

CHAPTER 9

GETTING IT RIGHT AND GETTING IT WRONG (19/03/03)

When humans understand their environment as reflected in their beliefs and construct an institutional framework that enables them to implement their desired objectives, then there is consistency between the objectives of those players in a position to shape their destiny and the desired outcomes. Without too much poetic license (with respect to conflicting objectives, only partly understood costs and benefits, and just plain good luck) we could conceive of the enormous improvement of life expectancy and material well being of the past several centuries as reflecting such improvement. But even so this improvement has been a trial and error process of change with lots of errors, endless losers, and no guarantee that we will continue to get it right in spite of the enormous accretion of knowledge over those centuries.

Indeed human history is a sobering testimonial to the fallibility of humans in the face of ubiquitous uncertainty. The reason should be clear from the foregoing chapters. We are continually altering our environment in new ways (and there are also non made-made alterations), and there is no guarantee that we will understand correctly the changes in the environment, develop the appropriate institutions, and implement policies to solve the new problems we will face. A review of the stringent conditions for getting it right in a dynamic setting should make clear why this is so.

Getting it right through time means that we perceive correctly changes in the human environment, incorporate those perceptions in our belief system, and alter the institutions accordingly. Doing so would entail that:

1. the implications of the novel changes would be understood with respect to the effects on the three fundamental sources of change--demography, the stock of knowledge, and institutions--and the resultant new interaction among them.

2. this new knowledge would be incorporated in the belief systems of those in a position to modify the institutional matrix.

3. both the formal rules and the informal constraints and enforcement characteristics would be altered accordingly and would produce the desired changes in societal performance.

At stake in such contexts are two issues about which we know all too little: how humans make decisions in the face of strong uncertainty, and how humans learn. These have been the subject of Chapters three and four. Here I wish to elaborate on three junctures both throughout history and in the present and future where we have tended, or do or will tend, to get it wrong. The first two explore at the macro level the process of change in the face of truly novel situations; one, how do societies evolve through time; and two, what kind of beliefs will best prepare them to deal with novelty? The third looks at the more micro level necessary adjustments of factor and product markets to maintain economic efficiency in the context of changing technology, organization, and external environment. I explore in more detail the problems raised in chapter 6 with respect to the performance of individual factor and product markets both at a moment of time and over time. Clearly the more micro level analysis has implications for overall performance. Finally I come to grips (very imperfectly) with the overall problem of a world of dynamic change.

I

We tend to get it wrong when the accumulated experiences and beliefs derived from the past do not provide a correct guide to future decision making. The reason is two-fold. 1) The set of mental models, categories, and classifications of the neural networks that have evolved in our belief system through which the new evidence gets filtered have no existing patterns that can correctly assess the new evidence. 2) In cases where conflicting beliefs have evolved the dominant organizations (and their entrepreneurs) may view the necessary changes as a threat to their survival. To the degree that the entrepreneurs of such organizations control decision making they can thwart the necessary changes. The first of these factors stems from our not correctly comprehending what is happening to us; the second stems from an inability to make the necessary institutional adjustments.

The shift from personal to impersonal exchange has produced just such a stumbling block both historically and in the contemporary world. Personal exchange relies on reciprocity, repeat dealings, and the kind of informal norms that tend to evolve from strong reciprocity relationships. Impersonal exchange requires the development of economic and political institutions that alter the payoffs in exchange to reward cooperative behavior. The creation of the necessary institutions requires a fundamental alteration in the structure of the economy and the polity which is frequently not in the feasible set given the historically derived beliefs and institutions of the players. The unique development of the western world from relative backwardness in the tenth century to world hegemony by the eighteenth gives us a glimpse of the kind of historical evolution that made such a change possible. A number of studies have explored the evolution of such institutions in the rise of the western world (for example Milgrom, North, and Weingast, 1990, Greif, 1993 and forthcoming). Successful evolution has

entailed radical alteration in economic institutions in order to make such long distance and impersonal trade viable. Avner Greif explores an intermediate step in this process in pre-modern Europe that facilitated the transformation: in the Community Responsibility System common knowledge regarding social structure could take advantage of intra-community, personal contract enforcement to support inter-community impersonal exchange.¹

But the economic institutions must ultimately be undergirded by political institutions. The Community Responsibility System by fostering the growth of long distance trade and community size put pressure on the economic system and encouraged the state to step in to provide for legal enforcement of contracts. But there is nothing automatic about the creation of the essential political institutions that will, in fact, create and enforce the necessary legal system. North and Weingast (1989) is one of the few case studies exploring this process in the case of the Glorious Revolution in England in 1689. That study details the curtailment in the autocratic powers of the monarchy and development of parliament; a major step in the development of representative government. The most careful; and suggestive study of this transformation has been made by Avner Greif, who compares the evolving structure of political and economic institutions of Genoese traders, which ultimately provided the essential institutions for impersonal exchange and the practices of the Mahgribi traders (Jewish merchants but in a Moslem culture), who fail to make the necessary institutional adjustments and lose out in the competitive trade of the Mediterranean. Greif's study is a major step in exploring reinforcing institutions that make for a stable political equilibrium in contrast to conditions producing an unstable equilibrium.

¹ "On the Social Foundations and Historical Development of Institutions that facilitate Impersonal Exchange: From the Community Responsibility System to Individual Legal Responsibility in Pre-Modern Europe" (Forthcoming).

The widespread failure in the modern world of political institutions that will put in place and enforce effective legal systems that will make possible low cost enforcement of contracts makes clear that we have a way to go in understanding the process of creating the essential political institutions. Latin American experience is replete with instances of unstable political institutions leading to recurring military dictatorships; sub-Saharan African polities have been a disastrous source of falling per capita income for much of the past several decades.

The analysis in preceding chapters enables us to pinpoint the sources of the inability to shift rapidly from personal to impersonal exchange:

1. The genetic architecture that evolved from our three million years as hunter/gatherers was geared to a world of small group interaction which predisposed us to engage in the kind of small scale cooperative behavior that characterized clan, tribe, and other small group interactions necessary for survival in a hostile physical environment. That genetic architecture did prepare us for personal exchange. It did not prepare us for a world of impersonal exchange. Indeed “defection” was the “natural” response.
2. Overcoming this natural response entailed the development of mental constructs that could visualize the consequences of a world in which there were favorable “payoffs” to such human interaction. Such novel situations required a gradual “indoctrination” into increasingly impersonal relationships in order for the players to perceive and adopt the appropriate institutions.
3. But it is not enough to perceive the feasibility of the appropriate economic institutions and organizations—such as bills of exchange, banks, corporate structure firms, and various economic institutions engaged in long distance trade; also necessary was the

development of impersonal enforcement mechanisms to provide effective enforcement of agreements in impersonal exchange. Ultimately that entailed the development of the state as the source of coercive authority.

4. The establishment of a state with the coercive ability to enforce property rights (at low cost) results in a state with the ability to use that coercive authority to exploit its citizens, as Madison reminded us a long time ago. Creating a strong but limited polity, the subject of lengthy discussion in this book, is still a long way from being completely understood even though we have made progress in understanding the issues. But one fact is clear; such a state cannot be created overnight. It entails the development of effective informal norms of behavior that will undergird formal rules.

II

The western world evolved from the simple world of personal exchange described above to the complex interdependent world that characterizes the developed economies today. Economic historians have typically described it in terms of growth in the size of markets until today we glibly talk about a global economy. But just how does it work? Sociologists looking empirically at information networks describe an immensely complicated communications structure that pulls the dispersed knowledge together in order to use it effectively in the growth of productivity of the modern economy. As the western world evolved, the process of change was a gradual accretion of an ever more comprehensive price system supplemented, complemented, and sometimes obstructed by the accretion of political rules and regulations which were only occasionally deliberately enacted to effectuate more efficient combinations of knowledge. The western world has had a long gestation period to work out the interconnections to make markets work more efficiently (the subject of the next section) although still far

from ideally. But developing countries face a far more daunting task. To survive and grow in the context of the competition from the already developed world they must deliberately construct an effective price system and supplement it by creating the institutions and organizations to integrate that knowledge at low costs of transacting. Standard economic theory is no help as a guide. It would imply that someone from a developing economy who acquired the advanced knowledge in say chemistry would command a wage commensurate with the relative scarcity of such knowledge in a developing country and therefore automatically provide the correct incentives to resolve the problem. In fact that person will command a far higher wage in a developed economy. The explanation is straightforward; it is only when that specialized knowledge can get integrated with other complementary knowledge at low cost that it is very valuable. We still do not know a great deal about the interconnections necessary to combine distributed knowledge most effectively but it does entail much more than an effective price system (although that is an essential prerequisite). The essential public goods, asymmetric information, and ubiquitous externalities require that institutions and organizations be created to integrate this dispersed knowledge at low cost of transacting. We are still some distance from knowing completely the steps along the way² but they may be stated as follows

1. In a world of autarchy individuals had to be jacks of all trades. Survival depended on acquiring the knowledge to deal with the variety of problems essential to survival. In such a context increased specialization would be at the expense of the variety necessary for survival.

² This issue is elaborated in much more detail in a forthcoming manuscript by Bertin Matrins GET CITE

2. As increased specialization occurred with the growth of markets, individuals exchanged increased specialized knowledge at the expense of less “general” knowledge. That loss in general knowledge had to be made up by trade.
3. Trade will make the individual better off only if the increased uncertainty due to specialization is more than compensated for by the reduction in uncertainty resulting from the availability of wider variety.
4. There is nothing automatic about such a reduction in uncertainty. It entails low costs of transacting across these other markets. Goods (and services) must be designed in such a way that the new user does not have to have the detailed knowledge of the specialist. We do not expect the purchaser of a car to be a mechanic or engineer nor the user of a computer to be a computer programmer. Warranties, guarantees, trade marks are just illustrations of the vast range of institutions and organizations that enabled specialized individuals to have access to the other consumer markets that they must use to take advantage of the potential economies possible in such a world of specialization.
5. An even more complex structure is essential for producers to integrate productive knowledge, as the study of information networks attests. Germany pioneered in the application of scientific principles to technology in the chemical industry in the nineteenth century. But it is in the United States where this fusion has been developed in universities, beginning with the Department of Chemical Engineering at MIT in 1903. Combining chemical knowledge with engineering principles produced

revolutionary developments.³ American universities today are at the heart of the revolutionary integration of pure and applied knowledge in every field of development. Silicon valley is only one illustration, but a spectacular one, of the fruits of such integration. Even the developed world has lagged behind in this integration; and the creation of the necessary institutions and organizations in the less developed world is a major challenge.

III

Economists have for some time labored under the delusion that there is something called *laissez faire* and that once there are in place “efficient” property rights and the rule of law the economy will perform well without further adjustment. It is a timeless delusion which the scandals involving Enron, Dynegy, WorldCom, and others in 2001-2002 should have laid to rest. In fact, factor and product markets not only have to be structured at a moment of time to get the players to compete via price and quality (rather than by killing each other or engaging in the kinds of anti-social activities of the aforementioned firms in 2001-2) but the conditions for maintaining market efficiency will vary over time with changes in technology, human capital, market conditions, and information costs. Let me expand on the brief discussion of this subject in chapter 6. Each factor and product market is characterized by a structure that defines the margins at which the players can operate to affect the profitability of their operation. Transaction costs—here measurement and enforcement costs-- will vary in each case; in order to reduce such costs there must be an institutional structure that will provide incentives for the players to compete at those margins, and those margins alone, that will be socially productive. Typically this entails a set of formal (usually a mixture of laws, rules, and regulations), and informal constraints to

³ See Nathan Rosenberg and L.E. Birdzell, How the West Grew Rich, New York, Basic Books, 1986, Chapter 8

produce the desired results. Again let us see if we can pinpoint the problems associated with creating “efficient” markets at a moment of time and then the additional problems that change over time poses for maintaining efficient markets. First at a moment of time:

1. While the utility function of players in every market will vary we can nevertheless assume that income and wealth maximization (with the usual caveats about making choices in a world of uncertainty) will guide the choices of the players, subject to the constraints on the players imposed by the state of technology and the competitive conditions. But a combination of these two variables produces an immense variety of margins at which the players can and will act. To my knowledge very little scholarly work has been devoted to specifying the precise characteristics of each factor, product, and political market that would provide us with an understanding of the essential conditions for economic (or political) efficiency. What we seek to know is what set of incentives and disincentives will provide the players in each factor and product market with inducements to compete at those margins and those margins alone that are socially productive.
2. The performance characteristics of each market will be a consequence of both the formal rules and the informal norms of behavior that modify, qualify, or even negate the formal rules. The transaction costs in each market will reflect the combination of formal and informal constraints. Even when property rights are well specified, both measurement and enforcement will be imperfect since the property rights will provide general rules rather than “cater” to the specific characteristics of each market.

3. Additional specific rules for each market will be made by a government that is hardly a disinterested party. The structure of political markets will determine whose voices are “heard” in shaping additional rules governing each market.
4. Even when the ostensible objective of government policy is economic efficiency it is not obvious that the government players will possess sufficient economic sophistication to achieve that objective.
5. Enforcement will be made by agents—whether regulatory bodies or courts—with their own agenda.

Not only does each factor and product market require different specific constraints so that it will provide the right incentive structure for the players, but economic change will require continual alteration in the institutional structure to maintain efficiency. This is particularly critical for capital markets which however well they may serve to facilitate growth at one time, may become obstacles to growth at another time; and there is no guarantee that they will automatically evolve as the economy evolves. The reason is straightforward. The structure of the market will determine the incentives of the players and with changes in the aforementioned conditions the incentives that at time t would induce the players to make an efficient capital market may in time $t+1$ induce the players to engage in activities that undermine, weaken, or indeed destroy the capital market with consequent adverse effects on the economy as a whole. The history of Japan in the 1990s is a classic instance of a capital market that initially fueled extraordinary development--that of post World War 2--only to develop the sclerosis that has afflicted that country for ten years and continues to do so as of this writing (May 2003). While the capital market is the most crucial actor in this scenario, the same problems obtain in all markets in a world of dynamic change. The problem is complex because successful adaptation to changing

conditions entails altering economic institutions, which frequently entails the enactment through the polity of new rules. To the degree that the players (ie entrepreneurs of economic organizations) perceive the need for adaptation they may be in a position to make the necessary alterations themselves. Something like that appears to characterize the successful adaptation of American firms in automobiles, steel, and software to Japanese competition in the 1980s which has led (in the 1990s) to successful organizational innovation in American firms. But when change involves the polity and the political enactment of new rules, the adaptation is much less likely to be forthcoming. The polity becomes the battleground for those who believe they would be adversely affected by the rule changes and I know of no model that guarantees that the necessary modifications will be carried out. In the case of Japan cited above, the inability of the polity and specifically the Ministry of Finance to restructure the capital market has been the immediate source of the sclerosis. But history is replete with illustrations of failure to alter the rules in the face of changing conditions. Mancur Olson's The Rise and Decline of Nations (date) is a suggestive study of the inherent tendency of markets to develop sclerosis over time in the absence of "revolutionary institutional change."

Neo-classical economists have generally come to perceive that institutions are important and that an underpinning of property rights and the rule of law are necessary conditions for a successful economy. That is a big improvement in their perceptions and together with a recognition of the importance of macro stability has led to improved advice by both international organizations and by economic advisors. But such advice is clearly insufficient in the dynamic world we live in. There is little evidence that these advisors and international organizations properly perceive the need for ongoing institutional change as the fundamental characteristics of a particular efficient market are altered. Capital markets appear to be the most sensitive to ongoing need for alteration as economies evolve and the

economic history of economic crises are replete with stories of the critical role of financial markets in such events. Yet I am not aware of systematic studies of the institutional adjustments necessary for dynamically efficient capital markets.⁴ Nor have such studies been made with respect to other factor and product markets.

Prolonged failure to improve individual factor and product market can lead to and has led to declining overall rates of growth and indeed stagnation. As of this writing (March 2003) Japan has had a decade of stagnation resulting from the sclerosis of its capital market. The destruction of the export market for agricultural goods in Argentina after 1940 led to forty years of relative decline in that economy. Let me again try to specify the issues involved with maintaining efficient markets over time:

1. Alterations in the performance characteristics of a market require an initial understanding of the source(s) of such change.
2. “Successful” alterations designed to improve market performance require the correct theory of the overall process of change.
3. Implementing that correct theory entails that the key players (that is entrepreneurs in a position to alter that market structure) possess such theory and are willing and able to act upon it.
4. Where the alterations entail changes that must be enacted by the polity, there is an additional hurdle in enacting such political policies. This additional hurdle is that the existing institutional structure will have spawned organizations with a stake in that existing institutional structure and such organizations will attempt to thwart such changes.

IV

⁴ A suggestive study is that by Stiglitz, J., Hellman, and Murdock in(1998) Hyami and GET REST OF CITE

Neo-classical economic theory is static and as a consequence has tended to produce blinders on policy makers deriving their inspiration from that theory. The result is all too frequently policy prescriptions that produce results at odds with intentions because policy derived from static theory in a dynamic setting is going to produce unanticipated (and unpleasant) outcomes. By now it should be clear that no dynamic theory of change is advanced in this study and I hope that it should be equally clear that no such theory is likely to evolve that could be useful. While evolutionary game theory may capture some interesting elements of a particular change, generalization would render it so unwieldy as to be of little value. However specifying why such a general theory is unlikely should prepare us for a more limited but manageable approach to dealing with dynamic change. The building blocks for such a limited but manageable approach to dealing with a dynamic world have been implicit or explicit in earlier chapters. Specifically:

1. Leaving aside change that can be induced by alterations in the physical environment, changes in the human environment will broadly mirror the changes in institutions that are the subject of the concluding section of Chapter 5. They will have as their source the underlying beliefs of those organizational entrepreneurs (political, social, and economic) in a position to enact alterations in the institutional environment. So far so good.
2. But the next step becomes much less manageable. Such initial changes can alter the perceived opportunity costs of complementary or substitute organizations and we would have to have detailed understanding of the complex interdependent institutional matrix to unravel those connections. We would also have to know the new opportunity costs of the affected organizations. Economics or more appropriately political economy has not devoted

resources to understanding the complex interdependent character of market structures so as to be self conscious about the secondary consequences of an initial change. If, for example, a change in a law promoted by a business firm adversely affected the viability of a trade union we would need to know the effective political “clout” of the trade union in obstructing or preventing or repealing such an action. Understanding the structure of the polity would be essential to predicting the outcome.

3. We need to acquire much more detailed knowledge than we currently possess of the institutional structure of an economy so that we are aware of the existing institutional matrix and therefore be self-conscious about the interconnections. The information network analysis being undertaken by sociologists while itself a-theoretical, would be a major step in getting a better grasp of that matrix. Once we have undertaken such studies we are then in a position to perceive the alterations in the opportunity costs of affected organizations and take that information into account in making policies. That hardly qualifies as anything like dealing with dynamic change properly but it does move us a small step towards being more self conscious about the issues we must deal with.