

Transaction Costs in History

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Economic history as it traditionally has been written is concerned with the development of technology or the development of "efficient markets". The former focuses on technological advancement (the Bronze Age, the Iron Age) and considers the Industrial Revolution, a technological revolution, to be a watershed. The latter conceives of economic advance as synonymous with the development of markets that approximate to the competitive model. Neither of these, however, forms an adequate basis for analysis. The first does not explain advances in the stock of knowledge and technology (the incentive structure to account for the rates of change is seldom examined); nor does it account for the lack of correspondence between technological advance and economic growth. The wide disparity in performance of economies makes clear that something fundamental is missing from this account; cumulation in the stock of knowledge has largely been irreversible throughout history, but human economic progress has not. The second suggests that departures from competitive markets are inefficient but does not explain the source of such deviations; nor does it provide any theoretical underpinning to account for the structure of property rights that undergirds the system of exchange. I believe that these analytical inadequacies may be met by integrating a transaction costs framework into the study of economic history. This paper is an attempt at laying out some of the problems and implications of such an approach. In Section I, I attempt to define the issues and discuss some of the considerations involved in rethinking economic history in terms of a transaction costs approach. Section II suggests some tentative hypotheses engendered by this framework for reexamining the pre-modern world. Section III examines the modern world of the past 150 years; and the final section draws out some of the implications of this approach to economic history.

I

The basic premise of a transaction costs approach is that the output of goods and services of a society is a function of both the costs of production and the costs of transacting necessary to produce and exchange those goods and services.

Transaction costs here are defined as the costs of specifying and enforcing the contracts that underlie all exchange (in that sense, transaction costs are complementary to the standard neo-classical framework). They are the costs involved in capturing the gains from trade. They include a specification of what is exchanged or of the performance of agents and an analysis of the costs of enforcement. The costs of contracting are in general those of searching out who has rights with respect to what is being traded, what rights they have, and what are the attributes of the rights; those of searching for prices associated with the transaction and the predictability of those prices; and those of stipulating contracts and contract performance.

The enforcement of contracts in the modern Western world is carried out by agents of the State; but throughout most of history, the contracting parties themselves devised their own enforcement mechanisms — which were supplemented sometimes by the State. Therefore, the evolving role of the State is a critical part of the history of the costs of contracting. This approach to the cost of transacting necessarily must be a far more comprehensive one than most of the modern theoretical literature of transactions costs. It explicitly is different from that embodied in, e.g., the works of Oliver Williamson, which simply look at transactions as cost efficient solutions to the problems of economic organization.¹ The problem for the economic historian is that the costs of transacting interact with production costs in subtle and complex ways which we are only beginning to explore. In the pre-modern world, the costs of transacting were the limiting factor upon the realization of the gains from trade. Trade evolved in the context of developing forms of communication that were embedded in religions, myths, taboos, kinship ties, etc. The consequent “ritual structure” served to constrain the behaviour of the parties to exchange.

When we explore the relationship between production costs and transactions costs, we observe that each influences the other.² One obvious implication of this relationship (and one that alters a good part of our view about economic history), is that the most efficient production techniques, which in the traditional framework would always obtain, may be unfeasible in a world of positive transaction costs. That is, when two competing techniques existed with different production costs, the lower cost technique may not have been adopted because the transaction costs associated with it — the costs entailed in specification and

¹ This approach is deficient on two grounds: (1) It takes as given the political rules of the game which are obviously a critical part of transactions costs for historians, and (2) It takes as given the technology involved in the production technique when, in fact, the interaction between transactions costs and production costs makes the two interdependent, as will be discussed below.

² For an historical examination of this interaction, see my reexamination of the Industrial Revolution in *Structure and Change in Economic History*, New York: W.W. Norton, 1981, Ch. 12.

enforcement — may have been so high that it was unfeasible compared to a “less productive” technique.³

Another implication is that new technologies may frequently have raised the costs of transacting and adversely affected economic growth. We observe this today in the dilemmas posed by the advent of xeroxing upon the costs of enforcing the property rights of authors and publishers. This is not an isolated, modern, incident of technology thwarting economic growth rather than promoting it. A continuing example is the adverse consequence of many developments in military technology, which throughout history have played the key role in determining the size of political economic units and the bargaining power of rulers versus constituents.⁴

The interplay between transaction and production costs cannot end by simply looking at the costs of transacting as the costs of specifying and enforcing contracts without recognizing that transaction costs determine the institutional framework of a society. Let us imagine for a minute a world in which government plays no role. There the costs of transacting and the state of technology mutually determine the production technique and form of economic organization. As soon as government enters the picture, however, the problem becomes more complex, because the rulers will specify that property rights structure which is consistent with their own interests.⁵ The institutional structure that emerges from this interplay between transaction costs and the distribution of coercive power determines the structure of the political system and the consequent matrix within which economic activity occurs.

I have referred to institutional framework and structure; I must specify what I mean by institutions. Institutions are defined here as (1) a set of constraints on behaviour in the form of rules and regulations; (2) a set of procedures designed to detect deviations from and enforce compliance with the rules and regulations; and (3) an existing framework of moral and ethical behavioural norms that influence the way the rules are specified and the costs of compliance. This framework of behavioural norms is important: it underlies the stability of institutional frameworks in turn; and it plays a crucial part in the costs of contract enforcement, since these are affected by the attitudes of the contracting parties with respect to their views about the justice or fairness of the contracts themselves.

This brief summary suggests the key elements that I consider important in developing a transaction costs framework in economic history. They essentially

³ See Yoram Barzel “Are Transaction Costs Just Costs”; *Journal of Institutional and Theoretical Economics* (forthcoming).

⁴ This argument is explored at some length in *Structure and Change in Economic History*, Chapter 3.

⁵ This argument is developed at length in Chapters 3 and 4 of *Structure and Change in Economic History*.

consist of four. First is the cost of measuring the attributes of what is being exchanged and the cost of measuring the performance of agents.⁶

The second element involved in this framework is the degree to which exchange is personalized exchange or is impersonal exchange. In the former the costs of contracting are embedded within repeat dealings and personal knowledge of the performers; and as a consequence, the costs of contracting and enforcement are lower than in impersonal exchange, when one must specify as precisely as possible the nature of the exchange and the enforcement procedures.

The third element involved in this framework is the cost of enforcing contracts. Such enforcement may be done by the parties themselves or by a third party — the State.

The last element that enters into consideration is the degree to which social and ethical behavioural norms influence the costs of contracting. All contracting is embedded in a setting of social and ethical behavioural norms that modify the degree to which the participants maximize at certain margins. To the degree that standards of honesty, integrity, and good performance are values to the parties engaged in contracting, the costs of specification and enforcement are clearly lower. On the other hand, to the degree that the parties to the exchange view the contract as unfair or unjust, then to that degree the costs of specification and enforcement and the resources devoted thereto will be a great deal larger. While this point clearly overlaps personalized versus impersonal exchange, it must be stressed here that the two are not coincident and that there are significant, if subtle, differences between the problem of personal versus impersonal exchange, and that of the degree of ideological consensus amongst the contracting parties.

II

The most distinctive feature of the cost of transacting in the pre-modern world centred on the cost of enforcing contracts. The forms of organization that evolved were shaped by the fact that throughout much of the period the State either played no, or a very nominal, role, or was simply extortionist in its relationship to economic activity. There were exceptions, of course, such as the era of the flowering of Roman law in the first two centuries A.D. But the predominant characteristics were high costs of measurement, a negligible government role in contract enforcement, and personalized trading relationships.

The immense literature of anthropologists and pre-modern historians provides vivid descriptions of the complex ways the exchange was embedded in the

⁶ This argument has been spelled out by Yoram Barzel in "Measurement and the Organization of Markets" *The Journal of Law and Economics* April, 1982 and by me in *Structure and Change in Economic History*.

social structure. For Karl Polanyi the implication was clear: it is only in modern times, with impersonal markets, that market analysis is relevant. Polanyi has a point: all economic activity is set within the context of complex social structure, and it matters what this social structure is in specifying the constraints within which choices are made. However, he clearly misses the point that such activity can be analyzed within a choice of theoretical framework.⁷

Reciprocity and gift-exchange and the development of elaborate rituals surrounding the exchange process and redistributive systems all make sense in the context of the problems of defining the rules and constraining the participants.⁸ "Investment in trust" (to use Brenner's phrase) took many different forms.⁹ I shall only elaborate on one of them here: the organization of long-distance trade.

The dominant form of organization in long-distance trade in the medieval world was the *Commenda*. Whether Islamic, Jewish, Byzantine, or Western, variations of this organizational form characterized maritime trade and a substantial amount of caravan trade. Its basic outlines are described by Udovitch, as follows: "The *Commenda* is an arrangement in which an investor or group of investors entrust capital or merchandise to an agent/manager, who is to trade with it and then to return to the investor(s) the principal and the previously agreed upon share of the profits. As a reward for his labor, the agent receives the remaining share of the profit. Any loss resulting from the exigencies of travel or from an unsuccessful business venture is borne exclusively by the investor(s); the agent is in no way liable for a loss of this nature, using only his expended time and effort".¹⁰ It is obvious that the key to such a relationship was the personal bond between investor and trader, a bond that was built on kinship ties, ethnic solidarity, and common ethical and moral values.

Caravan trading frequently involved protection when caravans passed through territories of local political/military powers. Clifford Geertz describes

⁷ See my "Markets and Other Allocation Systems in History: The Challenge of Karl Polanyi" in *The Journal of European Economic History*, March 1977, and RICHARD A. POSNER, "A Theory of Primitive Society with Special Reference to Law," in *The Journal of Law and Economics*, April, 1980.

⁸ Posner argues, and I quote, "These institutions are best understood as adaptations to the pervasive uncertainty and high information costs of primitive life, which create a demand for insurance that cannot be supplied through formal insurance markets and which in other ways directly and indirectly shape the values and institutions of primitive society." (Posner, page 52).

⁹ See REUVEN BRENNER: *History: The Human Gamble*, the University of Chicago Press Por Chapter 2, 1983, an elaboration of this argument and for additional illustrations of these ties.

¹⁰ ABRAHAM UDOVITCH, *Partnership and Profit in Medieval Islam*, Princeton: Princeton University Press, 1970, page 170.

the ritual protection in the caravan trade of the middle and high Atlas of Morocco amongst the Berbers at the turn of the century:

"In the narrow sense, a *zettata* (from the Berber TAZETTAT, 'a small piece of cloth') is a passage toll, a sum paid to a local power (the zettat; Br. azettat) for protection when crossing localities where he is such a power. But in fact it is, or more properly was, rather more than a mere payment. It was part of a whole complex of moral rituals, customs with the force of law and the weight of sanctity — centering around guest-host, client-patron, petitioner-petitioned, exile-protector, suppliant-divinity relations — all of which are somehow of a package in rural Morocco. Entering the tribal world physically, the outreaching trader (or at least his agents) had also to enter it culturally.

"Despite the vast variety of particular forms through which they manifest themselves, the characteristics of protection in the Berber societies of the High and Middle Atlas are clear and constant. Protection is personal, unqualified, explicit, and conceived of as the dressing of one man in the reputation of another. The reputation may be political, moral, spiritual, or even idiosyncratic, or, often enough, all four at once. But the essential transaction is that a man who counts 'stands up and says' (*quam wa qal*, as the classical tag has it) to those to whom he counts: 'this man is mine; harm him and you insult me; insult me and you will answer for it'. Benediction (the famous *baraka*), hospitality, sanctuary, and safe passage are alike in this: They rest on the perhaps somewhat paradoxical notion that though personal identity is radically individual in both its roots and its expressions, it is not incapable of being stamped onto the self of someone else".¹¹

The caravan trade amongst the middle and high Atlas Berbers was within an ethnic group. Around Sefrou, in contrast, (where the Commenda form was the Qirad) the Jewish merchants, who dominated the caravan trade, had to obtain protection from Berber chieftains. The ritual of this protection is described by Geertz as follows:

"In the first instance the connection was made, as mentioned earlier, by the Jews, who for months at a time located themselves in the villages, camps, and markets of the countryside under the protection of one or another tribal strong man. Here, the protection pact was signaled by a sheep sacrifice — again public, with all the local men assembled for a meal in the protector's tent — rather than a turban exchange (perhaps because *that* intimate a mingling of identity with a Jew was too much for a Berber to tolerate) and was called a *mezrag* (literally, 'a spear').

"It was as solemn an undertaking, and based on the same complex of ideas about hospitality, personal reputation, the bindingness of oral contract, and divine human retribution, as the *zettata* relation between two Berbers, and it

¹¹ CLIFFORD GEERTZ, HILDRED GEERTZ, and LAWRENCE ROSEN, in *Meaning and Order in Moroccan Society*, Cambridge: Cambridge University Press, 1979, p. 137.

was at least as resolutely observed. Except for its focus and its cross-ethnic, indeed cross-religious, quality, it was the same institution.

"The *mezrag* made, the protector, the mul *l-mezrag*, would send a small group of his men down to Sefrou town to pick up the Jew and escort him and his goods to their locality. There, usually by the side of a small market or set off a few hundred meters outside a settlement, the Jew would trade for several months and, his stock exhausted, be escorted back home with his wool, hides, grain, or whatever. By the early 1900s, the countryside behind Sefrou was laced with Jewish-Berber *mezrag* relations of this sort. There was hardly a tribesman who, through the courtesy of his local strong man, did not have a riding Jewish trader reasonably nearby, and hardly a sitting Sefrou Jew, whose agents these riding Jews were, who did not have extensive *mezrag*-based interests in the countryside."¹²

In one form or another, organized exchange involved elaborate rituals, designed to reinforce the contractual agreements and providing something other than a state-imposed enforcement of contracts. But what happened as impersonal exchange evolved? According to Brenner, impersonal exchange and the growth of specialization and division of labour would lead to the rise of formal contracting and the evolution of government enforcement. This tendency certainly has broad general historical support. Frequently, however, it did not work out this way, for it required that two conditions be met: (1) the State must have an effective monopoly over coercive power, and (2) the interests of the rulers of the State must be coincident with that of furthering exchange. These conditions seldom existed in the pre-modern world. The cost of transacting consequently was high and, I would argue, provides a major explanation for the absence of growth throughout much of the historical past. Nowhere is the dilemma of impersonal exchange in the context of high measurement costs better illustrated than in the bazaar economies that characterize much of North Africa and the Middle East today and that in their outlines appear to reflect the over-all pattern of such exchange throughout centuries and millenia of the past. The following brief description is drawn from Geertz's study "Suq: the bazaar Economy of Sefrou." While Geertz's study of the Suq in Sefrou is rich in context and detail, I have attempted here only to draw out the general implications that derive from the problems created by detailed specialization and division of labour in the context of high measurement costs and without the underpinnings of an effective body of law and enforcement.

While the bazaar economy in Sefrou can be divided into three realms that interact in complex ways — the permanent trading quarter of the old town, the network of periodic markets centred in the town but spreading throughout the

¹² GEERTZ, *Ibid*, p. 138.

¹³ GEERTZ, *Ibid*.

neighbouring countryside, and the more westernized business district — the focus of Geertz's study is upon the first two.

The key features of this exchange process are summarized as follows. (1) There is a great multiplicity of small-scale enterprises and the commercial class is large in relation to the population as a whole. As much as 40 to 50 percent of the town's labour force is engaged in this exchange process. The enterprises have very low fixed costs in terms of rent, machinery, etc. (2) There is a very finely drawn division of labour in technical, social, and spatial terms. Occupational specialization is extremely intensive. Geertz comes up with at least 150 commercial and craft occupations in the raw data but adds that he could have added many more. (3) There is an enormous number of small transactions, each more or less independent of the next. The overwhelming proportion of these transactions involves two persons; hardly ever are more than three or four persons involved. They are face to face contacts; initial seller to the final buyer chains are often long and circuitous, involving a large number of intermediary transactions. (4) Goods and services are not homogeneous. Trademarks and brand names are absent, and the qualitative classification of goods is markedly subjective and ad hoc. There is essentially no advertising and there are no institutions specifically devoted to assembling and distributing market information — i.e., price quotations, production reports, employment agencies, consumer guides, etc. (5) Formal signalling systems are undeveloped. There are no aggregate statistics, price dispersion is high and price movements erratic; accounting techniques are unsystematic. Weights and measures systems are intricate and incompletely standardized. The same is true of grading systems. Price feedback to production is poor. (6) While technical and managerial skills are but modestly developed, exchange skills are very elaborately developed. Differential possession of them is marked and is the primary determinant of who prospers in the bazaar and who does not. Hagglng in the strict sense of arguing, wrangling, cavilling over terms with respect to any aspect or condition of exchange is pervasive, strenuous, and unremitting. (7) As general processes, buying and selling are virtually undifferentiated, essentially a single activity; trading involves a continual search for specific partners, not the mere offers of goods to the general public. (8) the normal contract is oral between individuals. Partnerships are preferred and the regulation of disputes involves the testimony by reliable witnesses to factual matters, not the weighting of competing, juridical principles. (9) Overall, integrative institutions are diffused, informal, and weak. Governmental controls over marketplace activity are marginal, decentralized, and mostly rhetorical.

To summarize, the central features of the *Suq* are (1) high measurement costs; (2) continuous effort at clientization — that is, the development of repeat-exchange relationships with other partners which, however, is imperfect at best (and, indeed, is described over and over again by Geertz as an adversary relationship); (3) intensive bargaining at every margin — the key is men seeking gain at others' expense. In essence, the name of the game is to raise the cost of

transacting to the other party to the exchange. One makes money by having better information than the adversary.

Geertz summarizes this overall structure as follows:

“Looked at in this way, the institutional peculiarities of the bazaar seem less like mere accidents of custom and more like connected elements in a coherent system. A finely drawn division of labor and a sharp localization of markets, inhomogeneity of products and intensive price bargaining, extreme fractionation of transactions and stable clientship ties between buyers and sellers, itinerant trading and extensive traditionalization of occupation in ascriptive terms do not just co-occur: they imply one another. The same is true for the personal nature of reputation and the preference for partnership arrangements over employer-employee ones; for the diversity of weights and measures and the primacy of buying skills over selling ones; and for item-by-item accountancy and the tendency to investigate possibilities in depth with single partners serially rather than to survey them broadly with several concurrently. The search for information — laborious, uncertain, complex, and irregular — is the central experience of life in the bazaar, an enfolding reality its institutions at once create and respond to. Virtually every aspect of the bazaar economy reflects the fact that the primary problem facing the farmer, artisan, merchant, or consumer is not balancing options but finding out what they are.”¹⁴

The Suq and its counterparts in the pre-modern world suggest that, in the absence of the enforcement mechanisms of a legal system and effective coercive power to enforce contracts, impersonal exchange will result in very high costs of transacting and be an effective barrier to sustained economic growth built upon increasingly fine specialization and division of labour. However, in Western Europe, between the tenth and sixteenth centuries, there evolved the unusual case of government — that is, the State — gradually changing from its traditional extortionist role to one in which its interests coincided with the reduction of transaction costs. Since I have told this story elsewhere, I will only briefly summarize it here.¹⁵

In early medieval Europe, the evolving forms of economic organization were built on personalized exchange and had little to do with the State. The *Comenda* dominated the sea trade of the Italian city states. Fairs developed in cities and towns throughout Europe as local places of exchange; and in towns, guilds began to form specialized organizations of artisans. The most distinctive feature

¹⁵ See DOUGLASS NORTH and ROBERT THOMAS, *The Rise of the Western World*. Cambridge: Cambridge University Press, 1973 and DOUGLASS NORTH, *Structure and Change in Economic History*, New York: W. W. Norton, 1981. In the latter book, a neo-classical theory of the state is laid out in which two constraints are developed theoretically to explain why typically the state will develop and enforce “inefficient” property rights.

in this evolution in Western Europe was the development of towns which either came under the protection of lords or managed to achieve a measure of independence by providing their own protection. What distinguishes this evolution in Western Europe was that as military technology changed in the Middle and high Middle Ages, the dominance of the individual heavily armoured knight and of the fixed castle gave way in the face of the developments of the pike, the phalanx, the long bow, the cross bow, and then gunpowder. The consequent shift in the locus of power from decentralized lords to more centralized monarchy carried with it the need for an enormous increase in fiscal revenues. These fiscal revenues could only be achieved by the king getting additional tax revenues. In feudal society, the king was expected to "live off his own" — that is, to live off the revenues of his estates, and in order to survive in this new world of mercenary armies and eventually standing armies, in the face of competitive political units, it became necessary to trade property rights for revenue.

Kings everywhere were willing, in exchange for revenue, to protect towns, safeguard traveling merchants, and provide the underpinnings of support for fairs such as the Champagne Fairs; and otherwise encourage the systematic growth of trade. Towns increasingly took over merchant codes and enforced their provisions in courts beyond those established earlier by merchants. Gradually, political systems in which the ruler recognized the gains to be had from encouraging and supporting trade and exchange made themselves felt; not uniformly, it is true, since the kinds of property rights that were traded for revenue varied markedly. In Spain, they eventually produced stagnation and decline. In France, they were a trade-off between the monopoly grants that the king gave and some breakdown in local autarchy that nevertheless resulted. But in the Netherlands and England, they produced sustained expansion; in Holland, sophisticated forms of economic organization, efficient capital markets and trading systems evolved with the encouragement and support of the State. From the Estates General in the Netherlands and Parliament in England gradually evolved a body of law and enforcement mechanisms that paved the way for modern economic growth.

III

The modern western world presents a radically different picture of the costs of transacting than existed previously. All four of the underlying factors influencing transaction costs have changed dramatically. Let us take them each in turn.

(1) The costs of measurement have been reduced by the development of uniform weights and measures. The overall costs, however, do not appear to have declined. The goods and services that make up the final output in modern societies have multiple, difficult-to-measure attributes from which we derive utility; and even sophisticated weights and measures provide only an indirect

and imperfect surrogate for these attributes.¹⁶ The result is that in modern economies immense resources are devoted to attempts at standardization of goods and services; to trademarks and warranties and to other devices attempting to reduce the costs of measurement. But whether we are attempting to measure the quality of medical services, the valued attributes of an automobile, or the many dimensions of what constitutes performance by agents — the resources that are devoted to attempting to perform the measurement services are varied, complex, and imperfect.

(2) Impersonal exchange of necessity dominates the world of specialization. An urban world requires that individuals specialize at producing one good or service or one element in production and rely upon exchange for all the other goods and services that they consume. Specialization has meant an exponential multiplication in the number of exchanges between initial raw material and final sale of goods and services to consumers; and since resources must be devoted to measurement and enforcement at each step in this multiplication of exchanges, the result is an enormous increase in the volume of transacting. This increase can be observed in the statistics (outlined below) on the growth of wholesale and retail trade in the past century and the development of specialized banking and financial services, as well as a good deal of what constitutes the functions of government.

(3) The enforcement of contracts is primarily undertaken by government or delegated by government to other bodies, although underlying it is an elaborate and intricate body of statute and common law. But even if government undertakes the enforcement, that enforcement is done by agents; and since the agents themselves are imperfectly constrained, contract enforcement is imperfect. That is, even when it is possible to determine the party violating the contract and measure the value of damages, opportunism still exists.

(4) The behavioural norms associated with personalized exchange constrained maximization at certain margins. The costs of contract enforcement that were reduced by such norms as honesty, integrity, etc., tend to grow in the face of impersonal exchange. It is not just that impersonal exchange raises the rate of return upon opportunism, cheating, shirking, etc., but also that the values associated with such exchange are altered. As a result, contracts must be much more precisely specified and many more resources must be devoted to enforcement mechanisms. In addition, immense resources are devoted to efforts to influence behaviour through family, schooling, religion, etc. The implication is clear that such "socializing" does have a positive rate of return and reduces the costs of contracting.

The force underlying the change in economic organization was the Second

¹⁶ Cf. Steven Cheung "A Theory of Price Control," and Yoram Barzel, "The Theory of Rationing by Waiting," both *The Journal of Law and Economics*, April, 1974.

Economic Revolution — a revolution which I have described elsewhere.¹⁷ As this revolution evolved, however, it took a substantial amount of time for economic organization to change. Alfred Chandler's study, *The Visible Hand*, describes this change:

"The specialization of enterprise in commerce, finance, and transportation is, then, the central theme of the institutional history of the American economy during the first half century after the ratification of the Constitution. Such specialization brought an end to the personal business world of the general merchant of the colonial era and replaced it with the increasingly impersonal world of the commission merchant. Although personal relations remained important in arranging specific shipments and sales and above all in the extension of credit, the importer, exporter, jobber, auctioneer, bank cashier, insurer, and broker dealt daily with buyers and sellers with whom he had little personal contact. Rarely did a merchant know both the producer and consumer at either end of the long chain of middlemen transporters, financiers who moved the goods through the economy.

"The concomitant of such specialization was thus a reliance on impersonal market coordination. Between the 1790s and the 1840s the mechanisms for such coordination were steadily improved. As commercial centers grew in size, their businessmen set up exchanges similar to those in the larger coastal ports. Their newspapers were filled with commercial information. Their merchants were served by a growing number of specialized ancillary enterprises — banks, insurance companies, shipping lines, and freight forwarders. Specialization lowered information and transaction costs as well as the costs of financing and transporting the flow of goods through the American economy.

"On the other hand, expansion and specialization in trade and commerce failed to bring institutional innovation. Existing procedures and practices remained fully adequate for handling the activities within the commercial enterprises and the transactions between them. Even the most significant institutional development — the widespread use of the corporation to permit the pooling of capital in banks and insurance companies and in those constructing and operating transportation rights-of-way — did not lead to new ways of doing business between or within enterprises. These corporations came to be administered by one or two salaried managers, who stayed in close personal contact with representatives of the owners, or state, or the board of directors, or the commissioners.

"Business enterprises remained small and personally managed because the volume of business handled by even the largest was not yet great enough to require the services of a large permanent managerial hierarchy. The overall management of the Second Bank of the United States, the nation's foremost financial firm and its most powerful economic institution, required only the,

¹⁷ See *Structure and Change in Economic History*, Chapter 13.

services of Nicholas Biddle and two assistants. On the largest and most used canals, only the canal engineer and possibly the canal clerk would qualify as middle managers. Before 1840, two or three men could administer all the activities any enterprise involved in the distribution of goods might be called upon to handle..."¹⁸.

From the mid-nineteenth century onward, the change in economic organization evolved first in the railroads and then gradually in other industries. Chandler's thesis is that the rise of modern mass production and distribution, based on the new capital-intensive technology, produced this revolution in organization. The case studies in his book provide a rich description of the inter-play between technological developments and business organization — in effect, between production and transaction costs, although they are accompanied by little or no analysis. The scientific management movement of Taylor and others was an obvious reflection of the rising costs of transacting associated with this technology; a more fundamental point is that the choice of technique was continually being modified in the light of the costs of transacting. Lazonick's study of the choice of technique in British and American cotton spinning at the end of the nineteenth century makes the point clearly. The contrasting techniques between the two reflected the differing institutional constraints between Lancashire and Fall River.¹⁹

The transaction sector was growing, (1) because there was increasing specialization and division of labour, and each step in the lengthening chain required resources to specify and enforce contracts, whether across markets or within firms; and (2) because impersonal exchange, *ceteris paribus*, requires more resources per exchange to define and enforce the contract. While there were counteracting tendencies including techniques that substitute capital for labour to reduce agency costs, or techniques to reduce quality variance, the consequence was a continuous expansion in the relative size of the transactions sector. A statistical implication of this argument is that the transactions sector would be growing within firms, as a part of government and in economic organizations which specialized in transacting. While the national accounts were not devised with the transactions sector in mind, they do provide some measure of this transformation.

There is, first of all, the growth of specialized transaction services, which show up as final services in the accounts but which should be intermediate goods

¹⁸ ALFRED CHANDLER, *The Visible Hand*, Cambridge: Harvard University Press, 1977, pp. 48-49.

¹⁹ See WILLIAM LAZONICK, "Production Relations, Labor Productivity, and Choice of Technique: British and U.S. Cotton Spinning," *The Journal of Economic History* September, 1981.

by this analysis.²⁰ Thus, in the United States between 1869 and 1970, the proportion of the labour force engaged in wholesale and retail trade grew from 7.8 percent to 19.1 percent. Finance, insurance and real estate grew from 0.25 percent to 4.6 percent. Services — a conglomerate which includes some output of actual services, but also primarily those engaged in transacting — grew from 11.1 percent to 17.4 percent.

During the same period, government grew from 3.5 percent of the labour force to 18.1 percent. While not all of government should be measured as an intermediate good, a great deal of it should. In a recent essay, John Wallis and I have attempted to show the proportion of government that perhaps should be included. We examined the growth of government of sixteen developed countries from 1953 to 1974 excluding defence expenditures and transfer payments. While these (netted government) expenditures grew at a slightly slower rate than transfer payments, they grew more rapidly than total government expenditures and were a growing proportion of gross domestic product.²¹

However, the growth in the size of the transactions sector is not just mirrored by the growth of those services currently measured as final output but that should be classified as intermediate services. An equally large, perhaps larger, growth of transacting was occurring within firms during this period — specifically, the expansion of legal, accounting, personnel, and marketing departments, which was the major source of growth of employment. While there is no direct measure of this change, one indirect measure can be examined by the changing composition of the basic labour force. From 1900 to 1970, the non-

²⁰ Simon Kuznets, many years ago, was concerned that government was treated as a final product rather than as an intermediate good, and engaged in a lengthy discussion in the journals with Hicks and others over this issue. It is worth quoting him at some length, since he catches the flavour of the point made here. "The flow of services to individuals from the economy is a flow of economic goods produced and secured under conditions of internal peace, external safety, and legal protection of specific rights, and cannot include these very conditions as services. To include the latter implies feasibility of national income and of the flow of services to individuals outside the basic social fabric within which economic activity takes place. There is little sense in talking of protection of life and limb as an economic service to individuals — it is a precondition of such services, not a service in itself.... It is difficult to understand why the net product of the economy should include not only the flow of goods to ultimate consumers but also the increased cost of government activity necessary to maintain the social fabric within which the flow is realized". (Source: Quoted in PAUL STUDENSKI, *The Income of Nations, Theory Measurement and Analysis: Past and Present*. New York University Press, 1958). While Kuznets's quote refers to the role of government in underpinning economic activity, there is no logical reason why this should not extend to other transaction services that are associated with capturing the gains from trade.

²¹ See DOUGLASS NORTH and JOHN WALLIS, "American Government Expenditures: A Historical Perspective" in *American Economic Review*, May, 1982.

agricultural labour force grew from 29 million to 79 million. White-collar workers were 18 percent of that total in 1900 and 47% in 1970. Needless to say, this gross transformation does not directly get at the proportion of the growth in the transactions sector alone. Accordingly, I have extracted from Series D, 233-682, of *Historical Statistics*, which examines the major occupational groups of the experienced civilian labour force from 1900 to 1970, those occupations which could be properly considered part of the transactions sector (See table).

Two of the most rapidly growing occupations were auditors and accountants, although the general category of clerical workers grew by more than fifteen-fold and sales workers by almost four-fold. A surprisingly small increase is that of lawyers and judges.

IV

Let me conclude by drawing out some implications of this approach to economic history.

(1) Any theory of institutions must be built upon a structure that specifies why it is costly for individuals to interact. In my view, there are two kinds of costs involved. First, costs that would be incurred even if all the parties to exchange had the same objective function. In such a world, shirking, opportunism, and agency would not exist, and there would be simply those costs of information involved in discovery and coordination — essentially the economics of information as developed in the classic articles of Hayek and Stigler. In essence, these costs would be incurred in a world of zero policing costs. Second are the costs of measurement and enforcement incurred in a world of individualistic maximizing. Such costs are the consequences of universal moral hazard that arise because of asymmetrical information. In my view, it is the latter which is the more important influence in shaping the structure of institutions.

(2) The costliness of contracting throughout history has been basically influenced by the role of the State in specifying and enforcing contracts. The public-choice literature has provided us with an economic approach to politics, but the consequent rent-seeking model is misdirected because it implicitly invokes Pareto efficient standards. That is, government always plays a negative role in this framework because the rent-seeking model measures the waste of rent seeking as a deviation from the competitive equilibrium — an equilibrium with zero transaction costs. We need a positive theory of political institutions cast in a transaction-costs framework.

(3) No theory of institutions can be complete that does not include ideology as a constraint on maximizing at certain margins, because measurement and enforcement are costly and the actions of individuals can be affected by their perceptions of the fairness or justness of contracts. Ideology can be measured by the premium individuals are willing to incur rather than to free-ride; in its

absence — in a world of universal maximizing by individuals — the costs of contracting would be so great that economic activity would be limited and institutional stability impossible. It is ideological conviction that underlies the stability of institutions, and ideological alienation that both raises the costs of contracting and induces individuals to engage in large-group action to change institutions. If ideology is not important, then economists must explain the enormous amount of resources that political units and other principals in political and economic activity devote to attempting to convince participants of the justice or injustice of contractual arrangements.

The economic history that I am proposing in this paper explores the evolution of constraints — constraints that are typically held constant in the models of economists. When we undertake that explanation we shall not only increase our understanding of the past, but provide an additional dimension currently missing in the discipline of economics.

Changing Size of Transactions Sector of American Economy 1900-1970 (in thousands)

	1900	1910	1920	1930	1940	1950	1960	1970	
Occupational Categories									
Accountants + Auditors	23	39	118	192	238	390	477	713	
Clergymen		118	127	149	141	171	202	219	
Religious Workers					42	42	57	36	
Recreation + Group Workers							38	54	
Social + Welfare Workers, & Groups							98	221	
Lawyers + Judges	108	115	123	161	182	184	213	274	
Librarians	3	7	15	30	39	5	85	124	
Personel + Labour Relations Workers							99	296	
Social Scientists							57	110	
Farm Managers	10	31	58	40	38	36	25	61	
Managers, Officials, + Proprietors, Farm	1697	2462	2803	3614	3770	5155	5489	6224	Totals
Buyers + Dept. Heads, Store		15	20	35	74	147	238	387	
Buyers + Shippers, Farm Products	12	51	48	42	43	29	18	20	
Conductors, Railroad	43	66	75	73	48	57	45	40	
Credit Men	2	2	14	22	30	34	48	60	
Floormen + Floor Managers, Store	2	4	4	6	7	11	11		
Inspectors + Officials, (n.e.c.) [*] Pub. Adm.	58	72	100	124	165	216	278	330	
Managers + Superintendents, Bldg.		32	43	71	72	68	54	85	
Officers, Pilots, Pursors, + Engineers, Ship	43	45	49	49	35	43	37	26	
Officials, Lodge, Society, Union, etc.		8	13	15	26	28	34	51	
Postmasters	19	25	29	34	40	39	37	36	
Purchasing Agents + Buyers (n.e.c.)	7	8	18	29	34	65	105	164	

* n.e.c. is « not elsewhere counted ».

Changing Size of Transactions Sector

	1900	1910	1920	1930	1940	1950	1960	1970	
Managers, Officials, + Props. (n.e.c.);									
Construction	68	183	107	199	175	296	375	397	
Manufacturing	174	350	406	447	432	665	826	752	
Transportation	66	82	83	98	90	151	159	164	
Telecommunications, Utilities + Sanitary Servs.	6	19	25	39	54	68	108	115	
Wholesale Trade	78	104	143	152	225	343	338	310	
Retail Trade	930	119	1220	1582	1620	1977	1628	1119	
Banking + Other Finance	76	75	112	124	126	143	227		
Insurance + Real Estate	14	29	38	66	65	117	191		
Auto Repair Services + Garages		5	56	93	66	86	60		
Miscellaneous Repair Services		7	8	9	14	35	28		
Personal Services	72	88	76	105	129	216	211	223	
Business Services					33	63	103		
All Other Industries (incl. not reported)					169	259	330	270	
Clerical + Kindred Workers	877	1987	3385	4336	4982	7232	9176	13451	Totals
Agents (n.e.c.)		28	64	102	73	128	163		
Collectors, Bill + Account		36	31	43	45	24	32	53	
Attendants + Assistants, Library	1	3	2	2	24	13	33	129	
Attendants, Physicians + Dentists Offices		6	14	28	35	43	73		
Baggagemen, Transportation	19	12	12	9	6	8	6		
Bookeepers + Cashiers	232	447	616	738	721	999	1928	2452	
Express Managers + Railway Mail Clerks		22	25	26	23	19	7		
Mail Carriers	28	81	91	121	124	171	202	256	

Changing Size of Transactions Sector

	1900	1910	1920	1930	1940	1950	1960	1970	
Clerical + Kindred Workers contd:									
Stenographers, Typists, + Secretaries	134	387	786	1097	1223	1661	2313	3920	
Messengers, Telegraph Messengers, + Office Boys	66	112	119	96	81	68	68	59	
Telegraph Operators	56	66	75	68	42	36	21	13	
Telephone Operators	19	98	190	249	219	375	372	421	
Ticket, Station, + Express Agents	27	35	37	38	47	61	73	100	
Ticket, Station, + Express Agents	27	35	37	38	47	61	73	100	
Office Machine operators				38	66	150	318	572	
Shipping + Receiving Clerks					233	304	295	427	
Bank Tellers							131	254	
Dispatchers + Starters, Vehicle							59	61	
Clerical + Kindred Workers (n.e.c.)							4026	4737	
Salesworkers	1307	1755	2058	3059	3450	4133	4801	5433	Totals
Advertising Agents + Salesmen	12	11	25	40	41	35	35	65	
Auctioneers	3	4	5	4	4	6	4	5	
Demonstrators	3	4	5	8	10	14	26	40	
Hucksters + Peddlers	77	80	50	57	55	24	57	122	
Insurance Agents + Brokers	78	88	120	257	253	312	369	461	
News Boys	7	30	28	39	58	101	197	188	
Real Estate Agents + Brokers	34	78	89	150	119	145	196	266	
Stock + Bond Salesmen	4	6	11	22	18	11	28	99	
Salesmen + Sales clerks (n.e.c.):	1089	1454	1724	2482	2893	3485			
Manufacturing							471	420	
Wholesale Trade							504	651	
Retail Trade							2724	2868	
Other Industries (inc. not reported)							186	247	

Changing Size of Transactions Sector

	1900	1910	1920	1930	1940	1950	1960	1970
Foremen (n.e.c.)								
Construction		15	14	43	78	42	103	158
Manufacturing	90	164	296	293	310	525	756	934
Transportation inc. Res* Telecommunications, Utilities, + Sanitary Services	48	93	112	127	93	116	172	156
Other Industries (inc. rep Repeated)	24	45	63	88	104	164	218	369
Inspectors, Scales + Graders, Logos + Lumber	2	7	7	7	17	18	21	18
Inspectors, Transportation, Construction, Other (n.e.c.)	22	53	77	78	82	99	102	121
Attendants, Auto Service + Parking			18	144	245	253	378	
Conductors, Bus Street + Railway	24	57	64	37	18	12	4	10
Deliverymen + Routemen exc.	167	230	170	187	294	253	438	649
Fruit, Nut, + Veg. Graders + Packers, exc Factory		5	8	10	25	37	28	
Motormen: Mine, Factory, Logging Camp, etc.		3	12	17	20	25	15	10
Motormen: Street, Subway, + Elevated Railway	37	56	63	58	39	27	8	
Bus, Taxi, Train, + Tractor Drivers, + Chauffeurs		46	285	972	1515	1808	2019	1952
Attendants, Professional + Personal Service (n.e.c.)		2	3	4	42	52	75	65
Attendants + Ushers, Recreation + Amusement	6	9	13	29	86	92	79	98
Boarding + Lodging Housekeepers	71	165	133	144	78	30	30	8
Elevator Operators	13	25	41	68	87	97	77	37
Guards, Watchmen, + Doorkeepers		78	116	148	216	255	258	329
Policemen + Detectives		68	94	145	156	197	255	378
Marshals + Constables		9	7	9	9	7	6	5
Housekeepers + Stewards, & private hsehd.	34	95	52	61	90	112	152	
Sheriffs + Bailiffs	5	7	11	15	16	19	24	35
Watchmen (crossing) + Bridge Tenders	4	10	13	13	10	12	26	42
Farm Foremen	7	19	35	28	17	17	25	39

* RES is railway express service.