

Integration, Specialization, and Shocks in European Political Development

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ABSTRACT

It is usually supposed that different paths to economic and political development are associated with variation in political outcomes—dictatorship or democracy. The analytical problem is that explanations either focus on specific historical experiences from which generalization is impossible, or on common but overly parsimonious causes that obscure important contingencies with long-term effects. This paper develops a framework for understanding development trajectories which incorporates both the common and the particular into a single approach. The argument is that the moment at which a country becomes integrated into the international economy has significant consequences for economic specialization and domestic class structures, although in ways conditioned also by endowments and by pre-existing economic and political institutions. This framework is applied to the experience of several countries in Europe in the 19th Century. The principal finding is that economic interdependencies and their disruption, in conjunction with specific social structures, are crucial for regime stability and the rise of dictatorship.

INTRODUCTION¹

The connection between the path of a country's economic development and its political doom is commonly assumed. It is certainly reasonable to suppose that the pattern and timing of dictatorship and democracy across Europe in the 20th Century was more or less connected to patterns of European economic development in the 19th Century. The challenge is how to identify such connections in a parsimonious manner that yields theoretical generalizations and empirical expectations. This essay will develop a flexible framework which captures those elements in European economic and political development that contributed to variation in national political outcomes--dictatorship or democracy--at critical moments over the last 100 years.

The value of a comparative and historical perspective on political and economic development depends upon the intuition that some of the interesting patterns observed across different states and localities are produced by the economic and political interactions among them. In other words, in order to make sense of the way in which any particular country has developed, something must be understood of its position within an emerging international division of labor. The argument here is that development trajectories are specific to the *moment* at which a country is drawn into the regional and world economy, and to the *place* it assumes within international markets. These external conditions interact with geography, endowments and institutions to produce the observed economic and political outcomes.

An awareness of the importance of the timing of development has helped economic historians break with the linear picture of economic development implied by Marx (see also Rostow 1961). For example Gerschenkron argued that those who developed "later" followed different paths, determined not only by their degree of "lateness" but also by their degree of "backwardness" (Gerschenkron 1962). Yet he emphasized conventional measures of development, the standard leading sectors for the 19th Century: cotton, iron and steel. While the path to development in these crucial areas may have been different for each newcomer, the 'end' remained, by implication, uniform. This does not allow for variation in development outcomes and leaves, for example, France and Denmark as anomalies within the context of his scheme (for France see Levy-Leboyer & Lescure: 1991, 153-155; for Denmark Berend & Ranki 1982, 137-141).

Rather than explain development outcomes with reference to a standard model, this account will develop a structured picture of development in Europe which acknowledges the distinctive character of each particular experience while making it explicable, in part, as a function of the character of the whole. Such an approach not only avoids the danger of a single, stylized model of development, but also the opposite danger of viewing each country's experience as uniquely path dependent, exhibiting singular characteristics which alone account for future political "aberrations". This structured approach emphasizes the relationship between domestic institutions, economic endowments and the changing international economy.

While economic historians have been sensitized to the question of the *timing* of economic development, political scientists have shown how changes in the *extent* of a country's economic relationships with the rest of the world shapes political outcomes. Gourevitch (1986) explained change in domestic political coalitions partly on the basis of the differential impact on political groups of an exogenous economic shock. Rogowski (1989) has also painted a picture of the consequences of increasing economic integration on the interests of domestic groups using the broad-brush conceptual tool of the Stolper-Samuelson model of trade (see Midford 1993 for a refinement of this argument).

These kinds of approach are valuable for the way in which variation in outcomes across countries is explained with reference to common (and parsimonious) independent causes. They are an exercise in comparative statics, and therefore, from a methodological point of view, the polar opposites of those kinds of explanation which rely on a path-dependent account of the experience of each country or region. Yet enough is now suspected of the significant cumulative effects of economic specialization to suggest that a good comparative account of economic development must capture path dependency in some systematic way (Arthur 1990, Krugman 1995). Indeed, the feedback effects of random turbulence in political outcomes may be powerfully felt over time as sticky political institutions structure political change (Pierson 2000). However, the argument made below is at once simpler and more wide ranging than this "branched tree" model of political development.²

This essay addresses the problem of path-dependency by redefining the concept of "timing" in economic development. In this account it will relate to the timetable of a country's integration into the regional and world economy. The effect of this 'timetable' on each country

or region depends upon which other countries or regions have already taken their place in the international division of labor. The contributions to development of a particular set of resource and factor endowments are inevitably mediated by international constraints and opportunities (as well as by nationally specific sets of economic and political institutions, which will be acknowledged in the analysis below, but less thoroughly investigated). The quite specific international market opportunities available to a developing country have distinctive feedback effects on the economy and social structures.³ By taking into account the specific market opportunities available at the moment of integration into wider markets it is possible to develop our understanding of economic specialization more deeply than can be done on the basis of factor endowments alone. The international division of labor that emerges in turn accounts for the international interdependencies (competitive and complementary economic relationships) underpinning a variety of social structures across Europe. These social structures served as a backdrop to the political crises of the 20th Century.

The final step is indeed to link economic and social structures and interdependencies to political outcomes. This will be much more briefly accomplished, a separate essay would be required to do full justice to the subject. Instead, the goal here will be to link development outcomes to the account offered by Luebbert (1991) in his rich survey of the political origins of regimes in inter-war Europe. Essentially he privileges the cohesion and vigor of the middle class and the alignment of rural interests as principal explanatory variables. I will show how these, in turn, were a function of the development outcomes examined below.

In the first section I lay out a relatively simple analytical framework that emphasizes the important causes of variation in development outcomes. National political and economic endowments and institutions are exposed to international economic structures at a specific moment in the development of the regional and world economy. It is the timing of this exposure that explains (in part) the trajectory of development and the position a country acquires in the international division of labor. This trajectory gives rise to particular class structures in each country, which in turn underpin regime type before and after the crises of war and depression.

In the section that follows the analytical framework is operationalized so as to divide a selection of European countries into three development categories (early, late and later). Then the implications of this framework for development outcomes are worked out for each country,

including specific connections between development outcomes and concomitant political structures. In conclusion I summarize the way in which different development trajectories yield specific international economic linkages and associated constellations of political interest. I argue that some constellations of interest, given specific international exposure, underpinned the failure of democracy following the shocks of war and depression.

Substantively, this essay's conclusions reflect the tension noted above between a single stylized model of development and idiosyncratic, path dependent explanations. Although the framework employed does not exhaust the set of variables and processes that matter for economic and political outcomes, the evidence suggests that endowments, institutions and the timing of specialization are crucial. In the case of early developers, of course, timing mattered least. But even in this case, industrializing first had consequences for the character of industry (which was concentrated heavily on early industrial technologies). For late developers, pre-existing institutions determined the *speed* with which a country entered the international division of labor—a strong state slowed French development while fragmented political jurisdictions hastened German development—while endowments interacted with international opportunities to shape the *structure* of industrial society. In other words, endowments were always going to lead to different development outcomes for France and Germany, but existing national institutions accentuated the divergent paths. The evidence also shows how internal economic complementarities mattered as much as external economic relations in shaping outcomes. Finally, for later developers, the existence of a relatively elaborate international division of labor at the time of their take-off dramatically shaped development outcomes. In other words, timing mattered most in the case of late development. The actual economic specialization realized was a function of the international economic opportunity set as much as a function of national endowments. From this it follows that internal and external economic complementarities were crucial, and their subsequent disruption catastrophic.

ANALYTICAL FRAMEWORK

If an intellectual project is measured by the research it inspires then Gerschenkron's essay on economic backwardness ranks as one of the milestones of European economic history. Some thirty years later his propositions still serve as a point of departure for any comparative examination of European experience in the 19th. Century (see Sylla & Toniolo 1991). Yet after

energetic efforts to test his principal propositions it may be said that his analysis has been found to be only partly true, some of the time, in some cases. Without rehearsing his argument in detail, it is worth noting two characteristics of his scheme which suggest some of its conceptual difficulties. A "backward" country is one which not only comes late to industrialization, but which, when compared to Britain at a similar stage in its development, is lacking in a variety of crucial institutional and social respects (lack of financial institutions, poor quality of human capital etc.). As is so often the case the first industrial nation is (by implication) an ideal type, against which others may be measured. Yet, as noted above, this does serious injury to the complexity of European development (see Cameron 1985).

What is more, if a representative sample of his propositions is examined, it is apparent that they are orientated towards domestic economic and institutional phenomena (Roehl 1976, 241-2). Industrialization for late-comers, when it occurs, occurs in a rapid spurt, with an emphasis on heavy, large scale industry producing capital goods. Banks or the state must promote development under conditions of relative capital scarcity (and, by implication, because of a 'weak' bourgeois impulse). These speak to the consequences of *backwardness* rather than *timing*, but if *timing* is also adduced as a critical variable, then something about the inter-relationship between one country's development and the development of those which have gone before, and are to come after, must also be specified. This crucial point is well summarized by Crafts, who goes on to cite Bhagwati:

"Comparisons ... between early and late comers in nineteenth century development reveal differences in the observed pattern of structural change. This ... should not be surprising for it is consistent with standard predictions of international trade. This .. underlines the validity of Bhagwati's comment ... "A country's trade pattern and volume and its production pattern are ... the result of interaction between the country's own endowments and demands and the rest of the world's endowments and demands..." (Crafts 1984, 449).

Rogowski's project, for example, is designed to capture the consequences of this interaction. But some refinement, at the expense of parsimony, is necessary. As Crafts notes, it is endowments *and* demands that account for specialization. Consider the French case. It may be true that Britain's abundant and accessible coal deposits played an important role in setting apart its development from that of France (Cameron 1985, 2). Yet a scarce resource such as coal can be

acquired by trade, and the French disadvantage resided as much in transportation bottlenecks as in restricted endowments (Trebilcock 1981, 169). French development in the nineteenth century, and the constellation of political coalitions associated with it, cannot be understood by only considering French resource and factor endowments.

The crucial point is that increased exposure to the world economy has different consequences depending upon when it occurs. Not only does the spare scheme of comparative advantage smooth over the role of raw materials and human institutions (see below), but it cannot adequately capture the way in which the specialization of production is, in part, a strategic response to the international market opportunities that exist at the moment of entry. The French competitive advantage in luxury goods, based on small scale, specialized enterprises, cannot only be explained with reference to factor endowments and domestic institutions. Surely the fact that the British had assumed an incontestable lead in the low value, high throughput part of the textile industry and the low cost production of pig iron made recourse to other segments of the market a reasonable competitive response (O'Brien & Keyder 1978, 160).⁴

Of course small scale enterprise, based on the family, relying on small amounts of skilled labor, was appropriate to French domestic circumstances, at least for the first half of the nineteenth century. But the interactive effect of international market opportunities must also be allowed a role. The effect of specialization is cumulative. France "acquired" during this period a competitive advantage in goods ranging from scent to chandeliers. Mechanisms to explain these kinds of effects are only beginning to be proposed (see Krugman 1991), but that they profoundly structure economic development cannot be doubted.

In keeping with Gerschenkron's framework, domestic variables also mediate resource and factor endowments. The argument is that late developers face disabilities imposed on their prospects by the inheritance of history: These can range from the lack of a properly functioning credit market to inadequate property rights in the agricultural sector (bear in mind that development is crucially dependent on productivity gains in agriculture close to the same order of magnitude as those in any other sector, see Crafts 1984). Gerschenkron saw major banks or the state as essentially fulfilling the same function: concentrating and directing the necessary capital for development where private markets are lacking. Yet the French case is again instructive. The relatively slow pace of railway development in France was not because no one attempted to

form banks, or wished to bid for railway concessions (as will be discussed in greater detail below), but was because of the implacable opposition of the Bank of France to new institutions before 1848, and the tyrannical control exercised by the *Corps des Ponts et Chaussées* over the planning of all railways (Cameron 1967, 106; Smith 1990, 668-677).

Clearly the character and role of pre-existing political institutions may have any number of idiosyncratic effects on development, but the way in which they impede the efficient allocation of the factors of production or block economic integration has consequences for the timing of development. Development very often brings with it the required institutional innovation. The establishment of the *Crédit Mobilier* under the Second Empire presaged a dramatic period in railway expansion. But pre-existing institutions may also cause a crucial delay. In the French case the great age of railway building began only in the second half of the century as a direct result of the obstacles imposed by the French state. As a result, the economic integration of France was delayed by some thirty years.

There is also another consideration when dealing with bottlenecks in the domestic supply of capital: This was an age in which international flows of capital and labor, in the form of migration, first become consequential (although significant for countries in Southern Europe, international flows of labor will not be addressed in detail in this essay). No one argues that French or German industrialization was greatly assisted by capital imports, but in other, later developing countries, further towards the European periphery, such flows proved to make a significant difference, not always for the better, and not only to the importing countries.

The point has been reached at which to draw together those analytical considerations which play an important part in understanding and explaining comparative patterns of development. Consider three categories of influences on the process of industrial development: The endowments of a country or region (including geographic location), the degree to which its institutions were appropriate for market-based development, and the opportunity structure of the international economy. These categories and their interrelationships are set out in Figure 1.

The question of endowments is the least problematic. The geography of a country is very often neglected as a variable, yet it is no accident that the great trading nations of the seventeenth and eighteenth century should have been located on the coast of an economically dynamic region linked by rivers and seas, or that industrialization in Europe spread from the northwest to the

southeast. Simply put, the degree to which some economies were integrated into regional or global economic activity was a function of geographic location.

Resources were also often considered important by nineteenth century observers, yet Britain grew rich on cotton, and Japan built a steel industry despite having almost no domestic supplies of energy. On the other hand coal was important for Britain, as was iron ore for Sweden. The role of factor endowments is also not fixed. The crucial point is that the *relative* advantages of a particular set of factor endowments are altered as the international economy integrates new regions. This has the kind of consequences specified by Rogowski (1989, 24-5). The relative value of each factor of production, therefore, depends upon its domestic supply *and* the timing of the economy's 'entry' into international trade. Thereafter these values may change as the regional or global economy expands further. Set against this, of course, is the role of factor mobility. For example a region might enter the international economy at a moment when it is possible for it both to export people and import capital: This would surely have consequences for its developmental trajectory. As depicted in Figure 1 therefore, the effects of national endowments for national outcomes are mediated by the availability of world factor endowments (which depend upon markets, technology and politics) and the moment at which national actors are exposed to them.

This moment of entry—or 'timing'—as an explanatory element presents problems. Speaking of a country or region's 'entry' into the world economy implies a sharp discontinuity. In fact increasing economic integration is a much more continuous process. Yet while no industrial development is begun from a condition of perfect autarchy, it is surely the case that the process of development quickly breaks down long-standing barriers to the rest of the world economy through the internal and external establishment of systems of transport and communication. Nowhere is this more true than in the context of nineteenth century Europe. Not only were significant parts of Europe fragmented by political barriers in 1815, but once away from the great river routes it would be fair to say that no bulk commodity trade was practical or economical (only in Britain and Holland had an energetic program of canal building taken place before the beginning of the century). The successive breakdown of these barriers (in other words the arrival of steamships and, above all, the construction of railways) marks the timetable by which each country was, over a short period of time, integrated into the world economy.

The other set of variables that matter are institutional. Gerschenkron has been criticized for failing to specify closely the condition of 'backwardness'. One simple way to usefully define it is as a measure of the efficiency of factor markets. 'Bad' factor market institutions, or their absence, could be a deadweight on economic development. Yet while the state might provide substitutes for, or improvements in, capital and labor market institutions, it is just as likely that the state, as embodied in bureaucratic networks, is part of the problem. For example, the quality of market institutions for land and labor are a function of the breakdown of pre-modern or traditional institutions in agriculture. This occurred at different times across Europe, with central authority an enemy to 'backwardness' in the west, possibly because traditional arrangements were an inadequate basis for the fiscal demands of an early modern state, but supportive of 'backwardness' (the second serfdom) in the east (Anderson 1974). Thus 'backwardness' in factor market institutions is pictured in Figure 1 as a mediating element between a country's factor endowments and the process of industrial development.

However, economic institutions are not alone in mediating development. Something should be said of the 'backwardness' of a country's political institutions. What systematic influence might they have on economic change? Variation among the political institutions of Europe on the eve of industrialization may be too idiosyncratic to be easily incorporated into a comparative scheme of the kind discussed here. Yet different political institutions foster more or less efficient policy choices. One summary comparative measure of the character of political institutions could be "representativeness". North (1981, 28-29) argues that inefficient or predatory rule—short term rent-seeking that benefits a few powerful constituents at the expense of long term growth—is more likely where few have influence on rulers. The twilight of absolutism in Europe yielded significant variation across regimes in levels of representativeness. Again, following Anderson (1974), states in the West generally depended upon a conditional and reciprocal relationship between rulers and numerous social groups (nobles, merchants), while in the East despotism was relatively undiluted. In short, a useful (albeit subjective) ranking of early modern political institutions is possible based on the relative political autonomy of absolutist rulers, and the extent of their control (or their absence, as in the U.K.). In this context it is worth noting that fragmented jurisdictions in Germany, and therefore fragmented political control, may have mattered as much as representative institutions in the U.K.

In summary, as shown in Figure 1, the effects of a country's endowments on national development outcomes are mediated by a) the timing with which they are integrated into the global economy and b) by the character of national institutions. These national development outcomes, as I argue below, had systematic consequences for politics, as a result of the exposure of political actors to economic turbulence. The next step is to operationalize this framework and apply it to specific cases.

TIMING AND INSTITUTIONS IN COMPARATIVE PERSPECTIVE

As noted above, the timing and extent of a country or region's integration in a wider economic arena, at least in the case of Europe in the 19th Century, was a function of the spread of transportation and communication links, that is railways, steam ships and the telegraph. The displacement of sailing ships by steamers occurred only slowly. So refined had sailing and sailing ships become that the social savings from a move to steam ships were, at first, modest. Steam power did not carry more than half of all tonnage until after 1880 (Lilley 1973, 211). It is true that railways at first only displaced canals slowly, but in Britain, where the competition between canals and railways was most clear-cut, rail costs fell substantially below the alternative combination of water transport by sea & canal and non-rail transport on land after the mid 1840s (Hawke 1970, 77-90). The telegraph was a technological spinoff from the railways which quickly transformed international communication.⁵ The railway, as contemporaries believed, was not only the symbol of the age, but a mode of transport dramatically cheaper and more extensive than any that had hitherto existed, carrying with it a wide range of consequences for economy and society.

This analysis, therefore, will take the timing of the establishment and expansion of the railway network across Europe as a good proxy for the timing of each country or region's entry into the world economic system. It might be argued that a better measure of the process of economic integration was the eradication of political barriers to trade in mid-century, and their reappearance after the crisis of the 1870s. In 1815 continental Europe was still broken up by numerous political divisions, and there also existed a patchwork of tariff barriers. In particular, political integration was most important in Germany and Italy, while the lowering of tariff barriers was important in Britain, France and Austria-Hungary. Yet I argue that the evidence seems to be against political barriers being the most significant restraint on economic integration.

In the case of Germany and the 'Zollverein', it is apparent that while the adoption of the Prussian tariff meant lower tariffs for most of the states joining the union, the greatly increased efficiency of collection meant that, for example, British and Belgian goods, which had previously circulated through smuggling or re-export from low tariff German states, were now very often subject to higher levels of taxation (Henderson 1959, 97-99). So while the establishment of the 'Zollverein' greatly improved internal openness, it cannot be seen as an unqualified step forwards for international openness. Furthermore, the static and dynamic welfare gains from the establishment of the union have been estimated to be very small (Dumke 1991, 84-87). While it was a most necessary step for German development in the long run, its value could only be realized with the coming of the railways (as Friedrich List believed).

In Italy the 'Risorgimento' did not have the positive economic effects which might be attributed to it. The reasons are various, but relate to a matrix of problems ranging from "pre-modern" agricultural arrangements in the south, poor infrastructure and political obstacles (Toniolo 1990, 48-72). In Austria-Hungary the customs reforms of 1851 & 1853 had modest welfare effects, did not boost Austrian industrial output, which had begun growing steadily in about 1825, and did not boost Hungarian development, which only really began in the mid-1870s (Komlos 1983, 40,100 & 131). French tariff levels were lower than commonly assumed before the Treaty of Commerce, and the economic vitality of the Second Empire has its roots in the boom of the early 1850s, which was followed by a major upswing in the late 1860s; these cycles are not well explained by a treaty signed in 1860 (Nye 1991; O'Brien & Keyder 1978, 32-34).

The forgoing suggests that the erosion of political barriers has no better claim to be a measure of the timing of economic integration than progress in the development of the railways. It cannot be entirely set aside, but for the purposes of this project physical barriers will weigh more heavily than political ones in the analysis. In as much as Britain, and Belgium, industrialized before the full establishment of a railway network (their geographic location played a part in this) these cases clearly sit outside a scheme which has railway development as a crucial proxy variable. But for those who come 'later', who are more nearly land-locked, the development of a transportation network has to be crucial. It will be argued that as development spreads south and east across Europe transportation questions become more and more important. When the direct economic linkages and externalities of railway development are taken into

account it is not difficult to see why this sector has been traditionally accorded a leading role in industrialization. This eminence has been subjected to extensive cliometric analysis over the past two and a half decades. No attempt will be made to review the details here (see O'Brien 1977, Fogel 1979 & von Tunzlemann 1978, 38-43), but while at some times in some places the linkages from railway construction, and the 'social savings', have proved significant, it is by no means always the case. Among other things it will be argued here that not only is "timing" important for the pattern of the international division of labor, but also for the degree to which railways act as a "lead" sector in the process of development.

This is a somewhat complex point: the timing of a country's exposure to the international economic opportunity structure through the institution of railway networks, was not necessarily conterminous with the most intense period of industrialization. In other words, while Britain industrialized before the development of the railway, in Germany railways and industrialization came later but together, while in Italy railways arrived later still, yet somewhat ahead of the late nineteenth century and early twentieth century period of rapid growth.

This point is illustrated in Table 2. In it the main European countries are placed into three categories: 'early' developers, being those which developed before the expansion of the railway, 'late' developers, those which experienced sustained industrial expansion at the same time as an expansion of the railway network, and 'later' developers, in which a railway network, and therefore good links with the world economy, was established before sustained economic growth occurred. This adds a twist to the role played by the 'timing' of a country or region's entry into the world economy: It is not only a question of timing with respect to the evolving international division of labor, but also with respect to the internal evolution of a country's development. It is this which helps determine the benefits to an economy through upstream linkages, over and above its effect on economic integration, of the establishment of a rail network.

These categories in Table 2 have to be made empirically precise, and then used as a basis upon which to analyze patterns of industrial development from a comparative perspective. In doing so an attempt can be made to clarify some of the terms which have been bandied about so far in the discussion. What does it mean to speak of "industrial development", "economic development" or "industrialization"? For Gerschenkron (in the case of 'late' developers) it was a "spurt" or similar discontinuity leading into a period of sustained industrial growth

(Gerschenkron 1962, 44). At this point a structural transformation occurred in the economy, as measured, for example, by a reduction in the size of the agricultural workforce and a rise in the share of employment dedicated to manufacturing. Unfortunately the empirical evidence for such "kinks", and the similar concept of an "industrial take-off", has proved elusive, not least because of the problem of disentangling the pronounced macro-economic cycles of the nineteenth century from secular trends in economic development (Crafts et. al. 1991, 124-126).

Crafts, using his own improvements on national income estimates for Europe in the nineteenth century (Crafts 1983), has examined countries which achieved different levels of income at different times from the point of view of the percentage of the labor force still engaged in agriculture (Crafts 1984, 446-7). He notes that "there is a strong tendency for countries later in reaching \$550 (national income per capita) to have a greater share of the labor force in agriculture at that income level." In other words "earlier" developers, when they reach the level of \$550 national income per capita, have accomplished a greater structural shift out of agriculture than "later" developers when they reach the same level. What is more he notes that productivity in the agricultural sector is, *relative* to productivity in the manufacturing sector, much poorer for "later" developers than for "early" developers (this 'sectoral productivity gap' had disappeared in Britain by 1840). Thus, he argues, the export specialization of "late" developers in agriculture is explained less by their comparative advantage (which by his reckoning is more likely to lie in labor intensive manufacturing) than by the success of the early developers.

His figures for per capita national product in the nineteenth century have been used to make the crude categories shown in Table 2, based on the idea that modern economic development was well underway for countries in Europe in the nineteenth century by the time they reached national product per capita of \$550. The countries fall quite easily into the three groups, not only because of when they reach the \$550 level, but also because those who are deemed "early" have a smaller share of their labor force in agriculture than those who come "late" to that income level, and those who come "later" have a larger share still retained in agriculture. Yet is economic development the same as industrialization? Clearly the recognition that there exists a multiplicity of development paths suggests that the term "industrialization" is an obstacle to understanding if it simply means following a "British" path (O'Brien & Keyder 1978,18). For the purposes of this paper, therefore, 'industrialization' and 'industrial

development' mean the same as 'economic development' as broadly defined above for nineteenth century Europe.⁶

It is now necessary to see if railway development in each case occurred with the "timing" which has been claimed for it. A comparison of Crafts' figures for per capita national income with a measure of railway development for a small sample of countries (see O'Brien 1983, 8) lends support to the categories established above (although the poverty of the data for railway construction makes any conclusions only tentative). The evidence does suggest that railway development for early developers—U.K. & Belgium—followed rapid economic development, whereas for late developers—France & Germany—it accompanied it. The evidence for the 'later' developer Italy is not consistent with the scheme proposed above. Railway development occurred only very slowly (possibly for geographic and political reasons, see Fenoaltea 1983, 49-54). Significantly, this increased the integration of northern Italy into the European economy (a region anyway linked to other areas over many centuries) while leaving southern Italy isolated. Otherwise it does appear that railways were well-developed in other 'later' developers such as Spain and Sweden.

If the categorization offered above is plausible, what are the inferences to be drawn from it? The effects of the development of railways can be divided into three kinds; downstream, upstream and externalities. Downstream effects are the effects of integrating markets discussed above. Upstream effects are the influence on sectors and factors which supply railways. The large demands made by railways for iron, steel and engineering may have had a crucial impact on the growth of these sectors (this has been argued in the German case, Fremdling 1977), or perhaps the demand for new capital crowded out other sectors (a possibility that has been examined and rejected in the British case, Reed 1975).

Externalities might take several forms, for example the knowledge gained from operating complex, geographically dispersed systems might have provided crucial experience upon which the large firms of managerial capitalism developed (see Chandler 1977). Or the extraordinary demands for capital may have given the impetus to crucial institutional changes in capital markets. This is a very interesting aspect of railway development which directly touches on the characteristics of "backwardness" discussed above. What is more, not only may have railways generated institutional changes in domestic capital markets, but they may also have provided the

impetus for the first significant non-governmental international flows of capital, thus transforming international capital markets. Another externality not easily quantified but sometimes claimed is the role of railways in technological change. In general the dynamic gains from railways that cannot be easily quantified by the social savings approach have proved hard to evaluate (O'Brien 1983, 14-22).

The expected consequences of these three kinds of effects for the three categories of countries identified above are fairly straightforward. For early developers none of the effects will be very important—trade patterns, industrial structures and capital market institutions were established before railway development. For late developers the situation is likely to be very different—railways may dramatically increase internal and external economic integration, they should have significant effects on the growth and character of the metal industries, and may also shape the formation of capital markets. Later developers are expected to fall into a middle position. Railway networks gave access to markets before manufacturing industry was able to participate in railway construction or take advantage of world demand. This created opportunities for agriculture, and factor flows of labor (out) and capital (in). In short, the timing of integration into world markets may have a curvilinear character—making the greatest difference for those who come late, but not too late, to economic development.

These effects, of course, were also mediated by the character of early-modern economic and political institutions as described above. In the discussion of individual cases that follows such institutional effects will be included where important, but not in great detail and in an *ad hoc* manner. Space does not allow lengthier analysis.

IMPLICATIONS AND EVIDENCE

Early Developers: United Kingdom and Belgium

How did the gains from the establishment of railways shape the growth of 'early' developers? Railways for them were a *product* of economic development rather than a cause. Britain and Belgium were geographically favored and were already well-integrated into the extant world economy (one characterized by a trade in 'colonial' products). Internal demand was the well-spring of their growth, and the kind of products they sent to world markets were those which became highly successful and competitive after developing on the basis of their home markets: cotton textiles and iron. The role played in both cases by generous natural endowments

of coal should also be remembered. It is worth noting a feedback effect from the world markets of that period: Britain's textile industry was shaped by the fact that it conquered world markets at a moment when demand was under-developed for anything but the cheapest mass-produced goods.

Backward linkages were also less important for 'early' developers. The iron and engineering industries were well established before the coming of the railway (the much earlier development of stationary steam engines for power had greater consequences for the coal industry than the iron industry in Britain, see von Tunzlemann 1978,107-115). Railways did have a pro-cyclical macro-economic effect in the 1840s (Reed 1975, 31) but the early demand for railway capital, as noted above, was easily accommodated. The British stock market, and the two dominating Belgian banks the *Société Général de Belgique* and *Banque de Belgique*, were existing institutions capable of handling the raising of capital for the railways (Allen 1975, 76-99 & Cameron 1967, 144-148).

An important difference in these capital markets was that while in Belgium railway equities were often held by the banking sector, in Britain a new class of small-scale individual investor, outside London, was educated into the practice of holding railway shares (Allen 1975, 261). In a thoroughgoing study of the West Riding wool industry Hudson notes that when profits slumped in the 1830s, at the time of the first railway 'mania', capital formerly retained in the region began to be siphoned off into London equity and bond markets (Hudson 1986, 252-268). It has been argued that, due to the good information available in London markets on investments in railways, mines and government bonds both in Britain and the rest of the (then) developing world (no doubt partly as a result of the invention of the telegraph), British capital markets were better able to serve large and cosmopolitan projects rather than more modest ones closer to home in the British provinces (Kennedy 1987 & Ingham 1984). This is a case, possibly, of institutions which privileged the outward orientation of capital markets at the expense of internal demands.⁷ Therefore, as the international market for capital expanded, along with product and commodity markets, during the process of European economic integration, Britain, as a capital rich country with the appropriate institutions, was well-situated to supply the capital. Whether a capital abundant country specializes in capital intensive production processes and trades the output, or merely exports the abundant factor is determined in part by factor market institutions.

In summary, 'early' developers did not earn significant downstream or upstream gains from railway development. In particular the fact that railways arrived on the scene after economic development was firmly established meant that economic specialization was determined by other factors (for example, energy endowments) as opposed to the opportunities created by suddenly expanded markets. Capital market institutions were capable of raising large amounts of capital on demand, indeed in the British case they become sophisticated enough to trade internationally.

Of course the U.K. and the Low Countries were areas in which the remnants of feudalism and other traditional social structures had largely disappeared. Economic and political institutions were in place that first made industrialization possible. What followed was the rise of a relatively substantial and powerful middle class able to match the political influence of a highly unionized but fragmented working class (politics in Belgium was also shot through with confessional and linguistic divisions, Luebbert 1991, 139-143). In Luebbert's framework, a recipe for political stability.

Late Developers: France, Germany and Denmark

When the analysis moves to 'late' developers a problem presents itself which becomes more pronounced as the discussion addresses areas further south and east in Europe. Gerschenkron took the sovereign state as a unit of analysis, assigning to each a place in a developmental hierarchy of nations. This essay has used the words "region", "country" and "state" somewhat interchangeably, trying to suggest that national boundaries are arbitrary from the point of view of economic processes. If Italy was, in 1815, a 'mere geographic expression', the same could be said of Germany from the point of view of its economic history. In fact it is a crucial assumption of this discussion that pre-modern economies were segmented, regional and heirs to very different economic and institutional histories.

The difficulty is an empirical one. What good data exist for the period is often obtained from central authorities whose best kept records were for goods which crossed their borders, for that was how they raised revenue. Intra-state trade and variation is much more obscure, if no less important. Several people have tried to work against the structure imposed by political boundaries (see Pollard 1981 & Ashworth 1977), and in the case of Germany the regional character of growth has been mined with some success (Tipton 1976). Regional divergence

becomes even more marked in such cases as Italy and Austria-Hungary. Where possible these differences will be incorporated into the discussion, but the empirical picture is likely to be suggestive rather than clear-cut. The important point is that intra-state variations in endowments and regional institutions were widespread, and the *internal* economic integration of countries was an important part of the larger story.

As was indicated above, the history of the French economy in the nineteenth century followed a completely different path, from beginning to end, to that of the British experience. It has been identified in Table 2 as a 'late' developer, yet closer inspection reveals this to be unsatisfactory (even objectionable, see Roehl 1977). While there is little evidence for an economic spurt, in keeping with the experience of a 'late' developer (save perhaps a sharp, cyclical upswing late in the Second Empire) there is also, quite definitely, no structural shift out of agriculture, in keeping with the experience of an 'early' developer. France succeeded in developing steadily without an emphasis on heavy, geographically concentrated industry, over a long period of time. If per capita commodity output is taken as the measure, it keeps pace with Britain throughout the nineteenth century. (O'Brien & Keyder 1978, 57-62). The aggregate economic differences between France and Britain were, of course, a function of France's singular demographic history. No less singular was the institutional and political background to French development. It will be a good test of the analytical scheme in Figure 1 to see if it can take account of these singularities.

France was land abundant relative to other continental countries (and became more so, relatively speaking, as the century progressed due to its low birth rate). Therefore the potential welfare gains from the internal integration of the French economy made possible by railways must have been significant. Yet due to the controls imposed by the *Corps des Ponts et Chaussées* railway development was relatively slow in France, and centered heavily on Paris. The permanent way was over-engineered and expensive and charges were closely regulated, both so as to favor small and large customers equally, and to keep the ambitious canal system viable (Smith 1990, 671-680). The downstream impetus on economic specialization was, therefore, weak at first.

Taken together with the specific land and labor market institutions of the French countryside (which have often been blamed for the absence of a structural change in the French

economy by 'keeping' labor on the farm) a case could be made that the slow spread of transport and communications served to encourage the dispersion of small scale industry outward into rural regions, rather than the migration of labor inward to major urban areas. This pattern of development was also consistent with the opportunities available to France in the international market-place. British exports to France consisted in the main of raw materials (coal in particular), intermediate goods (pig iron) and some finished industrial products, while France exported more in the way of finished industrial products, and also processed and unprocessed foods produced by a specialized, small scale agricultural sector (O'Brien & Keyder 1978, 161). What is apparent is how complementary the economic relationship was between France and the U.K., a complementarity that was a function of *timing* as much as of *endowments*.

It was noted that backward linkages had a small part to play in the case of early developers, whereas, as also noted, they may play a larger part for 'late' developers. Two long waves in French capital formation have been observed whose peaks coincide with those of railway investment, an investment that constituted between 20-29% of the total. Yet producer goods industries remained underdeveloped in France, contributing less than 25% of the value added by industrial production in 1910 (Levy-Leboyer & Lescure 1991, 156-7). As in the British case, railway investment had an impact on macro-economic cycles, but not the sectoral impact which Gerschenkron imputed to it.

French capital markets were closely circumscribed by the French Treasury until the Second Empire, with every difficulty placed in the way of new banking institutions. This had two effects: public monies had to be found for a significant part of all railway investment until the period of the Second Empire (and thereafter public guarantees were necessary, LeClerq 1982, 899). It also placed a limit on possible credit expansion, as specie continued to be the most important means of exchange (Cameron 1967, 115-118). Private banks were able provide some of the necessary working capital, and their numbers and importance in the provinces may have been underestimated by Cameron (Levy-Leboyer & Lescure 1991:166). Their growth may have been an appropriate institutional response to an industrial structure which was also dispersed and small scale (as well as in keeping with a long history of local and informal credit markets).

On the other hand the rise of a metropolitan banking sector, begun with the establishment of the "Crédit Mobilier", presented a very different picture, in which lending was concentrated in

sheltered sectors spared market pressures because of government controls: for example utilities and railways (Levy-Leboyer & Lescure 1991, 164). Overall French credit markets were segmented and institutional innovations in response to the demand for railway capital remained apart from the needs of the rest of the economy. It was this privileged financial sector which entered international capital markets with the spread of the railways in Southern and Eastern Europe, and it is in keeping with its relationship with the French state at home that its overseas activities, and the trading of foreign securities on the Bourse, had a strong political component (see Viner 1951).

The French case presents numerous revealing aspects. Economic development was shaped strongly by pre-existing economic and political institutions which, as internal economic integration was slowly completed, were allowed to play a significant part in forging the dispersed, small scale structure of French industry. The property rights inheritance of the revolution fostered small-scale farming, and the institutional inheritance of absolutism explains the influence of the French state. Another significant factor was the character of those trading opportunities best able to complement the established trade of the British, luxuries and specialized agricultural products.

The associated social and political structures are well-known: A relatively weak and slow-to-develop urban middle class, alongside an equally small organized working class. Rural elements—farmers and the middle class in small towns—played a relatively large role, sustaining authoritarianism in the Second Empire, and only being eclipsed by the rapid economic changes of *la belle époque* after 1871. This accounts for the slow and unstable political development of France in the 19th Century, albeit one ending with middle class hegemony on the eve of the First World War, a hegemony cemented by alliance with rural interests.

In summary, French economic specialization reflected a balanced combination of the three elements emphasized by the framework employed by this analysis: resource and factor endowments, land and labor market institutions and the timing and speed with which transportation networks were completed. Taken together they explain the structure of the French economy, its role in international trade, and French class structures.

Germany presents one of the two 'classic' cases of Gerschenkron's scheme (Russia, of course, the other). Indeed there is nothing more dramatic than the rapidity with which railways

were established and the related growth of the iron and steel industry occurred in the space of two decades: truly a palpable economic spurt. The subsequent establishment of the great German 'mixed' banks played such an important part in Gerschenkron's scheme that they have come to be the paradigmatic institutions for European banking in the nineteenth century. Yet these characteristic phenomena make the most sense when viewed in the context of the European and world economy in which Germany found itself, and the way its development was a product of that environment.

The great rivers of the Rhine, Oder and Elbe give the German heartland some transportation advantages, but Holland's location at the mouth of the Rhine imposed a political barrier on the passage of goods at the beginning of the century which the Zollverein had difficulty, at first, in overcoming (Henderson 1959, 161-170). The ultimate success with which Prussia played off a newly independent Belgium against Holland is a revealing illustration of the way in which transportation links and political barriers were entwined, producing significant feedback effects. The completion of the Cologne-Antwerp railway in the 1830's offered Germany a partial alternative to the Rhine, and its value allowed Belgium to obtain a very favorable commercial treaty in 1844. As a result Germany was flooded with cheap Belgium pig iron (at the expense of the British) at a crucial period of railway construction during the 1840's (Fremdling 1991, 64). The availability of this cheap input hastened the construction of intra-German transportation links which resulted, among other things, in the opening up of the Silesian iron ore fields. The Dutch, as a consequence, were induced to give up transit dues and a variety of other 'mercantilist' policies in bargaining with Prussia in 1850-1. This rather detailed story is presented in order to illustrate the variety of complex effects generated by the steady extension of the "Zollverein" and the railways: an interactive relationship existed between political and economic developments.

In 1815 Germany presented a patchwork of different regional economic patterns, reflecting some regional proto-industrial experience, local endowments and geographic opportunities. Under such circumstances the establishment of a transportation network should have had pronounced 'downstream' effects on economic specialization, the migration of labor, and patterns of trade. These are best understood in the context of German trade with Britain. In effect Northern Germany represented one side of a trade triangle, in which Britain exported

intermediate goods to western Germany, which traded finished goods to the east, where they served as inputs for the agriculturalists of East Prussia who produced grain for export to Britain (Lee 1988, 346-354). As a result of the establishment of a railway network the existing craft and proto-industrial production of the Rhine-Ruhr region became the basis of heavy industry after the 'British' pattern.

The crucial elements were the presence of coal deposits, the availability of cheap intermediate goods from Britain, 'backward' linkages from railway construction and the supply of labor from the east. The timing of Germany's economic development was such that intermediate industrial supplies, pig iron in particular, were available on world markets. Taken in conjunction with the energy resources with which it was endowed, this placed Germany in a good position to enter second and third generation metal making activities (rolled iron and steel making). Labor and land market institutions in the east interacted with the transportation revolution to produce a development outcome that was the polar opposite to the one experienced in France: agriculture intensified its commodity production of grains, allowing extensive internal migration into new urban areas in the west thus supplying the necessary labor force for the new heavy industry.⁸

It is implied by the definition in figure 2 of a "late" developer that this is the case where backward linkages from the establishment of a railway network would have the most powerful effect on economic growth, since railway development occurred at the same time as industrialization generally. To illustrate this point in the German case it is enough to note that a) railway derived demand for iron between 1840-1859 ranged from less than 25% of total domestic production upwards to more than 36% (Fremdling 1983, 127) and b) that railway investment as a percentage of all investment in *Gewerbe* (defined as enterprises in mining, manufacturing, crafts, trade, financial services but not railways) averaged an astonishing 78% between 1851-1869 (Fremdling 1977, 585). What is also striking is the way in which the German economy quickly moved out of the complementary relationship it had with Britain into a much more competitive one. For example 70% of all locomotives on German railways (which at first were supplied almost entirely by Britain) were produced in Germany by 1846, which was the moment at which British exports to Germany of bar iron and rolled rails reach their peak of 15%, yet British exports of pig iron peak between 1855-1859 at 20% of the total (Fremdling 1977, 126,129). In other words German metal industries became competitive through a process of working

backwards 'upstream' from finished products to intermediate goods. Ultimately even British coal became completely displaced in the Berlin market (Fremdling 1983, 135).

It is important to remember that the processes discussed above occurred before the cartelization of the industries in question, before the "iron and rye" tariff and before the rise of the German 'mixed' banks. British iron and steel prices were competitive in world markets until the 1870's, but transportation costs and the tariff schedule (agreed at the 'Zollverein' conference of 1839) served to keep German domestic prices well above world prices (Allen 1979). As a result German producers earned significant rents up until the last third of the century, and cartelization only occurred in response to slack domestic demand and heightened competition. This made possible the massive investments in the Bessemer steel-making after the 1880's, which secured Germany's lead in total factor productivity.⁹ Yet cartelization was not enough, large amounts of capital were also necessary, which was provided by the 'mixed' banks.

Tilly notes that "work on early railroad finance shows that universal banking originated here - modernization of German banking thus being a kind of backward linkage derived from railroad building..." (Tilly 1991, 176; see also Tilly 1986, 118-123 & Tilly 1967). It is worth remembering that in the early years of the century the German states exercised strict controls over capital markets, creating a marked preference among savers for governments bonds: From the point of view of economic development the pre-existing capital market institutions were lacking. The Prussian state bank operated as a monopoly 'bank of issue' and as the main institution for credit creation. This left to the private banks the task of meeting long term capital needs (note the very different institutional division of labor compared with the British case). It was easier for them to carry illiquid assets on their balance books since they were separated from the panics occasioned by short term bill discounting. Syndicates of private bankers were at first the main source of railway financing, but joint stock banking was a necessary institutional innovation if the enormous sums involved were to be obtained in the long run. These banks solved the information problems alluded to in the British case through their close involvement in the management of their client's operations (Tilly 1986). At the same time their fixed and long term financial commitments made them less prominent in international capital markets.

In summing up the development experience of Germany in the nineteenth century mention must be made of the role of the state: In railway construction and operation public

control was fragmented and episodic (Dunlavy 1994). Railway development occurred quickly, mostly at private initiative and only subsequently came under central control. The speed of its establishment had the effect, I have argued, of thrusting the West and the East onto divergent development paths. The differences between the regions had deep historical roots—the difference between Western and Eastern feudalism—but economic integration of the kind I have described caused feedback effects in which the differences were accentuated. The West developed an industrial base that competed with and displaced British exports, while the East was drawn more heavily into commodity agricultural production. This, of course exposed the aristocrats of the East to the shock of falling world prices in the 1870s. Internal migration of labor is the crucial variable in this story, made possible by the availability of transportation.

The tariff schedule set by the 'Zollverein' (which suggests the existence of more vigorous proto-industrial development before the 1840's than commonly assumed) had an important role in assisting the 'upstream' development pattern in industry. This was one of several roles played by political institutions on the early stages of development. Another was the absolutist legacy in financial control which, in conjunction with the high demand for capital for railway construction, elicited a specific institutional response—the universal bank. (This resulted in financial arrangements in which asset specificity rather than capital mobility characterized the banking sector, assets committed heavily to the largest, most integrated and cartelized industrial sectors).

The other important role played by pre-modern political institutions was more strictly political—while the economic integration of Germany was based on economic interdependence between western and eastern Germany, an interdependence cemented by railways, the political unity of Germany was based on the institutional legacy of Prussian absolutism. These economic structures and political institutions yielded a polity in which the working class grew incredibly rapidly, and became large and well organized, in which the middle class was fragmented by section and, idiosyncratically, religion, and in which a rural elite (the Junkers) was uniquely influential in politics through Prussian institutions and uniquely exposed to international price shocks.

Berend and Ranki (1982), in an excellent survey that will serve as a backdrop to the remainder of the empirical discussion, include Denmark in their examination of the European periphery because of its geographic location, resource endowments and subsequent economic

specialization. Yet this should not obscure the fact that it is a 'late' not 'later' developer, reaching per capita national income of \$550 by 1870. The Danish case is a good example of 'late' economic development accomplished without an important role played by industry in the British/German sense of the word. This discomforts a common structural assumption about 'backward' economies: That they are forced to specialize in agriculture, which enjoys unfavorable terms of trade in comparison with 'developed' economies which specialize in manufactured goods. The crucial question is which agricultural goods are being exported, and what degree of comparative advantage is involved. Grains and Mediterranean products (olives, olive oil, wine, citrus and tobacco) were subject to a secular decline in prices in the second half of the nineteenth century, while the output from truck farming and processed foods generally enjoyed improved terms of trade, as urbanization spread in the core economies (Berend & Ranki 1982, 110-120, see in particular the discussion of the Greek case). What is more, while the character of agricultural specialization is determined in part by comparative advantage, it is also a function of the other partner/s in the trading relationship, and no case better demonstrates this than that of Denmark.

Denmark represents "a very special case of adaptation to the capitalist world economy" (Berend & Ranki 1982, 137). It is an example of a complementary economy, growing by virtue of its reciprocal relationship with Britain (and British breakfast tables). High levels of domestic demand allowed the growth of small-scale finished goods producers, and by the beginning of the twentieth century a chemical industry specializing in fertilizers (a backward linkage from the agriculture sector). Denmark had a position in the international flow of factors that was very different from that of the 'later' developers which will be examined below. Capital imports were important in Denmark in the early period of economic development, but Denmark's total foreign debt, public and private, amounted to only \$200 millions on the eve of the world war (Berend & Ranki 1982, 87). This is very different from the experience of Spain. On the other hand, when a dramatic shift away from grain was necessary in the 1870's to more labor intensive specializations, labor was imported from other parts of Scandinavia. By contrast in Italy (the most extreme case) labor flooded outward from the rural south in the nineteenth century.

Where does the transportation revolution fit into this story? Clearly Denmark's geographic location is such that railway construction matters much less than in other cases. The transport revolution might have provided export opportunities in Germany, but the subsequent

imposition of tariff barriers limited them. By contrast Denmark's dependence on shipping is reflected in the rise of its merchant fleet. In fact it is a case that does not fit into the scheme in Figure 1, but it does illustrate very clearly economic effects that reappear elsewhere in the story: The role of complementarities in trade and the role of factor flows. They determined the pattern of Denmark's economic development, as much as fertile soil and rain. This, in a straightforward way, yielded political structures in which farm proprietors and farm workers played an important role, and in which middle class hegemony depends upon alliance with rural interests (Luebbert 1991, 133-138).

In summary, obviously France and Denmark present quite a contrast to that paradigmatic case of the late developer—Germany. However, scrutiny of each case reveals a consistent role played by factor and institutional endowments in combination with the international economic opportunity set (note also the role of internal economic integration). Here national endowments and the timing of development acted equally on the structure of economic development outcomes. The international economic links that followed from these different trajectories were therefore very different, but obviously reflected different starting points.

Later Developers: Austria-Hungary and Italy

In addition to adverse terms of trade, the 'dual' character of the economies of 'later' developers has been offered as an explanation of their uncertain development trajectories (Trebilcock 1981, 312-334). Potentially vital industrial sectors, it is argued, were held back by a much larger and stagnant agricultural sector, which could not undergo an agricultural revolution due to poor or incomplete land reforms (i.e. poor land and labor market institutions). Yet as the discussion on agricultural specialization suggests, while in some regions poor property rights, poorly distributed (over poor land, in the case of the *mezzogiorno* in Italy) did have regressive effects on patterns of national development, there were also internal economic complementarities which were fruitful as much as costly. The pattern of these complementary relationships, internal and external, reflects in significant measure the role of regional/global market opportunity incorporated into analytical scheme in Figure 1.

Value added in railroad construction and repair in Austria-Hungary rose dramatically in Austria after 1867, and in Hungary after 1870 (Komlos 1983, 317-8). The last five years of the 1870's shows a slowing down of investment, especially in Hungary, but thereafter investment in

construction and repair continues at a steady rate, with peaks in the early 1880s and late 1890's. While the spread of railways occurred roughly in tandem, the economic development of the two provinces is quite different, both in its structure and timing. What is most striking is the complementary nature of the economic relationship. Komlos has pushed back the origins of Austria's economic development to a period starting in 1825, describing a long, slow development that resembles the French experience (Komlos 1983:91-107). He notes also that this was the moment at which Austrian demand for Hungarian grains began its steady upward trend, which was to last nearly half a century.

Hungarian economic progress, on the other hand, was not dramatically assisted by the customs union or mid-century land reforms and the emancipation of the serfs (although the state assumed responsibility for compensating the great landowners, which it accomplished by issuing bonds: These in turn may have had the effect of deepening Austrian financial markets and increasing Hungarian savings rates). Hungarian state bonds, carried mainly in Austrian credit markets, helped fuel the first widespread period of economic development in Hungary, which occurred, remarkably enough, during the 1870s, when the rest of Europe was experiencing deflation, if not depression. Indeed in the period from 1870 until the war the Austrian and Hungarian business cycles were astonishingly unsynchronized, with growth rates related inversely to the flow of capital (Komlos 1983:147, 218). Komlos is worth quoting at length on Hungarian development:

"the achievements of the Hungarian economy were in many ways predicated on reliance on its more advanced partner (Austria) for frictionless transfers of factors of production, including technology, skills and entrepreneurial leadership. At crucial junctures Austria was also an important and easily accessible market for its output... The symbiotic relationship between Russian Poland and the Russian market which, too, formed a customs union after 1850, might explain the similar advances made in Poland..." (Komlos 1983:206).

Berend and Ranki also note the Polish-Russian connection.

This symbiotic economic specialization was clearly intensified by the main period of railway building in the Empire. Internal integration served to create as much as reinforce a complementary economic relationship. Transportation also opened up the rest of the Balkans to

trade with the Empire, most notable being the imports into Hungary of Romanian grain, which it milled in its highly advanced milling sector. Hungary even exported milling technology to Canada (Berend & Ranki 1982:130 fn.38). Clearly Hungary accomplished development based in part on its comparative advantage and the creative use of backward linkages (insulated behind a tariff wall), but the success of its development cannot be accounted for unless it is enriched by locating it within its trading opportunities and local and world factor markets (German capital played a significant if ultimately subordinate role in Austro-Hungarian development). Austria and Hungary were fundamentally interdependent in factor and product markets, an interdependence fostered by the transportation revolution and doomed to be severed by the outcome of the First World War.

In politics the Austrian middle class could not govern the Empire without the tacit consent of other nationalities, and only after Austria emerged from the rubble of the Empire was the middle class, under the rubric of Christian Democracy, able to control politics—albeit a control exercised over the opposition of an equally powerful and organized working class. These class divisions were made acute by the economic dislocation of the lost Hungarian connection. In the Hungarian case Luebbert is dismissive (1991, 258-262). However, the political future of Hungary was also firmly conditioned by its development trajectory. In the context of the Austro-Hungarian customs union it enjoyed a clear advantage in agriculture. The importance of agriculture was not a measure of backwardness, as Luebbert argues, but simply reflected specialization based on comparative advantage, made possible, indeed, by the elimination of serfdom and other ‘backward’ land and labor market institutions. The separation of Hungary from Austria would undermine that advantage, weaken the confidence of the gentry and prepare the ground for dictatorship.

Finally the Italian case offers a different combination of the same elements in its development history. As noted above, the *risorgimento* did not have the immediate economic benefits that were hoped for. Indeed Italian industrial production indices (over which there is some debate) show generally weak performance until the early 1880s, followed by crisis in the early 1890s and a period of rapid growth in the twenty years before the war (Fenoaltea 1983, 55). Coincidentally the period of rapid growth followed the completion of the main elements of the rail network (in 1895), but Fenoaltea believes that the 'backward' linkages from the system were at

their greatest after 1890, when replacement of rails and rolling stock was the most important part of railway derived demand, at a moment when internal supply constraints had been overcome. (Fenoaltea 1983, 60-72). Fenoaltea also observed some pro-cyclical macro-economic effects during the construction phase, but capital imports into Italy, in part to fund the railways, also had important and contradictory consequences.

The economic difficulties of the early nineties were the result of an Italian banking crisis in 1887, followed by the flight of foreign capital and a liquidity crunch (Toniolo 1990, 89). Pressure on the lire as a result of chronic balance of payments problems and significant external debt served as a check on Italian growth until the end of the century. After that internal accumulation relegated foreign capital to a limited role. Toniolo is inclined to limit the importance usually ascribed to the 'German' mixed bank institutions that took the place of the failed "Credit Mobilier" style banks (Toniolo 1990, 114-5). Yet it is worth noting that the institutions which helped fund the railway program, and those which played a significant role in the establishment of new industries (such as electrical power) were available through the 'earlier' experience of others.

Just as inward flows of capital became less important, the extraordinary demographic history of the South was resulting in outward flows of labor. The hard grain and subsistence farming of the region was not as strongly hurt by the collapse in world grain prices in the seventies as was the Po valley and Lombard plain. But the slow integration of the Italian market (which remained imperfect even with the completion of the railways because of the high costs, and therefore high charges, of the North-South trunk routes) eliminated the proto-industrial region around Naples. Local demand was met by goods supplied from the north and from Europe by ship, while local foodstuffs, due to the poor distribution of property rights, were uncompetitive and priced out of northern markets. In other words, far from building complementarities between north and south, the trade diversion effects of economic integration for the South probably outweighed the trade creation effects. The branch lines built in the last major building phase before 1895 by the liberal government did, however, provide connections between the Southern hinterland and the major ports of the South: As a result labor flowed out of the region. By the early years of the twentieth century the returns from exported labor (in the form of remittances) were enough to balance the deficit in visible trade (Trebilcock 1981, 311).

In short the downstream effects of railways in Italy seem to have been uncertain in matters of trade, this may have been a matter of geography. It is easier to sail ships down the length of Italy than to build railways. Railways may have had a greater effect in facilitating factor flows: Capital in and labor out. What kind of patterns of development did these forces produce? Like any 'later' developer the tariff was a function of the revenue imperative as much as domestic protectionist sentiment, yet the history of Italy's trade relations in the period leading up to the war reveals much about the character of Italian economic specialization.

The Italian government has been criticized for a policy which, with the exception of a period between 1887 and 1892, favored agriculture over industry (Coppa 1977, 752-3). It has been argued that much of the capital equipment for the main phase of railway building was imported, whereas appropriate tariffs would have fostered domestic production. This seems to set aside the question of acute supply constraints (the steel works at Terni were not established until the mid 90s). While even Northern Italy did not have an advantage in agriculture by comparison with France (with whom relations deteriorated into a series of trade wars in the 1890s), it could and did establish a complementary economic relationship with Germany and Switzerland. Italy exported wines, citrus, sulphur and silk (in which it had an historic competitive advantage) and imported intermediate and producer goods. Italy was also able to adopt the more 'standard' strategy of a 'later' developer by entering some of the most important industries of the 'second' industrial revolution, such as electrical goods and automobiles.

The divergent trajectories of the Italian North and Italian South were thus accelerated by economic integration. Northern Italy became integrated into the Central European economy, but for the South—hobbled by traditional economic and political institutions—the experience was much harsher (especially by comparison with Hungary's experience). The principal export was people. Luebbert sees the coalition base for Fascism as residing in the urban and rural middle classes of the Center and North, in opposition to Socialism, with pockets of support in the South. This reflected increased labor militancy (workers and landless peasants). The framework offered here can help explain the weakness of urban middle classes and the perceived threat from the poor. The First World War cut-off Northern Italy from its main trading partners, disrupted the inward flow of capital, and prevented Central and South Italy from releasing labor to foreign markets (note that after the war the U.S. began significant restrictions on immigration). Italy's

participation on the winning side in the war was disastrous given the structure of its economy and the character of its economic interdependencies.

In summary, endowments mattered in important ways for both Austria-Hungary and Italy, but it was the fact that they developed later that weighs heavily in explaining their development trajectory. For these countries economic specialization was clearly a function of the complementary economic relationships available to them—internal and external. South Italy had no niche in the international division of labor except as an exporter of labor. Northern Italy was closely linked to Germany and Central Europe. Austria and Hungary enjoyed a nearly perfect economic symbiosis. All these economic relationships were disrupted by the war and its aftermath. These disruptions, in turn, interacted with class structures in Austria, Hungary and Italy in specific ways. In Italy the middle class in the North was undermined by the economic disaster of the war, so allowing an adventurer to seize power. In Austria the middle class and working class squared off for almost two decades of class struggle. In Hungary, the loss of the relationship with Austria bred a reaction among rural notables that served as the basis of dictatorship.

IMPLICATIONS AND CONCLUSIONS

The virtue of the account given above is its ability to offer insight into why the shocks and crises that Europe encountered between the World Wars had a differential impact on regime outcomes. The most powerful consequence of the war, surely, was the interruption of so many of the carefully established economic complementarities fostered in the first great age of capitalism. Associated with these complementarities were specific social and political structures. When shocks came—war, economic depression—each country was exposed in different ways, yielding different outcomes. For example, despite its authoritarian legacy from the 19th. Century, the Third Republic in France weathered both crises—its urban middle class was, if anything, strengthened by the demands of war (the burden in treasure and blood falling more heavily on the rural areas) while Italy fell to dictatorship even as peace was restored. The difference lay in different networks of interdependence.

Can generalizations be obtained from this analysis to help understand other crises in other integrated regions? Disrupting complementarities in trade and factor flows (easily measured for current events) have systematic consequences for domestic politics. For example, some

countries (Korea and Thailand) recovered economically and politically much more quickly than others (Malaysia and Indonesia) from the Asian financial crisis. It is consistent with the framework presented above that Korea's export sector, while hurt, was not as damaged by disrupted trade and factor flows as Indonesia's because it was much less tied into a complementary relationship with Japan (in trade and finance). Indeed, both Indonesia and Malaysia were also significant net exporters of people before the shock. These points may be disputed, and mean little in isolation, but they are suggestive of the way in which patterns of development in any region can be understood in the terms proposed above.

FIGURE 1

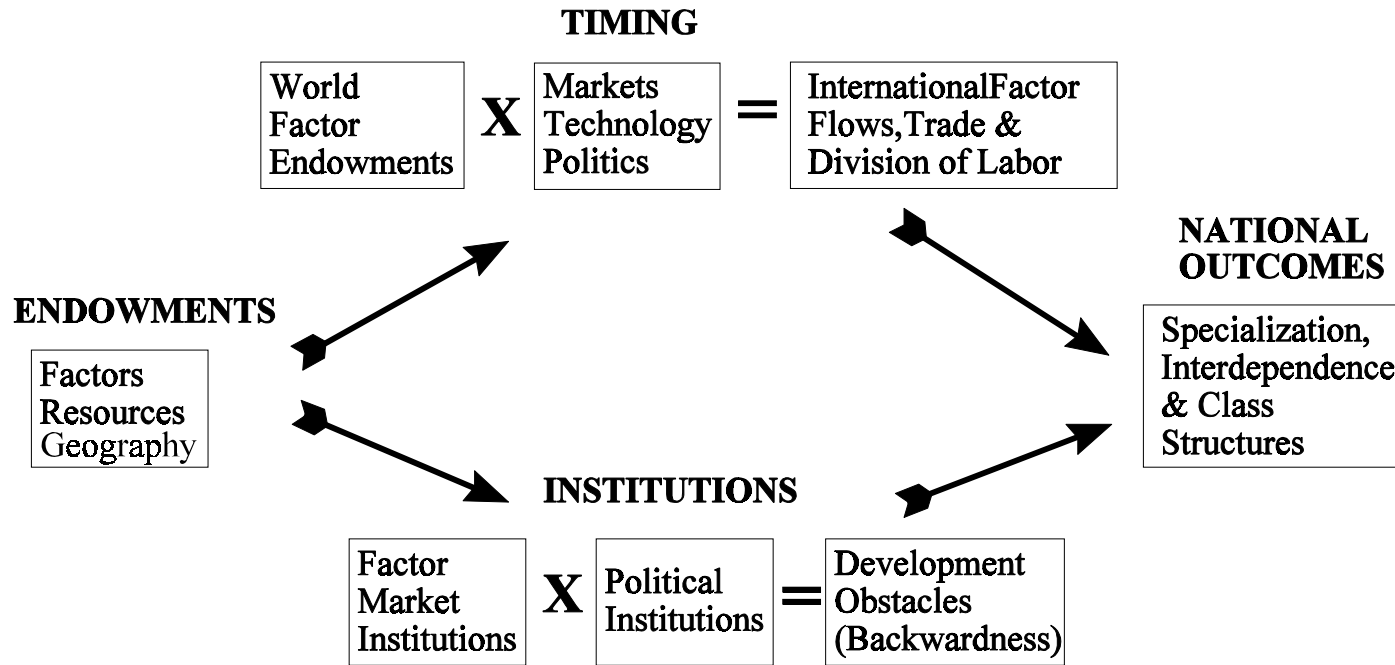


Figure 2
Economic Development and Railways

	Undeveloped Railways	Developed Railways
Undeveloped Industry		LATER Hungary Italy (Sweden)
Developed Industry	EARLY United Kingdom Belgium	LATE Germany France Denmark Austria

Countries with Per Capita National Product > \$550

Before 1850 = EARLY

Before 1880 = LATE

Before 1900 = LATER

Source: Crafts 1984, 446, Table 6.

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Notes

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2. This model is otherwise known as “historical institutionalism” (see Immergut 1998). To pursue the metaphor a little further, the claim here is *not* that countries grow along one of a number of possible branches in the tree of development. Instead, the argument is that there are several trees growing together that cast light and shadow on each other. In particular, saplings must live with more shade than mature neighbors. This interaction conditions the set of branches carried available to each.
3. As argued below, these effects are consistent with a simple, classical view of economic exchange and require no deployment of arguments about increasing returns.
4. O'Brien & Keyder also note that shallow demand in France due to the persistence of a rural, underemployed and slowly reproducing population precluded mass production of cheap goods (O'Brien & Keyder 1978:178).
5. The telegraph is important because any argument about the efficiency of market institutions is likely to rest on the role of imperfect information as a source of market failure. The telegraph also allowed the construction of single track lines with passing places, reducing the costs of branch extensions of the railway network.
6. Modern underdeveloped countries seem to enjoy at least comparable income levels, if not higher ones, at an earlier stage (see Crafts 1983, 396).
7. Kennedy's argument, which cannot be done justice here, is that due to market segmentation and informational asymmetries lower risk instruments were preferred by British investors, which subsequently hurt the firms involved in the 'second' industrial revolution.
8. The east began to experience acute labor shortages by the end of the century, met by the use of Polish migrant workers, but this was not the result of the original "factor endowment" of the zone, but a consequence of the interaction of specific labor market institutions and the mobility afforded by the rapid development of the railway network. The 'latifundias' in the East could, in some counterfactual world, have moved away from land intensive commodity production towards more labor intensive specialist agriculture. Instead it exported its labor. (See Lee 1988, 355 for a discussion of regional differences in land reform among the German states).
9. The interplay of technological change, resource endowments and domestic and foreign patterns of demand in the iron and steel industry is very complex, but shallow investment in Britain in the last two decades of the century seems to have been a crucial part of Britain's relative competitive decline (Allen 1979).