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CHANGING PATTERNS OF WORLD TRADE*

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Commodity forecasting is a risky but often highly profitable business for private traders. It is equally risky, in a different way, for public officials and never profitable since most people tend to remember the public official's errors and forget the times he was correct. Thus, I shall avoid forecasting and instead examine likely future trends based upon some facts, some extrapolation of the trends of the last three decades, and some personal observations which may be subject to difference of opinion.

For two reasons I will focus my comments on a few widely traded agricultural commodities in which the United States has a major interest. One is that these are products about which I presume to have some knowledge; the second reason is that the nature of production, storage, and consumption of these agricultural commodities differ sufficiently from other primary commodities to warrant separate treatment. Even with these limitations, I would hope to be able to evoke some useful discussion and thought about future problems and policy issues.

The basic points I hope to make are: (1) trade flows in many of these commodities have changed drastically in the past three or four decades; (2) the behavior of countries which play an increasing role in commodity trade results in greater uncertainty and instability in world markets for most of these commodities; (3) traditional adjustment mechanisms no longer function satisfactorily and as a result the

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adjustments fall on relatively small groups; and (4) given these circumstances and the unwillingness or inability of certain groups to tolerate the prospective situation, new institutional mechanisms for adjustment must be found as rapidly as possible.

Since I believe the way world commodity markets operate is a function of the policies and actions of participant nations in those markets, I will begin by reviewing the levels and composition of trade in agricultural commodities in which we have an interest. I will discuss trade trends in wheat, coarse grains, sugar, soybeans, cotton, and meat and animal products. These products currently account for 90 percent of United States agricultural exports, thus they are of major interest. I have classified countries into three categories--developing market economies, developed, and centrally planned, recognizing that the latter category includes both rich and poor countries.

REVIEW OF THE LEVEL AND COMPOSITION OF AGRICULTURAL TRADE:

Wheat and Coarse Grains

Let me start my discussion with grains, namely wheat and coarse grains, commodities in which we have a significant export interest. As one looks at the data on world trade in these grains there are two factors that sharply distinguish them from many other internationally traded commodities and that have significant implications for the future of the grain trade.

The first is the major expansion, indeed one might almost suggest explosion, in the level of trade in both wheat and coarse grains over

the last four decades. World trade in wheat, for instance, during the period immediately prior to World War II averaged less than 17 million metric tons per year. In the immediate post-World War II period trade in wheat increased by about one-third, with most of that increase occurring after the 1950s.

Starting with the 1960s, there have been substantial increases in world wheat trade. Using 1960 as the base year, we now find that the average world trade in wheat in the last three years is double that of the early 1960s. To briefly summarize, there was an approximate doubling of world wheat trade from the late 1930s until approximately 1960. Since that time, in less than two decades there has been another doubling of wheat trade and, it should be noted, current record levels of wheat trade have been maintained despite concurrent new world records in food-grain output. Indications suggest that we can expect continuation of the increase in these trade flows.

The rate of increase in world coarse grain trade has been even more rapid than world wheat trade. Prior to World War II, coarse grain trade was reported somewhat below wheat trade, at about 15 million metric tons per year. Immediately after the war and continuing through the 1950s, there was no appreciable growth in coarse grain trade, unlike the growth in wheat trade. Starting, however, in the 1960s and continuing almost without interruption, there has been a veritable explosion in coarse grain trade which is now approximately six times the pre-World War II level and more than three times the 1960 level.

The second important element relating to World trade in grains is not only its growth, but the change in who exports and who imports. In the case of wheat prior to World War II, the developed market economies accounted for 60 percent of the exports and for two-thirds of the imports. In other words prior to World War II, over half of world wheat exports originated in developed market economies, namely North America and Australia. Importers were mostly the developed market economies. After World War II this situation drastically altered. The trend is clear and there is no indication that it is changing. Throughout the post war period and continuing to the present time the proportion of exports furnished by developed market economies has grown steadily; they now provide over 90 percent of total world wheat exports. Conversely, whereas the proportion of developed market economy imports has dropped from three-quarters to one-quarter of total wheat trade, the developing countries now account for half or more of all wheat imports and the centrally planned economies account for a quarter of all wheat imports.

For coarse grains, the trend in market shares has both some parallels with wheat and some important differences. Prior to World War II developing market economies exported nearly 60 percent of all coarse grains entering the world markets. The centrally planned economies provided another 20 percent. Thus, the developed market economies provided less than 20 percent of world coarse grain exports 40 years ago. At that time the major importers, in fact virtually the only importers, were the developed market economies which imported 85 percent of all coarse grains entering world markets. During the pre-war period, the developing market economies accounted for only two percent of the coarse grain imports

while the centrally planned economies accounted for about one-eighth of the imports.

Looking at the post-World War II period we see a new trade pattern has evolved steadily and consistently. The developed market economies namely North America and Australia, increasingly have come to dominate exports of coarse grains to the point where they now account for more than 80 percent of the exports of coarse grains entering world markets. This has been accompanied, as might be expected, by a steady decline in the proportion of exports coming from both centrally planned and developing countries.

A marked shift in the import pattern for coarse grains has also occurred. During the post-World War II period the advanced or developed market economies show a steady and continuing decline in the proportion of coarse grain imports, and, if one removed Japan from these statistics the decline would be even more apparent. Concurrently, the developing market economies and the centrally planned economies have increased their imports of coarse grains.

To summarize the changing trade patterns for these two major grains, we have seen the developed market economies rapidly become the major source of exports while the developing market economies and the centrally planned economies have become the significant grain importers during the post-war period.

Soybeans

Let me discuss briefly another major traded agricultural commodity--soybeans and soybean products. As in the case of wheat and coarse grains,

world trade in soybeans has grown tremendously. Prior to World War II, soybean exports were dominated by China, a developing country, and the developed market economies were the major importers. Since World War II there has been a sharp change in exporters, but the importers have only recently begun to change. Since World War II the advanced market economies, namely the United States, have held a dominant position in world soybean exports, while Brazil and Argentina have replaced China as the only other exporters of consequence. The developed market economies, however, are still largely the importers (in fact, over 80 percent). However, the centrally planned economies have been importing significantly more soybeans since about 1960.

Wool and Cotton

Now let me turn to trade in two other commodities, namely wool and cotton. Here we have commodities in which world trade patterns have been different than for grains. The difference, I believe, are significant in several ways. For wool, the data indicate that the level of world trade in wool in the mid-70s was not markedly higher than prior to World War II or in the immediate post-war period. Indeed, it appears there have been periods during the 1970s in which the average level of world trade was lower than it was during the late 1930s. Not only has world wool trade not expanded; there has not been a sharp change in the patterns of world trade. Prior to World War II the trade was dominated by the developed market economies both on the export and import side. This pattern has continued, the only change has been a decline in developing country exports and their share of world trade; therefore, again the

the developed market economies now provide an increasing percentage of world exports (about 90 percent). The wool imports of both the developing market economies and the centrally planned economies appear to be rising in a somewhat irregular pattern while the import share of the developed market economies is trending downward.

World cotton trade shows many similarities with world wool trade and some dissimilarities. As in the case of wool, world cotton trade has not expanded rapidly since World War II as have grains and soybeans. Indeed, the level of trade in the 1970s was not markedly higher than the level achieved in 1960. There have, however, been some significant shifts in the trade patterns for cotton.

Cotton is one agricultural commodity where the advanced market economies have steadily and consistently lost export market shares, mostly to the centrally planned economies. The developing countries which still provide slightly over half of the world cotton exports have maintained their market share at the same levels they enjoyed immediately prior to and after World War II.

There also have been significant shifts in world imports of cotton. Whereas developed market economies constituted over three-quarters of import markets during the late 1930s through 1950, they now import only half of the world's cotton. At the same time, the developing market economies have increased their cotton imports to nearly a quarter of all the cotton traded at the present time. Centrally planned economies have now increased their import share to more than a quarter of all world trade. Thus, for cotton we find a situation where both the export and import

shares of the advanced market economies in world trade have declined mostly because of the export expansion of centrally planned economies and the imports of both the developing countries and centrally planned economies.

Meat and Animal Products

Trade in meat follows the pattern of the other foodstuffs. It has expanded rapidly since just after World War II and especially so since 1960, but the rate is slower than for grains or soybeans. As in other foodstuffs, however, it is the expansion of exports from developed market economies that has been most rapid, while developing countries and centrally planned economy exporters have lost export market shares.

One would expect the meat imports would go in large part to developed market economies, and this is the case. It is worth noting, however, that the growth rate in meat imports is much faster in both developing and centrally planned economies. The two groups now import about one-fifth of meat traded on world markets.

Sugar

Finally, let me summarize the trends in world sugar trade. Here again is a commodity that did not experience a substantial expansion in world trade between the late 1930s and the mid-1950s. Since that time, however, there has been a slow but steady expansion in world trade. By the late 1970s, world trade in sugar was 50 percent higher than it was two decades earlier. Again, there has been a substantial shift in

both the sources of exports and imports. Here again the advanced market economies have increased their share in world export markets. The developing market economies, which have always dominated sugar exports, have experienced a decline in the world export market share, while the centrally planned economies appear to have maintained an irregular but approximately stable share of world trade over a long period of time.

World sugar imports also have shifted. Between the late 1930s and 1950, the developed market economies imported 80 percent of the raw sugar traded. This share has now fallen to only slightly more than half of all imports. The share imported by developing market economies has grown moderately but not significantly and still fluctuates around one-fifth of world sugar imports. The major change has been in the centrally planned economies that have rapidly increased their sugar imports over the last two decades.

Can one generalize from this brief review of commodity trade patterns? I believe that some generalization can be made and that certain implications can be drawn.

First, the major growth in agricultural commodity trade has occurred in basic foodstuffs and the growth rates have been highest for products associated with personal income growth, i.e., coarse grains and soybeans. The growth rate for products for which there are close substitutes, namely fibers, have shown modest or no growth in trade.

Second, with the exception of cotton, the export shares of the developing countries have declined and those of the developed market economies have risen.

Third, with the exception of wool, the developing countries and/or the centrally planned economies are becoming increasingly important importers. In the case of wheat, these two groups of countries account for a combined total of three-fourths of the imports and for about half of world imports of cotton and sugar. In coarse grains, these two groups of countries account for 40 percent of all imports and for a fifth of all world soybean imports.

FUTURE WORLD PATTERNS OF TRADE

Are the patterns of trade of the past two decades likely to continue? My view is that they are. Among the reasons I would cite is that the bulk of the world's population increase is and will be in the developing countries and centrally planned economies. Second, in those countries increased income is likely to be translated into increased consumption of grains, soybeans, sugar, and meat and poultry products. Finally, for a variety of reasons including natural resource endowments, structure, and climate, it appears that domestic production of many of these commodities is unlikely to expand sufficiently to meet the internal needs of the developing and centrally planned countries concerned.

TRADE TRENDS AND ADJUSTMENT MECHANISMS

Even though the levels of agricultural commodity exports from the developed market economies have been increasing and, thus, producers of those commodities have benefited substantially from larger markets, certain factors have not changed. What has not changed, even with modern

technology, is the fact that the production of these agricultural commodities is a biological process subject to influences outside the control of man (weather) and subject to relatively inflexible lags in production response to price changes.

These adjustment problems have always been there, although they certainly are increased by the high capitalization and large cash flow requirements of large scale modern agriculture (Hathaway).

Under a more liberal trade regime which once prevailed among the developed market economies it was possible to achieve adjustments in consumption and private stock-holding as well as in production. In trade between market economies if supplies were short prices rose, consumption fell, and the adjustment was spread relatively evenly between trading nations. If supplies were large prices fell, consumption increased, and the incentive for private stock-holding increased; and producer adjustment, while difficult, was achieved, often with some assistance from governments.

But what are the adjustment mechanisms in the current and future trading world for most economies? By definition, centrally planned economies have a high degree of, if not complete, government control over imports and exports, and thus, import demand is not a reflection of the variables economists normally use. In general, lower world commodity prices are not reflected in increased consumption levels nor are markedly higher world prices allowed to be reflected in reduced

consumption. Thus, almost by definition this portion of the world trading economy does not allow the market mechanism to produce trade adjustment.

It also happens that the government role in imports, exports, and internal pricing of these agricultural commodities is significant in most developing countries. The reasons are somewhat different. When supplies are tight it is neither economically nor politically feasible to reduce consumption levels where large portions of the population already are at or near subsistence levels. Conversely, there are certain political and economic risks involved in expanding consumption markedly during periods of ample world supplies, given the uncertainty over the ability of the economy to sustain the higher levels in periods of shorter supplies and higher import prices. Therefore, developing countries also tend to not allow market adjustment mechanisms to function as our liberal trade adjustment theory would suggest.

In addition, a number of developed market economies have chosen for a variety of reasons to use mechanisms which isolate their consumers from world market prices and, thus, trade patterns based on market adjustment mechanisms no longer function. As a result, the countries which allow some element of market adjustment to occur are the few open market economies, and thus the burden of this adjustment falls heavily upon the producers and consumers in developed exporting countries.

If one reflects on these facts it is easier to understand the noticeable reluctance to discuss trade liberalization in grains and a similar reluctance for consumption adjustment measures in discussions of price stabilization agreements for grains. This reluctance stems from the fact that market adjustment mechanisms are inconsistent with the economic policies concerning consumption and trade that is being followed by countries that now constitute the majority of the world's import market.

IMPLICATIONS OF THESE TRENDS FOR MARKET STABILITY

What are the implications for price stability in world trade patterns when the major importing countries reduce or do not allow market adjustment and when exporting countries are primarily market economies?

The expected implication is greater price instability through time. Using a simple measure of price variability in world markets[1], a rather steady and noticeable increase in that variability is evident. This was masked by U.S. stock accumulation policies of the 1960s, which contributed to significant price stability in world wheat and coarse grain markets as a byproduct of domestic programs.

Many have argued that the great instability in world commodity markets which we experienced in this decade was the result of an unusual run of bad weather followed by an unusual run of good weather in major producing countries. I believe this is not the underlying

reason. In fact, if one examines the data, the deviation from world production trends is not markedly different in recent years than in prior periods. What is different is the increased role of trade in determining commodity prices of exporting countries and the increased quantity of that trade done in a world economy which is fully or partially isolated from traditional market adjustment mechanisms.

If my assumption that increasing instability is likely to be a characteristic in future world commodity trading patterns, the question that follows is whether the major exporters or many of the importers can cope with the potential instability. Speaking as an official in a country which is both a major exporter and a major importer, I believe the answer is no. Our producers have experienced great difficulties in this decade, and our consumers and the consumers in many importing nations have also had painful experiences.

IMPLICATIONS FOR FUTURE TRADE POLICY

If my reading of past trends is correct; if my assessment that they are likely to continue accepted; and if my belief that the likelihood is low of either centrally planned or developing countries adopting adjustment mechanisms as a part of their trade policy, then we as exporters must re-exmaine our approach to trade and price stabilization.

The present trading and adjustment system puts virtually all of the adjustment on producers in a few exporting countries during periods of large supply. Conversely, in periods of short supply the burden falls upon the consumers in a few countries, namely those that allow consumer

prices to reflect world prices either through their market system or because of their inability to isolate themselves from external forces. I doubt that such a system is likely to prove sustainable for either producers or consumers for a prolonged period.

One alternative that could emerge is for current and prospective imports to embark upon a program of expensive self-sufficiency. This alternative finds many supporters in importing countries, especially in those countries which produce a significant portion of their own needs. I do not think I need to point out the implication of that course for producers in countries which are heavily dependent upon these export markets.

A second alternative, which has been pursued by the United States in recent international commodity negotiations, has been international stockpiling to reduce commodity price instability. The U.S. position has been that stockpiling costs should be shared by importing and exporting nations--a position that was viewed more favorably by others for sugar where we are a major importer than for grains where we are a major exporter.

Third, I conclude that the new realities of commodity trade lead to a need for new institutions. I am not prepared to suggest what changes are needed or possible, indeed, I believe that one cannot generalize from commodity to commodity. I believe, however, it is time to recognize that our ability to produce and export has outrun our

institutional capacity to deal with the emerging trends in world commodity trade. It is time to turn our attention to building national and international efforts to cope with the new realities.

Finally, let me close by commenting on the role of economists in dealing with these problems. My view is that they have been grossly inadequate in several ways. First, they have failed to recognize the political realities of the world in which commodity trade occurs. Second, there has been little or no work done on the economics of commodity trade in a world where state trading organizations play an increasing role, especially on the buying side.

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Footnotes

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/1 A simple coefficient of variation was computed by five year period and by decade for the commodities involved.

References

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