Locational restructuring and financial crises

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Abstract

Since 1800, modern economic growth has caused an unprecedented locational restructuring of economies experiencing rapid economic development, a redistribution of population from farms and villages to towns and cities. In free market economies of the past, this urbanization process occurred in Kuznets cycles, averaging 15–25 years in duration. During these cycles, real investment typically occurred in a two-stage sequence — investment in a new production technology followed by investment in urban infrastructure — and resulted eventually in financial crisis and collapse. Recent developments in today’s less developed economies suggest the possible re-birth there of the Kuznets cycles of the past. © 2000 Elsevier Science B.V. All rights reserved.

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1. Introduction

In the last two centuries the phenomenon known as modern economic growth (Kuznets, 1966) has brought about an unprecedented shift in the location of economic activity. Before 1800, the vast majority of the population — more than nine out of ten — lived and worked in rural areas — on farms and in villages. Today among the countries leading in economic growth, the situation is virtually reversed — eight out of ten are in urban areas.

This immense redistribution of population and economic activity did not take place in linear fashion. Rather, in the historical experience of the leaders, urbanization proceeded at an irregular wave-like pace, erupting intermittently in a financial
crisis and collapse. These long swings in economic growth are commonly termed Kuznets cycles, in recognition of Simon Kuznets' pioneering work (Kuznets, 1930, 1958). Other important early contributors include Burns (1934), Isard (1942a,b), and numerous analysts of the building cycle [see Abramovitz (1964), for a review of the early building cycle literature].

In an issue of this journal devoted to economics and structural change, it seems appropriate to recall the locational restructuring required by modern economic growth and to note its possible relevance to financial crises occurring today in the growth experience of less developed free market economies. In what follows, I start with the long term factors making for locational restructuring of the economy, and then describe the mechanisms that caused this process to proceed in wave-like fashion. I then note the need for similar research on the current experience of today’s less developed economies.

2. Historical experience

2.1. Long term causes of locational restructuring

The dramatic impact of modern economic growth on the location of economic activity is illustrated in Fig. 1, which presents a remarkable urban–rural time series for Europe spanning an entire millennium. In the eight centuries up to 1800 the percentage of population in urban places — those with 5000 or more inhabitants — hovered around 7%; thereafter, with the onset of modern economic growth, it rose in less than two centuries to an average for Europe as a whole 10-fold greater, 70%. For western and northern Europe, the leading areas in economic growth, the

urban proportion today exceeds 80% (United Nations, 1998, p. 93). In the twentieth century, as economic growth has spread to Asia, a similar shift has begun there — from < 10% at the start of the century to 30% today (Fig. 1).

The basic cause of this locational restructuring of the economy is the new technology underlying modern economic growth, especially manufacturing and transportation technology. In pre-industrial conditions, manufacturing is done for limited local markets by artisans working with hand tools in shops, at home, or as itinerant craftsmen. Hence, manufacturing activity is widely distributed among towns and villages. Aside from commerce, the few cities that exist offer little in the way of special locational advantages for economic activity.

The new manufacturing technology that comes into being with the era of modern economic growth alters dramatically the locational distribution of economic opportunities, producing sharp geographic cost and revenue differentials that favor especially cities and towns with good access to transportation. The underlying market forces reflect changes both in supply and demand conditions (Kelley and Williamson, 1987; Easterlin, forthcoming).

On the supply side, the key element is the widespread implementation of mechanized production based on the new inventions of the First and Second Industrial Revolutions, especially those in power and industrial materials (Table 1). The new industrial technology shifts the balance sharply in favor of urban locations, partly because it involves sizable economies of scale that lead a growing number of industries to replace shops by factories, as mechanization supplants hand production. Because of their larger scale of operation, factories, unlike shops, require access to a sizeable population, such as that of a town or city, for their labor supply and product markets. Urban locations for manufacturing are also favored because the new technology requires natural resource inputs, especially minerals, that are much less ubiquitous than the agricultural and forest resources on which preindustrial manufacturing is based. Hence location is favored at or near the sources of the new industrial inputs or at transport points that make these inputs cheaply available and also provide access to higher-population-density product and labor markets.

As producers respond to new opportunities, there occurs a corresponding shift to urban areas in the geographic distribution of the demand for labor. The supply of labor, however, is disproportionately concentrated in rural areas, because rates of natural increase of the population there are as high or higher than that of urban population. The resulting demand-supply imbalance induces via wage differentials migration to urban areas. City and town growth is reinforced by several factors. First, application of the new technology to internal transportation leads to the emergence of a transport grid that accentuates the cost advantage of cities located at key junctions in the network. Second, what are called ‘agglomeration’ economies add to the opportunities in cities and towns. For example, industries serving consumers, such as printing and publishing, are attracted to cities and towns by the concentration of workers and consumers that have been induced to locate there by the new manufacturing and transport technology.
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<td>Low income leading to consumption of a high proportion of food products</td>
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<td>Villages, farmsteads</td>
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*Source: Easterlin, forthcoming.*
The new technology also has an impact on location via consumer demand, because it gives rise to an unprecedented growth in real productivity and thereby in real per capita income. With income rising, consumer demand grows more rapidly for high-income-elasticity manufactured products than for low-income-elasticity food products. The relatively higher price elasticity of demand for manufactures reinforces the favorable effect on the market for manufactured goods. Because production of manufactured products is becoming more heavily concentrated in urban areas, the effect of the shift in demand toward manufactures is to reinforce the centralizing tendency of the new technology. The result is further to expand the job opportunities in urban areas and hence the attractiveness of these areas to rural job seekers, adding to the flow of migrants to towns and cities.

2.2. Causes of wave-like movements in locational restructuring

Over the long term, the combined impact of the new technology and rising incomes associated therewith is a great impetus to geographic concentration of production, centering on cities and towns. But the process of urbanization does not proceed monotonically. Rather, under free market conditions the introduction of the new technology and the associated rise in urbanization occurs in a succession of investment booms and busts. In the history of today’s developed countries, these investment fluctuations took the form of Kuznets cycles, typically averaging about 15–25 years in duration. These movements are clearly discernible in the early development of the United States in the period from 1840 to World War I in series for major economic magnitudes relating to output, such as residential construction, and inputs — immigration and net capital imports (Fig. 2). The largely synchronous movements in these magnitudes cannot be a statistical artifact; only raw annual data are plotted in the figure and each series comes from a different statistical source.

The key to understanding the mechanisms underlying a Kuznets cycle is that real investment occurs in a two-stage sequence — investment in a new production technology followed by investment in urban infrastructure, the latter brought on by a surge in new household formation due chiefly to rural to urban migration (Abramovitz, 1989, chs. 8, 9; Easterlin, 1968). The second stage of infrastructure investment reinforces and sustains the growth of aggregate demand set off by the first stage investment in new technology, and dampens the tendency toward shorter-term recessions in the economy. It is particularly during the second stage of the investment boom that the locational restructuring of the economy takes place.

The sequence of events during a Kuznets cycle takes the following stylized form. At the start, an upsurge in investment in a new technology raises the growth rate of aggregate demand. The demand for labor rises in the urban centers situated favorably for the development of the new technology. Initially the growing labor demand in urban centers is satisfied predominantly from local sources — by drawing on the pool of underemployed or unemployed workers, by greater labor force participation of marginal workers in urban centers, and by lengthening hours of work. Marriages between city dwellers that had been postponed because of
previously adverse labor market conditions are now consummated, giving rise to an increase in household formation and births.

There remains, however, a fundamental imbalance in the locational distribution of labor demand and supply — the growth of demand is concentrated largely in urban areas, the growth of population and labor supply, in rural. As the local reservoir of unemployed and underemployed labor in urban areas is depleted, this demand–supply imbalance heightens, and the growth rate of real wages in urban areas rises. Workers from nearby and, eventually, more distant rural areas are
attracted to the better-paying employment opportunities in the newly expanding urban centers. The result is an upsurge in rural–urban internal migration, and, also — in the case of the United States — immigration from abroad. The inflow of migrants raises the growth rate of urban population, and provides a major new impetus to urban household and family formation.

In turn, the upsurge in urban household and family formation in urban areas further stimulates the growth of aggregate demand. New residential building booms. Municipal spending on roads, water supply, sewage disposal, and schools rises. Private investment in consumer-oriented businesses is promoted, such as retail trade, entertainment, and personal services. There is a bunching of household spending on home furnishings, appliances, and the like, as new homes and families are established.

This induced growth of spending due to new household formation and urban development sustains and reinforces the expansion set off by the first stage investment in new technology. A real estate boom takes shape. Banks and other lenders are increasingly drawn to the new profit opportunities, and short and long-term funds from abroad may be attracted. As confidence soars with the protracted boom, lenders become more lenient in assessing applications for new credit or credit renewal, and speculative lending for real estate and other purposes mounts. At the same time, however, the best opportunities from the first stage investment in the new technology are becoming gradually exhausted, and rising labor and capital costs are starting to cut into profit margins. Loan defaults begin to rise. Banks start to call in loans, business bankruptcies turn up, and some banks begin to fail. Foreign capital begins to pull out as the threat of default mounts. A financial crisis erupts, and the boom collapses.

In the resulting recession/depression, economic slack re-emerges. Factor input costs become lower, setting the stage for a new burst of private investment. According to some analysts, a new Kuznets cycle is born from the old (Schön, 1998). In the first Kuznets cycle — a ‘transformation’ phase — the new production technology is refined to the point where the prices of the new capital embodying the technology eventually drop sharply. The relatively cheap cost of the new technology starts to induce its widespread adoption in industries generally — a ‘rationalization’ phase. Associated with the general adoption of the new technology is a new pattern of central locations and rural-urban population redistribution, leading to a new urban boom, and a new Kuznets cycle expansion. The two successive Kuznets cycles — the transformation cycle followed by the rationalization cycle — produce in combination a roughly 50 year movement that has come to be called a Kondratieff.

2.3. Implications for today’s less developed economies

It is over three decades since Moses Abramovitz announced ‘The Passing of the Kuznets Cycle’ in the United States [his 1968 paper is reprinted in Abramovitz (1989), ch. 9]. The onset of modern economic growth in many parts of the less developed world, however, raises the possibility of a re-birth of Kuznets and
Kondratieff cycles there, as the demands of modern technology induce an urban restructuring of the economy under largely free market conditions. The recent debacle in southeast Asia, for example, is widely interpreted as a purely financial crisis [cf. Dow (1998) and references therein]. Strangely lacking in the extensive post-mortems is much reference to the real side of the economy. Yet clearly, capital flight was a product of financial system weakness that, in turn, had its roots in the inability of nonfinancial businesses to meet their loan obligations. What was the nature of the problems leading to widespread loan default?

I do not know enough about southeast Asia to answer this question, but it is possible that the real-economy origins of the crisis lay in the locational restructuring of the economy engendered by modern economic growth. What immediately brings to mind the parallel with recent southeast Asian experience is the marked upsurge in capital inflows followed by precipitous collapse that occurred there and also characterizes the nineteenth century American record (cf. the bottom panel of Fig. 2).

But there are a number of other parallels. Rapid urbanization has been taking place in southeast Asia, accompanied by substantial rural–urban migration (Chen et al., 1998; Pernia, 1998; United Nations, 1998). Also, in southeast Asia today, as in the nineteenth century United States, government regulation of the banking system and of private foreign borrowing was weak or non-existent. In both places, rapid economic expansion led to surging imports and thereby a worsening balance of payments (Williamson, 1964; Parker, 1998). Labor shortages induced rising immigration in the nineteenth century United States, as in parts of southeast Asia today (Mochizuki, 1998).

A thorough exploration of the relevance of the Kuznets cycle hypothesis to southeast Asia, or less developed economies more generally, requires the compilation and analysis of detailed time series on magnitudes such as private investment, government, and household spending by type; urban labor force growth by industry, occupation, and component of change; urban household formation, marriages, and births; and wage rates, unemployment rates, and average weekly hours in urban labor markets; as well as a myriad of financial statistics. But the foregoing may be enough to suggest that there are symptoms in southeast Asia of real-side economic developments similar to those that eventuated in major financial crises in the historical experience of developed economies.

True, the world environment today is different from that of the past. Capital markets are more highly integrated throughout the world. Aggregate demand management via domestic and international macro-economic policy is a new force, and governments generally play a larger role in the domestic and world economy. Perhaps most important, today’s less developed economies have available a varied pool of accumulated production technologies that were introduced sequentially in the historical experience of the developed countries, technologies with somewhat different urbanization patterns (cf. Table 1, columns 2 and 3). This technological pool makes it possible, in principle, to forestall the exhaustion of profit opportunities specific to a given technology by transitioning seamlessly to another. Such a passage, however, calls for a high degree of flexibility in the real stock of human
and physical capital, the existence of which seems doubtful. In any event, it is perhaps time to return to the study of Kuznets cycles. The rapidly growing economies of the less developed world offer a laboratory of vast potential.

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