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Research Statement:

My research work up to this point has been in the fields of economic history, trade, and economic development. While I have a variety of interests, the key question I wish to address at this time is the question of how countries underwent transitions to an industrial economy, and ultimately what that teaches us about development policy. To support this goal I have obtained experience in finding and digitizing data as well as necessary programming and quantitative skills. I outline my research work below. This research plan covers my dissertation and planned further developments over the next three years.

Seeds of American Industrialization: A New View From Economic Geography (Job Market Paper)

My job market paper investigates the role of the agricultural market in the development of American manufacturing through linkages to the agricultural implements industry. It provides identification for three separate channels through which geography affects location choice by exploiting the exogenous crop-specific geographical variation that can be found in the agricultural sector, which is difficult to obtain in a study of the manufacturing sector alone. Using a Census-derived dataset which follows the production of 18 crops and 53 products in 40 states between the years 1870 and 1900, it examines the relationship between product-level manufacturing locations and the locations of farm demand and related manufacturers and finds strong evidence for the positive effects of access to demand markets and spillovers from other manufacturers. Positive measured relationships between manufacturing share and metrics of labor quality suggest an additional role for human capital.

This first article lays the groundwork for further research on linkages between resources, markets, and developing industry and the role of agriculture as a foundation for industrialization in the 19th century United States and other contexts. Its main contributions are that it confirms the importance of demand market access and provides evidence for the importance of spillovers in the establishment of the United States as an industrial country, and demonstrates the existence of a positive relationship between the location of agriculture and the location of subsequent growth in American manufacturing.

Feature Development and Exports

Subsequent to the development of the American agricultural implements industry detailed in the previous chapter, the United States became a market and technological leader in implements manufacturing; this was one of the reasons for studying that particular industry. The proportion of total product exported reached 18.6 percent in 1905, third in manufactures behind sewing machines and refined petroleum. This paper investigates the relationship between the quantity and destination of American implements exports to the factors driving the development of the industry to determine which linkages drove American industry competitiveness.

Data on relative market share for different types of implements suggest that the large American agricultural sector, and in particular, the wide variety of farming conditions to which American implements manufacturers had adapted themselves, were a major reason for American market leadership in the first decade of the 20th century. In other areas of development, such as engine technology (for traction engines), American implements manufacturers lagged. This initial hypothesis is reinforced by accounts of stiff competition from Canadian manufacturers, who faced a similarly wide variety of soil and climate conditions.

Export Diversification and Industrial Location

This article is joint work with my advisor, Christopher Meissner, which proceeds from the observation (as in Cadot et al. (2011)) that diversification in exports appears to be related to development: for example, whereas French manufactured exports were at a relatively high level in the 1830s and underwent a relative decline, American manufacturing exports started from a lower level and moved in the opposite direction. This suggests that both countries underwent a process of diversification starting from different initial conditions. We are in the process of digitizing data on exports for the United States and Europe. Our data on American exports are annual and span the period from 1870 to 1938, covering from 250 products in 1870 to over 1800 products in 1938, at the equivalent of a 2- to 3-digit SIC level.

Other Work

Two future developments of the aforementioned core include the following: First, I examine agglomeration to early-developing industries in the American Midwest. The data required is available in the general Census of Manufactures, both overlapping with the time period of the paper in Chapter 1 and in subsequent years, and has been partially gathered. This paper would investigate whether the geographical link between agriculture and the development of industries that serve agricultural demand for intermediates extends to more general purpose industries through supply relationships with those industries.

Second, I plan to study the American auto industry to measure the impact of agglomeration in firm location on quality upgrading and industry growth. Some data on production and characteristics of vehicles produced by a variety of major and minor manufacturers are available, which could be used with a choice model to estimate the value of introduced vehicle attributes. The question is to what degree vertical improvements in product characteristics played a role in expanding the market available to the industry through effects on consumer choice, and to what degree firm location choices aided or hindered those technical developments. Olmstead's (1975) observation that advances in the reliability and capabilities of mechanical reapers likely had a large impact on their rate of adoption suggests that consumer choice models may have much to say about the growth of the industry. I turn to auto industry data (over implements) due to a richer product feature environment, and because of its dynamism in the early 20th century. The channel examined in this analysis would complement the conventional story focused on cost reductions through mass manufacturing (e.g. the black Ford Model T); estimates based on increases in industry sales alone may significantly understate the increase in real value.