MODERN DEPENDENCY: A "CRUCIAL CASE" STUDY OF BRAZILIAN GOVERNMENT POLICY IN THE MINICOMPUTER INDUSTRY

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Harry Eckstein (1975) discusses several types of case studies which are useful in theory construction. One type is the "crucial case study." Crucial cases "ought to . . . invalidate or confirm theories if any cases can be expected to do so" (Eckstein, 1975:118). Crucial cases can be of two sub-types: "most-likely" and "least-likely." "Most-likely" cases examine situations which should confirm a theory, but in fact do not. "Least-likely" are the antithesis of "most-likely" cases.

Gary Gereffi's (1978) study of the steroid hormone industry in Mexico exemplifies a "least-likely" case of dependency. This industry eventually displayed characteristics of dependency in spite of initial conditions that suggested the contrary.

Basically, Mexico had exclusive access to the best raw material for an expanding segment of the world pharmaceutical industry, a Mexican firm (Syntex) dominated the industry in output and technology for almost a decade, and the local industry originally had active support from the Mexican state; yet ultimately, these circumstances proved insufficient for Mexico to retain national control (Gereffi, 1983).

The Brazilian minicomputer industry fits the criteria of a "most-likely" case study for dependency theory. Prior to the implementation of 1977 government policies, neither private nor public Brazilian capital was involved with the minicomputer industry. Minicomputers were not manufactured in the country. Technology (i.e., new products, modifications, research, and development) was controlled by multinational corporations (MNCs) with headquarters located outside of Brazil. The nature of this technology was highly sophisticated and proprietary rather than generic or routinized. Brazilian universities and corporations had virtually no contact with research and development of minicomputers. This industry was controlled by MNCs, primarily IBM and secondarily Burroughs (both headquartered in the U.S.). Yet, in spite of these inauspicious characteristics, the Brazilian government and na-
tional firms proved sufficiently powerful to attain national control of the industry.

Based on the "crucial case" design, the paper casts some doubts and poses some questions about the assumptions and conclusions of the dependency approach. In addition, it takes a few steps toward remedying one of dependency's major criticisms—its failure to make policy suggestions short of overall structural transformation of society to socialism. This analysis of the Brazilian minicomputer industry attempts to show that attractive policy alternatives for at least one industry may exist in a dependent situation.

The dependency literature's most important contribution to the analysis of contemporary conditions in Latin America is its transcendence of the diffusion model of development and its emphasis on the "interplay between internal and external structures" (Palma, 1978:878). Different writers on dependency address different features of these economic, political and social structures, yet they all support the hypothesis that "development and underdevelopment are partial, interdependent structures of one global system" (O'Brien, 1975:12). In other words, the historical experiences of the developed countries do not compare with current situations in developing countries because the "now developed countries were never underdeveloped, though they may have been undeveloped" (Frank, 1966:7). For the purpose of this article, Cardoso's definition of dependency narrows our focus:

From the economic point of view, a system is dependent when the accumulation and expansion of capital cannot find its essential dynamic component inside the system (Cardoso and Feletto, 1979).

Over time, the "essential dynamic component" has manifested itself as capital and/or technology. For example, during the Brazilian colonial period, capital was the dynamic component that drove enclave (isolated raw material extraction operations) and related economies. Technology was less of a limit than capital for coffee cultivation and rubber extraction. During the mid-1900s, Brazilian private and public concerns began to accumulate their own surplus monies and manufacture consumer goods. At this time, technology gained importance as the dynamic component of the production system. Capital remained essential, but was no longer the primary constraint to economic growth.

Some dependency writers view MNCs as the primary mechanism to maintain modern dependency situation, because they possess the "es-