

Institutions, Trade and Development

By

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I

In 1961 Burenstam Linder (1961) rocked the boat of the prevailing Heckscher-Ohlin trade theory by noting that much of international trade, particularly in manufactures, was among similar countries, not between countries with disparate factor endowments (as between rich and poor countries). His explanation was in terms of demand, more trade taking place among relatively rich countries with similar demand patterns for sophisticated manufactured goods. In the subsequent decades international trade theory incorporated economies of scale and imperfect competition to explain such trade, often in the form of intra-industry trade, rich countries swapping varieties of the same generic goods with one another. Only in recent years the idea is getting around that may be the similarity among rich countries is not so much in demand but in terms of institutions, particularly involving legal and contractual environment relative to that in poor countries. These institutions through their effects on transaction and production costs can affect comparative advantage in countries with divergent institutional set-ups.

Recent empirical literature has pointed to ‘the mystery of missing trade’—see Trefler (1995) -- where actual trade between say rich and poor countries is found to be much less than is predicted by the traditional sources of trade; and to the fact that national borders matter a great deal even among rich countries, with economic transactions biased in favor of home countries—see Helliwell (1998) and McCallum (1995). Both of these widely noted empirical findings can have an explanation in terms of institutional differences between countries. So in the last decade or so international trade economists have started paying more attention to domestic institutions.

Quite independently, in the recent institutional economics literature there have been attempts to explain the emergence of institutions which mitigate the severe transaction costs that arise in long-distance trade and credit where the parties are not known to each other. Historically, among trading groups various kinds of multilateral reputation mechanisms evolved which discouraged opportunism and contract violations, even without any formal legal system of contract enforcement. Braudel (1982) discusses how ethnic networks facilitated trust among traders. Greif (1992) refers to the ‘community responsibility system’ among Maghribi traders in Mediterranean trade in the early modern period: the whole community of an offending trader was made responsible for his breach of contract with a member of a different community. Threat of community sanctions and collective punishment made enforcement costs (or honesty-inducing ‘efficiency wage’) lower for long-distance trading partners. Similar multilateral reputation mechanisms governed trade carried out by Indian mercantile families in pre-colonial and colonial period (with an elaborate

system of *hundis* or bills of exchange that worked over thousands of miles), Chinese traders in southeast Asia, Arab ‘trading diasporas’ in West Africa, and so on.

But these business networks served not merely the role of sanctioning fraudulent behavior in trade, but also that of sharing information on reliability of partners, informal credit rating and referrals, and on new business opportunities, and matching of producers with distributors and suppliers. Merchant guilds in medieval Europe (for example, those in Italian city states or inter-city guilds like the German Hansa) and caste-based mercantile associations in India served many of these functions. Rauch and Trinidad (2002) in their empirical study of the impact of ethnic Chinese networks on international trade particularly emphasize the importance of the information sharing role, more than the fraud deterring role. Ethnic Chinese networks (measured in their empirical work by the product of ethnic Chinese population shares in two countries) increased bilateral trade more for differentiated than for homogeneous products: for trade between countries with ethnic Chinese population shares at the levels prevailing in southeast Asia, the smallest average increase in bilateral trade in differentiated products attributable to ethnic Chinese networks is estimated to be nearly 60 per cent. In differentiated products, more than in homogeneous products, the role of matching buyers and sellers in the product characteristics space becomes particularly valuable. In general transaction costs are differentially important in different sectors (for example, more in complex products requiring difficult coordination and organizational resources than simple products), and different countries with institutions of varying strength in

minimizing these transaction costs will have different patterns of comparative advantage in these products¹.

Ethnic networks (and other business groups) while thus facilitating trade in products where transaction costs would otherwise have limited the extent of trade, can also cause ‘trade diversion’, as has been pointed out by Rauch and Casella (2003). Like trade-diverting customs unions ethnic networks can link up a country with a relatively high-cost trading partner, and discourage trade with non-network members, and in general delay the formation of impersonal institutions and practices which help trading among all people (just as preferential trading agreements among a small set of countries are sometimes regarded as stumbling blocks to the reaching of more multilateral trade agreements). Of course, some ethnic trading networks are not always very exclusive, and are sometimes quite flexible in incorporating non-ethnic partners. For example, for the Huizhou merchant groups of China, who for many centuries organized business partnerships across distant trading towns on lineage lines, the boundaries of the lineage unions (*lianzhong*) were sometimes rather fuzzy and the common ancestor under whom they were amalgamated were often fictitious—see Ma (2004).

In general, however, for trading purposes there are pros and cons of the two canonical alternative institutional systems, one *relation-based* (the organizing principle of many business groups in different parts of the world) and the other *rule-based* (the legal-juridical underpinning of modern dispersed-ownership corporate sectors). Apart from low opportunism

¹ Anderson and Marcouiller (2002) show that imperfect contract enforcement and other forms of insecurity reduce international trade of Latin American countries by as much as their tariffs. But they do not consider the differential effect on different types of goods.

(achieved through various social processes) and information-sharing that we have noted above, relation-based organizations have an advantage, particularly in situations where ambiguity of performance evaluation is high: as Ouchi (1980) noted some years back, in clan-based organizations performance evaluation in an implicit contract takes place through the kind of subtle reading of signals, observable by other clan members but not verifiable by a third-party authority or a court. They thus avoid the elaborate legal-juridical costs and public information and verification costs of rule-based systems. As Redding (1990) points out in his case study of 72 Chinese entrepreneurs in Hong Kong, Taiwan, Singapore, and Indonesia: “many transactions which in other countries would require contracts, lawyers, guarantees, investigators, wide opinion-seeking, and delays are among the overseas Chinese dealt with reliably and quickly by telephone, by a handshake, over a cup of tea”. Another advantage of implicit relation-based contracts is flexibility and ease of renegotiation.

But relation-based organizations are constrained by too much reliance on centralized decision-taking (often through patrimonial control by a family patriarch or key individuals), internal finance, a small pool of managerial talent to draw upon, relatively small scale of operations, and in case of large organizations a tendency to subdivide into more or less separate units, each with its own products and markets. A major problem of such relation-based systems of enforcement is that the boundaries of the collectivity within which rewards and punishment are practiced may not be the most efficient ones, and they may inhibit potentially profitable transactions with people outside the collectivity. So as the scale of economic activity expands, as the need for external finance and managerial talent become imperative, and as

large sunk investments increase the temptation of one party to renege, relational implicit contracts become weaker. As Li (2003) has pointed out, relation-based systems of governance may have low fixed costs (in terms of avoiding the set-up costs of an elaborate legal-judicial system), but high and rising marginal costs (particularly of private monitoring) as business expansion involves successively weaker relational links.

II

The issue of court verifiability (which relation-based institutional systems largely avoid) has also come up in the institutional economics literature on the implications of incomplete contracts for ‘make-or-buy’ decisions, which in turn has led to a growing literature in international trade on ‘outsourcing’ or ‘off-shoring’². In the case, for example, when producers of finished goods need customized inputs and specialized suppliers necessary relation-specific investments may be inhibited because contracts are incomplete, and there are ex post ‘hold-up’ problems’ which cannot be resolved by courts. This sometimes leads to international vertical integration, with finished goods producers either producing the specialized inputs themselves or importing them in intra-firm trade with their own subsidiaries in foreign countries, in both cases incurring possible governance problems and diseconomies of scale. The problems of outsourcing and off-shoring involve, apart from the above-mentioned hold-up problems, initial search costs in finding partners.

² For a survey of this literature, see Helpman (2006).

The latter depend on the ‘thickness’ of markets; the thicker the market the easier it is to find matching partner suppliers. Feenstra and Hanson (2005) find on the basis of Chinese export-processing data that foreign firms find it easier to outsource (or give input control) to Chinese-managed firms in the southern coastal regions where markets are thicker and legal enforcement and resolution of commercial disputes somewhat less difficult than in the northern and interior regions.³

Nunn (forthcoming) constructs a variable that measures for each good the proportion of its intermediate inputs that require relation-specific inputs—he borrows from Rauch (1999) the classification of inputs into those that have an organized exchange, those that have a reference price, and those that have no organized exchange nor any reference price. (The idea is that when an input is sold in an organized market the market for input is thick, with many alternative buyers and sellers, so the value of the input outside of a buyer-seller relationship is close to the value inside the relationship, and thus the input is not presumably relation-specific). Nunn thus computes the contract-dependence of every final goods sector. Combining this with data on trade flows and on the quality of judicial institutions in a country, he finds in his statistical analysis that countries with good contract enforcement institutions specialize in the production of goods for which relation-specific investments are most important. According to his estimate contract enforcement institutions of countries explain more of the global patterns of trade than their endowments of capital and skilled labor combined. This is one of the

³ Marin (forthcoming) shows that German firms resort more to intra-firm imports from their subsidiaries in Eastern Europe, rather than off-shore to those countries, when contract enforcement is weak in the particular East European country and when there is not much choice among alternate input suppliers in that country.

sharpest empirical demonstrations of the importance of contracting institutions for comparative advantage.

Levchenko (2004) has a related empirical finding: that countries with better institutions (or less contract incompleteness) capture larger import shares in the US in more contract-dependent industries. He uses the Herfindahl index of concentration of input suppliers for a final good producer. The more dispersed the input suppliers the more is the contract-dependence and need for institutional intensity. A theoretical paper by Acemoglu, Antràs and Helpman (2006) emphasize instead the elasticity of substitution across intermediate inputs, as low substitutability makes the sector more sensitive to contractual frictions. In their model comparative advantage emerges from the interaction of contract incompleteness with the deliberate choice of technology by final good producers. The latter can choose how to divide the production process, so as to have many or few intermediate inputs. The supplier of the input has to carry out a set of activities in order to produce it, some of which are contractible, and some not. The fraction of non-contractible activities provides a measure of contract incompleteness. On the one hand, more sophisticated technologies (that involve more intermediate inputs in the production process) are more costly to acquire, and they may involve large organizational costs. On the other hand, more sophisticated technologies are more productive. With this trade-off the choice for the producer depends on the features of the industry and the degree of contract incompleteness. The authors find that better contracting institutions lead to the choice of more sophisticated technologies, and that the impact of contracting institutions on technology choice is larger in sectors with lower elasticities of substitution across intermediate inputs. Thus in their model

countries with better contracting institutions have a comparative advantage in sectors with less substitutable inputs. This should be a testable proposition.

Adoption of new technology that affects productivity and comparative costs can directly be influenced by institutional factors like networks of social learning. For example, Conley and Udry (2005) measure the effect of social learning in the diffusion of new technology in the production of pineapples in Ghana for export markets in Europe. They test for social learning by estimating how farmers' input decisions respond to the actions and outcomes of their neighbors. The network connections through which information flows obviously depend on social institutions.

In a different context, in a comparison between the Anglo-American and continental European and East Asian corporate institutional structures (the latter involving more non-market coordination between firms and between management and labor within firms), Hall and Soskice (2001) point out that the Anglo-American structure is more conducive to radical innovations, whereas the latter, more coordinated, institutional structure gives rise to superior capacities for incremental innovations (some arising on the factory floor in the cooperative interaction between managers and the relatively stable and loyal workforce). Since these different kinds of innovations are of differential importance in different products, this has implications for international specialization depending on contrasting corporate institutions. Hall and Soskice cite data to corroborate this from US and German patent specialization by technology classes. In developing countries, particularly at early stages of industrialization, most innovations are of adaptive and tacit

types, and as such coordinating institutions may be more relevant in determining product specialization.

III

In the earlier sections I have indicated the implications of contract enforcement institutions for patterns of trade. In this section I'll go into more specific institutional features in (a) credit markets (b) labor markets and (c) management of environmental resources which affect the pattern of trade in developing countries.

(a) In Kletzer and Bardhan (1987) we show that even when technology and endowments are identical between countries, and economies of scale are absent, institutional features of the credit market can affect the pattern of specialization. Moral hazard considerations in the international credit market under sovereign risk and differences between countries in the domestic institutions of credit contract enforcement under incomplete information may lead to one country facing a higher interest rate or rationed credit compared to another. In such situations the former country (usually the poorer one) may face a comparative disadvantage in producing processed or sophisticated manufactured goods requiring more working capital or credit to cover selling or distribution costs in comparison to bulk primary products.

Beck (2002) has extended this model, and focuses on differences in the efficiency of intermediating funds from savers to borrowers and in the ability to exploit economies of scale. In his model economies with better developed financial institutions and a higher level of external finance have a comparative advantage in sectors (like manufacturing) that have economies of large scale. Using 30-year panel data for 65 countries, he tests the hypotheses of these two models and, controlling for country-specific effects and possible reverse causality, confirms that financial development exerts a large causal impact on the level of both exports and trade balance of manufactured goods. This suggests that the effect of trade reform on the level and structure of trade balance might depend on the level of financial development.

In addition to contract enforcement problems in the credit markets, there are some institutional weaknesses in the financial markets in early stages of industrialization which involve coordination failures. As has been emphasized in early development literature, technological and pecuniary externalities in investment between firms (and even industries) give rise to 'strategic complementarities' and positive feedback effects resulting in multiple equilibria. This is particularly important when externalities of information and the need for a network of proximate suppliers of components, services, and infrastructural facilities with economies of scale make investment decisions highly interdependent. Different countries have different capabilities of coordination affecting the emergence of financial institutions which can internalize the externalities of complementary projects, and this will differentially affect the nature of international specialization. Da Rin and Hellman (2002) discuss

contrasting cases in this respect in different parts of Europe in the 19th century.

Another implication of institutional failures in domestic credit markets is for the income distribution effects of trade policy. From the standard Ricardo-Viner models of trade theory we know that with trade liberalization factors of production ‘specific’ to the declining sector will lose. One interpretation of why some factors (say, poor unskilled workers) are trapped in the declining sector is that credit constraints inhibit their mobility and capacity to adjust, retrain, and relocate to the expanding sectors. Under the circumstances globalization may increase poverty and inequality.

(b) Labor market institutions can also affect comparative costs. The obvious example is the case of differential degrees of unionization in different sectors (say, more in the manufacturing sector than in the agricultural sector) and in different countries. Different degrees of unionization not merely give rise different unit labor costs across sectors but also different amounts of firm-specific learning.

In general, effort intensity on the part of workers is endogenous and will depend on the specific labor institutions and the nature of incentive contracts prevailing in a country. Esfahani and Mookherjee (1995) suggest that the prevalence of low-powered incentive contracts in firms in poor countries (in contrast to the high-powered incentive systems that induce strong performance in rich countries) can be attributed to externalities in contract choice that happen to be large under typical poor

country conditions, in particular in situations of relatively abundant labor and high effective discount rates. In choosing the incentive systems for their workers firms weigh the savings from productivity gains against the ‘informational rents’ required for creating strong performance incentives. The former largely depend on the opportunity cost of labor, while the latter are influenced by discount rates. In labor abundant and high discount rate countries, firms often find it profitable to forego productivity gains and save on informational rents, by opting for low-powered incentive contracts. This model generates endogenous dual labor market institutions and the effects can vary between sectors depending on technology, precision and coordination requirements of tasks, etc.

(c) In the literature on trade and environment it has been noted that in the absence of well-defined property rights on the local commons (forests, fisheries, grazing lands, etc.) or well-enforced community institutional rules regulating their use, negative externalities may give rise to ‘perverse’ patterns of trade: Chichilnisky (1994) gives the example of Honduras, with its scarce forest resources, exporting wood to the United States, which has some of the largest forests in the world. Ill-defined property rights and the associated under-pricing of common environmental resources, with private costs lower than social costs of resource exploitation, can create a motive for trade even with otherwise identical countries but with better enforced property rights or better regulated common property. In such cases trade can magnify the misallocation due to externalities.

IV

In this paper we have indicated the different channels through which the quality of institutions like those protecting property rights and enforcing contracts or constructing multilateral reputation mechanisms affect trade patterns and how their different effects in different sectors shape comparative advantage both through transaction and production costs. In some cases institutional weaknesses can lead to trade diversion, ‘perverse’ trade flows, or inequality. We shall now list here some of the policy issues the discussion above raises:

- (i) Financial and judicial reform may enhance the capacity of poor countries to move up to specialization in higher-valued and more complex products.
- (ii) Industrial policy and subsidized credit allocation in East Asia helped in restructuring the economy, with dynamic comparative advantage sometimes going contrary to the dictates of static comparative advantage. Of course, not all developing countries have the coordination and governance capabilities needed for managing such major restructuring.
- (iii) Some East Asian countries have also promoted large-scale general trading companies (like the Japanese *sogo sosha*) which provide some of the information sharing advantages of traditional ethnic trading networks without their various constraints.

- (iv) It is important to graduate from relation-based institutions to rule-based ones, the latter being more appropriate for larger scale of commercial operations and access to external finance and professional managerial talent. One should make sure that the traditional advantages of relation-based institutions do not delay (or crowd out) the onset of rule-based systems. One way is to try to reduce the set-up costs of the latter systems and reform the perverse incentive systems that often lead to over-litigation and court congestion.
- (v) Attempts at harmonization of national legal treatment of international arbitration processes are necessary to lower transaction costs of across-border trade. Sometimes international institutions can act as a substitute for domestic institutions, if the latter are weak. Berkowitz, Moenius and Pistor (2006) show in their empirical analysis that good domestic institutions may be less important for promoting exports from those countries that have signed a convention facilitating the enforcement of international arbitral awards like the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards (thus reducing the function of national courts in trade disputes).
- (vi) Trade missions and trade promotion organizations are necessary to overcome some of the problems of incomplete information that afflict foreign trade.
- (vii) Domestic competition policy can discourage some of the entry barriers raised by traditional business networks in trade and increase the thickness of markets that reduces search costs in finding partners in buyer-seller relationships, which are

particularly important, as we have seen, in trade in differentiated and complex products.

Finally, while most of this paper looks at the impact of institutions on trade, one should note that the relation works in the opposite direction as well: opening of trade itself affects institutional quality. There is evidence that more competition through foreign trade can have wholesome effects on governance institutions that are riddled with corruption. Ades and Di Tella (1999) estimate that almost a third of the corruption gap between Italy and Austria may be explained by Italy's lower exposure to foreign competition. Adam Smith and David Hume believed that commerce is 'civilizing' in the sense that it increases the value of honest deals and honoring of promises particularly in repeated transactions; but as Anderson (2003) points out this depends on the particular organization of trade. It has been noted, however, in many European countries that the process of economic integration into the European Union has cleaned up the institutional structure in many countries.

What is particularly important is that international competition makes 'bad' institutions more costly, and can thus nudge a country toward institutional reform. Acemoglu, Johnson, and Robinson (2005) show that the rise of international trade in the Atlantic economies during the early modern period promoted a demand for institutional reforms that were growth-favoring. However, much depends on the type of trade and the nature of political and economic competition. In many cases of history trade expansion in natural resource intensive products (like oil, sugar, bananas, timber, diamonds), for example, has strengthened the political power of large exporters who then raised barriers to entry and promoted oligarchic institutions.

In the financial literature Do and Levchenko (2006) have shown, on the basis of panel data for 96 countries over 1970-99, that specialization tends to increase demand for external finance and may thus help development of financial institutions. Marin and Verdier (2005) suggest that international competition leads to decentralized corporate hierarchies and more power to the firm CEO, and confirm this with data from 660 Austrian and German corporations. Such studies of corporate reorganization following from trade are yet scarce for developing countries.

While it is easy to see that trade and institutional quality can have mutual feedback effects, this, of course, makes the life of the empirical researcher somewhat more difficult. In trying to measure the impact of institutions on trade, she now has to worry about the econometric problem of endogeneity of institutions. Finding an appropriate identification strategy or to find appropriate instrument variables is not an easy task in this context.

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