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ECONOMIC DEVELOPMENT AND INSTITUTIONAL CHANGE
IN THE 19TH CENTURY

by

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In this paper we summarize the institutional implications of our quantitative research into the dynamics of development of 23 countries during the nineteenth century. To give away the punchline, we found that :

(1) Domestic institutional change was the most potent dynamic factor determining the pace and structure of economic development in the 19th century;

(2) Initial institutions were more important than resources, capital, technology, demography, or markets in determinig subsequent patterns of development; and

(3) There was no unique constellation of institutional prerequisites. Different clusters of institutions interacted with economic conditions and policy choices to determine economic performance.

I. The Historical Study

Our method of analysis was empirical and quantitative. We used historical descriptive and numerical information to categorize the country information according to 35 aspects of economic and institutional influences. We then applied statistical techniques to analyse similarity of patterns within subsets of countries as well as the nature of the systematic differences between the subsets. Our data is classificatory; we use a large set of multicollinear variables; our sample of countries includes countries at widely different levels of development; and there are no widely accepted models for specifying how the economic and institutional variables are linked. In addition, our premise that the causes of varying economic performance differed by development level and type of country required us to stratify our sample of 23 countries into subsamples defined by similarity of initial conditions and process of change along whatever dimension we wished to study.

The data form a pooled time-series cross section set of observations, in which each country enters the analysis three times: once each for its characteristics in 1850-70, 1870-90, and

1890-1914. The variables represent diverse facets of economic, social and political structure and institutions. They include indicators of economic development, initial economic and institutional constraints, socioeconomic and institutional change, demographic patterns, and political systems.

We carry out five quantitative analyses, each with a different division of the 23 countries into subsamples, guided by a typology designed to capture a particular aspect of broad differences among national development processes. The five facets studied are: the growth of market institutions; the pattern of industrialization; the pattern of agricultural development; the extent of foreign economic dependence and the course of poverty. The sample divisions are by country, with each country assigned to the same group for all three periods in order to facilitate interpretation of the results in terms of national paths or strategies of development.

Our statistical methodology is that of disjoint principal components-- a stratified variant of the principal components method we had used previously in Society Politics and Economic Development.(1967) This method fits all the group models simultaneously in a manner that maximizes the similarity of models within groups; since the overall variance is fixed ,it also maximizes the variance between groups. It has several advantages over fitting separate principal components analyses within groups: It is more suitable when one is not completely certain about which sample stratification captures the varying

structure of causation best; it has more degrees of freedom; it provides additional information such as the measures of fit of individual observations to own subsamples and to other subsamples, the importance of individual variables in discriminating among classes, and the distances of different subsamples from each other.

We shall use our synthesis of the five quantitative studies to generalize about the role of institutional and economic change in contrasting paths of economic development in the 19th century. We shall not generalize about causes of change, agents of change, or theories of change since this is done in other papers presented to this conference. (For discussions of these factors in various theoretical frameworks see Morris and Adelman, 1987, Ch 1,2 and 8).

II Summary of Empirical Findings

We now turn to a summary of our most significant findings concerning interactions between institutional and economic change during the 19th century.

1. No Unique Paths of Change

Our findings reject the theory that all countries underwent similar progressions of economic and institutional change. They also reject the "uniqueness hypothesis".

Reappearing in our results are five different paths of economic development with contrasting progressions of change as well as marked variations in growth paths within broad strategies. The five different development paths resulted from three different development strategies: an industrial strategy; an agricultural strategy; and a balanced growth strategy. Both the industrial and the agricultural strategies resulted in two different growth paths each, depending on the prevailing initial conditions and on the institutions and policies used to implement the strategies. How institutions interacted with economic development differed along each path.

The industrial strategies:

One industrial strategy, followed by the firstcomers to the industrial revolution, resulted in the effective spread of industrialization leading to substantial manufacturing exports and accompanied by widespread improvements in agricultural technology. This strategy involved a strong link between between prior agricultural development, evolution of market systems, political institutions limiting the political power of landed elites, and subsequent widespread industrialization.

The second industrial strategy, followed by the latecomers to the industrial revolution (Germany, Italy, Japan, Spain, and Russia), was one of import- substitute industrialization promoted by governments in large countries and aimed at catching up with the first comers. It resulted in dualistic, inequitable growth. Britain's industrialization and her military victories over

Napoleon and Prussia posed a severe military, economic, and political challenge to these countries. Their governments responded by unifying their countries politically, changing laws and customs to facilitate factor mobility and market exchange, and actively promoting industrialization. Even the most backward of these countries had a substantial aggregate agricultural surplus. Their populations were so large that even a small percentage of cultivators with surpluses could produce a large total agricultural surplus despite the fact that most farmers were subsistence farmers. Tariffs were a major weapon for promoting a start on industrialization and were used in all the European countries to protect grain producers as well.

With this strategy, success in growth varied greatly. It was everywhere dualistic, with small-scale industry and agriculture lagging behind. Agricultural improvements diffused significantly only under special circumstances. Growth spread to the agricultural sector only where agricultural institutions provided a sufficient, increasing, and widely distributed surplus for home market expansion; and where governments built transportation linking internal markets, provided agricultural extension and educated their populations-- as in Germany and Japan. Where, in contrast, governments gave no priority to food-agriculture or education and built transport networks poorly serving the domestic market-- as in Russia, Italy and Spain-- industrialization was severely constrained by a backward agriculture and remained selective or erratic.

The agricultural strategies:

These strategies resembled inward-oriented industrialization in several respects: (1) The focus of both resources and policy was on a limited segment of the economy and led to sharply dualistic inequitable growth paths where there was any growth. (2) lack of government attention to, and weak cultivator incentives in food-agriculture as contrasted with commercial export crops posed both demand and supply constraints on domestic growth. On the average, improvements in food agriculture lagged behind both export expansion and economic growth, with a consequent failure of labor to transfer out of agriculture where legal systems permitted labor mobility; (3) large land holdings concentrated the limited marketable surplus, accelerating export expansion; (4) From the slowness in improving food production and the concentration of export benefits we can infer that faster economic growth worsened the distribution of income.

The strategy of primary export expansion was followed by countries with very different types of initial conditions and resulted in different growth paths. One group of countries following the strategy of primary export expansion consisted of very land-abundant dependent countries: Argentina, Australia, Brazil after 1890, Canada before 1870, and New Zealand. The second group consisted of densely populated countries with very low agricultural productivity in food production: Burma, China, Egypt, and India. In the first group of countries, the strategy

resulted in limited but highly dualistic growth. In the second group the strategy is a story of failure.

The land abundant countries attracted foreign inflows of labor, capital, and entrepreneurship that greatly accelerated export expansion and economic growth and made up for the deficiencies of local factor and commodity markets. On the average, the greater was foreign economic dependence, the faster economic change. Expatriates provided the rapidly growing export sector with crucial technical, financial, and marketing skills. Governments, strongly influenced by the joint interests of expatriate exporters and indigenous large landowners, pushed laws freeing land transactions, promoted large landholdings, and subsidized immigration. Industrialization came late and was modest and occured behind tariff walls. Where the political power of landed elites weakened (Australia and New Zealand after 1890) small farmers, domestic manufacturers, and labor gained sufficient power to alter land policies in favor of small or moderate land holders and to protect infant industries. Food production expanded greatly, industry grew and began supplying consumer goods and agricultural implements. Where the political power of landed elites continued strong (Argentina and Brazil) most food was supplied by tenant farmers who worked the land at low productivity and luxury imports and production were important.

In the densely populated countries low levels of agricultural productivity sharply constrained the supply of food

and raw materials and the wherewithal to purchase manufactured goods. Peasant holdings were very small and only primitive tools were used. Expatriates dominated trade, there was little modern industrial growth and political systems tended to be autocratic. Commercialization was accelerated by Western laws encouraging land sales and mortgaging which were introduced in the latter half of the 19th century. Foreign capital flowed only into specialized agricultural exports: cotton in Egypt; rice in Burma; cotton, rice and jute in India; and silk in China. Export expansion proceeded rapidly but its pace was not systematically related to agricultural progress, industrial expansion, or increases in average income or wages. The primary export expansion strategy in land scarce countries thus resulted in enclave development with virtually no positive spillovers into the rest of the economy.

The balanced strategy

This strategy was adopted by a few small European nations: Belgium, Denmark, The Netherlands, Switzerland, and Sweden after 1890. These countries adopted export led strategies that involved heavy trade dependence and widespread economic growth. Substantial, often lengthy, agricultural progress preceded their starts on mechanized industry. Major agricultural transformations occured involving a widespread shift from extensive agriculture to mixed intensive farming based on the production of livestock, dairy products, or other specialized high value crops. Drastic declines in grain prices in the late

19th century accelerated this shift, since governments did not protect farmers.

The countries that followed this strategy of diversified economic growth all started with favorable institution and human resources. By the early 19th century all had significant, widely distributed, agricultural surpluses, agricultural institutions providing most farmers with land and incentives, high literacy rates, and functioning parliamentary institutions. Agrarian institutional reforms preceded industrialization and their success was correlated with the rate of growth and degree of diversification of exports, per capita income growth, and industrialization.

Smallness led to the adoption of good development strategies. The small internal markets in these countries precluded movement to the second stage of import substitution, thus putting pressure on them to develop internationally competitive processes of production. Crucial gaps in the natural resource base contributed to specialization in exports of human resource intensive products.

In sum, the interactions between institutions and economic change were strikingly different under the five different development paths pursued by countries in the 19th century. Of the five paths, only two resulted in sustained, nondualistic, growth: the industrialization strategy of the firstcomers to the industrial revolution and the balanced growth strategy of the small, open, European economies. Important features shared by

these two strategies were: functioning factor markets; tenurial conditions in agriculture that gave incentives and property rights to small cultivators; functioning parliamentary institutions; open development strategies; and an Agricultural Revolution in productivity and technology that preceded the Industrial Revolution.

2. The Importance of Institutions

Institutions mattered greatly to development patterns. The neoclassical story that resources, technology, and comparative advantage are sufficient to determine development patterns does not explain adequately variations in performance either across or within strategies. Rather, it is the classical story that stresses the interaction of these forces with institutional conditions and change that is supported by our results. In all our results institutions mattered most in distinguishing between country groups experiencing more successful and less successful economic development, if development is understood to encompass not only the expansion of GNP but also the diffusion of economic growth and its benefits. Whether the force for economic change was an external political challenge, expanding foreign markets, capital accumulation, technological innovation, or population growth, institutions determined both the speed and pattern of development.

Widespread industrialization occured only where market institutions and legal conditions for their effective functioning were present. The reverse, however, did not hold: the development of market institutions did not assure substantial industrialization. (Morris and Adelman, op.cit. Chapters 3 and 4)

The responsiveness of agricultural institutions to market incentives was critical in assuring the rise of agricultural productivity that was necessaary to provide labor, capital, and markets for industrial expansion. Countries where agriculture contributed significantly to industrial expansion ranked without exception in the upper half of our sample in institutional incentives for making agricultural improvements. But, as with the expansion of market institutions, the reverse did not hold: favorable institutions did not assure successful agriculture-industry interactions.

Foreign dominance and control of domestic economic institutions hampered the diffusion of economic growth and of its benefits significantly. Increased foreign inputs and influence did accelerate export expansion and , sometimes but not always, rates of economic growth. But in countries that were heavily dependent economically on foreigners, the benefits of export growth spread less widely outside the export sector. Export growth in these countries was not correlated with increases in agricultural productivity, growth in per capita income, growth in the incomes of the agricultural poor, and increases in industrial

wages. Growth diffused successfully to the domestic economy only where domestic interests dominated tariff, immigration, education, and transport investment policies. As with the previous institutional influences, the reverse statement did not hold: domestic dominance of government policy did not assure either economic growth nor the wide spread of its benefits.

An essential condition for substantial poverty reduction was agricultural institutions that both responded to market signals and provided for a wide distribution of the agricultural surplus. Extensive industrialization made possible by well developed market institutions and reasonable structure of agricultural incentives was a strong force for long term rise in living standards, no matter how inequitable the initial consequences. But it was not the only route. Primary export expansion with modest industrial growth reduced poverty significantly where agricultural institutions and the distribution of the surplus were favorable. Here again, appropriate institutions were necessaary but not sufficient.

Political institutions mattered greatly. With rare exceptions, economic growth and its benefits did not diffuse far where domestic landed elites aligning with foreign export interests dominated the political process. In all countries that industrialized substantially domestic commercial and industrial classes either already had or gained significant power in national leaderships. In land abundant dependent countries

growth spread far only when landed elites no longer dominated domestic policy.

In sum, institutions played a critical role in determining the speed and diffusion of economic growth. They could block both growth and diffusion. But they were not, in and of themselves , sufficient to initiate the process.

3. Economic influences matter in initiating growth.

Conventional economic influences were important in explaining differences in growth rates among countries with similar economic and political institutions. Within countries grouped by similarity in initial institutions, expanding economic opportunities and supplies of inputs were closely associated with growth in per capita GNP, exports, and industrialization. Initial resources and export markets counted everywhere. Extensive rapid industrialization occured only where initial agricultural development yielded a significant surplus above subsistence, economic opportunities expanded, and better techniques were adopted in both industry and agriculture. Where institutions permitted the diffusion of rapid primary export growth into domestic economic growths, there, growing export markets, increasing population, and abundant land resources were crucial causes.(Technical improvements in agriculture could substitute for abundant land) Where institutions did not permit the diffusion of export growth into domestic growth, low

productivity, limited surplus above subsistence, and low levels of human capital contributed to that failure.

4. Institutions must be adaptable for development to proceed

If institutions fail to adapt as growth proceeds inappropriate institutions impede development. Even institutions that were good for a start on development later proved inadequate for continued economic progress. The need to change institutions for development to continue is best illustrated by the changing institutional requirements of growth in two groups of transitional countries: the moderately backward European countries that adopted industrial strategies and by the land abundant dependent countries that adopted primary export strategies.

Institutional Change in Backward European countries:

To initiate development, moderately backward European countries successfully substituted for "missing" prerequisites with government help, as underscored by Gershenkron. But economic policies and institutions devised as a substitute for missing capital, skills, and home markets that worked well to initiate industrial growth proved inadequate to diffuse growth beyond a narrow spectrum of industries and to agriculture as industrialization proceeded. At first, government demand for military supplies and intermediate goods for example substituted for narrow home markets. But governments could not provide the

breadth of consumer demand necessary for transition to broad industrialization. Nor could export markets. Initially, all that was required of agriculture is a large surplus. In large countries, a large agrcultural surplus could be generated from large estates. But as industrial growth proceded, domestic markets for manufactures could not be generated without agricultural institutions that provided for a well distributed agricultural surplus.

Politically, laws providing stability and freeing internal trade were sufficient to get industrialization going. But once industrialization started these were not enough. Government institutions administratively capable of financing and promoting industry in the fact of weak private institutions were needed. Political responsiveness to the interests of new classes became important. Failure to incorporate middle class interests into the political process limited the spread of modern industry by impeding the land, education and transportation policies responsive to rising indigenous capitalist interests.

Changing Institutional needs in land abundant dependet countries:

Foreign dominated institutions in land abundant countries were a powerful force initiating the domestic institutional changes required to initiate primary export expansion. In alliance with domestic landed elites, they pushed laws enabling a market system to operate and promoting large holdings that could generate a surplus quickly. Foreign trade, capital, credit and

migration successfully substituted for domestic capital and skills. Imports provided food domestic agriculture could not supply.

But changes in institutions were required for this initial impetus to exports to be translated into widespread domestic development. Massive foreign immigration into urban areas could only substitute for a time for agricultural institutions providing a home market and increased food supplies. After a certain point, imports could no longer supply sufficient food for rapidly growing populations. Countries that did not adapt their agricultural institutions, education, and transport and that did not develop domestic capital markets were doomed to enclave development.

As in backward Europe, political institutions good for early growth proved inadequate as countries developed. Failure of political institutions to adapt to the needs of rising domestic industrial and commercial classes blocked the diffusion of economic growth and of its benefits.

5. Substitutes for missing institutions can be found.

The discussion in the previous section indicated how government actions and international trade and international mobility could generate the initial impetus to growth in countries in which the many of the institutional "prerequisites" to development were absent. It also stressed that regardless of

the other initial conditions and development strategy chosen, there came a point where the previous substitutions became inadequate. Either new substitutions had to be found, or the missing institutions had to be created domestically. Not only did the institutional development " prerequisites" across different phases of the growth process but the effectiveness of institutional substitutions also shifted systematically as well.

6. No single theoretical framework applies universally.

None of the theories-- classical, neoclassical, staple, dependency, Marxian, neo-institutional, or neo-Marxian-- apply across the board to the 19th century experience of the 23 countries we studied. Each of them has validity for a particular range of countries and periods, however.

Our results support strongly the emphasys of the classical writers on expanding exports but not their predictions about the universal diffusion of the impetus from exports into increasing division of labor, productivity improvements, and rising agricultural output. Nor is the classical thesis about the universal benefits of free trade confirmed by our analysis. In small open economies combinig primary exports with small -scale industry, free cheap grain imports ultimately caused a beneficial shift to specialized high value agriculture. By contrast, in heavily dependent countries unrestricted imports and rapid

primary export expansion had a negative effect on wage-good domestic agriculture and on the agricultural poor.

Neoclassical general equilibrium theory requires major qualification outside the economically advanced industrializing countries. These theories fail to explain why rapid export expansion in underdeveloped countries failed in many instances to provide the dynamic benefits from trade. Our results do not show the domestic impact of export expansion primarily dependent on techniques and resources, as predicted by neoclassical analysis. Rather,we found the impact of export expansion to be heavily dependent on institutions, economic and political. In land abundant countries political power and the distribution of land strongly conditioned the impact of surging exports. In densely settled countries, expatriates dominance and unfavorable tenure systems vitally influenced outcomes.

Our study also does not fully support the dependency approaches to foreign trade and investment. Only in the very heavily dependent countries is the pessimistic dependency story observable. In moderately dependent countries, the more optimistic neoclassical tale about benefits from foreign investment becomes more relevant.

Our findings support Mrx's theory that "freeing" of labor and land from the "fetters" of feudalism was necessary for industrial capitalism. But they also support the views of Polanyi and of neoclassical historians that industrial capitalism required the development of market institutions. Our results

also refute Marx's prediction that in the long run industrialization would immizerize the industrial working class everywhere (though, it did increase the proportion in poverty in the early stages). Our results further contradict Marx's predictions about capitalism in underdeveloped countries. Rather, they support Baran's predictions that foreign penentration fostered political alliances of landed elites, wealthy merchants, and industrial monopolists that blocked transformations of some underdeveloped countries into capitalist systems. What mattered was which class dominated economic policies of the state, above all, policies affecting tariffs, transportation, and education.

In sum, our study delimits the historical validty of leading development theories. It shows that no model applies without major qualifications to more than a subset of countries.

Summary Comments

In sum, institutions mattered most in determining if and how economic growth was diffused in the 19th and early 20th centuries. Initial institutions determined the strategy of development and the speed of its onset. But no set of institutions was uniquely appropriate either across all strategies or for all phases within a given strategy. Institutions good for a start on growth proved inadequate for its diffusion. Governments could and did find institutional substitutions for missing prerequisites: skills, capital, and home markets. But both the prerequisites and the effectiveness of substitutions varied. Failure to adapt domestic institutions to provide widely dispersed income and political responsiveness to rising capitalist classes precluded the diffusion of growth.

No matter whether the cause of a start on growth was expanding economic opportunities or an outside political challenge, the consequences were determined by institutions. They governed the distribution of export proceeds, the impact on food agriculture, and government policies determining indigenous economic responses in industry. Laws and institutions governing effective market functioning, land tenure and holding arrangements, and political responsiveness to rising capitalist interests were foremost causes of divergent paths of growth and development reappearing across all our results. Neoclassical theory to the contrary, comparable resource endowments and export opportunities in no way assured similar patterns and speeds of economic growth.

Appropriate institutions, while necessary, were not sufficient for economic development. Conventional economic influences mattered, above all, agricultural technology, the abundance of land, human capital, and export markets. Among countries with similar institutions, economic influences were leading determinants of variations in the pattern and speed of growth.