

Institutions, Organizations and Food Systems Performance: Observations From Over The Hill

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INTRODUCTION

We are what we eat, what we experience, and what we learn from others. Here I am reporting my observations nearly 50 years from the day I first taught an Economics class at Michigan State University. I have received my new ID card with RETIRED in bold letters indicating my new status. I report observations about the title topic blending my experience with what I have learned from others through reading and discussion; most especially discussions with people in very different situations and views of the way economies work and how they should work.

PERSONAL HISTORY

The Great Depression had an everlasting influence on my thinking. My father was a carpenter and built houses, mostly on speculation. We lived in a middle class suburb of Pittsburgh, PA. Following the crash of 1929 my father lost his investment in his building business and found that he could no find enough work to support his family living in the city. Like many other families we went back to the rural areas. We moved to a small town in Michigan where my father had title to some farm land. Most of the 1930s were hard times for us and most of the people we knew. It did not make sense to me to have people unemployed when need for goods and services they could have produced was so obvious. People were short of food, farm resources went unused because of low prices. Entitlement to a job providing reliable income was a big prize. I had an uncle who worked for the post office. I aspired for such an opportunity.

About 1937 the State built a highway across a portion of the family farm and my father worked out an agreement with his siblings to have title to a portion of the farm which included an intersection of the new highway with an existing one. He owned two corners and built a gas station on one of them. Unfortunately he did not own the other two corners. Another gas station was built and after that neither had enough business to make what economist call a reasonable profit. Dad finally gave up and converted the station into a house and moved into it. Had he owned all four corners there would have been one successful business rather than two unsuccessful ones. It was a good lesson in economics. I got another important lesson when as manager by default (My Dad thought with an 8th grade education and three Saturdays of training by Texaco I should be able to run the station.) I got stuck with an uncollectible debt by a trucker. I learned about trust, opportunism and transactions costs. While the bill exceed a months gross margin the expected value from litigation exceeded the loss. That month my attention was focused on law and economics.

World War II brought a dramatic change in the economy. Factories were going full blast. Employment opportunities exceeded the supply of workers. My senior year in high school I helped fill the employment gap by working at night in a cereal factory. I was impressed by the fact that I was paid more than my teachers who told me I could not work full time and meet the graduation requirements. In the factory I learned about problems of agency and perverse

incentives in a large private enterprise. I also learned about the boredom of repetitive acts on a factory line and the attitudes of workers.

The Navy then took on the task of making me an officer and a gentleman with a quick and partial college education followed by 90 days of Midshipman school and 90 days of specialized training all in about 2 years. In the Navy I learned about the command system of organization. One particular event in Midshipman school stands out. Two officers were in charge of the indoctrination intended to convert a group of college students into officers. Ethics, leadership, commitment, behavior consistent with the traditions of the Navy was their thing. There was a clearly written rule that no gifts were to pass from Midshipmen to Officers. At the end of the training a collection was taken to purchase gifts for the officers. I not only declined to contribute but bet with some of my classmates that the officers would not violate the rules but rather would somehow punish those involved in breaking the rules. I lost the bet and learned a lesson about power and interpretation of the law.

After the war I took advantage of the GI Bill and managed to complete my Ph.D. with public assistance justified as a right following military service. Millions of other, many of whom would not have gone to college absent the War, received college educations supported by the GI Bill. I believe this program contributed to an important change in the American economy by greatly increasing the proportion of the society with improved access to the accumulated knowledge so important to productivity and distribution of income. The lesson seems to have been lost by too many political leaders, perhaps because of the way they think about the budget, failing to differentiate between investments and current consumption.

My half century professional career at Michigan State University has included teaching, research, and extension combined with assignments and activities in more than 25 countries , mostly working on agricultural development projects managed by my Department. In addition I have had the opportunity to serve on a variety of boards, commissions., task forces, advisory groups and regional research committees. I do not intend to conical the lessons learned from these experiences but I mention it to emphasize that this report draws on my experience and my observations of history in the making more than on the academic literature dealing with the title topic. This is either an explanation of or an excuse for the sparse referral to a very large list of references dealing with the topic. Take your choice.

THE THEME

My major theme is that institutions and organizations are instrumental in determining economic performance and that their role in shaping economic performance in market economies is often neglected or misrepresented in academic and practical policy discourse. Simplifying and counterfactual assumptions are made about the nature of and importance of the institutions and organizations of democratic market economies with consequences for economic performance. Institutions generally evolve in responses to need, opportunity, and balances in political power and ideologies. Mine is a modest effort to tease out some ideas about institutional innovations and economic performance in hope that others will somehow be inspired to continue in this line of work.. My emphasis is on food systems, which reflects my experience, but I believe the implications are much broader than this application.

I focus particularly on preference articulation, economic coordination and entitlement. I intend to write in the tradition of the Classical economists who were not encumbered by the separation of politics and economics in academic discourse.

By institutions I mean the rules which regulate economic interactions and relationships: the laws, customs, enforcement procedures which regulate transactions, defining who's preferences count and how they are counted in the processes of production, distribution and consumption. Organizations are firms, households, and associations of all types.

By performance I mean outcomes compared with alternatives. I take as indicators the outcomes that people care about and discuss in policy discussions. I focus mostly on indicators of output, distribution, and well-being. I take achievement of food security, adequate nutrition, and economic transformation leading to higher real per capita incomes as positive indicators of economic performance. I consider efficiency as measured by deviation from the conceptual ideal of the perfectly competitive market a poor indicator of performance. I use the concept of productivity, the ratio of output to input as an indicator recognizing that it has many technical problems associated with defining and valuing outputs and inputs. In any case, as I use it, it is a very rough indicator.

EXPLAINING THE GREAT DIFFERENCES IN PRODUCTIVITY AND LEVELS OF LIVING ACROSS TIME, SPACE AND INDIVIDUALS

TIME

For most of history the great majority of people lived close to the level of productivity and living required to sustain life. Before 1650 or so life expectancy at birth was 25 years or less world wide. By 1840 life expectance had increased to about 41 years in the higher income countries. Producing enough food to support life and productive work was a major problem in Europe for most of the 1800's.(D. Gale Johnson) By 1934 with the beginning of Social Security the life expectancy reached about 65 years in the U.S. Since then it has risen to about 76 years, contributing to the problems of funding the Social Security program but a good indicator of improvement in levels of living.

Comparisons of productivity and levels of living are not directly available. Based on what we know up to 1800 the great majority of people lived at or below the level of people in the very poor countries today. The estimated per capita gross output (GNP) for Ethiopia for 1995 was the equivalent to what \$450 U.S. would buy that year.⁽¹⁾ That compares to nearly \$27,000 per capita GDP in the U.S. the same year. The value of output per person in the U.S. according to this measure was 60 times as great. This is an indicator of productivity, not level of living, of course. Ethiopia had an average life expectance of 49 years, better than that estimated for the higher income areas of the world in 1840. Looking at the U.S. data over time the per capita GDP was estimated at about \$2,500 in 1869, compared with about \$20,000 in 1994 (in 1987 dollars). That is an 8 fold increase.

SPACE

Based on World Bank data for 1995 it is estimated that the 63 countries with per capita GNP below 765 U.S. dollars had nearly 56 percent of the worlds population and average gross national product (GNP) of 430 U.S. dollars. At the same time 51 countries with per capita

incomes of \$9,386 or more, with about 16 percent of the worlds population had GNP per capita of \$24,930. That is 58 times the level of GNP per capita of the countries with the lowest incomes. These are comparisons valuing currencies at exchange rates and are indicators of differences in productivity for goods which are traded. The purchasing power parity estimates are better indications of differences in levels of living. The average per capita GNP for Th 63 poorest countries would be about \$2,000 adjusted for purchasing power in the richest countries or something like a 12 fold difference.

The GNP is a measure of the estimated value of production and the differences are both an indication of differences in productivity. While it is clear that levels of living are not as great as these data suggest (there are many aspects of life not captured in the data) it is clear that the differences are very great. The most telling measure is perhaps that the richer countries with 16 percent of the population of the world account for about 70 percent of the market value of the gross world product. (GWP)

It is also the case that there are very large differences in levels of productivity and living among places within countries. It is not at all uncommon for a state, Provence, or region to have incomes more than twice the national average.

People performing the same function in different places receive very different payments for the service. For example a person who moves grain from one place to another in an elevator in the U.S. would receive at least \$60 per day compared to about \$1 U.S. equivalent a day received by a very hard working bag handler employed by a grain trader in Ethiopia.

INDIVIDUALS

It is reported by Newsweek that Bill Gates, the CEO and principle stockholder of Microsoft corporation has assets worth between 36 and 40 billion dollars. It is believed this makes him the richest person in the world, although it is not possible to measure the wealth of some wealthy people. The value of his assets appear to have increased by something like \$20 billion over the past year or so. It is difficult to judge since he owns so much Microsoft stock and the market is so volatile his net worth may change by a billion dollars in a few days. Based on World Bank data and my estimations, there were more than 100 countries with GDPs in 1995 less than the 20 billion dollars one year increase in the value of Bill Gates assets. The GNP of Ethiopia, with a population of more than 50 million, was about \$6 billion in 1995.

EXPLANATIONS

Natural Resources and Hard Working People

Natural resources cannot be the explanation of the increases in levels of living through time. Natural resources tend to be used up over time. Natural resources per person have, of course, dropped to a fraction of what there were 200 years ago. On the other hand the availability of resources has increased due to improvements in technology. At the same time some of the differences in GDP per capita among countries is clearly due to differences in resource endowments. Oil, diamonds, water, soil and weather are not editably distributed among nations. Some of the differences among African and Asian GDP averages appear to be related to natural endowments. It is clearly difficult to farm fragile soils without adequate water. My judgement is that not more than the difference between a per capita GDP (valued at purchasing power parity)

of 450 for Ethiopia and 1380 for Bangladesh could possibly be attributed to differences in resources used for agriculture. Oil is a different story.

There is evidence that being able to work harder has contributed to increases in worker productivity through time. Fogel reports data showing that increases in productivity per worker was important in the economic transformation in Europe. He attributes this to the improvements in food availability and consumption.⁽²⁾ The data on life expectancy supports the conclusion that food availability and health are important in explaining differences in worker productivity. However, again the source of the improved health was accumulated knowledge, not attitudes toward work. There is no evidence that differences in doing hard physical labor can explain more than a very small percentage of the differences in levels of productivity through time and across countries.

Differences in individual incomes is more closely tied to resource ownership. Most of great fortunes of the past had an important contribution from owning natural resources. In poor countries more of the difference in incomes follows from differences in ownership of natural resources than is the case in the high income ones. In high income countries ownership of other means of production is much more important. The natural resources owned by Bill Gates and Microsoft is a negligible factor of production if valued at acquisition prices.

Professor Jeffrey Sachs, well known as an advisor to countries attempting the transition from planned economies, argues that geography is a very important factor explaining differences in rates of economic development. Sachs, along with Adam Smith, argues that the potential for development is greater for countries or areas along coast lines because of the lower costs of transportation by water compared with land. Low cost transportation facilitates trade, and the benefits of trade promote attitude favoring policies which promote trade and the combination leads to development. Land locked countries are disadvantaged as well as countries in the tropics because of diseases and environments making agriculture difficult. There is, of course, something to this argument.⁽³⁾ Access to markets is clearly important. At the same time in the modern context, rail transportation has some of the advantages water transportation, but requires more complex government participation dealing with property rights and coordination.

Savings and Investments in the Means of Production

How much of the difference in GNP can be attributed to savings rates and investments. Is growth a matter of compound interest? Economic growth is generally a cumulative process. It is necessary to produce a surplus above current consumption in order to produce the next periods means of production. There is no question about the importance of investment, without it development is impossible And investment leads to more surplus for future investments. Compound interest is a factor in development. However, differences in savings rates are not the explanation of the differences in growth over time and space. Investment is an outcome of the political economic process. The question is what explains differences in levels of investment and the relationship between savings, investment , productivity and the level of living?

Marx, of course, was concerned with the means of acquiring the savings for investment and the ownership of the means of production. His theme was that capitalist extracted the savings by exploiting workers and gained control over the economy in their own interests . The means of acquiring the means of production and their ownership is clearly related to differences in levels of living. The failure of the so-called communist states does not make it an irrelevant issue.

Investment data show expenditures for the acquisition of only some of the means of production and tells nothing about the success of the investment. For example, an investment in a dam may have negative benefits but still is counted the same as investment to small irrigation projects which actually work. A major problem with the centrally planned economies was investments in facilities which were poorly coordinated with the system of production and future demand. My experience in poor countries leaves me with the conclusion that investment decisions are at least as important as the level of investment.

Investment data are also misleading because of what they leave out. . For example, one of the most important investments is the production of the next generation of workers. Nurturing expenses seldom find their way into investment accounts. Differences in reported savings - investment rates tell less than they appear to. For example World Bank data report the US invested 16% of GNP compared to 40% in China for 1995.. But per capita investment was many times larger in the U.S. One of the accounting facts is that investment is a net figure after depreciation. In an advanced scientifically industrialized economy simply replacing the obsolete plant and equipment with the funds labeled depreciation allowance with technically advanced equipment would promote continued increases in productivity, assuming wise investment decisions.

Savings, investment and compound interest have a great deal to do with differences in incomes and wealth among individuals. Ownership of the means of production does make a difference. Almost all of Bill Gates income last year was from the appreciation in the value of his stock in Microsoft. Steve Ballmer went to work for Gates and his partner Paul Allen in the early stage of the development of Microsoft. They offered him \$50,000 a year, which was a competitive salary, plus shares in the company. I do not know his salary in 1997 but it was surely a token compared with the \$7 billion estimated value of his shares. Paul Allen's net worth was reported at \$14.1 billion. FORBS also lists Warren Buffett third on their list of the world's richest people. His assets were estimated at \$23.2 billion and were the reward from his ownership of stocks. The value of his stocks was not unrelated to his influence on the Boards of the companies owned and perhaps his influence on other investors stock picks. ⁽⁴⁾

Specialization and Exchange

Adam Smith was right about the importance of specialization and exchange in explaining the wealth of nations. He would most likely be surprised at the results which have flowed from this process. Productivity per worker increases from learning to do specific tasks better than those less skilled at the tasks, by specialization in the production of the means of production for future periods (making machines, for example) and by a system of transactions coordinating the contributions of specialists. For most of history as we know it, economies were organized much as peasant agriculture is organized today. Household members would have some specializations, usually related to size and sex, and some specialization took place within the community. The other great specialization involved the protection of people and resources. The transformation from peasant agriculture to a more productive mode of organization came slowly. In the U.S. as late as 1820, only about 100 years before I was born, it is estimated that there was only 1.25 non-farm persons for each one on farms. However the transformation took off from that time. By 1900 the ratio was about three to one off farm. The transformation was largely due to labor saving technologies. Especially labor saving inputs used in harvesting which has historically been a bottleneck in crop farming and still is in many peasant farming systems. (I have often been told that output of African households is limited by a labor constraint. My response is that it

isn't the shortage of labor but of technology to release the constraint.) The transformation in the U.S. from 1820 to 1930 was based upon an evolving system of off farm specialized employment supporting farmers in expanding the amount of land they could farm Domestic and international markets developed in inputs and commodities. There was little improvement in specific crop yields. Some new crops were introduced. By 1930 specialization in science had produced new seed varieties and farming systems with increased potential productivity. The depression slowed adoption. It was not till about 1940 that science and industrialization combined making much more productive farming systems possible and effective demand created the incentives to make the investments.⁽⁵⁾

By 1967 I was writing about the scientific industrialization of the U.S. food and fiber sector and its implications. By 1950 the ratio of farm workers to workers off the farm was one in 16, by 1967 one in about 40.⁽⁶⁾ I did a straight line projection showing that the last farmer would move off the farm in 1984. It did not happen but the current estimate is less than one out of 100. By 1965 I decided that the agricultural transformation in the poor countries was an important subject for my attention.

The processes which took place in agriculture were similar in most other areas of the U.S. economy. The pattern of specialization and evolution of coordinating systems is the hallmark of the transformation from low productivity economies to economies with much higher GDP per capita. Does this mean that specialization and effective coordination is the explanation of the differences in productivity and levels of living? Yes and no. It does not explain why the process has been much more successful in some countries than others.

Knowledge and Technology.

I believe by all odds the most important factor in the transformations leading to differences in levels of productivity through time has been the specialization in the production, distribution and application of knowledge. I mean the accumulated knowledge of the world stored in libraries, held by people through education and training on and off the job and embedded in technology. As suggested by the discussion of the transformation of agriculture in the U.S. the application of scientific knowledge resulted in a quantum change in the transformation process . Much of the knowledge is embedded in technological inputs made possible by skilled specialists in production, distribution, finance etc.

While I conclude accumulated knowledge is the prime factor contributing to the transformation through time it is not the explanation of the current differences in levels productivity among countries. Most knowledge is portable. Technical inputs are tradeable and whole systems of production and distribution are transferable from one country to another. In Adam Smith's time trade in commodities was the important thing. Today transfer of knowledge embedded in systems of production is more important to development. The knowledge can be transferred but the political economic system must be capable of providing the essential complements to the knowledge. The world has thousands of consultants willing to travel and many more willing and able to be trained to transfer the knowledge.

Difference in individual productivity and incomes are clearly a function of differences in success in acquiring, using and capturing the benefits of knowledge. Bill Gates is a prime example. This is an important part of the slowly evolving story of this paper.

Institutions

The bottom line in Adam Smith's and Jeffrey Sachs' conclusions about the basis for differences in the wealth of nations was economic policy with the emphases on free trade, market directed production, and definition and enforcement of property rights and contracts. As reported before geography was also important, but since not much can be done about it policy is the focus. D. Gale Johnson similarly attributed the most important role to market policy in comparing differences in success across space and time in agricultural development. It seems that most economists and advisors for the World Bank and other western development organizations, if not most western economist, have come to the same general conclusion. In many cases, and especially among U.S. sponsored economists, the private enterprise economy is linked with a democratic form of Government. For some this is an uncomfortable combination. Voters may chose the wrong policies.

My own conclusion is not inconsistent with theirs in the sense that I agree economic policy supporting a market economy has been the most important factor in differential success in economic development, at least in my life time.. My case is that economic performance is shaped by the details of political economic systems and these details are the institutions--the legal, formal and informal rules of the system and an ideology or beliefs supporting the institutions. There are great differences among countries and places with market oriented economies . .

THE PRIVATE ENTERPRISE MARKET ECONOMY HAS BEEN DECLARED THE WINNER, BUT WHAT IS IT? THE STANDARD MODEL

The standard model of the private enterprise market economy deals with the role of government (the STATE) in the economy. The model as I understand it from those who promote it includes five functions for the State.

Define and Enforce Property Rights

It is clear that a market economy requires definitions of rights to use resources and definitions of what can be traded. These are the rules of the economy. They come out of the political-social system. Formal rights inconsistent with the customs and beliefs of the people are difficult to impossible to enforce. The problem is, of course, that one persons right is another persons obligation. My problem with the prescription is that it does not speak to the issues involved in defining rights. What does ownership mean? By what means do participants become entitled to use resources and share in output. It abstracts from the political processes of preference articulation in defining rights. George McDowell describes the practical problems of an economy moving from central planning to a market orientation. Defining and enforcing property rights for a workable market system was beyond the capacity of the government of Albania.⁽⁷⁾ Dan Bromly describes problems in working out workable property rights in Russia.⁽⁸⁾

A specific prescription is that private investments should be protected from State confiscation. This is important for any investment, but is critical in attracting foreign investments. This would include assurance of allowing investors to take their earning out of the country. My observation is that uncertainty about government appropriation of investments is a very important barrier to development in poor countries. International investment is critical in the effective transfer of

knowledge embedded in technology and application skills. Aside from the risk of direct appropriation of the investment are a great variety of property rights issues. One of the purposes of colonialism was to protect the rights of investors to exploit economic opportunities and get their money out. If there is a belief that the profits of investors are based upon exploitation of workers a government will find it difficult to resist the pressure to redress the perceived failure in the rights system. What do economic advisors have to say about rights to share of output?

Enforce Contracts

This has the same problems of incomplete specification as the problems of defining and enforcing property rights. What can be contracted and what contracts are to be enforced. Take an ostrich example. Will the State enforce a contract between a rich person and one in destitution where the poor worker contracts into peonage? Commerce takes place based on many implied contracts. Most importantly a sale is a contract to deliver a right to something. What can and must be delivered is determined by custom and, in developed countries, elaborate commercial codes. For example, in Michigan it is illegal to sell fruit which misleads the buyer by putting all the good fruit on the top of the container. It is called facing. Is this regulation an interference with the market? Consider the costs if each buyer insisted on inspecting the fruit at the bottom of the container on each purchase. The performance of markets is greatly influenced by the selection of what can and must be contracted and how the contracts are to be enforced. The problem is obscured by ideology that regulation is interference with the market.

Allocate Resources and Goods Based Upon Market Prices

This is sometimes expressed as adopting a free market policy. If what is intended is a prescription for using markets as a basis for preference articulation for goods and services and market prices as guides to production in contrast to preference articulation and coordination by a central authority then I would agree. The problem is that prices are a function of the institutions of the economy. When a property right is defined and enforced it influences costs and revenues and therefore prices. Prices are worked out in the market based upon political decisions about who can charge for what. To argue that the role of government is to define property rights and that the government should not regulate the market is a fundamental misunderstanding of the nature of markets. Prescribing the free market is an incomplete thought.

In addition, there seems to be no logical basis for assuming that the political articulation of preferences for hundreds of rules defining rights and obligations in conducting the functions of the economy and allowing prices to work out the allocation of resources will result in more preferred economic outcomes than preferences articulated through policies which more directly determine or influence current prices with the intention of modifying the outcome from the existing pattern of institutions. . Here we get into complex problems about the rules for political and market preference articulation.

Provide a Monetary System which Facilitates Trade and Investments

The institutions of the monetary system are clearly important to the operations of a market economy. Experience supports a policy which does not ration foreign exchange, and provides stability in the value of the currency. Rationing of foreign exchange invites corruption and usually has unintended distributional consequences. The creation of inflation complicates

economic coordination and has unintended distributional consequences. The institutions of the monetary system are part of the broader system of property rights.

What is not addressed in the general prescription on monetary policy are the rules for the creation and distribution of credit. Credit creates entitlement to acquire and use resources. If resources are unemployed credit facilitates moving them to productive uses. Underdeveloped countries generally suffer chronic unemployment or more universally underemployment. There are important trade-offs to be worked out in monetary policy which are not obvious in the general prescription.

Provide Important Public Goods

For the economist there is a difference between publicly provided goods and services and public goods, which because of their characteristics, will not be provided through markets or too little would be invested in them by individuals. These are goods which have important benefits to nonowners or goods and services which can be provided to additional users at no or little cost relative to the value. Public provision of a good or service in a similar category are those which would meet the market test but have high transactions costs for individual users. Finally natural monopolies may be best provided by government.

Most often mentioned are infrastructure, education, research and public health. The provision of police, courts and other services required for governance is taken for granted as appropriate functions. The problems in these areas are most often a problem of quality, not lack of funding. Economic advisors tend to specialize in specific areas of public goods. Thus each can show benefits from investments in a particular area and recommend more funding for it without facing the fundamental problems of trade offs and comparative benefit cost ratios at the margin. Economic advisors may argue against specific taxes as distortions in markets and argue for more expenditures on public health or education. Specifically the standard model responds to the information that investments in human capacity building and infrastructure are critical to development but leaves open the question of trade offs among them and between them and taxes.

Safety Net and Food Security

A safety net for those who cannot manage to acquire food is generally included in the standard market model in recognition that the market does in practice fail to provide opportunities for every one to earn the essentials for life. My problem with the safety net is the failure to develop institutions to minimize the need for it. The focus of the standard model is on efficiency or productivity, not on equity. But, since what is produced and its distribution follow from the same institutions, equity and efficiency cannot be separated.

OWNERSHIP OF THE MEANS OF PRODUCTION

There is a tendency to identify modern economic systems as socialist or capitalist based upon the ownership of the means of production. It is important not to confuse the role of markets in an economy with the ownership of means of production. For example, a state can own factors of production, as land and equipment, organize publicly owned enterprises and subject the enterprises to the discipline of the market in response to consumers preferences as articulated by purchases among competing products. Countries own parastatal enterprises which have been told to operate as competing profit making or losing firms. It is probably the case that under the

conditions of information assumed in the perfectly competitive market , and assuming managers follow their orders, public ownership would perform closer to the perfect market ideal than privately owned firms. With well known deviations from the rule, managers would be ordered to equate marginal costs with marginal revenue. The big question is incentives. Private owners are believed to have stronger incentives than managers working for the state. The socialist systems faltered by failing to use markets for preference articulation and failing to organize effective coordination of production sequences. Incentives were important. The right inputs were not delivered in the right place and there appeared to be little incentive to identify and respond to changing conditions influencing supply and demand. Planning and information systems tended to falter. The socialist enterprises adopted objectives other than profit maximization--such as creating benefits to the politically powerful or those with some social connection to the managers. There are similarities to large capitalistic firms that have escaped the discipline of the market. My point is that many different systems can exist under the broad categories of capitalism and socialism. The details of the systems, the institutions and organizations matter.

The discussions of the means of production often focus on plant and equipment. What is it that a capitalist owns? Natural resources and shares of firms which transform inputs which are mostly purchased or appropriated into goods and services. From my perspective the means of production includes much more. What are the important factors required for production, the factors which influence economic performance? The review of the explanations for differences in

productivity and levels of living concludes that the system of human relationships --the institutions and organizations-- and the accumulated knowledge are the factors most important in explaining the differences. Ownership has two components: control of use and entitlement to benefits. The control of and distribution of benefits from the system of human relationships and the accumulated knowledge is a central issue in economic policy but is seldom addressed directly. We are very selective in the way policy issues are defined. How should the ownership of the accumulated knowledge be defined? It is a major policy issue. It forces examination of our perceptions as to who is deserving and who is not. More about this latter.

ARTICULATION OF PREFERENCES

A market economy is believed to be superior to a centrally planned one because it is believed to be a superior method of identifying and responding to participants articulated preferences and to offer more incentives to producers to coordinate production in response to demand. I believe experience supports this generalization but again there are very great differences in economic outcomes dependent on the institutions for preference articulation. Citizens generally express preferences through a combination of political and market participation.

What are the assumptions about the institutions of political preference articulation in the Standard Model? Is democracy assumed? If so how is it defined? Chile developed an open market economy under a military dictator who received economic advice from U.S. economists. Many citizens agreed with the economic policies. The President of Malawi privately owned a holding company which dominated many areas of the economy. Private ownership and markets existed, largely within the context of his rules. This is not at all a unique example.

A senior economist with the US AID said we know what this country should do (about economic policy) but we cannot figure out how to get them to do it. That is like saying we know what they

should want but we cannot get them to want it. Or, more likely we know what the people want and they would get more of it if the Government would adopt our policy proposals.

I have trouble understanding the theory and practice of market economics independent of the meaning of preference articulation and I find the meaning obscure in both theory and practice. In practice we often take the institutions as given (and thus by implication as legitimate and consistent with the standards considered in evaluating policies under consideration) except for selected policies considered probable contributors to outcomes inconsistent with perceived preferences. The problem is I cannot say that a rule to restrict a consumers preference is any more a restriction on consumer preferences than one which does not restrict consumer choice in the market without rejecting the legitimacy of the political articulation of preferences. So I am left with uncertainty about the meaning of preferences articulated in the market when preferences articulated in the political system are left out of consideration..

In any case there are problems with both politics and markets as means of articulation of preferences.

Political Systems

The problems of preference articulation in political systems stem from the collective nature of the decision processes and of the outcomes. Somehow a group has to make a decision and somehow the consequences are distributed. Important institutions influencing how preferences are articulated deal with jurisdictional boundaries, voting rules, and agency or the delegation of authority. All political systems have rules for determining who's preferences count and how they are counted and systems of influence and persuasion. Governments without the trappings of democracy may be quite responsive to influence in the interest of the people. Democratic government may be isolated from the people and self serving. (In politics self serving is not a complement but economist have made it a virtue in business guided as by an unseen hand to respond to consumers preferences.) The advantage of democracy is that it is usually easier to throw out those serving products inconsistent with your preferences. In any case voice is important in expressing preferences in both politics and markets. It complements voting and shopping in both more and less democratic political economies.

Jurisdictional Boundaries.

The institutional structure of jurisdictional boundaries influences the probability of an individual being satisfied with political decisions. My preferences are more likely to be reflected in a unit of government made up of citizens who have the same preferences. The greater the differences in preferences or differences in expectations the more trade offs that must be worked out. What can individuals decide for them selves, what can be decided at different levels of government, what can best be decided by special districts? The boundaries designed to minimize free and unwilling riders tends to enhance the effectiveness of preference articulation.

Jurisdictional boundaries are among the institutions which make up property rights. To define and enforce individual property rights there must be units of government with authority to do that. As an example take the issues of land use and environmental degradation.. What are the appropriate jurisdictional units for decision making? If a hog farm creates odor it seems logical to regulate it within the odor area. If the enterprise pollutes water, people in a different area are subject to the consequences of the rule making defining the property rights of the owners of the

enterprise and others. Variations in environmental regulations among areas will influence costs and thus location of the effected enterprises and thus different levels of economic activity and incomes, etc.. Consumers of pork have an interest in prices of pork. Should their interest be represented in defining the rights of land use for hog enterprises? In the U.S. more than six jurisdictional units would be involved in defining and enforcing the property rights involved in this particular case. Local jurisdictions respond to different interests than the larger ones. It seems to be the case that economies of scale in producing influence is also influencing the jurisdictional boundaries. It is much more difficult for interest groups to maintain lobby organizations in the large number of local districts so they use their influence to get jurisdiction moved to the State and Federal levels.⁽⁹⁾

I live on the Gulf of Mexico coast of Florida. In recent years the coastal areas have been afflicted by the red tide- a noxious odor which makes eyes burn and breathing more difficult. It kills fish as well and influences tourist trade and reduces real estate values. It is caused by a BLUME from a type of Algie, but the cause of the bloom is not known. It is believed by some specialists who study this problem that the cause of increases in the frequency and duration of the red tide is the increased nutrient run off from agriculture and water treatment for the vary large area of the U.S. and Mexico which drains into the Gulf. There is no political jurisdiction currently responding to the property rights issues in this case. No court seems to have jurisdiction. Not often considered in defining property are the rules defining burden of proof and who gets the benefit of the doubt, which are critical in cases of this type.

One more jurisdictional boundary-property right issue example involves intellectual property. A computer program is developed to assist farmers in choosing the package of technical inputs to apply to different crops under specific conditions. It is based upon knowledge from many sources. The program is copy righted and marketed. Some other countries recognize the property right but many do not recognize it or fail to enforce it. Influenced are costs of production of food and incentives to exploit the knowledge. Jurisdictional boundaries matter in defining property rights and ownership matters in determining costs and revenues.

Rules of Representation.

Preferences can seldom be articulated directly in political systems. Transactions costs in collective decision making are high. Decision costs become more or less manageable through representative forms of government. Representatives are elected (or appointed) to represent a group, usually a geographic jurisdiction. The electors have to predict the issues to be decided and the consistency of the representatives preferences with their own. The problem is reduced when customs and beliefs are shared. Legislators are influenced by information, persuasion and the means to win elections. Legislation influences the definition and enforcement of property rights, property rights influence costs, revenues and income distribution, and wealth and status enhance the ability to influence legislation and thus property rights. The rules of representation are also important aspects of property rights.

A fundamental difference in preference articulation exists between political systems based upon beliefs that the role of government is to serve the interests of all the people in contrast to the belief that winning control of government is a game for winning rights for a special groups. The rules of the economy worked out under the influence of these different beliefs are of course quite different. This may appear to be a trivial observation but from my experience the customs shaping the behavior of government officials greatly influences productivity and levels of living.

Economic analysts and advisors need to recognize the difference. For example economic advisors recognized problems in commodity marketing in many less developed countries and suggested marketing boards as a means to overcome some of the failures of markets to provide timely delivery of inputs and reliable markets for commodities. Many of the boards failed because they were used to exploit rather than assist farmers. Some analysts concluded that the concept of marketing boards was a failure when the problem was in the political system. Designing the institutions to reduce the problems of the self serving government officials is, of course, a challenge for all countries.

Agency.

In a representative democracy the representative is an agent of the people of his or her district. But to implement laws and programs requires additional agents. The agency problem is how to get members of organizations to properly interpret and implement the intent of the legislation. In practice this is very difficult. Legislation is written by a committee based upon working out compromises. It is usually vague enough that it can gain support from members who have different objectives. Implementation can not be specific because the legislature cannot anticipate the problems in implementing. Conditions change. Typically agencies will implement many different laws. Agency organizations develop programs according to their members perceptions of the role of the agency. On and on with the problems of agency in the process of articulation of citizen preferences. But it isn't as difficult as it appears because of generally shared customs and beliefs. Laws and programs evolve over time and respond to the prevailing ideology. The status quo is generally favored. Big problems arise when change is required or new interest groups gain influence. The problems of the transition economies is the lack of tradition and organizational structure to translate a general policy favoring a market oriented economy into the essential commercial codes and to form the agencies to translate vague intentions into practical applications.

As an inexperienced officer of the deck I received a lesson in the problem of agency. A new officer was to be picked up on shore. I instructed a seaman to take a boat, pick up the officer and return. A day later the Captain wanted to know what happened to his boat. On the third day the seaman returned. Where the ...have you been, I asked. Just following your orders sir! Had I had a different relationship with my agent he would have returned when the officer failed to show up and I would have looked a lot better.

Frustration and Coercion.

The nature of the political processes of articulating preferences inevitably leads to frustration. Preferences conflict. Rights must be defined and enforced. But your right is my obligation. Benefits and costs follow from Government. Many participants fail to have their preferences translated into law or programs. Citizens do not perceive their agents representing them. How could they given the conflicting interests which must be served and the complexity of implementing what are necessarily vague mandates. And being human the agents have interests of their own. What holds a democracy together is a general belief that the system is legitimate and in some sense fair and open to change. This belief follows from socialization. Education may be an essential factor in a large complex political economy. The critical problem in many countries in transformation is that the losers in preference articulation decide to opt out of the game. The transfer of government control is not accepted. Those who's are losers want to set up their own system. Fighting over the distribution of wealth destroys the wealth.

There is no question about it, government is coercive. But there is no escape by articulation of preferences through the market. And there is no question about it, articulation of preference through the political process is messy. The alternatives are to let someone else tell us what we want or should have. People who argue against rules and regulations on markets are arguing for a particular set of rights, not for less government.

MARKETS

For consumers success or outcome of preference articulation in a market depends upon purchasing power, the ability to identify and select goods and services which turn out to have the expected characteristics, the effectiveness of producers as a group to identify future demand and for the economic system to coordinate the sequence of transformations in the processes of production and distribution to actually deliver the goods and services with the characteristics demanded at the time of delivery. Characteristics in this case include time, place and price.

Successful preference articulation for consumers requires in addition that the goods and services be delivered at the lowest possible prices, which means that prices and costs are equal. Costs exceeding prices indicates that mistakes were made and resources could have been more effectively allocated. If prices exceed costs consumers are being charged more than necessary, again an indication of less than the best allocation of resources to be consistent with consumers preferences. (This, of course does not address the question of the origin of the costs. Consumers are also factor owners and product costs are their revenues.)

The problem in the modern economy of high levels of productivity based upon specialization is the complexity of coordinating the inputs of millions of contributors in an uncertain environment. Try to estimate the number of people contributing to supplying your next meal. Production and distribution take place over time. Some of the characteristics of your next meal are influenced by investments made more than 50 years ago. And the economy is dynamic. Consumers preferences change as a result of their experience as consumers and users of information such as advertising. Production possibilities change. The aggregate purchasing power and its distribution change. For the firm operating in a market economy both revenue and costs in the future are uncertain.

The economic problem is fundamentally different than faced in the abstract concept of an economy assuming knowledge of the future, taking preferences, technology and institutions as known and given. The level and distribution of purchasing power is a function of entitlement. Entitlement and other rules of the economy influence costs and revenues. Technology is a product of the economy as instituted. Preferences for both goods and policy are influenced by the distribution of income and costs.

ECONOMIC PERFORMANCE

Economic performance is often discussed as if the objective of the economy is to serve consumer preferences. Economists tend to take the consumer as sovereign. In this context the success of consumer preferences articulation is the measure of economic performance. This is assumed in the notions of economic efficiency. However citizens are not just consumers. They seek benefits from the economy by attempting to articulate their preferences as citizens, producers and consumers. In a democracy citizen sovereignty must precede that of consumer and producer. In the role of citizen they at least sanction or legitimize the institutions defining rights and

obligations which are instrumental in determining the outcome of the economy, not only in terms of privately acquired goods and services but in terms of how the benefits of the economy are to be shared. And the outcome of the economy is not only the private goods and services made available to each participant, but a more collective notion of the kind of world the citizens want to live in. In terms of our narrower analysis dealing with institutions and economic performance it is most important to follow the relationships between the rules of the economy defining entitlement and other aspects of property rights as they influence costs and economic coordination and thus the output of the economy and its distribution.

PRICES AND COORDINATION

A central idea of the market economy is that prices will coordinate the use of resources by providing producers information and incentives to produce the goods and services demanded by consumers. The discussion of preference articulation suggests the complexity of the task and its institutional context.

Current and Expected Prices

A major problem with prices as the coordination mechanism is that prices cannot effectively allocate already produced stuff and be a reliable guide for future production. Once goods are produced competitive markets are generally very effective in selling them to the people who want them the most and have the purchasing power to buy them. But market clearing prices are based on all producers collective mistakes in production. Current prices are often poor indicators of future prices. The prices relevant in the process of making investment decisions for future production are expected product prices and expected prices of inputs. Prices of current commodities will most likely be considered in making estimates of future prices. There is a strong incentive for producers to minimize mistakes in forecasting prices by influencing them and by hedging their bets. Thus there is a demand for institutions to achieve more predictable prices and to deal with price risks.

In recent work in Ethiopia many farmers when asked if they took prices of commodities into account in making decisions to apply fertilizer on those crops. analyst had been working on the economics of fertilizer, assuming that the ratio of the cost of fertilizer to the value of the additional grain would determine the demand for fertilizer. From talking to a few farmers I found that the price of fertilizer was important in their decision to purchase fertilizer but they all but ignored the current and expected price of the commodity in making their decision. They believed future prices were too uncertain to be considered. But more importantly they were interested in the least cost method of assuring food for their families. Current commodity prices were important to their purchase decisions only because it influenced the cash available to buy the fertilizer.. Their big complaint was not the volatility of commodity prices but their inability to get credit and fertilizer delivered in a timely manner.

My point is that prices of products are important in influencing investments in inputs for future production but it is a much more complex relationship than is suggested in static profit maximization models.

Prices Are Not Discovered, They Are Worked Out

To say that prices are discovered implies that specific prices are in the environment waiting to be found. I believe this is misleading. It is based upon the notion that prices represent a unique equilibrium of supply and demand. Furthermore it is often implied that this equilibrium price is morally superior to other prices in defining market performance. Consider just a few of the different ways of working out prices.

Auctions. Auctions are important for agricultural commodities. Many standard operating procedures influence the performance of auction markets. For example the price may be determined by a timed sequence of prices from high to low or an auctioneer may start bidding from a low price and allow time for bidding according to his judgement. Most auctions are based on offers to buy. Research shows that double auctions arrive at a stable price with the fewest trades at prices different than the final price in that market. Auctions can be open to all interested buyers and sellers or have standards for participants. Auctions can be spot markets requiring the traded commodities to be available for inspection or be based on promises to deliver. A buyer may simply ask for bids, providing specifications of the commodities intended to be purchased. The bids may be open or closed. Auction markets often involve brokers. The units used in trading affect the brokers margins and thus prices.

Private Treaties. Many agricultural markets are based upon private transactions. A processor, for example, makes a take it or leave it offer to a farmer. Or traders buy at the farm gate. In such markets not all sellers are treated alike. The outcomes are influenced by the availability of information about prevailing prices, strategies and skills in haggling, often relationships among those trading, and collective actions among buyers or sellers..

Posted Prices. Markets based on posted prices, such as grocery stores, involve many standard operating procedures and strategies for competition influencing coordination and incomes. Typically stores have strategies for special pricing and advertising for different classes of products. Practices resulting in different margins for different products influence not only prices discriminating among consumers with different preferences but also influences sales and thus demand and prices received by farmers.

Contracts. All transactions involve at least an implicitly contract guaranteeing transfer of ownership and ownership is defined by the rules of the economy. Contract law influences the agreements and is therefore important in the working out of prices and in the role prices have in coordinating production. More about contract markets later.

Prices and Costs are a Function of the Structure of Rights

Most importantly prices are worked out in a process of valuation in a political economic system. The process of valuation involves the interaction of preferences articulated through market, social and political transactions. Many of these transactions took place many years before the current market transactions and many of the resulting institutions may be perceived as given. But they are non-the-less instrumental in working out current prices and thereby influencing performance of the economy.

Consider the process of production as a sequence of transformations. At each transformation inputs are required. The inputs are purchased, acquired within the firm or household or

appropriated. Inputs are products of a past period and are also produced through a sequence of transformations. Any product in a modern economy has a long and complicated history of inputs leading to its production. At the end the cost of the product is the sum of the costs of the inputs valued across markets or as opportunity costs within organization. Costs are what have to be paid because someone can charge for the input. Purchased inputs are priced in all kinds of markets subject to the rights of owners and the rules of the markets. While costs do not determine what a product or input can be sold for, costs determine how much owners are willing to sell at different prices and thus influence prices. Institutions do not determine prices but they are instrumental in determining costs and prices.

Costs to a buyer are revenue to the seller. One person's income is other people's costs. An individual's income is the sum of their entitlement or their rights to shares in the output of the economy. The sum of income is the potential aggregate demand for goods and services. Price levels are a function of aggregate demand and the supply of money. Both are functions of government policy and other institutions.⁽¹⁰⁾

There is no sense, as far as I can see, that prices exist separately from the processes of valuation in which they are worked out.

Articulation of preference through the political process does take place on a current basis if by no other action than acceptance of the current institutions. But it is usually the case that institutions become perceived as obsolete and innovations are adopted. This too is part of the process of working out prices and costs and incomes. The burden of proof for changes in the rules of the economy usually falls to those seeking change perhaps based upon perceptive reporting by economic analysts.

ENTITLEMENT

To own something is to be entitled to compensation for its use. If I own a share of stock in a corporation I am entitled to a share of the firm's income. Actually my rights are highly conditional. The board of directors may not declare dividends. I may receive compensation for my shares only by selling them. There are hundreds of rules which define my rights and condition the compensation flowing from my stock ownership. What is owned is an agreement and a promise supported by laws and customs defining the unspecified terms of the agreement.

If I lend you money to buy a tractor I can attach a lien on the tractor. I am by law entitled to repayment of the loan with interest or I will own the tractor. My value of my entitlement is dependent on the enforcement of the contract and the value of money.

If I own a brand name I am entitled to any income which comes from its use as long as the government or custom protects my right. My share of stock may be in a firm that does nothing more than lease its brand name. It entitles me to a share of the economy's output.

The congress creates entitlement when it passes a farm income or price support program, a health benefits program, or a pension plan.

Particularly interesting is the entitlement created by the credit system. A bank is entitled to lend you money it does not have in return for a promise of interest and repayment of the loan. The banking system is entitled to create money because of the fractional reserve rules which requires

it to have deposits which represent only a fraction of the total loans made. The bank creates entitlement to purchase ownership of resources of the economy and gain the income and other benefits from that ownership.

Patents and copy rights entitle their owners to use or sell specific knowledge or results of knowledge.

The most important entitlement for most citizens are the rights to the payments received for personal services. Note their entitlement are greatly influenced by the entitlement of the firms which employ them and their rights in negotiating wages and salaries. The value of the entitlement for services depends upon actual and perceived contribution to the productivity of the firm. This depends upon many things but particularly on the skills and knowledge of the person and the willingness of the person to spend time and effort in delivering the services.

KNOWLEDGE

In the review of the explanation of the great differences in productivity and levels of living I concluded that most of the difference was attributable to the accumulated knowledge and the political economy as a system. This raises fundamental questions about entitlement, contributions and productivity. Clearly without the accumulated knowledge, including that embedded in technical inputs, productivity would drop to the levels of ancient times. But for the knowledge to be useful requires human agents and a system for embedding knowledge in other means of production. For an economy to be productive human agents must have incentives to acquire and use knowledge in its many forms and combine it with other means of production-- material, energy, existing tools etc. - to produce goods and services and the future means of production. Markets provide such incentives but always based upon the system of rights.

Particularly important in the case of knowledge is the fact that most of the accumulated knowledge is in a commons available to the taker or if it is privately owned it is based on the appropriation of other knowledge. Except for patents, copyrights and trade secrets knowledge is largely available for appropriation. This does not mean that obtaining the knowledge and skills is without effort or investment. It is available for appropriation in the same sense gold or oil in the ocean beyond national boundaries is available to any who can get it and then get some group to recognize and protect the right of ownership.. The problem is how to create a system of entitlement and other rules which promotes the acquisition and use of knowledge to produce and distribute goods and services that is a fair and equitable distribution of the benefits of our inherited pool of accumulated knowledge.

Henry Ford.

Consider the following quotation from Samuels et al :

"Ford virtually ignored the patent system. 'As a rule Ford adamantly refused to adopt parts and components patented by others,' Greenleaf writes. ' Instead, he ordered his engineers to evolve their own designs.' Other car makers designed their own parts, too. This gave the young automobile industry the unique advantage of having free access to technology as soon as it was invented. Ford was a kind of Promethean figure, taking a revolutionary new technology out of the hands of the elite and giving it directly to the people. This was not necessarily the best thing for those who invented the technology-the designers of carburetors, spark plugs, radiators, rubber

tires, power steering, overdrive, the convertible top, rack-and-pinion steering, the rear-window defroster, cruise control, air bags and intermittent windshield wipers. However, Ford in defense of his position on patents, often pointed out that his own invention—a light, cheap durable car that could be mass-produced, like matches or pins, at a time when the industry was committed to the automobile as a luxury product—would have been impossible if he had been forced to pay for the inventions of other men. 'I invented nothing new,' he once declared. 'I simply assembled into a car the discoveries of other men behind whom were centuries of work, and the discoveries of still other men who preceded them. Had I worked fifty or even ten or even five years before I would have failed. So it is with every new thing. Progress happens when all the factors that make for it are ready, and then it is inevitable. To teach that a comparatively few men are responsible for the great forward steps of mankind is the worst sort of nonsense.' (Seabrook 1993, p48-9, quoting from Greenleaf 1961)

Henry Ford and many stock holders became wealthy. Ford had another innovation. He paid workers above market wages. He believed more purchasing power in workers hands would expand the market for his cars. Millions of people benefited from the appropriation of knowledge resulting in having low cost transportation and fun. At the same time the automotive industry and its customers lobbied for roads and highways to make the cars useful. The infrastructure investments were based on taxes and the rights to acquire the right of ways. The huge investment in the interstate highway system came from a proposal by Charles Wilson while Secretary of War based on the argument that it was necessary for national defense. Wilson had been head of General Motors.

Bill Gates.

Bill Gates has been better than anyone in capturing the benefits of the accumulated stock of knowledge. His business is packaging knowledge in a particularly useful form and marketing the packages. Knowledge and skill are involved in transforming the accumulated knowledge into more useful forms available to millions of users. Like Ford he and his partners had the vision of a low cost high volume product. Basically they appropriated knowledge developed by others, combined it with incremental knowledge of their own and that of their employees and beat the competition to an expanding market. They could not have succeeded without the development of computer technology and, of course, the operating systems made the computers much more useful. A major strategy was to hire bright college graduates, often with no idea what they would do. They were buying access to accumulated knowledge. Copy rights and patents play an important role in the capture of the benefits from packaging knowledge. Also, strategies taking advantage of technological path dependence, contributed to their wealth. Being first and being big has a cumulative effect and in limits entry . A substantial litigation related to foreclosure of markets has occurred.

I would not expect Gates or his partners to disagree with Henry Ford. It is also clear that absent Bill Gates very good computer operating systems would have developed and someone would have marketed them. Some would have been better than the Microsoft systems. The owners of Apple Computer, according to some knowledgeable observers, had at one point at least, superior operating systems. They made a strategic business mistake by refusing to sell the rights to the system without the computer.

Business is like a game in sports. You judge the players by the how well they play given the rules of the game. Our question is not to question the performance of the players. The question is-- could there be a better game?

Note this quote from Steve Ballmer, partner and manager of Microsoft. "It's fun to build stuff people like, appreciate and changes how they work and live. Business is in part a game. You're seeing if you can outwit the other guy. It's a chess game. I like playing chess. I'm bad at it, but I like playing basketball. Bill has other things he enjoys. Business, we're actually pretty good at."⁽¹¹⁾

At one point in 1997 the combined wealth of the three largest stock holders in Microsoft was reported to be more than \$57 billion. Make your own comparisons in thinking about the relationship of contribution and share of output that flows from the entitlement to knowledge.

SYSTEMS OF ENTITLEMENT

The system of entitlement deals with access to the benefits of the system and at the same time the incentives to both produce future means of production and exploit those currently available. While it is clear that the entitlement system is instrumental in determining output of an economy and its distribution, in a complex modern economy the relationships are very complex. Objectivity requires us to admit that we cannot know individual contributions to the economy nor can we know the contribution of a specific input. The contributions come out of the system of complementary inputs structured by the rules of the economy.

My observation is that the great increases in productivity come from specialization and coordination of economic activity. That specialization in the production and distribution has been especially important in the development process but it is the system which determines productivity. Can we admit that much of the output of the economy is made possible by the investments of our ancestors as embedded in the ongoing political economy and not the result of our individual efforts and face up to the issues of developing entitlement to promote both a more productive and equitable economy? Can we admit that our share of the output is determined by the actions of governments in defining and redefining entitlement which define our rights to the contributions of past generations? Social stability is important to productivity. Fighting over the output can result in a much lower output. Warfare is expensive. I believe the way economists and others pose the policy questions and the language used in policy analysis and political discussions influences institutional innovation and economic performance. The myth that what is received in the market is based on individual contribution may be the single most important barrier to achieving both equity and productivity. At the same time failure to reward individual contributions and the failure to legitimize entitlement creates problems of equal importance.

ENTITLEMENT AND PRODUCTION

Nearly 25 years ago a group of us had a food and agricultural market development project in the Cauca Valley of Colombia. We did the analysis and found that the food distribution system could provide improved services to consumers and producers with about half of the number of workers. The analysis showing the potential for increased worker productivity was incomplete. We had not considered the rights of the workers who would have become unemployed. The workers did not have a legal entitlement to employment, but the policy people were correctly concerned with the consequences of unemployment. The workers had squatters rights to the jobs

they occupied. One of the analytical questions in estimating worker productivity is what workers to count. I saw the problem as one of alternative employment for what the British call the redundant workers. It was the case that a large number of households lived in an area of very substandard houses. The area had no running water. The residents were squatters, with no title to the land. I made an estimate that the redundant workers in food distribution could have produced the infrastructure and houses meeting a reasonable standard with running water and sanitation facilities to meet the needs of all the families with substandard housing. All the materials and skills needed existed within the valley. The problem was clearly the failure of entitlement. Had the squatters been entitled to the land and credit it is possible the under utilized resources would have been mobilized. More generally the cost of resources to build houses was beyond the means of the squatters. Those who owned the resources had reservations prices which priced the resources out of the market for the poor. Among the poor were many working in food distribution. Wages were higher in the construction trades. There were barriers to entry. The political economy was not working out a solution to the problem. Note the solution did not lie within the sphere of the market given the entitlement.

ENTITLEMENT AND AGRICULTURAL TRANSFORMATIONS

The specialization and exchange in pursuit of increased productivity and profits and the reorganization of the economy that facilitates and results from the increased productivity requires that people change their employment and often location. This is especially the case in agriculture. The transformation substitutes off farm workers for work on farms and at the same time requires fewer workers in total to provide food and fiber. With costless mobility and no barriers to entry in other activities productivity would increase with small individual costs. Wages in off farm employment would compensate for the costs of making the move from the farm. The entitlement question is who has the right to the increased productivity or the right to charge for the new technology. Luddites believed workers should control the introduction of machines and advocated destroying them. They saw the competition as between machine and labor. The competition is largely between workers with different skills with additional complications of ownership. The machine is largely stored labor and knowledge owed by people who did not physically make the machine. Much of the increased productivity in agriculture results from the exploitation of the accumulated knowledge. If the farmers and farm workers owned the rights to the accumulated knowledge they could make it a cost to the users and use the revenue to invest in a profitable transition. As it is the benefits of the accumulated knowledge are captured by consumers and others who can convert it to a form which generates revenue to them (and cost to others). The history is that the transformation is slow and painful for those displaced.

In the U.S. the transformation took more than 50 years. I measure the end of the transformation when incomes of full time farmers and farm workers matched incomes for comparable work and investment in other occupations. During the transformation many programs entitling farmers to enhanced incomes or wealth were adopted by Congress intended to address the inequity in the treatment of farmers. The problem was that price and income support programs tended to enhance land values with benefits accruing largely to the farm owners who least needed the help. More about farm programs latter. Here the point is that in the U.S. the economic adjustment was not 'left to the market.' Of course it never is.

The coexistence of underemployment and open unemployment and great need is almost a universal characteristic of poor countries. Many countries, including South Africa, have more than 25% unemployed while people live in primitive conditions. In South Africa, as an example,

a government dedicated to relieving poverty and improving housing, does not fund programs to deal with these problems because of conflicts with macro policies and commitment to international trade perceived as necessary for development. An institutional innovation is needed which at the same time mobilizes under utilized resources (mostly workers) without causing people with knowledge, skills and resources needed for a modern economy to withdraw from the economy.. New patterns of entitlement need to be worked out and legitimized.

A common situation in countries in the early stages of transformation is underemployment with a labor shortages in farming at peak times, usually during critical planting and harvest periods. The solution in other parts of the world has been the introduction of technology, especially equipment to save time in harvesting. This creates a number of entitlement problems in adjusting to new farming and off farm production and distribution systems.

China appears to have the most massive problem of redundant workers. Colin Carter reports an estimated excess of more than 150 million workers in China agriculture. The innovation of town and country enterprises in rural areas has created productive employment for more than a 100 million workers. Wage rates between farm and urban workers is reported to be as much as 7 times higher in urban employment. The workers in the towns and villages lies between. China has been in a process of making massive changes in its entitlement by allowing private enterprises and market incentives. It has much yet to do in working out the details of entitlement to facilitate the agricultural transformation. Having a high level of political control does not solve the problem.

It seems to me that the agricultural transformation in today's world can be promoted by creating incentives for importing and utilizing knowledge, much of it embedded in inputs for agriculture and manufacturing, and working out the institutions of entitlement which facilitate adjustments in employment. Mobilizing worker effort and access to and application of technology appear to be the keys to the transformation. More about this latter.

COOPERATION, ORGANIZATIONS, COMPETITION AND COLLECTIVE ACTION

The performance of an economy is influenced by the effectiveness of blending cooperation and competition. The emphasis in discussing market policy tends to be on competition. But competition follows from cooperation in establishing and enforcing the rules of the economic game. The economy is an on going game which requires cooperation in adjusting the institutions to deal with the changes in constraints and opportunities. Competition is critical in providing discipline on market participants. The seductive idea of market trades always being mutually beneficial, since a freely made transaction will take place only if both parties are better off , abstracts from the differential benefits following from transactions based upon the rules of the game. Collective action by interest groups is an important factor in working out the changes in the rules of the economy. Here I take a general and cursory look at competition and cooperation. Most economic activity is conducted by organizations: firms, households, and associations which are based upon cooperation within a frame work of rights and responsibilities.

FIRMS

Competition in product markets is generally among firms. But what is a firm? All but the simplest of firms are organizations requiring collective action among stake holders. Legally a firm is an entity with rights and obligations sanctioned by the State to control resources for some

defined purpose. The State is interested in identifying firms, if for no other purpose than to facilitate taxation. In the U.S. a corporation is treated as a person in many respects. A firm in turn can be owned by an individual, or collectively by a partnership or by shareholders of a corporation. Each form of ownership involves somewhat different rights and obligations. A critical rule, greatly influencing the behavior of corporations and limited partnerships, is the limited liability of the share holder or limited partners. In effect the limited liability rule releases shareholders from responsibility for damages to others done by the corporation in which they have shares. The maximum loss to share holders is the money invested in the corporation. This clearly facilitates the financing of firms. It reduces the risks of collective action by owners of the means of production held in a corporation. At the same time in practice officers of corporations are not held personally accountable for many of the acts of a corporation imposing damages on others. In liability cases it is usually the corporation, not the officers, who are sued for damages.

My view of the firm is as an organization of stake holders who engage in collective action leading to the production of outputs. Each stake holder is the owner of rights which create claims on the value added by the firm. The way the claims are defined and worked out influences the behavior and contributions of the individual stake holders. The collective problem of the firm is to coordinate activities of stake holders to add value in order to have something to divide up. This is not to argue that firms are profit maximizers. Each stake holder has both their own interests and ideas about how their actions will add value to the firms output and to their share. In large firms especially, operating procedures are worked out through negotiation and cooperation and dictatorial based upon authority structures in the firm. Transactions costs for reaching agreements are expensive so there is a tendency to stick with behavior which has worked in the past. Herbert Simon labeled this satisficing behavior in contrast to maximizing. The share each stake holder receives will be related to their perceived contributions, the rules within the firm, and the rights of ownership (control) from the political system. Note that each stake holders share is a cost to the firm which influences costs and prices in markets. This view of firm is clearly quite different than that of the firm as a production function transforming inputs with known costs and transformation ratios to maximize profits. The firm is a collective organization which succeeds based upon the effectiveness of its internal coordination and its strategies for dealing with the changing external economic environment, most notable identifying future demand and producing products consistent with that demand.

As discussed earlier the economic problem is complicated by the fact that production takes place over time--often a very long time. The productivity advantages of specialization results in converting current inputs into means for producing goods in the future. These means of production may be valued in a market directly or indirectly reflected in the value of the shares of the firm if produced by the firm. In any case their existence raises the issue of ownership. How do the stake holders share in the future earnings? Do the future earnings from the means of production "owned" by the firm belong to the share holders or do other stake holders have some claims? The costs of production are what stake holders and other suppliers were paid for their contributions. The values of the assets are based upon the expected value of the products to be produced in the future. The difference is captured by someone. Note the importance of costs and shares. The contributions come from the time, effort and knowledge of workers including managers, the owners of other inputs, the financing agents who essentially buy current inputs and existing production capacity and assume risks, public infrastructure and resources appropriated without paying for them. Particularly important in the modern technological systems is the ability to capture the benefits of the accumulated knowledge. It may be effectively owned by specialized workers or embedded in other inputs. In thinking about markets and capital the role

of finance is, of course, particularly important and interesting. For example, who makes the contribution from the use of credit created by the banking system? The important point for this paper is the observation that many working rules of an economy are involved in determining the incentives, costs, shares and values within firms. There is no unique optimal method of determining these rules. They are worked out within firms, which are collective organizations-- that is the stake holders make collective decisions and contributions, and they are worked out in the political economy.. They make a great deal of difference in what is produced and who gets it.

COMPETITION

The most striking observation about the continuing transformation of food systems is the increasing scale of firms. Farms have become much larger, but more importantly in regard to competition, many of the firms providing inputs to farms and those in processing and distribution tend to be very large. Galbraith proposes that firms be classified as part of the planning sector or of the market sector.⁽¹²⁾ The planning sector is characterized by its success in mitigating the discipline of the market. It has substantial capacity to manage its economic environment including prices. The market sector is made up of smaller firms subject the harsher discipline of markets. These firms may be able to collectively influence their economic environments but individually are price takers. The planning sector firms make large investments which will pay off in the future. In order to make it economically feasible to make the large investments, many of them based upon scale economies perceived to be dictated by the nature of the technology, the managements of these large firms develop strategies to control their economic environments. Note the following strategies in the context of implementing long term plans.

1. They attempt to manage demand by branding products, advertising and other promotions. This turns out to be very important in for food marketing firms who spent over \$10 billion on direct advertising in 1995. "In addition the food marketing system spent billions of dollars on coupons, games, incentive advertising, and other direct consumer promotions. Competition was also keen in getting products on the shelves of the Nations's grocery stores. By most industry estimates, food processors spent almost \$2 on retail promotion-trade shows, promotions discounts and allowances, and other incentives- for every \$1 in direct consumer advertising."⁽¹³⁾

2. They attempt to reduce the uncertainty of inputs through long term agreements, contracts, vertical integration and alliances. 3. They attempt to make long run agreements with their workers (This seems to be less the case recently, but note where unions are strongest is where the firms are large and have high valued fixed assets) and, to influence education and training to provide a more reliable workforce.

4. To avoid risks in capital markets they attempt to generate their investment needs from their revenues as retained earning. The result is that t hey do not have to go directly to the capital market or to pay large dividends. The value of the retained earnings invested in future means of production is reflected in the value of their shares.

5. They attempt to influence policy managing aggregate demand. The planning sector does not want to deal with additional risks of an uncertain value of money.

And 6. They attempt to influence the rules of the game in their perceived interest by investing in lobbying and public relations.

The greatest part of the total value added in the U.S. food system is from large firms with many of the characteristics and behaviors identified with the planning sector. Only a very small fraction of the total value added is represented by sales in open auction markets. The planning sector firms do compete, but their behavior is influenced by their recognized interrelationships. The competition is strategic not head to head price competition.

Competition in the market sector is closer to the economist traditional concept of competition, especially in distributing already produced goods. The smaller firms deal in commodities or in niche markets. However, there is not a clear differentiation between firms in the two sectors. All firms have incentives to manage their economic environments to reduce the discipline of the market. Large size enhances the capacity and this must be one of the incentives to increase the size of firm, which is different than the usual concept of economies of scale.

Access to Markets

Access to processed food markets in the modern food system is largely a matter of access to consumers through large organizations in competition with planning sector firms. When there are a small number of supermarket chains and each limits shelf space to a few brands and the planning sector firms have deep pockets to influence consumers through advertising and retailers and wholesalers through a great variety of promotions, the chances of market entry by small firms is small. There are also barriers to entry based upon the standard operating procedures of the large wholesalers and retailers. They develop relationships with suppliers which reduce transactions costs. The market for farm commodities is also influenced by the purchasing decisions of large firms. Consider the influence on the demand for a minor commodity such as cherries of being included on the offerings of a huge restaurant chain such as McDonald. Studies of procurement and merchandising practices of large firms emphasize the importance of standard operating procedures and strategies which have significant influence on market access. ⁽¹⁴⁾

Question

The dominance of very large firms in the U.S. economy is increasing. There seems to be little resistance by Government to mergers or concentration in markets. The big policy question, as I see it, has to do with the technological imperative for large size in firms. This is more than the question of economies of scale, although economies of scale and scope are important and related. The question is do firms have to be very large in order to deal effectively with the fundamental problems associated with very large investments in specialized assets which pay off over a number of production periods into the future? Do they have to be large to cope with the inherent risks and to do that do they have to use all of the practices to protect their investments from the full discipline of market s? Or does size mostly serve the interests of the stake holders of the large firms through the benefits of escaping from the discipline of the markets?.

or some of the very large consumer product firms the big investment seems to be in the means of producing influence designed to escape the discipline of the market and the political system,, not in specialized physical assets. It is clear there are significant economies of scale and scope in the production of influence. Investments in managing demand and access to markets are large and pay off over a period of time but there appears to be no imperative to make these investments pay off unless they are tied to performance of the coordination of resources through time.

The work of the North Central Committee inquiring into economic performance of the U.S., food system concluded that the system was performing reasonably well but raised questions about large scale firms and concentrated markets. Many markets did not conform to the competitive market norm.⁽¹⁵⁾ Marion in personal discussion makes a strong case for what he calls tough competition compared with soft. The argument is that without tough competition firms take advantage of buyers, and lose incentives to innovate and cut costs. He is concerned with protected competition. There is an incentive to seek protection through influence on governments and perhaps even more to seek advantage by avoiding rules limiting the firms capacity to take advantage of their size and market power.

What is clear to me is that the nature of firms and of competition among firms is far different than the usual concept of competitive markets. In working out market policy --the rules of the game--the nature of the competitors, the problems of dealing with the fundamental problems of coordinating economic activity at the system level, and the issues of distribution of the benefits among system stake holders with great differences in power needs to be taken into account. The market is always the result of collective action and a system which serves different interests. Economists are concerned with collective action for fear that it subverts the market in allocating resources and distributing the output. The rights to or prohibitions of collective action are no different than other rights defining entitlement. It is subterfuge to argue that some types of collective action is unacceptable because it interferes with the functioning of the market. In this respect it is no different than any entitlement or property right. All rights must be worked out in the political process, hopeful based upon an understanding of the likely consequences.

I turn to a discussion of some examples of collective action in food systems.

PROMOTING FOOD SYSTEM PERFORMANCE

I would like to take a quick look at the idea of promoting food systems performance by means of collective action. This is based upon the observation that some barriers to improved performance can be identified and improvements worked out through collective action, that some important inputs to food systems have characteristics which make it unlikely they will be provided through markets without collective action and that working out some equity issues without violence can be facilitated by collective action..

Promotion of food system performance starts with diagnosis. Are there barriers to improved performance? Are there unexploited economic opportunities.? Can actions be worked out that respond to the opportunities? At a general level problems and opportunities involve economic coordination and equity. To the participants the objective is to make the system work better in terms of their own preferences. .

THE FOOD SYSTEM MATRIX

Diagnosis can be facilitated by understanding the matrix of relationships of the food system under consideration. In the food system it is useful to trace the inputs resulting in the production and distribution of groups of food products, identifying the important industries supplying the inputs. This can be a long chain if inquiry goes on to the inputs to the inputs, and on. It is customary to refer to the slice of the system made up of firms supplying the same inputs or products, and who thus compete in a market, as an industry. The slice of the economy consisting of firms in the sequence of production and distribution , related because there success depends

upon coordinating supply with demand, are often identified as a sector or subsector. Firms in a sector have a common interest in reducing transactions costs and improving the effectiveness of coordination, since reducing costs and better meeting market demand can benefit each. The firms in the sequence bargain over the terms of trade, but have a significant interest in the success of the other firms in the sequence. Firms in an industry have a more complex relationship. They are competitors and failure of one could enhance the opportunities of others in the industry. At the same time they have common interests in solving their input problems, enhancing the total market demand, and especially creating a beneficial economic environment. From a public policy perspective, cooperation within a sector will usually be beneficial to consumers, while the benefits of cooperation within an industry depends on the character of the cooperation.

. Standardization in shipping containers is a good example of a productivity enhancing innovation requiring cooperation. Standardization of shipping pallets used in rail and truck shipping of boxed groceries offered long run advantages to food manufactures, wholesalers retailers and transport firms. Resources could be saved at each level. The saving were available from reduced cost of loading and unloading, from reduced space requirements in storage and from economies of scale in manufacturing and distribution of the pallets. However to be successful boxes would need to fit on the pallets, that is not stick over the edge of the pallet when loaded on a pallet. This required redesign of some packages. And changes would be required in some warehouses. To gain the full potential savings all pallets needed to be the same. Research, information, and cooperation contributed to the general adoption of the standard pallet.⁽¹⁶⁾ Transportation is of course an expensive input for the food system. The U.S. Department of Agriculture sponsored research and information on standardizing the pallet A more important innovation in truck, rail and ship transportation was the development of the uniform inter-modal shipping container, allowing goods to be transferred in very large container lots, from one mode to another using equipment designed for the uniform container. My question is why did it take so long? The concept and evidence of major savings was available long before the adoption. What was missing was cooperation. The firms appear to have emphasized competition over the saving from cooperation. The resistance to the innovation may also be related to the problems of large organizations. Decisions to make major changes in the way a firm does business requires negotiation within the firm and alters relationships. Reducing costs may not be as important as avoiding internal conflict.

THE COMMODITY SYSTEM PACKAGE

In our development work the importance of the system of production and distribution in promoting productivity in the food system is clear. It is also clear that the system does not develop by spontaneous combustion. At its most elementary level a farm commodity system consists of an on farm technology, a reliable supply of inputs compatible with the technology, and a reliable market for products which match the demand for quantity and quality characteristics. Such systems fail to develop because of a failures in coordination influenced by uncertainties and economies of scale and an assortment of specific problems.. For example it has been demonstrated that maze varieties exist which in combination with the correct fertilizer and its application can increase yields by more than three times in some areas of Africa where yields are currently very low. When the system is organized to assure the minimum conditions peasants respond by adopting the technology and increase output. When one of the elements is missing it does not work. If the fertilizer arrives late, if the fertilizer formulation is unreliable, if peasants cannot understand the instructions for application, if a pesticide is required and is uncertain in its timely delivery or application, if markets for the maize are uncertain because of lack of timely

transportation, information or volatility of supplies and demand, if credit is not available, etc. the productivity enhancing technology is under utilized. Ethiopian officials specializing in agriculture have understood the concept of the technological package and have attempted to implement the delivery under two previous governments and now for the third time with the current government. The two previous attempts failed because of failures in implementation. It is yet to be proven whether the current attempt can be sustainable after the demonstration program withdraws some of the supports of the system. The problem as I see it is that the demonstration program takes the risks during the demonstration year but does little to promote the development of the institutions supporting a private system necessary for long run sustainability.

Broiler production in the U.S. is an example of a tightly coordinated system resulting in a substantial increase in productivity. (Feed conversion rates were about 4 pounds of feed to produce a pound of broiler in the traditional system compared with ratios of 2 to 1 in the tightly coordinated higher technology systems.) The U.S. economy provided an economic environment facilitating the development of the system. Attempts in many other countries to transport the system failed because the institutional environment did not result in a reliable supply of inputs and market conditions. Nigeria was an example where a major effort to introduce the system failed. At the same time an aggressive firm with at least indirect support from Government succeeded in Thailand. An important condition in Thailand was the reliable supply of the components of feed and economic policies which expanded the scope of the market to achieve scale economies. ⁽¹⁷⁾

An important lesson learned was that technology may not be transportable independent of the other components of the production distribution system, including some institutions supporting effective coordination.

There is another story to be told as well. The transformation of the U.S. poultry system was not without costs. Hundreds of pages of congressional hearings testify to the losses and disruptions during the transformation. A few became very wealthy and many lost the value of the assets invested in the traditional systems. The Thai entrepreneur who captured the accumulated knowledge making the new poultry systems possible is listed among Forbes Magazine's 200 billionaires of the World in 1997. ⁽¹⁸⁾

As I write a transformation is in progress with the development of a technological package in a tightly coordinated large scale system for the hog-pork sector. Much is being written on the topic. A striking fact is that environmental issues are having a considerable impact on location and size of the production facilities. And the outcome of the environmental issues rests in part on questions of jurisdictional boundaries. Who's preferences get to count in dealing with odor, water pollution, economic development and the price of pork as the environmental issues are worked out in the politics at multiple levels of government. The institutions structuring political influence will be important in determining the size and shape of the emerging hog-pork sector. It appears that economies of scale in professional lobbying is shifting the forces of the larger organizations to the state level, away from the townships and counties. A different set of interests are considered at the state level, away from one of the smells. ⁽¹⁹⁾

SECTOR ASSOCIATIONS

How do participants in a sector of the economy act collectively to deal with problems they have in common?. Acting independently they may have great difficulty in identifying missed

opportunities and unnecessary costs in the sequence of transactions and transformations in a production distribution system. Individual users of a product or service may be dissatisfied with performance but unable to work out solutions or have the influence to negotiate solutions acting as individuals. The problem may be several transactions removed from individual firms .

How do participants in a sector system establish relationships to use voice before exit in articulating preferences thus allowing trading partners to improve their performance before losing their market? ⁽²⁰⁾. The image of the market as the disciplining process to achieve firm performance emphasizes purchasing in impersonal transactions. The buyer who is dissatisfied with a product or service does not buy the product (exit) rather than take the time and effort to voice the dissatisfaction and negotiate for better performance. And voice has a public good characteristic,. Improving products and services become available to other buyers who become free riders.

Coordination in complex economic systems is difficult. Exit, even if it results in a decline in sales, may be difficult to interpret. The response to poor performance by buyers may be to develop alternative supply channels which takes time and perhaps investment in fixed assets. By the time the initial suppliers suffer the consequences of poor performance it may be too late to recoup. A business school colleague emphasized the concept of the channel captain --the individual or firm in a strategic position in the distribution channel who attempted to understand the channel as a sequence and to know the actors and their problems. Often there is no channel captain--it is a missing hero problem.

Farmers, at least large ones, form associations to act collectively dealing with governance systems, perceived unfair terms of trade and unfair competition. Trade associations are common among input supply firms and distribution firms for the same reasons . The information and lobbying functions are particularly important for them. But, associations of participants in the vertical sequence of production-distribution are seldom organized. Apparently there is less perceived to be gained from such organizations.

It seems appropriate to have commodity associations in the food system, consisting of suppliers of important inputs to farm production of the commodity, growers, handlers, and processors, wholesalers and representatives of retailers. The purpose would be to understand the sector, identify problems and attempt to work out improved working relationships. In practice the commodity association would most likely consist of representatives of industry associations particularly interested in the commodity. Perhaps including only representatives of growers, handlers and processors who would in turn develop "voice" relationships with other participants. The two most important activities would be to attempt to identify future demand and supply conditions and strategies to improve the match between them. Also, along the lines of corporate strategic planning, identify strengths and weaknesses of the commodity system and collective actions designed to take advantage of the strengths and mitigate the weaknesses. A frequent problem are weak links in the distribution chain because of indifference or lack of information or lack of specific competitive incentives. Another collective problem is matching investments in capacity at different stages in the production distribution sequence. Experience in working with commodity groups along these lines confirms the potential benefits. ⁽²¹⁾ There is always the worry that cooperation will soften competition. However, the focus of most commodity groups has been on how to become more competitive with alternative commodities by improving their own performance. The point here is that cooperation offers potential for improving performance within a competitive market economy and should not be avoided in the name of competition.

RESEARCH AND EXTENSION COORDINATION

Planning strategies for improved performance of sectors of the food system provides a framework for coordinating effort in agricultural research and extension organizations. While the market may fail to consider all costs and benefits, the value added in the production sequence by solving particular problems is one guide to identifying pay offs from research and extension projects. Importantly the value of solving one problem is frequently influenced by solving other problems in the sequence. For example, the value of a particular attribute of a grain may depend upon the use of the grain in processing into products for niche markets. But meeting the demands of the niche market may require the solution of a problem in storage. With out both innovations neither may have value.

I had an opportunity to participate in a strategy workshop with research leaders from a number of different areas of interest in the national agricultural research organization in Mali. It was fascinating to see the ideas for coordinating work which followed from discussions among them about strategies for increasing productivity and value of commodities by identifying and solving problems from combined, interrelated contributions of several of the groups.. Even more effective would be to work with groups of participants in the sectors to get their diagnosis of problems and opportunities and for the participants to get a chance to respond to the potential benefits from possible research findings. ⁽²²⁾

RIGHTS, CONTRIBUTIONS, COSTS AND SHARES OF OUTPUT

What are the implications of the following observations?

What we can produce by ourselves is very little. Our contributions are always dependent on complementary inputs. The complementary inputs include a legal system supplying property rights and enforcement of contracts and rights. Factor prices, and thus the division of the value of output, are a function of the institutions of the economy, initial endowments, knowledge and technology, the organizational structure and standard operating procedures of firms, the skills and effort of participants, aggregate demand, the distribution of purchasing power, beliefs and ethical standards of participants, and more. There is no way of measuring individual contributions to the total output of an economy. Much of the productivity of an economy is dependent upon the inheritance of accumulated knowledge, infrastructure, and other means of production. Given the accumulated means of production, the rights to its use and the other working rules of the economy, the political economy works out distribution of the benefits. Markets are important in this process delivering incentives and contributing to the organization of production in response to articulated demand.. The decisions and skills of the participants will make a great difference in the way the means of production are used and accumulated for future production. Contributions will not be equal. Incentives to work hard and smart are important in determining real output and the value of output. Unused the accumulated means of production produces no value.

Warren Samuels identifies three theories or approaches to analysis of distribution. We are most familiar with the productivity theory which basically takes the institutions and endowments as given as a starting point and develops a theory of factor pricing and implied contribution leading to the distribution of incomes. It is attractive because it gives apparent definitive answers to questions about resource allocation and distribution. The analysis based upon exploitation theories are quite difference. They are models of power and explore the ways capitalist or other

elites manipulate an economy, exploiting other participants by appropriating a share of the output much larger than their contribution. Both the exploitation and productivity theories work out conclusions based upon a particular set of base assumptions. Neither explains the source of total production or productivity and its relationship to the division of output. Both theories support particular ideological positions. The third theory or approach, appropriation, attempts to explain the basis of distributional outcomes without judging them as exploitive, productive or welfare enhancing. It looks at the institutions, the role of government, the distribution and use of power, industrial structure and any other variables perceived to influence distribution (and allocation) without passing judgment about their consequences. It accepts the insights of both productivity and exploitation theory "but without its value judgements. Appropriation theorists do not use productivity and /or exploitation analysis to indicate how various institutional arrangements can 'distort' the actual pattern of distribution from either the pure productivity-based or exploitation-based norms. It is agnostic as to what these are and is therefore non-normative with respect to any such base. Income, in this view, is appropriated through a general contest over distribution."⁽²³⁾

The appropriation theory is not popular with economist or policy makers. For economists it leaves too much open. For those who accept the productivity theory of distribution accepting the appropriation approach would foreclose definitive "scientific" conclusions about the general welfare consequences of changes in policy. Think of the withdrawal pains associated with the loss of opportunity to point out distortions resulting from an interference with the market. Most importantly it admits to the problematic relationship between compensation and contribution. It opens questions about the legitimacy of the market, economy, and governance as instituted at a point in time.. For the practitioners of the exploitation approach it opens the question that the economy may in fact be serving the interests of the participants. That markets have an important role to play and are not simply an instrument of social control.

Economists who recognize the theoretical problems with the productivity theory may none the less accept it as a simplifying assumption allowing analysis to provide important insights, if not complete answers, to very complex problems. More importantly it may be accepted and even promoted as part of an ideology legitimizing an existing political economy, or its improved version without distortions in factor markets, as a means of promoting social order. Take for example the following quote from Milton Friedman. "No society can be stable unless there is a core of value-judgements that are unthinkingly accepted by the great bulk of its members. Some key institutions must be accepted as 'absolutes', not simply as instrumental. I believe that payment accordance with product has been, and in large measure, still is, one of these accepted value judgements or institutions."⁽²⁴⁾

I agree with the basic premiss in regard to the importance of social order and I could agree with the idea of reward in accordance with contribution. My problem is with identifying the contribution and then what to do with the very large excess of reward over contribution in most of our incomes and accumulated wealth. My own judgement is that different sets of economic rules are possible within the resource constraints which would produce quite different distributions and outputs and would be selected by an informed polity. And these preferred outputs and distributions could contribute to social stability. This is not to deny the unsettling effect of challenging the existing distribution.. Simply legitimizing an existing political economy in the name of social order strikes me as similar to the priests supporting the notion of the divine right of kings based on the same reasoning

My own conclusion for practical work of the highly applied economist working in economic policy, including development, is what I will call the working-out approach. The observations in the first paragraph of this section represent reality as I know it. I believe the role of the economist is to understand and explain existing economies and options. Explaining the relationships between the way an economy is instituted and its output and distribution is an exceedingly complex task. We can start with the appropriation theory question, but recognize that the questions asked are based upon value judgements about how the economy does and should work. More importantly the applied economist is interested in the application or use of the analysis. The questions asked need to be in the context of the political articulation of preferences. This will usually mean dealing with incremental changes and most importantly knowing the political process for articulating preferences. While articulation of preferences for economic policy reform is difficult it is the only method we have. It needs good information and ideas about options. This is not to suggest that the political system is designed to reflect the preferences and needs of all citizens alike. Far from it. It is not likely to get better without economists contributing to a more informed citizenry. Thus my emphasis on articulation of preferences in both the political systems and economy.

As for the productivity theory, at a particular instant the institutions and endowments are given and analysis based upon the economy as it exists at that minute can give important information to be used in policy discourse. What it cannot do is argue that a rule that maintains or modifies the distribution of output is a restriction on the market and a distortion from a more desirable known state. For every set of institutions there is an efficient solution and there is no a priori method in economics for choosing one over another. And since entitlement are revenue of some and costs to others, it is not possible to deal with allocation without regard for distribution.

Consider the role of the economist in Malawi analyzing grain marketing. The President decreed that there should be no difference in maize (a basic crop) prices in different parts of the country. His reason was to promote social order or political stability. Specifically he wanted to improve the welfare of people of the North, who stood to benefit from this policy. As an economist we can show the problems this policy creates and perhaps, knowing the objective, suggest a more effective means of contributing to the objective. But we cannot conclude that our analysis or market theory proves the policy to be a bad one. The questions we ask are of course important. In the case of policy analysis in Malawi it would have been more informative to have inquired into the consequences of the Presidents ownership of a private holding company controlling a significant part of the economy, including land holdings and agricultural marketing firms. There is no record of such a study within the country during the Presidents tenure, as far as I could find. The market yielded very unequal distributions among its participants.

Bill Gates must be the person in the world most successful in capturing the benefits of the accumulated knowledge He did it playing according to the rules. At least initially he had no special political influence shaping the rules of entitlement in his favor. Of course with great wealth and market power comes political influence. Microsoft is dealing with the rules of the game in the courts. It is a contest over the distribution of the benefits from the accumulated knowledge and the unique incremental contributions made by the employees and owners of Microsoft.

The wealthiest man in Russia, according to Forbes list of billionaires, gained his wealth by appropriating enterprises previously owned by the state and using them to produce goods and services at a great profit from the market. It can be argued that he is compensated according to

contribution because the firms in state ownership were not making a profit. But there were other ownership options which would have resulted in both increased output and a distribution of shares more consistent with the articulated preferences of the citizens had they been given the option.

Again, based upon the Forbes report, the wealthiest man in Indonesia is the President who has shares in many of the largest firms in the country. Another billionaire is friend and advisor to the President who says giving advise can be very profitable. The distribution of income from the private markets follows the ownership of factors of production and ownership is never independent of the political process.

The political economic challenge is to create the rules of the economy to provide for effective articulation of preferences in both the political and market processes based upon informed choice. This has to deal with rights of ownership and other entitlement in working out the rewards for contributions and the division of the contributions from the inherited means of production. The will is worked out through a combination of political and market transactions.

COLLECTIVE BARGAINING IN WORKING OUT SHARES

I have observations about both collective bargaining by workers and farmers. The compensation of workers contributing to the U.S. food and agricultural system exceeds the net income from farming many times. The largest part of the estimated \$780 billion in costs charged by, or value added by, the food system in 1995 can be traced to worker compensation. Only about \$28 billion was income from farming.

WORKER BARGAINING

In 1994 about 12.8 million people were employed in food marketing. Workers in food wholesaling and food processing had reported average hourly earnings of about \$11.78, compared with about \$8.00 in retail food stores and \$.5.50 in eating and drinking establishments. In the past decade their real hourly pay has declined. For example, real hourly earnings of workers in retail food stores declined from about \$7.75 to about \$5.50 per hour from 1984 to 1994. Average weekly earnings of food store workers was about \$235 per week. Assuming they are paid 52 weeks a year, which they do not, annual yearly earnings would be about \$12,220. The total of 2,951,000 food store workers would have receives less than \$29 billion. Organized retail store workers in Portland Oregon bargained and received average base wage of \$12.20, more than 50% more than the average of hourly earnings of all retail store workers.⁽²⁵⁾ In the past year Bill Gates assets increased in value by more than \$20 billion. Make your own comparisons.

My question is what were the rights in our economy that led to the great disparities in shares? Is there another set of rights which would produce a more preferred outcome? The wages of food system workers are costs to consumers. Technology has greatly reduced the share of income required to purchase food. The benefits of the accumulated knowledge contributing to the abundant low cost supply of food are going more to consumers than to the workers. And most of the workers in other sectors of the economy have higher hourly earnings, indicating they have been more successful in capturing a larger share of the contribution of the inherited means of production. When farmers were receiving returns substantially below the mean of workers in industry there were a number of programs developed intended to move their incomes to some

level considered parity with some target group.. No similar political interest has developed in behalf of the retail food store workers.

Many of the workers in food retailing and food service work part time. Frequently full time workers have more status, better pay and other benefits. As I write teamsters are on strike against the UPS, a parcel delivery services said to have done 80% of the package deliveries in the U.S. There are three basic issues, control of the pension fund, wages for full time workers and wages and full time job opportunities for part time workers. Drivers are largely full time workers with wages about \$20 per hour, substantially above the average wage rate. The benefit package, including pensions is also apparently better than average. Part time workers also receive the benefits, but wages only about half of the level of the full time drivers. Most of the part time workers work sorting and moving packages in and around the shipping centers. The management wants to increase the number of part time workers and the union wants part time workers to have the opportunity to become full time. Management has offered some increases in pay for both full time and part time workers. The most attention in the news has focused on the issue of part time workers and the high costs being imposed on third parties who depended upon UPS for delivery service. The union leaders are making the case that the strike is making a stand against a broad trend in the U.S. of moving to more part time and temporary workers with little or no commitment to them from the firm. The management wants flexibility and wants to be able to compete.

At the same time the management is said to be considering replacing its employees with new workers. Since it pays well it may be able to attract replacement workers. There are a number of rights issues in this case. The union has the right to strike, based upon legislation following hard fought battles organizing workers and stopping manufacturing in large firms, especially in 1937 in the auto industry. For many years the force of the Government was used to protect the property rights of the owners of enterprises from suffering the costs of strikes. With the change in law the rights of unions were converted to costs to the previous owners of the right not to have strikes. Before the right to strike the opportunity cost of lost income fell on workers. It is not clear if the government will enforce the right of workers to have their jobs back after the strike. If not the loss of the right will impose costs on the union workers and through the market result in revenue for the firm managers, stock holders and newly hired workers. The right to re-employment has been an important right to the unions attempting to change the distribution of income and thus factor costs (not just the cost of their services but also other factors using there services for production)..

In the contest for shares of the value of output the costs of organizing workers for collective action is an important constraint for the unions. Collective bargaining is particularly difficult if a union only represents it's own members, and if nonmembers have no obligation to contribute to the costs of organizing and representing workers . This is the issue of the closed shop and in the U.S. the rights vary among states. Some states have "right to work laws" which are laws granting a right not to share the costs of a union. The problem with the open shop is the free rider, the worker who gets the benefits without paying. It is not unexpected that unions do better in states with the right to charge non members for the costs of collective bargaining. A variation in the rights has to do with rules for recognizing a union as exclusive representative of a group of workers. It is the case that unions must gain the right to represent workers one firm at a time. Thus even with a closed shop, workers in the same industry who benefit from unions setting the standard of compensation and working rules, workers may be free riders by not choosing a union to represent them. Consider the impact of a rule that a union could gain recognition to represent

all workers in an industry by a majority vote of the workers in a particular class in the industry. The argument by management that the firm would not be competitive because of differential wage scales would lose its validity and not being the case would reduce managements incentive to resist increases in compensation for the union workers. The current rules appear to make a considerable difference in the outcome. While unions represent only about 10% of the workers in private industry, the right to unionize influences the compensation of workers in non-union firms.

Changes in the rules of representation to industry wide exclusive agency bargaining would be a major change. It should be noted the effectiveness of collective bargaining rules depend also on the type of output. If it is tradable, international competition changes the opportunity set. This is a factor in the differences in union and management positions on international trade policy.

Note that it is not the workers who are most disadvantaged in the market who take advantages of the rules facilitating collective bargaining. The pilots working for UPS are supporting the strike and are contemplating their own contract negotiation with management. They reportedly have salaries around \$104,000 a year. There are two classes of pilots, those who are unionized and fly for the major air carriers and those who are not union members or do not fly for a major airline although often flying for air lines owned by the majors. Salaries are often double for the union pilots flying for the majors.. Many of the non-union pilots are equally qualified and more than willing to take the higher paying assignments. Is one group more productive than the other?

And sports stars. They belong to unions and the owners belong to associations, and a variety of rights and skills are converted by the market and governmental units into costs to taxpayers, fans, advertisers and consumers and into multi million dollar revenues for the star players and owners.

What do teamsters wages and sport star salaries have to do with the performance of the food system. The food marketing system paid \$21.8 billion for inter city rail and truck transportation in 1994, almost as much as paid to farmers. Food processors and manufacturers are the largest mass media advertisers in the economy and use sports teams and stars in there advertising. If you ranked wheat growers by their profits from wheat how many from the top or from the bottom of the list would it take to equal the payments to Michael Jordan for advertising Wheaties?

Strikes

Strikes impose costs not only on the strikers and the stockholders and managers of firms struck, but also on third parties. The buyers of the goods and services of the firm and its suppliers and the workers in the firms losing markets and inputs. In the UPS strike costs and inconvenience is being imposed on millions of people. Some small speciality firms may be bankrupted. The Taft-Hartley Act gives the President the authority to order the strike halted for a cooling off period, but only if the strike threatens health and safety. Requiring workers to return would be seen as an act against the union and workers. The Secretary of the Treasury says wages should be worked out in negotiations without interference by Government. Of course acting or not action is taking sides. And countless governmental decisions establishing rights and ownership are involved in the outcome regardless of how the President acts in this case. But all that aside, there is a need for an institutional innovation to deal with third party effects. In the modern complex economy third party consequences of interrupting the flow of inputs and products are very serious business.

It is always useful to sort out the problem. What happens when a union strikes? The firm loses revenue, most often resulting in net losses and diminished value of its assets, and the Union members lose pay. The conflicts are over working conditions and compensation for workers and costs of employing workers for the firms. The incentive for the employer is to seek alternative workers and continue to earn returns for its assets. The result is often great bodily harm to what the union workers call scabs and those on the picket line. As some point Government usually responds, to protect one group or another. The problem with a traditional strike is that the output of the firm is lost, which is waste, the firm may fail imposing costs on all stake holders, and third party interests are not considered. .

The innovation is to change the rules for strikes. The first rule is that production and services should continue thus avoiding third party costs and violence Workers who refused to work under the conditions of the strike would have no rights to future employment by the firm or rights to unemployment compensation. . A union would call a strike by announcing it's demands. If the firm refuses after a required good faith bargaining, the Union has the right to impose costs on the firm as long as the members of the union accept comparable costs. How could comparable costs be determined? The rules for the strike would have to be worked out in the legislative process. There is no right answer to the question other than what can be worked out politically. However an example that seems workable to me, without the benefit of hearings and discussion of the implications, is as follows. Start with the Union choosing to contribute xx% of the compensation of each member to a charitable foundation in return for the right to require a comparable contribution from the firm and from each member of the management. The union could indicate its resolve by contributing 90% of each members compensation for a week, based upon the compensation schedule at the time of the strike, and the firm would be required to contribute 90% of last years average net revenue. In order to deal with the incentives of management to bargain in good faith each member of the management would be required to contribute 90% of one weeks compensation, based upon their compensation package before the strike, including stock options and other benefits. Bargaining would continue and each week the union would decide the percentage to be used in calculating the contributions to the foundation the following week. It can be imagined that the Union would discuss different percentages in the negotiation sessions with the firm and within the union.. I would add mandatory meditation.

In order to provide the necessary enforcement and to deal with the problems created by the fact that the damage inflicted on different types of firms would vary s the law would establish the National Strike Rights, Comparable Pain and Enforcement Board to work out all the essential details.

It is possible to think of many problems in working out this innovation in practice. Concern for performance and misinformation are reasonable. I would not argue that it is a perfect response to the problem of working out the issue of the division of shares within firms, only that it is better for the country than imposing large costs on third parties who's interests are not now represented at the bargaining table. It also has advantages for the workers and other stake holders in the firm. The firm continues as a going concern and the conflict over replacement workers is absent.

It is also the case that within firm bargaining is not the solution to working out the division of the national output.

FARMER COLLECTIVE BARGAINING.

In this section I discuss collective bargaining under the Michigan Agricultural Marketing and Bargaining Act and the major court cases challenging the constitutionality of the Act, comment on the initiative for national legislation, and suggest an institutional innovation to deal with a problem faced by bargaining cooperatives.

The Michigan Act .

The Michigan Act (PA 344) was passed in 1972. The Act established the Agricultural Marketing and Bargaining Board. The Governor appointed me the initial Chairman of the Board, a post I held for eight years. I point this out so it can be taken into account in considering what I write. It has been alleged that I also wrote the Act. That is not true. Anyone who reads the Act would have to conclude it was written by a committee. The initiative for the Act came from the growers of fruits and vegetables acting through their associations.

The history of the Act has two parts. The Act as passed provided for exclusive agency bargaining. This part of the Act was voided by the U.S. Supreme Court. I will first describe the procedures under the Act allowing exclusive agency bargaining.

The Act established a set of rules permitting producers of perishable fruits and vegetables to establish associations to bargain collectively with handlers over terms and conditions of trade. It established a Board to implement the intent and provisions of the Act. It is an unfair practice for a handler to interfere with the producers in exercising their right to freely join together in associations, to discriminate against members of an association, or to refuse to bargain with an accredited association of producers who have had prior dealings with the handler. It was also illegal to negotiate with a producer included in the bargaining unit after an association was accredited. It is an unfair practice for an association to enter into contracts which discriminates against a producer represented by an accredited association whether or not he is a member of the association or to refuse to bargain with a handler with whom the accredited association has had prior dealing or with whom its produces have had substantial dealing prior to the accreditation of the association. Other, more specific, unfair practices are listed.

The process of collective bargaining starts with the formation of an association of producers which meets a number of requirements, including being a member owned and controlled cooperative as defined in the U.S. Capper-Volstead act, bylaws assuring democratic procedures and valid contracts between the association and members designating the association as the producers sales representative for designated crops. An association representing at least 10% of the producers in a proposed bargaining unit then proposes a definition of that bargaining unit to the Board. The Board following guidelines in the Act determines if the proposed unit is appropriate. The criteria require judgements to be made about the community of interest of the producers included, potential conflicts of interests, the capacity of the association to effectively bargain for the members of the unit as proposed, etc. Once a bargaining unit is defined any association could contest for accreditation to act as exclusive bargaining agent for producers in the bargaining unit. To qualify for certification the association must have marketing and bargaining contracts for the current and next marketing period with more than 50% of the producers in the bargaining unit and these contracts cover more than 50 % of the quantity of that commodity produced by the produces in the bargaining unit. The Act instructed the Board to exclude from the quantity calculation any quantity of the commodity contracted by producers

with producer owned and controlled processing cooperatives and any quantity produced by handlers. The contracts were agreements to appoint the association as exclusive agent in negotiations with handlers for the specified commodity. A procedure was established to challenge the accreditation and based upon a petition of one third of the bargaining unit members the Board was to hold an election confirming the agreements by the specified percentages of the members.

The next step is preparations for negotiations. The association must have a bargaining and negotiation committee elected from its members by secret ballot. The association professional staff collects and analyzes data on supply and demand conditions and suggests bargaining strategies but the members of the committee determine the terms of trade to be offered in the negotiation, based upon their collective understanding of the situation and preferences of members. Handlers and association are obligated to bargain in good faith in a timely manner.

If negotiations fail either side may request mediation of the issues to be provided by the Board. If at any time prior to 30 days before the first day of the marketing period no agreement is reached handlers may elect not to buy, directly or indirectly, any quantity of commodity from the producers of members of the bargaining unit and the association may elect not to sell any quantity to the handler. If the election to opt out is not taken and bargaining and mediation fail the issues left unsettled by the first day of the marketing period the issues go to binding arbitration. But first the quantity to be traded must be determined because the commodities are perishable and processing must begin as the commodity is ready. The procedure is for the handler to propose a quantity and the association may accept or reject the quantity. If the association rejects the proposal the quantity issue goes to the Board for settlement. The terms of trade issues go to a joint settlement committee for arbitration. This committee consists of three members, one selected by the association, one by the handler and one by agreement of the two parties and lacking that by the Board. The third member is the chairperson and of course the deciding vote and the arbitrator. The committee may hold hearings and has the power of subpoena, including records and contracts of handlers, producers and association. .

The arbitration rules are interesting. The joint committee provides a forum for dialog and the hearing provides a means to obtain information often obscured in bargaining and in private treaty transactions. The rules for the arbitration are that the joint settlement committee may choose only one of the two last offers. It may not choose something in between, which is common in most arbitration procedures. The last offer option puts pressure on the parties to come together with realistic offers they can live with providing more information to the arbitrator. Interestingly, while not provided for in the Act, the arbitration procedure could lead to agreement without an arbitrator's decision. As information was developed and the members of the committee developed a better understanding of the conditions and faced with the uncertainty of the decision, a skilled arbitrator could facilitate agreement.

Two major commodities, apples and asparagus, and a minor crop had accredited associations and bargained under the exclusive agency rules up to the time of the U.S. court decision in mid 1984. Bargaining continued under the Act after the decision absent the exclusive agency bargaining. Associations represent only their members but the other provisions remain, including the requirement for good faith bargaining, mediation and arbitration and the fair practices provisions remain.

Here are several of my observations. The Act necessarily left a good deal to be worked out by the Board and participants. There is a rule making procedure based on the Administrative Procedures Act which allows a board or agency to make rules consistent with the intent of an act and present the rules to a committee of the legislature for review. It is in the rule making process that interests have influence without much attention by the press covering the legislature. At the Board operated in the open and did its best to implement the intent of the legislation. It attempted to be fair as it understood fair. Some processor would not agree. The five member board included a processor all the time I was on it. An odd example of rule making was the definition of a fruit or vegetable for the purposes of the Act. Investigation found no standard definition. The decision was that a commodity was a fruit or vegetable if the Board decided it was one. That is now the law.

It was difficult and frustrating to institute a new set of rules and relationships. Some people found it difficult to adjust to a different way of doing business and to different relationships. But, the participants learned to work with the rules. Early on the arbitrations were one sided in favor of the associations. My observation was that the association staffs took the arbitration procedure very seriously, did their home work, and thus made a better case for their offers than was the case with the handlers. The third party arbitrators were experienced with no reason to be biased for one side or the other. Both sides in negotiations worked under the discipline of the market. Michigan products had to compete in national and world markets. Growers for processing need handlers who can make a profit to provide them access to markets. There were strong incentives to work out additional terms of trade beneficial to growers and handlers, such as improving timing of delivery, grading and handling methods. As with any right there are costs and revenue consequences. I believe any of the parties to this process would agree that prices were worked out not discovered.

The major benefit of the Act as I saw it was the generation of information and working out terms of trade known by and avail to all participants alike. A significant part of the perishable crops for processing are sold in the early part of the marketing period. Private treaty agreements result in significant differences in terms of trade among producers and among processors. Fear and greed with limited information lead to terms significantly different from the average. It was the prices at harvest that were most influenced by the bargaining.

The Court Cases

The sequence of cases dealing with the constitutional challenges to the Act brought by the Michigan Canners and Freezers Association and two growers started in the Ingham County Circuit Court of Judge Brown. In response Judge Brown ruled the Appeals Court had jurisdiction. This issue went to the Michigan Supreme court which remanded the case to Judge Brown to build a trial record on the constitutional issues. I believe the flavor of the issues can be shown by the summary of the Michigan Supreme Court's findings.

Two of the four issues were procedural and of little general interest. The plaintiffs argued the Act was unconstitutional because the Act's provisions exceed the scope of the title. A second issue concerned the Administrative Procedures Act. The courts found no violation or problem on either count.

Plaintiffs' claimed violation of their due process rights on the theory that the Act is an illegitimate exercise of the states's police power. . The court said the applicable test for

determining whether a legislative enactment is a legitimate exercise of the states's police power consistent with due process requirement is twofold: a) does it address a proper public purpose, and b) is the remedy adopted reasonably related to the stated public purpose? Plaintiffs claimed the Act was designed simply to promote higher prices and upgrade the economic position of producers, an endeavor directed at disruption of the operation of a free market and thus inconsistent with the public interest. The court responded as follows.

"Our reading of the act, examination of the circuit judge's opinion and review of the record lead us to conclude that AMABA was not directed toward achieving price security for producers at the expense of the operation of a free market, but was, instead, only intended to overcome an artificial obstacle to the operation of supply and demand forces, viz., the fortuitous position of handlers of perishable agricultural products in the chain of marketing such commodities which permitted handlers to distort free market forces by demanding prices not wholly reflective of supply and demand. AMABA is not a price-fixing act, not is it intended to allow association control of the output of individual farmers. It is rather, an enabling act which seeks solely to promote the equalization of bargaining power between producers and processors of perishable products.

The circuit court found as facts that the following condition existed prior to AMABA's enactment:

- a) Growers faced the problem of disposing of extremely perishable fruits and vegetables with a corresponding lack of freezing and/or storage facilities.
- b) There existed large numbers of unorganized growers who, when aligned against a concentration of processors, could not individually affect the price paid for their product by processors.
- c) The market lacked an extensive number of processors and the growers lacked ability to transport perishable goods any distance.
- d) Processors were reluctant to recognize voluntary grower cooperative bargaining associations.
- e) Processors were known by growers to discriminate against persons who belonged to cooperative bargaining associations.
- f) It was difficult to develop and maintain voluntary bargaining associations because some persons obtained a 'free ride' (i.e., accepted the benefits of cooperative bargaining without assisting in its cost).
- g) There existed a 'take it or leave it' pricing policy with no authority in the field men of the processors to negotiate price.
- h) The processor possessed the resources to obtain superior marketing knowledge, while the grower lacked time to obtain or digest information.
- i) Any effective producer association would require statewide organization with emphasis on particular products.

j) Growers sometimes engaged in picketing of processors and withholding perishable goods because of unsatisfactory prices.

k) It was difficult to coordinate production and marketing decisions so as to reduce spoilage. Processor failure to announce a price early in the marketing season sometimes led to the withholding of harvested commodities until some spoilage had occurred.

l) Prices received by farmers fluctuated greatly.

m) Supply and demand did play a role in affecting pricing decisions.

All of these findings are amply supported by the record. Taken as a whole, they establish a disparity in bargaining power resulting in disruption of the orderly marketing of perishable agricultural commodities and the imposition of inequitable economic pressure upon independent producers."

"Having concluded that the legislative purpose behind AMABA was to equalize bargaining power between a relatively small number of processors and a large number of producers, thereby eliminating both the potential for economically rational, but unfairly abusive, price-setting by processors and the potential for disrupting the marketing of perishable agricultural products, and having found these purposes to be in the interests of the public welfare, we also find AMABA's provisions reasonably related to those purposes. We find a sufficient and rational relationship between those provisions in AMABA enabling producers to bargain collectively, those protecting producer associations from being weakened through sweetheart deals and free-riders by providing for exclusive representation and service fees, and those providing for compulsory arbitration for resolving impasses with respect to terms subject to bargaining on the one hand, and the Legislature's intent to equalize bargaining power and thereby ensure orderly marketing of perishable agricultural commodities on the other. We agree with the circuit court that this 'act solves some problems (and) creates others' but , on the whole, as demonstrated by competent evidence, it is 'reasonably related to the problems perceived by the Legislature and is a reasonable attempt to solve at least some of the problems.'We find AMABA constitutional on its face."

The fourth challenge was a jurisdictional issue. Plaintiffs argued the Federal Agricultural Fair Practices Act (FAFPA) pre-empted the Michigan legislation . The argument is that while the two acts may have a common purpose "the scheme chosen by the Michigan Legislature to carry out the purpose conflicts totally with that chosen by Congress and thus, pursuant to the supremacy clause contained in article VI of the United States Constitution, the Michigan legislation is 'pre-empted'."

The Michigan court found no pre-emption. A quotation from their decision gives a flavor of their reasoning. "Given our interpretation of FAFPA, we cannot see how AMABA 'stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress'. As we have indicated, congressional intent was directed at improving the bargaining position of individual producers by protecting them from handler coercion in their choice to join a cooperative marketing association. We discern no intent on the part of Congress, as plaintiffs assert, to affirmatively 'strike a balance' among competing interests, including protecting a handler's right to deal directly with a producer or vice versa. In our view, the provisions of AMABA affording exclusive representation to a producers' cooperative created by a majority of

the producers of a particular commodity, and the requirement of service fees, was a step by the Michigan Legislature into a previously unregulated area; a step which furthers both the goals of FAFPA and others not prevented by FAFPA by taking an active role in enhancing the bargaining position of producers, protecting not only individuals, but also their associations from internal and external pressures."⁽²⁶⁾

A part of the decision of the Michigan court was appealed to the U.S. Supreme Court. The plaintiffs argued that the provisions of the Michigan Act dealing with exclusive agency bargaining were pre-empted by the Federal Agricultural Fair Practices Act (AFPA). A flavor of the U.S. Supreme Courts reasoning is revealed by the following from the unanimous decision written by Justice Brennan.

"Hence, in passing S. 109, both the House and Senate unequivocally expressed an intent to prohibit producers' associations from coercing a producer to agree to membership or any other agency relationship that would impinge on the producer's independence. It would appear, therefore, that despite the fact that the Michigan Act and the AFPA share the goal of augmenting the producer's bargaining power, the Michigan Act nonetheless conflicts with the AFPA by establishing 'accredited' associations that wield the power to coerce producers to sell their products according to terms established by the association and to force producers to pay a service fee for the privilege.

The Michigan Supreme Court held that while (AFPA) makes it unlawful for a handler to coerce a producer to 'join or belong to an association, it does not forbid a state from requiring exclusive representation of individual producers where a producer majority sees fit.'The Michigan Act, however, empowers producers' associations to do precisely what the federal Act forbids them to do. Once an association reaches a certain size and receives its accreditation, it is authorized to bind nonmembers, without their consent, to the marketing contracts into which it enters with processors. In effect, therefore, an accredited association operating under the Michigan Act may coerce a producer to 'enter into (or) maintain...a marketing contract with an association of producers or a contract with a handler" --a clear violation of (AFPA). In addition, although the Michigan Act does not compel a producer to join an association, it binds him to pay fees to the association, and precludes him from marketing his goods himself. In practical effect , therefore, the Michigan Act imposes on the producer the same incidents of association membership which congress was concerned in enacting (AFPA).

In conclusion, because the Michigan Act authorizes producers' associations to engage in conduct that the federal Act forbids, it 'stands as an obstacle to the- accomplishment and execution of the full purposes and objectives of Congress.' To that extent, therefore, the Michigan Act is pre-empted by the AFPA, and the judgement of the Supreme Court of Michigan is reversed."⁽²⁷⁾

My observations: Jurisdiction matters in the articulation of preferences. The Michigan and Federal Courts read the same law and record and come to opposite conclusions. The process of working out the jurisdictional boundaries is not settled but goes on as new issues arise. The AFPA was an act passed at the initiative of growers seeking to enhance their ability to bargain collectively. The act was used to diminish a states right to enhance growers collective bargaining. It is not clear what would have happened absent the AFPA. It may be presumed that the Michigan Act would have stood but is not clear what would have happened in other states. Presumably without Federal legislation the contest over the rights in collective bargaining would have been worked out state by state. Some would have aggressively provided support for

collective bargaining, some would have made it difficult and others would not have dealt with the issue till events forced the issue.

The U.S. Court decision does not challenge the rights of growers to organize associations for collective bargaining, with rules for mediation and arbitration, and with definitions of fair practices. Nor does the Court decision imply that exclusive agency bargaining would be successfully challenged in the Court if enacted by the Congress.

The Michigan court did not challenge the concept of market determined prices, it only supported an attempt to make the market work more effectively or more fairly. The Federal court supported what they interpreted to be the Congressional position that individual rights have precedence over majority rule of a group. I assume they would not take that position in dealing with the government decisions in general. It is a matter again of jurisdiction. Who's preference get to count in a particular case.

*THIS IS THE PAPER AS OF THE DAY I RETIRED AND I TURNED MY ATTENTION TO OTHER THINGS. IF THERE ARE IDEAS YOU CAN USE PLEASE DO SO. AL SCHMID ASKED TO PUT IT ON HIS HOME PAGE IN ITS CURRENT CONDITION. (Mike Weber has copied it from there to add it to my biographical statement on the AFRE Web site) IF I RUN OUT OF MORE INTERESTING THINGS TO DO I MAY RETURN TO THE PAPER IF THERE IS ANY PERCEIVED DEMAND FOR THE PRODUCT.

1. These data and others referring to the World Bank data are based on the WORLD BANK ATLAS, 1997
2. Fogel, Robert. "Economic Growth, Population Theory, and Physiology: The Bearing of Long-Term Processes on the Making of Economic Policy.." AMERICAN ECONOMIC REVIEW" June 1994a, 84(3), pp 369-95.
3. Sachs, Jeffrey. "The Limits of Convergence" THE ECONOMIST, June 14,1997 pp19-24.
4. "How We Did It" an interview in NEWSWEEK. June 23, 1997. Also see FORBS. July 26 issue reporting on the worlds richest people.
5. See D. Gale Johnson. 'Agriculture and the Wealth of Nations.'" AMERICAN ECONOMIC REVIEW. MAY 1997 for sources of some of this history. This is a very interesting paper, given as the prestigious Ely Lecture dealing with some of the subject matter of my paper.
6. See AGRICULTURAL ORGANIZATION IN THE MODERN INDUSTRIAL ECONOMY, NCR -20-68 Published The Ohio State University which included my paper and others related to the topic.
7. McDowell, George. "How Far from Central Planning to a Market Economy" CHOICES. Second Quarter 1997 pp 13-20
8. Bromley, D.W. "Revitalizing the Russian Food System: Markets in Theory and Practice."CHOICES Forth Quarter 1996

9. Abdella, Charles W. and Shaffer, James D. "Politics and Markets in the Articulation of Preferences for Attributes of the Rapidly Changing Food and Agriculture Sectors: Framing the Issues. JOURNAL OF AGRICULTURAL AND APPLIED ECONOMICS , July 1997
10. See Samuels, Warren J. Medema, Steven G. Schmid, A. Allen. THE ECONOMY AS A PROCESS OF VALUATION. Edward Elgar, Lyme, U.S., 1997, 331 p. Note especially Chapter 4 which is a long discourse on the concept of cost in economics. This chapter is highly recommended to those who seek an understanding of costs and prices as used in economics.
11. This quote is from an interview of Bill Gates and Steve Ballmer by Mark Whitaker reported in NEWSWEEK, June 23, 1997. PP78-80. The information for this sections is from this and other popular press sources.
12. See Galbraith, John Kenneth, THE NEW INDUSTRIAL STATE, Houghton Mifflin Company , Boston 1967 pp427. This section in particular borrows from this very insightful book.
13. Gallo, Anthony E., THE FOOD MARKETING SYSTEM IN 1995. USDA, ERS, Agricultural Information Bulletin Number 731. Dec. 1996.p 8.
14. See, for example, Hamm, Larry, Ph.D. dissertation, MSU
15. Marion, Bruce, et al,
16. See Abdalla, Charles, Ph.D. Dissertation. MSU
17. See, Farrelly, Laura Leann TRANSFORMING POULTRY PRODUCTION AND MARKETING IN DEVELOPING COUNTRIES: LESSONS LEARNED. Plan B Masters Paper, 1995, Agricultural Economics, Michigan State University for a comparison of experience in several countries.
18. FORBES, July, 1997.
19. Abdalla, Charles W. & Shaffer, James D. "Politics and Markets in the Articulation of Preferences for Attributes of the Rapidly Changing Food and Agricultural Sectors: Framing the Issues. JOURNAL OF AGRICULTURAL AND APPLIED ECONOMICS. July 1997. Pp57-71.
20. See Hirschman, Albert O. EXIT, VOICE, AND LOYALTY. Harvard College 1970, pp161 for a discussion of the difference in options in dealing with declining performance of firms and other organizations.
21. See, Ricks, Donald and Woods, Tim and other
22. Boughton et al strategic planning
23. Samuels, Warren J., A CRITIQUE OF THE DISCURSIVE SYSTEMS AND FOUNDATION CONCEPTS OF DISTRIBUTION ANALYSIS. P 12, a draft paper published at a latter date in ANALYSE & KRITIK.

24. Friedman, Milton CAPITALISM AND FREEDOM, Chicago 1962. Cited in Samuels , op cit. Discussions with Warren Samuels have been helpful as I struggle with this section. His encyclopedic knowledge of the history of economic thought has been instructive, but, not very well captured in this brief discussion. I recommend his writing.

25. The numbers in this section are based upon data from the FOOD MARKETING REVIEW, 1994-95, Agricultural Economic Report 743, Economic Research Service, USDA, September 1996, pp137

26. Drawn from MICHIGAN CANNERS AND FREEZERS ASSOCIATION, INC v AGRICULTURAL MARKETING AND BARGAINING BOARD (AFTER REMAND)

Docket No. 56434. Argued October 10, 1975 (Calendar No. 6). Originally decided August 25, 1976. Reargued after remand June 4, 1982 (calendar No. 10) Decided December 23, 1982.. Opinion by Justice Ryan, joined by Justices Kavanagh, Williams, Levin, and Coleman.

27. Drawn from SUPREME COURT OF THE UNITED STATES, No 82-1577, MICHIGAN CANNERS AND FREEZERS ASSOCIATION , INC, ET AL. V. AGRICULTURAL MARKETING AND BARGAINING BOARD ET AL. ON APPEAL FROM THE SUPREME COURT OF MICHIGAN. June 11, 1984