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Industrial Convergence and the Persistence of the North-South Income Divide: A Rejoinder to Firebaugh (2004)

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In "Industrial Convergence, Globalization, and the Persistence of the North-South Divide" (Arrighi, Silver, and Brewer, 2003) we presented two simple statistics. One showed that over the last forty years, the degree of industrialization of the Global South, when measured by the proportion of GDP generated in manufacturing, had caught up with and then overtaken the degree of industrialization of the Global North. The other showed that over the same forty years there was virtually no income convergence between North and South. This mismatch between industrial convergence and income convergence, we claimed, represents a major puzzle for the theories that inspired the industrialization drive of Third World countries. In a recent comment, Glenn Firebaugh dismisses our claim on three grounds, stating that (1) it rests on the "demonstrably false" empirical claim that income inequality is not declining across nations; (2) it relies on the "normative . . . and contentious" claim that the objective of development policy is to reduce income inequality across nations; and (3) what we interpret as Third World or Southern industrialization should instead be interpreted as "segregated manufacturing growth" (Firebaugh, 2004: 100, 102). We deal with each of these criticisms in turn.

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First, the issue of whether inter-country income inequality (measured by summary indicators like the Gini or Theil coefficients) has been rising or declining is more controversial than Firebaugh claims (see, among others, Wade, 2004). However, we did not take a position on this issue; our article focused exclusively on the North-South income divide measured by the GNP per capita of the Third World as a percentage of the GNP per capita of the First World.

Second, our claim that catching up with First World standards of wealth *was* the generally accepted objective of developmental efforts is not a normative statement; rather, it is a statement of fact about the premises and expectations of development theory during its "golden age" of the 1950s and 1960s.[1] Even the most cursory reading of Rostow's canonical text (1960) reveals how central the idea of catching up with the West was to the entire "development project." More important for our purposes, the industrialization of poor countries and the de-industrialization of rich countries—Daniel Bell's (1973) "coming of post-industrial society"—were generally expected to bring about income convergence between the two.

Understandably, the failure of these expectations to materialize has led to a reorientation of development policies towards other objectives, such as the alleviation of poverty and the satisfaction of basic needs. While we sympathize with the prudence of this *normative* reorientation, we strongly disagree with Firebaugh's dismissal of the significance of the huge and persistent North-South income gap. Focusing exclusively on national income growth, without paying attention to inter-country income inequality, may be good enough for economists but is not good enough for sociologists. Relative deprivation is sociologically as important as, and in key respects more important than, absolute deprivation. Northern consumption patterns and norms have always exercised a strong "demonstration effect" on Southern societies, both by changing perceptions of what constitutes a "good life," and by diverting national resources from patterns of consumption and investment that generate local income and jobs. As a result, relative deprivation tends to increase even if absolute deprivation is decreasing. It makes no sense to deny these effects validity at a time when thirty years of so-called globalization have exposed Southern societies to Northern demonstration effects to a far greater extent than ever before.

Regarding Firebaugh's third criticism, the regression equations that he calls our "central model" were presented "not as models of causal relationships, but as descriptive statistics—that is, as means to identify patterns in the relationship between industrial and income convergence/divergence over time" (Arrighi, Silver, and Brewer, 2003: 28 n13). Our central model, if there was one, was the *explanation* we offered of the patterns so identified. Yet Firebaugh concentrates on demonstrating that we got our *explanandum* wrong. Through an algebraic transformation, he translates our statement that variability in income performance is uncorrelated with variability in industrial performance into the algebraically equivalent statement that "the difference between income growth rate and population growth rate is uncorrelated with the difference between manufacturing growth rate and income growth rate" (pp. 101–102). We object to Firebaugh's contention that the reformulated statement (his) is correct, while the original statement (ours) is incorrect. Being algebraically equivalent, the two statements say exactly the same thing; they just say it in different words.

The reason why Firebaugh dismisses our statement has nothing to do with his

algebraic transformation and everything to do with his rejection of the particular indicator we use to measure variations in the degree of industrialization: the proportion of total value added or GDP generated in manufacturing. If value added in manufacturing grows faster than total value added, we interpret the corresponding increase in the proportion of GDP generated in manufacturing as an increase in the country's degree of industrialization. Firebaugh, in contrast, interprets the increase as a sign that the country is experiencing not industrialization, but "segregated manufacturing growth"—a condition in which "manufacturing growth surged ahead of total income growth" (2004: 102).

It is not clear from Firebaugh's comment what, exactly, segregated manufacturing growth (henceforth SMG) is. "To benefit a country economically," we are told, "manufacturing should be linked to other sectors of the economy. Successful industrialization [as opposed to SMG] means that manufacturing growth does not just boost manufacturing, but boosts other economic sectors, as well" (Firebaugh, 2004: 102). These statements provide two distinct definitions of SMG, as de-linked or unbalanced manufacturing growth, and as unsuccessful industrialization. The first definition focuses on a hypothetical cause of income growth—the kind of manufacturing growth that, according to Firebaugh, can be expected to result in income growth. The second, in contrast, focuses on results—that is, whether or not manufacturing growth has actually resulted in income growth.

The first definition echoes the central debate of golden-age development theory on the issue of balanced vs. unbalanced growth. Is Firebaugh's SMG meant to draw our attention to industrial structure and to the importance of forward and backward linkages in sustaining industrial growth and in ensuring that it translates into overall income growth? If so, we would agree that our indicator is ill-suited to distinguish between different kinds of manufacturing growth. We would also agree that an effort should be made to devise indicators suitable to testing the hypothesis that certain kinds of manufacturing growth are more conducive than others to income growth.

However, Firebaugh does not comment on balanced vs. unbalanced growth. Instead, he states that whenever manufacturing growth surges ahead of total income growth, we are dealing with a case of SMG. This statement makes no theoretical or empirical sense, because it rules out the very real possibility that an increase in the proportion of GDP generated in manufacturing might be associated with high income growth and would thus qualify as successful industrialization—the opposite of SMG by Firebaugh's second definition.

The data provided in Tables 1 and 2 of our 2003 article clearly illustrate this contradiction between Firebaugh's two definitions of SMG. According to those data, manufacturing growth surged ahead of total income growth most markedly in East Asia, whereas it surged ahead least markedly in Latin America and Sub-Saharan Africa. Hence, by Firebaugh's first definition, manufacturing growth in East Asia was *more* a case of SMG than manufacturing growth in Latin America or Sub-Saharan Africa. But our data also show that income growth was much faster in East Asia than in Latin America and Sub-Saharan Africa and so, by Firebaugh's second definition, manufacturing growth in East Asia was *less* a case of SMG than manufacturing growth in Latin America or Sub-Saharan Africa.

Apparently unaware of this contradiction, Firebaugh proposes an alternative test

Table 1
Correlation Coefficients for Income Growth with Growth of Value Added in Different Sectors (1965–1998)

	r (weighted)	r (unweighted)
Agriculture	0.78	0.34
Industry	0.98	0.89
Manufacturing* (1960–1999)	0.87	0.77
Services	0.98	0.95

of whether industrialization has advanced poor countries economically. Regressing income growth on industrial growth for 59 of the 61 Third World countries used in our regressions, he finds strong positive correlations: for 1965–1998 a "whopping" r of 0.98, with countries weighted by population size; and for 1980–1998 an r of 0.93 weighted by population, and an r of 0.80 unweighted. These results are not surprising: value added in industry (which includes not just manufacturing but construction and mining as well) is a major component of total value added (income). It is only to be expected that in a country whose total value added is growing rapidly, the growth rate of value added in industry will be higher than that of a country whose total value added is growing less rapidly or not at all, even if the relative importance of industry is decreasing in the rapidly growing country and increasing in the slowly growing country. This is why Firebaugh finds a very strong positive correlation between industrial growth and income growth. But this strong positive correlation tells us nothing about the relationship between income growth and industrialization as a process of structural change that increases the importance of industrial activities.

To come to this realization, it is necessary to regress income growth on the growth of value added not just in industry, as Firebaugh does, but also in the other two main sectors of economic activity: agriculture and services. Using the same source as Firebaugh (World Bank, 2000: Table 1.4), we obtained the correlation coefficients shown in Table 1. Like Firebaugh, weighting countries by population, we find for industry a huge r of 0.98. But we find the identical r for services, and a smaller but nonetheless quite strong r of 0.78 even for agriculture. Interestingly, the r for manufacturing (0.87), while also very high, is closer to the r for agriculture than to those for industry or services.[2]

The interpretation of these results is straightforward. The strong positive correlations shown in Table 1 reveal nothing about the relationship between income growth and industrialization, de-industrialization, or any other structural change in the economies of Third World countries. All they tell us is that changes in total value added (GDP) are strongly correlated with changes in the parts (value added in agriculture, industry, and services) of which total value added is the sum. To take the increase in value added in industry as a measure of industrialization, as Firebaugh invites us to do, makes as little sense as taking an increase in value added in agriculture as a measure of "agrarianization." Because real value added in US agriculture more than doubled between 1971 and 2001—despite the fact that as a proportion of total

value added it more than halved[3]—that measure would lead us to the absurd conclusion that over the last thirty years the US economy has agrarianized.

Such conclusions stem from the attempt to deny evidence of a fundamental mismatch between industrial and income convergence. Our particular explanation of this mismatch can certainly be improved upon, and we would be quite happy to discard it in favor of better explanations. But such an improvement is possible only if critics acknowledge this mismatch and try their hand at explaining it better than we have.

Notes

1. We have italicized "was" to underscore that our claim referred primarily to the past, as noted below in the text. In citing our article, in contrast, Firebaugh turned all our past tenses into present tenses, or inserted a present tense where there was none.
2. The source used by Firebaugh does not provide data for manufacturing. We have therefore used the same sources as in our article, excluding Hong Kong to make the correlation coefficients calculated from the two different sources as comparable as possible.
3. Calculated from World Bank (2004).

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