument in *The Diffusion*; in *Growth and Fluctuations*, he blames the slow response to industrialization in Eastern and Southern Europe to the power of their landed classes which lasted till the first decade of the nineteenth century (Lewis 1978b: 161, 167).

13 “The new ideas were ingenious but simple and easy to apply. The capital requirement was remarkably small, except for the cost of building railways, which could be had on loan. There were no great economies of scale, so the skills required for managing a factory or workshop were well within the competence and experience of what we now call the Third World. The technology was available to any country that wanted it, despite feeble British efforts to restrict the export of machinery (which ceased after 1850), and Englishmen and Frenchmen were willing to travel to the ends of the earth to set up and operate new mills (Lewis 1978a: 7-8).” For similar arguments, see Lewis (1978b: 159-60).

tions, and commercial farms; and their governments assisted in creating intercontinental flows of indentured labor to work on these enterprises. If the foreign entrepreneurs stayed away from investing in manufactures in Asia and Africa, their absence does not necessarily indicate a deficiency of supply or demand. This may be due to the hostility of colonial governments to such activities.

In any case, the theses of supply *and* demand constraints on industrialization will stand or fall together. If two countries have markets of comparable size for manufactures, with similar levels of productivity in this sector, it is unlikely that there will be any great disparities in their endowments of those market institutions and entrepreneurial capabilities that would have been required for mounting an adequate response to the challenge of the industrial revolution in the nineteenth century. In countries where the indigenous entrepreneurs had been crowded out by politically backed competition from foreigners – as in the colonies and ‘open door’ countries of Asia and Africa – we still have to explain why this function could not be assumed by the foreign entrepreneurs who crowded their ports, cities, mines and plantations. The thesis of a supply constraint on industrialization – like its twin, the demand constraint – will simply not wash.

Finally, it is a bit simplistic to argue, as Lewis does, that a government dominated by landlords will necessarily oppose industrialization. When national security is at risk, the interests of the state will generally prevail over the sectional interests of ruling elites. Beckett (1986: 434) reminds us that even in the early nineteenth century, the British “government was in the hands of an aristocratic oligarchy. Members of the great landed families controlled the offices of the state, positions in the executive, the House of Lords and a considerable proportion of the House of Commons.” According to Pollard (1981: 255), these landlords had the power to impose near-prohibitive tariffs on the import of wheat under the Corn Laws in 1815 and delay its repeal until 1846. In Germany, the Junkers continued to enforce protectionist policies towards agriculture till the end of the Weimar Republic in 1933; Otto von Bismarck, the imperial chancellor from 1871 to 1890, was himself of Junker stock.¹⁴ More to the point, several countries in Latin America and Eastern and Central Europe, though still dominated by landlords, had instituted protectionist policies for promoting industrialization well before the end of the nineteenth century.¹⁵

¹⁴ Britannica.com, June 4, 2000.

¹⁵ In discussing trade policies in Europe, Pollard (1981: 255, 259) writes of “the general, though not universal, rule” under which tariffs increased with the backwardness of a country: thus, Russia’s tariff of 1823 was among the highest in Europe; and the same relationship might be observed in 1913. Several East European countries opted for high tariffs in the last

5. Lewis and the Terms of Trade

There are two problems with Lewis' theory of the factoral terms of trade for the primary exports of tropical and temperate countries. First, it is incorrect to claim that the terms of trade are determined by market forces *per se*. The differential terms of trade for tropical and temperate primary exports could only be sustained by excluding cheap Indian and Chinese labor from the CTS; this exclusion was made possible by imperialism and racism. Second, the migration flows from India and China to the tropics were not nearly large enough to have played the role assigned to them in Lewis' model.

Lewis develops his terms-of-trade theory within a Ricardian framework. The global economy consists of four regions: Europe (Western), India-China, CTS and the tropics. Each region produces food; Europe produces manufactures; the CTS produce temperate primary products; and the tropics produce tropical primary products. The output of food per worker in Europe is six or seven times that in India-China and the tropics. In addition, at least between 1880 and 1913, the global economy consisted of two distinct labor markets: one high-wage and one low-wage. The high-wage market was created by migrants from Europe moving to CTS; the low-wage market was the result of a similar movement of labor from India-China to the tropics. Since wages in this Ricardian economy are tied to productivity in food, it follows that wages in CTS were six to seven times wages in the tropics; this is what produces the unfavorable terms of trade for tropical exports. The low wages in the tropics, combined with their unfavorable terms of trade, restricted their market for manufactures; in turn, this retarded the growth of indigenous manufacturing capacity.¹⁶ This story is elegant and, on the surface, convincing. But there is a fly – or two – in the ointment.

This story works only if the two streams of migrants – from Europe and India-China – are kept apart. In practice, this only required that the migrants from India-

quarter of the nineteenth century: in 1910, the average tariff rate was 20 percent in Bulgaria, 27 percent in Greece, 13.4 percent in Romania, and 20 percent in Serbia (Lains 2000: 33). Most countries in South America had introduced fairly steep tariffs soon after they gained independence: see Alam (2000: 111-12). Salvucci et al. (1994) and Márquez (1998) provide more detailed analysis of tariffs in Mexico. As a result, in the words of Glade (1989: 46), the commonly held view that industrialization in Latin America “got its start during World War I (not to mention the assertion, sometimes made, that it sprang up still later) is patently incorrect; an incipient phase is clearly visible in the record of what went on between 1870 and 1914...”

16 Lewis (1978a: 14-20, 1978b: 188-93).

China had to be kept out of the CTS; the low-wage tropics did not attract unskilled migrants from Europe. This was achieved by the politics of racism and imperialism; when the Indians and Chinese showed interest in the CTS, they were rigorously excluded by the force of law.¹⁷ The employers in the CTS, of course, wanted the workers from India and China, but the local workers wanted to keep them out. Aided by racist sentiments in Britain, the workers had the upper hand in this contest. As a result, even when Canada, Australia, New Zealand and South Africa were still British colonies, the Colonial office generally cast its vote against immigration of colored peoples. Later, when these colonies gained dominion status, Britain turned a blind eye to their racist immigration practice on the plea that the matter lay outside its jurisdiction. In the words of Huttenback (1976: 317), the exclusion of colored peoples from the British dominions “represented a triumph not so much for the white working man, concerned as he was about “cheap” labor, as of the prevailing ethos that saw the colored man worth intrinsically less than the white.”

There is more politics in Lewis’ story. Had the tropical destinations of migrants from India and China been sovereign, it is unlikely that they would have allowed so many aliens to enter their countries and depress their wages. It may be noted that it was not only the CTS that barred the entry of Indians and Chinese: they were also kept out of all those parts of Asia, Middle East and Latin America that were still independent. In addition, it is doubtful if a sovereign India or China would have allowed hundreds of thousands of their citizens to be carried off as indentured workers to foreign plantations and mines to work under conditions that often exposed them to systematic abuse from their employers.¹⁸ Once again, the result of market forces in Lewis’ theory hangs on a political fact: the imperialist control over economic policies in India, China and the tropics.

The second fly in the ointment is the size of the migrant flows from India-China to the tropics. In *The Evolution*, Lewis (1978a: 14) claims that about 50 million migrants went from Europe to the CTS during the second half of the nineteenth century; and about the same number left India and China to work mainly as indentured laborers in the tropics. *Growth and Fluctuations* looks more carefully at the flows of migrants to the tropics: but the numbers here fall considerably short of 50

17 For two accounts of the exclusion of ‘colored’ peoples from the CTS, see Huttenback (1976) and Tinker (1976).

18 Engerman (1983: 647) recognizes that it was “rising Indian nationalism” in early twentieth century which provided a “major impetus” for ending the flow of contract labor from India.

million.¹⁹ A check with alternative sources reveals that Lewis' estimate of the flow of workers to the tropics is way too large. According to Ferenczi and Willcox (1929: 904-5), the total gross emigration from India over 1842-1921 was 1,249,000. More recently, Engerman (1983: 642) has shown that 1,585,100 Indians moved to the tropics during the nineteenth and early twentieth centuries; and there were 329,000 migrants from China. It is doubtful if some two million mostly temporary migrants from India and China over a period of some eight decades could have set the wages in the tropics. We have to look for other explanations of the unfavorable factoral terms of trade in the tropics.

There is a further problem with Lewis' theory of factoral terms of trade. Since the prices of temperate exports are set to cover the cost of high-wage labor in the CTS, this means that there might be considerable rents – actual or potential – to be earned if the temperate products could be relocated to the tropics to take advantage of their cheaper labor. It is doubtful if there were any climatic barriers to the transfer of livestock, wheat or wool to the tropics. Sheep and cattle were raised all over the tropics; in fact, there were many Africans and Indians who specialized in husbandry. In addition, there were huge stretches of grasslands in East, Central and Southern Africa where cattle ranches and sheep or goat farms might be established without any great difficulty. Why wasn't this tried? Lewis does not trouble with this question. The British empire mobilized its machinery to bring indentured Indians and Chinese to the farms, plantations, mines, railways and ports operated by British capital and expatriates in Africa, West Indies and Southeast Asia; yet they did nothing to expand the production of wheat, dairy products, and wool in the tropics. Could it be that the Colonial Office did not wish to upset the dominions – Canada, Australia, New Zealand, and South Africa – with whom they shared some strong organic bonds?

6. Lewis and Colonialism

19 Lewis (1978b: 185-88) reports that 15,809,000 laborers left India between 1871 and 1915, and since there were fewer emigrants from China, these numbers do not add up to 50 million. There is another inconsistency in the data on the migrants to the tropics. Lewis (1978b: 185) claims that 4,095,000 Indian indentured laborers stayed back in the tropics. But his figures on Indians resident overseas (quoting a different source) shows that in 1930 there were 4,048,000 Indians in the tropics and Australia. Surely, if 4,095,000 had stayed back from 1871 to 1915, their numbers by 1930 would be considerably larger. Clearly, these numbers are problematic.

Lewis (1978b: 215) is quick to dismiss the imperialist origins of the great divide. Colonialism, he argues, was “only one of the many political, social and environmental factors which determine the rate of development.”

Among other things, Lewis (1978a: 9) sets up a specious test of the connection between colonialism and industrialization. If independence was a sufficient condition for industrialization, why were there no signs of industrialization in the independent countries of Latin America, East Asia and South East Asia in 1850? Africa, whose colonization did not begin till the 1880s, poses a similar problem. Lewis is setting up a straw man. I do not think that any one was asserting that independence was a sufficient condition for industrialization; only that its absence was nearly certain to rule out industrialization. Using 1850 as a benchmark, the argument that independence was a necessary condition for industrialization, finds strong empirical support. Of all the countries that had industrialized by 1850 or even 1880, not one was a colony or quasi-colony. There was one quasi-colony, Egypt, that was making a valiant effort to industrialize in the first half of the nineteenth century; but the European powers aborted this possibility in the 1840s. The situation was not different in 1913. According to data provided by Lewis for levels of industrialization in 1913, even the most backward sovereign countries were significantly ahead of India, the only colony in his sample.²⁰

There is a second problem with Lewis' argument. In choosing 1850 to test the connection between independence and industrialization, he is disregarding the locational barriers to the spread of industrialization. There were very few countries even in Western Europe at this time, despite their proximity to Britain and France, which had taken up the industrial challenge.²¹ Had Lewis looked at the world in 1913, he would have noticed that the independent countries – even those in Eastern and Southern Europe and Latin America – had significantly higher levels of industrialization than the colonies.²² Lewis also forgets that many of the largest countries in Asia and Africa, which were also commercially the most advanced – including India, Java, the Ottoman empire, Algeria, Egypt, Iran, Morocco, Tunisia, Thailand

20 In 1913, the index of manufacturing output per head of population in India was one, compared to two for Brazil, five for Mexico, four for Greece, nine for Russia, and 20 for Italy; the base for these comparisons was 100 for USA (Lewis 1978b: 163).

21 According to Rostow (1978: 51), there were only four countries – United States, France, Belgium and Germany – which began their industrial take-off before the 1850s.

22 Lewis' (1978b: 163) data on the output of manufactures per head in 1913 shows that Czechoslovakia (28), Argentina (23), Italy (20), Hungary (19), Chile (17), Spain (15), Poland (13), Russia (9), and Mexico (5) had reached levels of industrialization several times that of India (1). The numbers in parentheses are indices of output of manufactures per capita on a base of 100 for USA.

and China – never had a chance to industrialize. They were colonized, or converted into quasi-colonies, before the 1850s, well before the industrial challenge had touched their shores.²³

Lewis (1978b: 215) proposes a second test of the relationship between sovereignty and economic growth in *Growth and Fluctuations*. He concedes that “some” tropical countries would have grown faster if they had been “self-governing” during 1880-1913, but thinks that it is difficult to say how many would have grown faster, and how much faster. As a result, instead of finding a way to address these questions, he evades them by proposing an alternative test. “If we divide the world into (a) core and periphery, (b) imperialist and non-imperialist or (c) fast and slow developers, these three divisions do not coincide.” But the question is not whether the core (imperialist) countries grew faster than countries at the periphery (non-imperialist). Instead, we want to know whether countries at the periphery – that is, all countries outside of the core industrial nations – industrialized or grew faster when they exercised sovereign control over their economic policies.

Alam (1994, 1999, and 2000) has shown that this question is testable. Working with different taxonomies of sovereignty, Alam (1999 and 2000) uses cross-country data to estimate sovereignty differentials, defined as the impact of increasing levels of sovereignty on a variety of economic indicators, such as industrialization, levels of human capital, and economic growth. These exercises employ a basic four-fold taxonomy of sovereignty – sovereign countries, dependencies, quasi-colonies and colonies – *plus* several variants of this basic taxonomy.²⁴ One set of estimates show that a switch in a country’s rank from colony to sovereign country increased the share of manufacturing in national output by 11.9 percentage *points* in 1960, holding all other factors constant. This is a very large adverse impact, given that the average share of manufactures in national output in the colonies was 8.6 percent in 1960. These results hold up quite well to a variety of changes in taxonomies of sovereignty, sample size and specifications of the estimating equations. Alam (2000: 150-6) undertook similar exercises for growth rates of per capita income between 1900 and 1950, and came up with similar results; this exercise, for

23 Alam (2000: 98-104).

24 Alam (2000: 94) defines sovereignty as the degree to which a country’s “policies, over some sustained period of time, are determined by, and in the interest of, indigenous classes, as opposed to foreign governments, foreign capital, or foreign labor.” A colony is governed by expatriates appointed by, and from, a foreign power; a quasi-colony has an indigenous government whose powers are limited under ‘open-door’ treaties; a dependency has an indigenous government whose powers are constrained by the presence of foreign capital; a sovereign country is free from these constraints. See Alam (2000: chapter 5) for an extended discussion on sovereignty.

paucity of data, excluded all but one country from Sub-Saharan Africa. The sovereign countries grew significantly faster than quasi-colonies and colonies during this period; the dependencies too performed better than the quasi-colonies and colonies. These exercises control for a variety of initial conditions which might have affected growth rates.²⁵

The adverse impact of colonialism on growth rates is also visible from a comparison of growth rates over two extended periods, before and after they gained independence. Alam (2000: 151) has shown that the weighted average annual growth rates of per capita income for quasi-colonies and colonies were 0.59 percent over 1870-1900, 0.50 percent over 1900-1913, and -0.27 percent over 1913-1950. However, their growth rates accelerate sharply to 2.96 percent over 1950-92, when all these countries enjoyed a great deal of autonomy over their economic policies, at least during the first three decades of this period. For paucity of data, these estimates exclude all but one country from Sub-Saharan Africa.

It is necessary to explain the dismal performance of Sub-Saharan Africa in the 1980s and 1990s, since it might be argued that this negates my thesis of an adverse connection between colonialism and economic growth. First, it should be pointed out that the economic performance of Sub-Saharan Africa was roughly comparable to that of other former colonies during the 1960s and 1970s, and the advances they made in school enrolment ratios were on average superior to those in South Asian countries. However, the growth momentum of the 1960s began to fail starting in the second half of the 1970s, turning dismal during the 1980s. This failure can be attributed to a variety of factors, including the two oil shocks, a steep decline in the primary export prices for several countries, the corruption and mismanagement induced by nationalization of industries, growing civil wars, and a large number of small or landlocked economies. Apart from the oil shocks, the roots of every one of these problems are traceable to colonial policies – arbitrary boundaries and discriminatory policies which excluded Africans from ownership in the modern sectors of the economy. State-ownership was the most obvious mechanism for transferring control over the economy to Africans. The oil shocks and the fall in commodity prices hit these economies harder because of their greater dependence on primary exports, another legacy of colonialism.

Lewis (1970: 33) ignores the connection between independence and economic growth when he claims that the period 1913-1950 was one of a “great depression” for all the tropics. Not all countries in the tropics were affected in the same way by this “great depression.” The sovereign countries responded to their declining export

²⁵ A brief description of these exercises is presented in an appendix A.

values by devaluing their currencies, introducing exchange controls, and increasing their import tariffs; the colonies maintained their exchange parities by following deflationary policies. The contrast in their economic performance during this period is also clear. Most of the sovereign countries in Latin America – and Eastern Europe – grew rapidly during this period; but the colonies and quasi-colonies mostly stagnated.²⁶

Lewis' rejection of the political explanation of the great divide is rooted in another empirical fallacy: his claim that there were few policy differences between the colonies and sovereign countries. In *Growth and Fluctuations*, he argues that there were "so many different kinds of colonialism that generalizations about 'the colonial system' are usually misleading." Apart from their failure to help the colonies to industrialize, colonial policies towards education, alienation of lands, encouragement of small farms, discrimination in employment, investment in infrastructure "were very diverse, and ranged as widely as those of self-governing countries in the periphery."²⁷ This argument is repeated in *Tropical Development*, where he argues that colonial policies over 1880-1913 were unpredictable: "it seems almost an accident whether the [colonial] government would be helpful or adverse to development." It was also the case that "the average man" under Latin American governments was "not significantly better protected than the average colonial."²⁸ These claims are not supported by the evidence: in fact, they are contradicted by some of Lewis' obiter dicta on colonialism.²⁹

Consider first the differences in trade policies. Nearly all sovereign countries used tariffs as a major source of government revenues, and increased the protectionist thrust of their import tariffs when they launched their own industrializa-

26 According to Hofman (1993: 247), the average annual growth rates of per capita income during 1913-29, 1929-38, 1938-50, for four tropical countries in South America were as follows: Brazil (2.5, 2.5, and 2.7), Mexico (0.1, 0.1, and 2.5), Colombia (2.1, 2.1 and 1.1), and Venezuela (2.3, 1.1 and 4.7). The per capita incomes in the colonies and quasi-colonies – India, China, Pakistan, Bangladesh, Burma, Egypt, Thailand, Philippines, and Indonesia – declined or stayed the same between 1913 and 1950 (Maddison 1995: 24).

27 Lewis (1978b: 211, 32).

28 Lewis (1970: 27, 28, 29).

29 At various points, Lewis (1978b: 222, 228, 214, 213) acknowledges that colonial governments never supported industrialization and often opposed it; they favored "their nationals at the expense both of indigenous and other foreign competitors;" they followed deflationary policies during the great depression stretching from 1913 to 1950; they hindered "the development of a native modernizing cadre;" they "failed even to try to develop their colonies as sources of raw materials;" and, they produced socio-psychological effects that were "essentially sterile and destructive of development potential." However, not surprisingly, Lewis (1978b: 215) is unwilling to bring these observations together, or to draw the appropriate conclusions from these facts.

tion.³⁰ Even Britain, the industrial pioneer and the leading proponent of free trade, continued to maintain her tariffs at protectionist levels well into the nineteenth century.³¹ On the other hand, most colonies were not allowed to impose even modest tariffs on imports, and when this became unavoidable for raising revenues their protectionist impact was neutralized by an equivalent tax on domestic production. In a similar manner, the quasi-colonies were bound under open-door treaties to very low upper limits on their tariffs. Moreover, while the sovereign countries were generally free to choose their trading partners, the colonies did most of their trade with the metropolitan countries. This ‘enforced bilateralism’ – a term first employed by Gunnar Myrdal (1956: 285-8) – produced some astonishing results. It ensured that Portugal’s exports to her colonies in 1960-62 were 64 times greater than the ‘normal’ levels predicted on the basis of her share in world trade; the ratios for Belgium, Italy, France and Britain were 9.0, 14.7, 8.4 and 3.0 respectively.³² In a similar manner, the foreign investments in the colonies were dominated by the metropolitan country.³³

While sovereign countries biased their incentive towards manufactures, the colonies did the opposite. It is worth pointing out that a policy of free trade in the colonies did not produce neutral incentives towards their manufactures. In a global economy where the sovereign countries protect and subsidize their manufactures, the imposition of free trade in the colonies will bias their incentives *against* manufactures. Thus, by denying import protection, tax holidays, accelerated depreciation, assistance with export marketing, and subsidized financing, real estate and utilities, the colonies created strong barriers against indigenous manufactures which were already handicapped by a late start.³⁴ The colonial bias against manufactures, however, went much further. They actively discriminated against manufactures. The colonies deprived indigenous manufactures of an important protected market by purchasing all government supplies from metropolitan sources; the expatriate banks refused financing to indigenous manufactures; and, although this is harder to prove, the expatriates in the colonies observed an informal taboo against investments in manufactures.³⁵ In addition, the consumption patterns in the colo-

30 Alam (2000: 110-14).

31 Tariffs in Britain, weighted by each commodity’s share in imports, were 35 percent in 1841, 30 percent in 1854 and 27 percent in 1881 (Nye 1991: 29).

32 Kleiman (1976: 463).

33 Svedberg (1981).

34 This lack of official encouragement for industrialization is supported by the fact that “no colonial government had a department of industry before 1945 (Fieldhouse (1981: 68).”

35 In large part, this resulted from an instinctive recognition that the colonial enterprise depended crucially on using the colonies as producers of primary goods, that this enterprise

nies were biased against domestic manufactures by the presence of a large expatriate population who shunned domestic manufactures, and whose foreign tastes were soon acquired by domestic elites in emulation of their superiors.

The colonies and sovereign countries had different fiscal structures. Colonial governments were generally smaller because they had fewer revenue sources.³⁶ We have already seen that they could not impose taxes on their external trade, the most important source of revenues for the sovereign countries. In addition, they could not tax their businesses since these were mostly owned by expatriates. The colonial governments also faced fewer pressures to provide urban infrastructure, famine relief, education, health care, or to provide subsidies to domestic manufactures. The colonies were scrupulous about balancing their budgets; fiscal deficits had to be avoided since these might reduce the value of foreign remittances *via* inflation and currency devaluations. Thus, when export earnings fell off during the 1930s, the colonies sought to restore their trade balance by cutting public expenditure, while the sovereign countries in Latin America devalued their currencies, defaulted on their foreign debts, suspended convertibility, and imposed exchange controls.³⁷ This fiscal conservatism also had important consequences for the structure of colonial expenditure. After disbursing exorbitant salaries and pensions to their expatriate employees, colonial governments had little money left over for developing indigenous productive capabilities, even if they did feel so inclined.³⁸

The colonial bias against manufactures was accompanied by a failure to develop subsistence agriculture. The interests of nearly all sections of metropolitan capital

would be threatened by industrialization on any significant scale. It is possible that the glue that enforced this taboo was a racial solidarity, or joining of ranks, against hostile subjects of a different race and religion.

36 According to Lance and Huttenback (1988), the average per capita government expenditure for 1860-1912 was significantly lower in India than in independent 'underdeveloped countries'; and, when railways are excluded, the levels in India were also lower than in the Indian princely states. The expenditures in the other British colonies were much higher than in the independent underdeveloped countries; but these comparisons are problematic. There are some 60 of these colonies, most of them micro entities, with a combined population of 4 million in 1862 compared to 139 million for India (Davis and Huttenback 1989: 190). Davis and Huttenback (1988: 110) do not provide disaggregated data for these colonies, but they observe that expenditures were highest in colonies "where local citizens had some access to the political process," and lowest "where that access was minimal." They have provided another telling comparison. While there was no increase in the ratio of last- to first-decade expenditures in India, this ratio had increased by a factor of six in the independent underdeveloped countries, and even in the Indian princely states it had increased by a factor of two.

37 See Maddison (1985: 23-44) for different responses to the great depression in sovereign countries and colonies.

38 Lewis (1970: 333) writes that the low expenditure on infrastructure in India was not due to low revenues, but "the proceeds were spent to an excessive and unfair extent on British civil servants and British troops, and on fighting British wars outside India."

were best served by cheap labor in the colonies. A battery of policies advanced this objective: driving farmers and herders off the best lands; taxing the farmers, forcing them to supply free labor on public projects, and barring them from activities reserved for expatriate capital; and importing cheap labor from India and China. In addition, and perhaps most importantly, colonial governments did little to improve yields in subsistence agriculture; they neglected irrigation projects and research into food crops, and denied literacy to the peasants.³⁹ A backward subsistence sector created low wages and low prices for primary exports. It is ironic that Lewis did not recognize a colonial interest in neglecting subsistence agriculture in the colonies, since his model of the dual economy makes the link so transparent.

I can only touch upon the evidence relating to the colonial neglect of agriculture. In his history of the British colonial agricultural service, Masefield (1972: 14, 78, 83) notes that it took the British 300 years to set up the “first governmental Departments of Agriculture” in the tropical colonies. Further, these departments worked primarily for the benefit of Europeans settlers, concentrating their research efforts on cash crops. In some places, this work yielded spectacular results: the per acre yield of sugarcane in the Caribbean rose ten fold between 1850 and 1950. Surveying the transfer of agricultural techniques to colonial Africa, Yudelman (1975: 355) concludes that “it was only in the 1940s that substantial public resources were made available for research and agricultural development.” In most colonies, the first facilities for research into export crops were set up in the 1940s, but research into the problems of Africa’s food crops was only starting in the 1960s. Another authority on colonial economies, Crowder (1968: 282), makes a similar assessment: he writes that public expenditure in agriculture in British and French West Africa was “perversely low considering that agriculture was the life-blood of all these colonies.” Even Lewis (1978b: 212) concedes that until 1913 colonial governments had “conspicuously failed” to introduce new cash crops or “open up land with roads or irrigation.”

Two major colonies, India and Egypt, had similar experiences. Griffiths (1965: 417) has drawn attention to the “contrast between the hesitancy and even apparent reluctance of the British attempts to improve Indian agriculture, and the bewildering rapidity of progress in other departments, such as those of railways, public works and telegraphs.” Before the twentieth century, agricultural research in India had been “unco-ordinated and mainly dependent on the energies of a few enthusi-

39 It would be harder to pursue such policies in a sovereign country, especially one which was trying to develop its own manufactures, since their expansion depended on the growth of a marketable surplus in agriculture.

asts.” In addition, irrigation was neglected in favor of railways: until 1913, the colonial government had spent £ 235 million on railways but only £ 40 million on irrigation.⁴⁰ Lewis (1978b: 318) acknowledges that if the British had paid more attention to irrigation in India her “agricultural output would have grown much faster, and with this the whole tempo of Indian economic change would have been different.” It is significant that the per acre yield of food grains in India declined by an average of 0.18 percent every year between 1891 and 1941 while the yield in non-food grain crops increased by an average of 0.86 percent per year.⁴¹ In Egypt, agricultural productivity declined during the period of colonial occupation; according to one estimate, agricultural output per worker went down by 37 percent between 1900-1904 and 1940-44.⁴²

Most colonial governments accorded a very low priority to education. This was not always or only due to budgetary constraints. The colonial rulers were afraid that the spread of education might help to create a nationalist awakening, and educated natives would compete for the skilled jobs monopolized by expatriates. It was unnecessary to equip the natives with literacy since the colonial economy relegated them to low-skill activities in the primary sector. When the colonies offered any education, this was often subordinated to the cultural goals of colonialism. Colonial education was often entrusted to missionaries; it was restricted to instruction at the primary level; it often began by emphasizing basic vocational skills; it generally eschewed the use of indigenous languages; and the school curricula ignored or denigrated local history and traditions. Where secondary and higher education were introduced, they merely prepared natives for clerical positions in the government. There were few colonies that created facilities for scientific and technical instruction; the rare indigenous professionals in the colonies were trained abroad.⁴³

The neglect of education in the colonies is reflected in the paltry budgetary allocations to education. On a per capita basis, between 1860 and 1912, the colonial government in India “spent only half as much as the princely states and less than one-quarter as much as the governments of the underdeveloped countries. Neighboring Siam, to cite an extreme example, spent eleven times as much; and among

40 Lewis (1978b: 317).

41 Blyn (1966: 104) quoted in Fieldhouse (1981: 84). According to the evidence in Heston (1983: 427), between 1900 and 1947, the crop yields declined by 25 percent in rice, 16 percent in wheat, 23 percent in maize, 6 percent in bajra, 25 percent in barley, 13 percent in maize, and 19 percent in gram.

42 O’Brien (1968: 191).

43 See Kelly and Altbach (1978: 2) for a systematic analysis of how colonial education differed from indigenous and metropolitan educational systems.

among the twenty-five [independent] underdeveloped countries in the study, only one spent less.”⁴⁴ In addition, the government expenditure in British India remained unchanged between 1865 and 1912, while it went up three fold in the Indian princely states, and increased more than three fold in the independent underdeveloped countries. The British in Malaya seldom spent more than 1.5 percent of their revenues on education, ensuring that at the end of the colonial period Malaya “was still acutely under-educated in relation to the country’s level of development.”⁴⁵

The impact of colonial policies on education is best measured by the end result: the poverty of human capital in the colonies at the end of the colonial period. Alam (2000: 135-50) has estimated sovereignty differentials for two indicators of human capital: adult literacy rates and average years of schooling in the labor force, both for 1960. These estimates reveal a sovereignty differential of 62.6 percentage points in adult literacy rates between sovereign countries and colonies in 1960, compared to an average adult literacy of 24.7 percent in the colonies. The sovereignty differential in average years of schooling in the labor force in 1960 was 6.1 years, compared to an average schooling of 1.6 years for the colonies.⁴⁶

The combined effect of all the colonial policies was to produce high concentrations of income accruing to foreign capital and expatriates. This concentration was achieved through cheap labor policies supported by land expropriations, labor levies, the neglect of the subsistence sector, imports of Indian and Chinese labor (in the tropical colonies of Africa, South East Asia and the Caribbean), encouraging population growth, and neglecting basic literacy and advanced education. In addition indigenous capital was displaced from manufactures and commerce by free trade, discriminatory policies favoring expatriate businesses, and state procurement policies which excluded domestic manufactures. Finally, the colonies created rents for metropolitan labor and capital by creating barriers to entry for their competitors.

Although the data constraints are severe, we do have some statistical evidence of high income and asset concentrations in the hands of foreigners. Thus, Indone-

44 Davis and Huttenback (1989: 11). The per capita expenditures in the other British colonies were much higher than in India, but once again, these comparisons are not relevant since the former were mostly micro-entities with strong segments of native-born whites who had an important voice in the colonial legislative councils.

45 Rudner (1987: 205, 207).

⁴⁶ See appendix A for methodology employed to estimate these results.

sia's European population, a mere 0.4 percent of the total in 1930, received, on average, 10.6 percent of the national income over 1921 to 1939. Indonesia's non-European minorities—consisting of Chinese, Arabs and other Asians—received another 8.35 percent of the national income. In India, the European expatriates, constituting 0.15 percent of the population in 1931, received five percent of the national income in the 1930s.⁴⁷ In 1946, the whites in Zimbabwe constituted 3.8 percent of the population but received 49 percent of the national income; in 1960 they were 6.2 percent of the population and received 61 percent of the national income.⁴⁸ The income distribution in Belgian Congo was even more unequal; in 1958, the foreigners, constituting one percent of the population, received 42 percent of the national income, and owned 95 percent of the total assets.⁴⁹ Income inequalities of this magnitude were unknown even in Latin American which had the highest inequalities amongst sovereign countries.

Finally, I want to touch upon a psychological difference between the colonies and sovereign countries. The colonies suffered from the deleterious effects of being governed by aliens who disrupted their social systems; disparaged and devalued their history, language and religion; and who regarded them as racially and culturally inferior. It is likely that the shock of colonial subjugation may have reduced the capacity of indigenous societies in Africa and Asia to respond to the opportunities created by integration into the global economy. Lewis (1978b: 214) agrees that such arguments should be taken seriously; societies can go into shock just as much as individuals, with all the damaging consequences this entails.

7. Conclusion

Lewis' theory of the great divide was very well received by the reviewers: they found much to applaud, and little to disagree with, in *The Evolution and Growth and Fluctuations*.⁵⁰ It appears that these books had met an important demand in the

47 Maddison (1990: 361-63).

48 Kilby (1975: 487).

49 Peemans (1975: 181).

50 Rostow (1979: 106) described the first book as a "*tour de force*", and he could not "recall reading more of value set out in such a short compass." Bruton (1980: 410) declared that it is a "fascinating story told with great elegance and remarkable insight. Lewis, perhaps more so than any other present-day economist, can isolate a very few crucial variables and build around them a powerful and illuminating story." In his review of the second book, Rosen (1980: 868) writes that "It is a book that can only add to the intellectual prestige of economics and economists."

social sciences: a theory of the great divide that was not overtly Eurocentric but which was based on a mainstream conception of market forces.

When economists first looked at the great divide in the 1940s, they confronted several facts which were at odds with their orthodox theories. According to these theories, the colonies enjoyed the best possible conditions for sustained growth: they practiced free trade; they allowed free entry of foreign capital and labor; their governments were small, balanced their budgets, and provided good governance. But these conditions had produced very little growth in the colonies. Here was a paradox that called for an explanation. This soon produced a slew of heterodox theories which blamed markets *per se* for the poverty of the colonies. Some argued that markets led to monopoly control by core countries over primary production in the colonies, and this kept them poor by draining away their surplus. Alternatively, the backwardness of colonies was blamed on a declining trend in their terms of trade. A third set of theories sought an explanation in the cumulative action of market forces acting on asymmetries in the technology of primary and manufacturing sectors. In addition, there were political explanations which identified imperialism as the primary cause of backwardness in Asia, Africa and Latin America: the core countries had used their power in a variety of ways to block economic development in the colonies.

Of course, the Eurocentric theories of the great divide were still making the rounds, though with a diminished luster. These theories divided the world into two unequal moieties: us *and* them. We, the Europeans, are rational, free and dynamic; they are irrational, despotic and unchanging. We always possessed these advantages because we had been chosen by God; alternatively, we are privileged by geography, climate or genetics. Advanced civilizations are not possible in the tropics because of their heat, soils, diseases, cultures, and, worse, their race. As a result, we had moved ahead, leading the march of history, eventually creating democratic polities, rational bureaucracies, modern sciences, and the industrial revolution. Since the tropical societies were incapable of imitating these achievements on their own, it was our unpleasant duty to civilize them. Colonization was the white man's burden.

It is easy to see why these two sets of explanations – one heterodox and another Eurocentric – would face growing resistance. The heterodox explanations were problematic because they pointed to ineradicable flaws in the workings of global markets; they called for planning, public ownership, and interventions in international trade and foreign investments. The theories of imperialism pointed the accusing finger at the most powerful countries: they located the source of the world's poverty in the rich countries, and, worse, this might lead to calls for reparations. As

for the Eurocentric theories, it had become harder to espouse them openly, with more than a hundred newly independent countries in the United Nations and its affiliated bodies. Another theory of the great divide was needed, one that would preserve the virtues of markets *and* shift the blame for poverty in the tropics away from the rich countries. Lewis met this challenge by marrying markets with geography.

The outline of this story bears repetition. Around 1800, Britain started an industrial revolution. In principle, any country could create its own industrial revolution since it made few demands on skills or capital. In practice, however, this required a large market for manufactures based on high agricultural productivity. In the first half of the nineteenth century, only United States and a few countries in Western Europe met these conditions; they were the first to industrialize. The others would have to wait until they could create larger markets for manufactures by expanding their primary exports; this opportunity first appeared in the 1880s when the core industrial nations increased their imports of primary goods. However, not all primary producing countries were born equal. There were two classes of primary goods. Some were produced in the CTS with immigrants drawn from the core countries; others were produced in the tropics with labor from India and China. Since wages in the core countries were about six times greater than wages in India and China – a gap created by differences in labor productivity in their food sectors – the temperate exports were sold at much better terms than the tropical exports. These two advantages – in wages and factoral terms of trade – gave the CTS the large markets they needed to industrialize. The tropical countries were sidelined by their low wages and adverse terms of trade. India and China were marginal participants in this game because they lacked the year-round rainfall and empty lands needed for expanding tropical agricultural exports.

This story served two objectives. In explaining the great divide in terms of market forces, it absolved the core industrial countries of responsibility for poverty in the colonies. It also rehabilitated global markets. Lewis shows that the great divide was not created by market forces *per se*, but was the result of market forces acting upon large, already existing disparities in agricultural productivity between temperate regions and the tropics. The great divide could have been avoided altogether if tropical agricultural had been as productive as in Western Europe. The differences in agricultural productivity, in turn, had their origin in geography, in the differences between temperate regions and the tropics. Clearly, this story contained the right message: it was a fitting response to all the nationalist and neo-Marxist narratives which, in Lewis' (1978b: 202) words, look upon "the tropics rather as

having been captured by the industrial nations, especially in the colonial relationship, and forced to supply cheap raw materials for Europe and North America.”

Appendix A

Alam (2000: chapter 6) presents extensive cross-country regression results on the impact of sovereignty on economic growth and several structural parameters in lagging countries. It involves estimating a reduced-form equation: $Y = \alpha + \beta U + \delta V + \varepsilon$, where the dependent variable, Y , represents growth rates of per capita income or one of the structural parameters in lagging countries, U is the set of economic and social determinants of Y , V is a set of variables relating to sovereignty, and ε is a normally distributed error term. In every case, V includes a set of dummy variables measuring different levels of sovereignty. The dummy variables for sovereignty are derived from a five-fold classification that includes: sovereign countries (*SOV*), dependencies (*DEP*), quasi-colonies (*QC*), newly independent countries (*NIC*), and colonies (*COL*). Sovereignty differentials in any dependent variable, Y , are given by the coefficients of the sovereignty dummies. Thus, if colonies are the base category, the estimated coefficient for sovereign countries ($SOV = 1$ for all sovereign countries) measures the differential in Y between sovereign countries and colonies, everything else held constant.

Table 1
Complete Set of Binary Comparisons

| Group I | Group II |
|----------------|----------------|
| SOV | COL |
| | COL-NIC-QC |
| | COL-NIC-QC-DEP |
| SOV-DEP | COL |
| | COL-NIC |
| | COL-NIC-QC |
| SOV-DEP-QC | COL |
| | COL-NIC |
| SOV-DEP-QC-NIC | COL |

In order to address concerns about the sensitivity of our results on sovereignty differentials to the taxonomy of sovereignty, we estimated these differentials for several alternative taxonomies. These alternatives were derived by successively merging the intermediate categories in the five-fold taxonomy into two polar categories. Thus, the category of sovereign countries is expanded successively to include dependencies, quasi-colonies and *NIC*; alternatively, the category of colonies

is expanded successively to include NICs, quasi-colonies and dependencies. Taken together, these taxonomies permit us to make ten different comparisons between polar categories; these polar categories are set in Table 1 above. We expect that sovereignty differentials for any category relative to colonies (or any other base category) will decrease as we expand the scope of the first category. Alternatively, a similar decline in sovereignty differentials is expected for an expansion in the scope of the base category. These expectations were confirmed by our regression results.

References

- Abramovitz, Moses, "Catching-up, forging ahead, and falling back," *Journal of Economic History* 46, 2 (June 1986): 385-406.
- Alam, M. Shahid, "Colonialism, decolonization and growth rates: theory and empirical evidence," *Cambridge Journal of Economics* 18 (1994): 235-57.
- Alam, M. Shahid, "Does sovereignty matter for economic growth? An analysis of growth rates between 1870 and 1950," in: John Adams and Francesco Pigliaru, eds., *Economic growth and change* (Cheltenham, UK: Edward Elgar, 1999).
- Alam, M. Shahid, *Poverty from the wealth of nations: Integration and polarization in the global economy since 1760* (Houndmills, UK: Palgrave: 2000).
- Bairoch, Paul, "How and not why; Economic inequalities between 1800 and 1913: Some background figures," in: Jean Batou, ed., *Between development and underdevelopment: The precocious attempts at industrialization of the periphery, 1800-1870* (Genève: Librairie Droz, 1991).
- Bairoch, Paul, "How and not why? Economic inequalities between 1800 and 1913: Some background figures," in: Jean Batou, ed., *Between development and underdevelopment: The precocious attempts at industrialization of the periphery, 1800-1870* (Genève: Librairie Droz, 1991).
- Batou, Jean, "Muhammad-'Ali's Egypt, 1805-1848: A command economy in the nineteenth century," in: Jean Batou, ed., *Between development and underdevelopment: The precocious attempts at industrialization of the periphery, 1800-1870* (Genève: Librairie Droz, 1991).
- Beckett, J. V., *The aristocracy in England: 1660-1914* (Oxford: Basil Blackwell, 1986).
- Blyn, George, *Agricultural trends in India, 1891-1947* (Philadelphia: Ph.D. Thesis, University of Pennsylvania, 1966).
- Bruton, Jenry J., Book review (W. Arthur Lewis, *The evolution of the international order*), *Economic Development and Cultural Change* 28, 2 (January 1980): 409-12.
- Crowder, Michael, *West Africa under colonial rule* (Evanston, IL.: Northwestern University Press, 1968).
- Davis, Lance E. and Robert A. Huttenback, "Businessmen, the raj, and the pattern of government expenditures: the British empire, 1860-1912," in: David W. Galenson, ed., *Markets in history* (Cambridge: Cambridge University Press, 1989).
- Davis, Lance E. and Robert A. Huttenback, *Mammon and the pursuit of empire: The economics of colonialism* (Cambridge: Cambridge University Press, 1988).

- Engerman, Stanley, "Contract labor, sugar, and the flow of technology in the nineteenth century," *Journal of Economic History* 43, 3 (September 1983): 635-60.
- Ferenczi, Imre and Walter F. Willcox, *International migrations, vol. 1* (New York: National Bureau of Economic Research, 1929).
- Fieldhouse, David K., *Colonialism, 1870-1945: An introduction* (New York: St. Martin's Press, 1981).
- Gerschenkron, Alexander, *Economic backwardness in historical perspective* (Cambridge, MA.: Harvard University Press, 1962).
- Glade, William, "Economy, 1870-1914," in: Leslie Bethel, ed., *Latin America: Economy and society, 1870-1930* (Cambridge, UK.: Cambridge University Press, 1989).
- Griffiths, Percival, *The British impact on India* (Hamden, CT.: Archon Books, 1965).
- Heston, Alan, "National income," in: Dharma Kumar, ed., *The Cambridge economic history of India, volume 2* (Cambridge: Cambridge University Press, 1983).
- Hofman, André, "Economic development in Latin America in the twentieth century: A comparative perspective," in: A. Szirmai, B. van Ark and D. Pilat, eds., *Explaining economic growth* (Amsterdam: Elsevier Science Publishers, 1993).
- Huttenback, Robert A., *Racism and empire: White settlers and colored immigrants in the British self-governing colonies, 1830-1910* (Ithaca: Cornell University Press, 1976).
- Kelly, Gail P. and Philip G. Altbach, "Introduction," in: Philip G. Altbach and Gail P. Kelly, eds., *Education and colonialism* (New York and London: Longman, 1978).
- Kilby, Peter, "Manufacturing in colonial Africa," in: Peter Duignan and Lewis H. Gann, eds., *Colonialism in Africa, 1870-1960* (Cambridge: Cambridge University Press, 1975).
- Kleiman, Ephraim, "Trade and the decline of colonialism," *Economic Journal* 86 (September 1976): 459-79.
- Lains, Pedro, *Southern European economic backwardness revisited, 1870-1913* (Instituto de Ciências Sociais, Universidade de Lisboa: 2000).<http://www.ics.ul.pt/ics/membros/jpcls/SouthernEuropean.pdf> (July 2, 2001).
- Lewis, W. Arthur, "The diffusion of development," in: Thomas Wilson and Andrew S. Skinner, eds., *The market and the state: Essays in honor of Adam Smith* (Oxford: Clarendon Press, 1976).

- Lewis, W. Arthur, "The export stimulus," in: *Tropical development, 1880-1913* (Evanston: Northwestern University Press, 1970).
- Lewis, W. Arthur, *Growth and fluctuations, 1870-1913* (London: George Allen and Unwin, 1978b).
- Lewis, W. Arthur, *The evolution of the international economic order* (Princeton, NJ.: Princeton University Press, 1978a).
- Maddison, Angus, "The colonial burden: A comparative perspective," in: Maurice Scott and Deepak Lal, eds., *Public policy and economic development* (Oxford: Clarendon Press, 1990).
- Maddison, Angus, *Monitoring the world economy, 1820-1992* (Paris: Organization for Economic Co-operation and Development, 1995).
- Maddison, Angus, *Two crises: Latin America and Asia, 1929-38 and 1973-83* (Paris: Organization for Co-operation and Development, 1985).
- Márques, Graciela, "Tariff protection in Mexico, 1892-1909," in: John H. Coatsworth and Alan M. Taylor, eds., *Latin America and the world economy since 1800* (Cambridge, MA.: Harvard University Press, 1998).
- Masefield, Geoffrey B., *A history of the colonial agricultural service* (Oxford: Clarendon Press, 1972).
- Myrdal, Gunnar, *An international economy* (New York: Harper and Row, 1956).
- Nye, John Vincent, "The myth of free-trade Britain and fortress France: Tariffs and trade in the nineteenth century," *Journal of Economic History* 51,1 (March 1991): 23-46.
- O'Brien, Patrick, "The long term growth of agricultural production in Egypt," in: P. M. Holt, ed., *Political and social change in modern Egypt* (London: Oxford University Press, 1968).
- Peemans, Jean-Philippe, "Capital accumulation in the Congo under colonialism: The role of the state," in: Peter Duignan and Lewis H. Gann, eds., *Colonialism in Africa, 1870-1960* (Cambridge: Cambridge University Press, 1975).
- Pollard, Sidney, *Peaceful conquest: The industrialization of Europe, 1760-1970* (Oxford: Oxford University Press, 1981).
- Ray, Debraj, *Development Economics* (Princeton, NJ.: Princeton University Press, 1998).
- Rosen, George, Book Review (W. Arthur Lewis, *Growth and Fluctuations, 1870-1913*), *Economic Development and Cultural Change* 28, 4 (July 1980): 861-68.
- Rostow, W. W., Book Review (W. Arthur Lewis, *The evolution of the international economic order*), *American Historical Review* 84, 1 (February 1979): 106.

- Rostow, W. W., *The world economy: History and prospect* (Austin: University of Texas Press, 1978).
- Rostow, W.W. "The Take-Off into Self Sustained Growth," *The Economic Journal*, 66, March 1956, pp. 25-48.
- Rudner, Martin, "Colonial education policy and manpower underdevelopment in Malaya," in: Barbara Ingham and Colin Simmons, eds., *Development Studies and colonial policy* (London: Frank Cass, 1987).
- Salvucci, Richard J., Linda K. Salvucci, and Aslán Cohen, "The politics of protection: Interpreting commercial policy in Late Bourbon and early national Mexico," in: Kenneth J. Andrien and Lyman L. Johnson, eds., *The political economy of Spanish America in the age of revolution, 1750-1850* (Albuquerque, NM.: University of New Mexico, 1994).
- Shah, Idries, *The pleasantries of the incredible Mulla Nasrudin* (New York: Arkana Books, 1993).
- Stearns, Peter N., *The industrial revolution in world history* (Boulder: Westview Press, 1993).
- Svedberg, Peter, "Colonial enforcement of foreign direct investment," *The Manchester School* 49, 1 (March 1981): 21-38.
- Tinker, Hugh, *Separate and Unequal: India and the Indians in the British Commonwealth, 1920-1950* (Vancouver: University of British Columbia Press, 1976).
- Yudelman, Montague, "Imperialism and the transfer of agricultural techniques," in: Peter Duignan and Lewis H. Gann, eds., *Colonialism in Africa, 1870-1960* (Cambridge: Cambridge University Press, 1975).