Such viewpoints as this find their rationale in the case for free trade. The merits of free trade as a vent for surplus, source of new methods, and incentive to economic efficiency have been opposed by the protectionist rejoinder, based on infant industry and infant economy arguments, as well as on skepticism about the North's interest in actually allowing "low wage" manufactures to enter its markets. What are the facts? Will nondiscriminatory removal of trade restrictions have a great effect, a small one, or none at all on the growth of Southern trade and income?

First, what would be the result of northern adoption of "free trade" removal of all restrictions on trade in manufactured products? There are two kinds of short-run effects to consider: (1) substitution effects resulting from replacement of domestic products by imports, and (2) income effects resulting from the growth of world income as a consequence of free trade. The income effects, it can be confidently predicted, would be negligible.

The substitution effects would be far greater. It is impossible to estimate anything more than orders of magnitude, because we know so little about cost levels or about price elasticities of demand and supply. Johnson has made a valiant effort to estimate the effects, and emerged with a minimum figure of a 40-percent increase in LDC manufactured exports, resulting from abolition of Northern duties on manufactures.[9] In 1963, this would have amounted to $800 million if only manufactured articles are included, or to about $1.3 billion if other processed products are included.

Johnson's estimate of a 40-percent increase is, as he recognizes, very conservative. It assumes that imports from LDC's would increase at the same rate as imports from the world. But both nominal and effective protection of manufactured products that LDC's are likely to export is greater than that on manufactured goods in general.

It has been long recognized that effective rates of protection are often higher than the nominal tariff rates imply. If copper ore, for example, bears no import duty, and refined copper is dutiable at 10 percent, then the effective protection is much higher than the duty implies. If ore accounts for 75 percent of the costs of refined copper production, then a domestic manufacturer of refined copper who purchases domestic or imported ore benefits from a 10-percent duty on the full value of output, not just on the 25 percent of its total value that the manufacturing cost represents. Thus, the height of the tariff on value added is not 10 percent, but 40 percent (10 percent tariff on total value, divided by 25 percent value added by manufacture). This means that the copper exporting nations seeking to build up a refining industry for export effectively faces a 40 percent tariff barrier in the importing country. The difference between nominal and effective tariff rates results from the fact that some goods are imported, not for immediate consumption, but as inputs into production. Normally, calculations of effective tariffs show that nominal tariff rates understate the real degree of protection, because tariffs on raw materials are usually lower than those on finished products.

Industrial countries' effective protection for all goods combined is roughly double the nominal rate for all products combined. It is gen-

[9] Harry Johnson, "Economic Policies Toward Less-Developed Countries," Washington, D.C., The Brookings Institution, 1966, ch. 3.