

FARMS, FACTORIES AND FREE TRADE

RURAL KENTUCKY IN THE GLOBAL ECONOMY

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with R. E. Burnett**

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Preface

This working draft was prepared as part of the Kentucky Long-Term Policy Research Center's continuing effort to understand the future implications of an array of trends affecting the Commonwealth. We focus here on trends affecting the future of rural development in Kentucky and on ways of leveraging more positive outcomes for rural communities in the years to come. This study should be of particular interest to policymakers and citizens who are concerned about improving rural prosperity and productivity.

KENTUCKY LONG-TERM POLICY RESEARCH CENTER

The Kentucky Long-Term Policy Research Center was created by the General Assembly in 1992 to bring a broader context to the decision-making process. The Center's mission is to illuminate the long-range implications of current policies, emerging issues, and trends influencing the Commonwealth's future. The Center has a responsibility to identify and study issues of long-term significance to the Commonwealth and to serve as a mechanism for coordinating resources and groups to focus on long-term planning.

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Michael T. Childress is the executive director of the Center. Those interested in further information about the Kentucky Long-Term Policy Research Center should contact his office directly:

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Contents

PREFACE	iii
FIGURES	vii
TABLES.....	ix
SUMMARY	xi
ACKNOWLEDGMENTS	xvii
GLOBALIZATION TAKES HOLD.....	1
<i>Prospects for Rural Kentucky.....</i>	<i>3</i>
<i>Outline.....</i>	<i>4</i>
FARMS.....	5
<i>Bulk Commodities versus High-Value Products.....</i>	<i>5</i>
<i>International Trade Agreements and Agriculture</i>	<i>8</i>
FACTORIES.....	11
OVERVIEW	12
<i>The Impact of Globalization.....</i>	<i>13</i>
<i>Trade-Sensitive Jobs in Rural Kentucky.....</i>	<i>14</i>
APPAREL	18
<i>Globalization and the Future of Apparel Manufacturing.....</i>	<i>18</i>
<i>Apparel Manufacturing in Kentucky</i>	<i>20</i>
WOOD PRODUCTS	22
<i>Globalization and the Future of the Wood Industry.....</i>	<i>23</i>
FREE TRADE: ARE WE PREPARED?.....	25
<i>Do Rural Manufacturers Expect to Win or Lose?</i>	<i>26</i>
<i>Familiarity with NAFTA, GATT and ISO 9000.....</i>	<i>27</i>
<i>Pursuing Export Opportunities</i>	<i>29</i>
OBSTACLES FOR RURAL FIRMS.....	33
<i>Knowledge of Foreign Markets.....</i>	<i>34</i>
<i>Regulation</i>	<i>35</i>
<i>Finance.....</i>	<i>35</i>
<i>Implications.....</i>	<i>36</i>
<i>Conclusion.....</i>	<i>37</i>
NETWORKS: A LOCAL APPROACH.....	39
<i>What is a Network?</i>	<i>40</i>
<i>How Do Networks Get Started?</i>	<i>42</i>

<i>Getting Government and the Community Involved</i>	44
<i>Strengthening Kentucky’s Economic Foundations</i>	45
THINK GLOBALLY, ACT LOCALLY	53
RESOURCES	57

Figures

1: VALUE OF U.S. AGRICULTURAL EXPORTS.....	6
2: VALUE OF SELECTED U.S. EXPORTS	7
3: RURAL COUNTIES' SHARE OF STATE MANUFACTURING AND SERVICE JOBS.....	12
4: APPAREL EMPLOYMENT IN KENTUCKY AND THE UNITED STATES.....	21
5: VALUE OF U.S. HARDWOOD EXPORTS, 1984-1994.....	23
6: HOW FAMILIAR ARE MANUFACTURERS WITH NAFTA, GATT AND ISO 9000?.....	28
7: ARE MANUFACTURERS LOOKING TO INCREASE EXPORTS?	29
8: INTEREST IN MORE EXPORTS AND KNOWLEDGE OF TRADE AGREEMENTS & STANDARDS...	30

Tables

1: POTENTIAL IMPACT OF THE URUGUAY ROUND AGREEMENTS OF GATT ON U.S. AGRICULTURE.....	9
2: RURAL EMPLOYMENT IN EXPORT-SENSITIVE MANUFACTURING INDUSTRIES.....	15
3: RURAL EMPLOYMENT IN IMPORT-SENSITIVE MANUFACTURING INDUSTRIES	16
4: EXPECTED EFFECT OF GLOBALIZATION ON RURAL MANUFACTURERS	27

Summary

From space exploration to environmental preservation, from military interventions to international sports leagues, global relationships are taking on revolutionary forms and making people, institutions and nations more interdependent than ever before. One aspect of our lives undergoing a fundamental transformation is the way we do business, with our neighbors and with people across the seas. If rural Kentucky embraces these changes, the benefits could result in higher incomes and better standards of living. Failure to adapt to the new business environment will not result in stagnation but loss. Indeed, the very existence of open markets means that we are in competition with governments which have developed cogent, comprehensive and forward-looking development plans; we are in competition with foreign producers of goods and services who use state-of-the-art manufacturing and information systems; and we are in competition with foreign workers who may have a better education or demand lower wages or both. The real question is not whether to compete globally, but how to do it.

We begin this report by asking how globalization might affect two cornerstones of Kentucky's rural economy – agriculture and manufacturing. Next, we report the results of a survey of rural manufacturing firms, and explore the question of whether rural firms are prepared for an era of increased competition and increased opportunity. Following the survey is a special section from Dr. R.E. Burnett, Assistant Director of the Patterson School of Diplomacy and International Commerce at the University of Kentucky. Dr. Burnett explains why many small and rural firms aren't well-prepared for globalization and suggests what can be done to help these firms. We conclude with a discussion of emerging strategies which enable rural firms to help themselves become more competitive.

FARMS

In recent years U.S. exports of bulk agricultural products have slowed while exports of intermediate products have remained steady and exports of consumer-oriented agricultural products have taken off. Exports of value-added consumer-oriented agricultural products rose \$1.5 billion in 1994 to a record \$16.2 billion, while exports of

bulk commodities fell almost \$1 billion to \$18 billion (Foreign Agricultural Service, 1995a). Value-added intermediate and consumer-oriented products comprised 55 percent of U.S. agricultural exports in 1993, up from about 33 percent just 10 years earlier. Eighty-five percent of U.S. agricultural export growth since 1985 is attributable to value-added products (Goldthwait, 1994).

Unfortunately, even as the international market for value-added agricultural products grows, Kentucky remains deficient in value-added businesses related to agriculture. New capital investment in Kentucky lags behind the United States as a whole (University of Kentucky Center for Agricultural Export Development, 1992), and Kentucky farmers raise crops and animals that must be shipped out of state to be processed. This deficiency in value-added businesses does not bode well for Kentucky in the international economy. As developing countries become more competitive in the bulk commodities sector and U.S. agribusinesses establish their presence in other countries, Kentucky risks being left behind.

FACTORIES

Manufacturing is far more important to the state's economy than some of the industries traditionally associated with Kentucky. Nearly 22 percent of Kentucky's earnings come from manufacturing employment, down just slightly since 1969. By comparison, mining's contribution to state earnings, though fluctuating dramatically, has not even reached ten percent during the past 25 years, and is currently about three percent (BEA, 1994). Compared to the United States average, Kentucky receives a larger share of its earnings from manufacturing and has a higher percentage of its jobs in manufacturing.

The growth of manufacturing abroad may lead some people to believe that the sun is setting on American manufacturing. However, the Bureau of Labor Statistics recently observed that "in terms of production, efficiency, and competitiveness, U.S. manufacturing is holding its own" (Mittelhauser, 1994, p. 27).

How Kentucky's rural counties will be affected by the growth of the international economy partly depends on how sensitive rural manufacturing industries are to global trade. Many of Kentucky's rural counties have hundreds of jobs in export- or import-sensitive manufacturing industries, and in some counties these jobs constitute a very large per-

centage of total employment. Low-skill, low-wage manufacturing industries in the United States will find it increasingly difficult to compete as barriers to world trade continue to fall. Many of the jobs in these industries are vulnerable to being moved overseas.

Apparel. One manufacturing industry which may be particularly affected by globalization is the apparel industry. Between 1982 and 1987 more than one-half of the U.S. market for some types of apparel belonged to foreign producers. Moreover, imports of many types of apparel are rising quickly (Bednarzik, 1993). While any changes affecting apparel manufacturing in the United States will surely be felt in the Commonwealth, the apparel industry in Kentucky is different from the rest of the nation in several respects. This does not mean that the state will be insulated from global trends affecting the industry, but it does suggest that Kentucky has some strengths which, if put to good use, may help apparel manufacturing retain its role in the state economy.

Wood Products. Despite remaining trade barriers, world trade offers many opportunities for the wood products industry. Growing populations and improved standards of living in developing nations should benefit the U.S. wood products industry. Because population is increasing in other parts of the world at a much faster rate than in the United States, foreign markets are and will continue to be major customers for U.S. wood products. However, developing nations' share of wood production is also increasing and will compete with U.S. products in the international arena.

The Department of Commerce and the International Trade Administration predict that "exports [of hardwood plywood and veneer will] continue to grow and offer one of the industry's best growth opportunities because of the increasing concern over tropical deforestation" (1993, p. 10). The growth potential for these products is reflected in the 47 percent increase in plywood exports between 1992 and 1993.

As with so many other industries, U.S. export strength in hardwood products lies in delivering a high-value product customized to consumer needs. These exports have been increasing, but Kentucky does not appear to be in a good position to benefit much because the industry has remained chronically underdeveloped. Because of emerging growth opportunities overseas among consumers who may have different tastes and needs, product and market research will become increasingly essential. The limited resources of small firms which predominate

in Kentucky may prohibit critical research and development. As a result, Kentucky could miss important and broadly beneficial opportunities.

FREE TRADE: ARE WE PREPARED?

An informal survey of manufacturers in 88 rural counties reveals a fairly low level of knowledge about NAFTA, GATT, and international quality standards. Our research also provides important information on manufacturers' beliefs about how their companies and their industries will be affected by globalization, how much manufacturers have tried to increase their exports, and whether they have access to needed information.

As expected, firms which sell their products abroad generally are more familiar with NAFTA, GATT and ISO 9000, although for exporters and non-exporters alike the scores are not especially high. Possibly due to the intense scrutiny it received during the ratification process, NAFTA is the most familiar to respondents. Familiarity with GATT is much lower, even among the firms which export. Only three percent of exporters reported being "very familiar" with GATT (the same percentage as non-exporters), while more than 40 percent of exporters and more than 60 percent of non-exporters rated their familiarity with GATT low or very low. Exporters are far more familiar with ISO 9000 than non-exporters, but even for exporters, the scores are fairly low.

The survey asked exporters how much, over the past two years, they have explored the possibility of increasing exports, and asked non-exporters how much they have considered beginning to export. As with the questions on familiarity with NAFTA, GATT and ISO 9000, respondents scored themselves on a scale from one to five. Again, scores were generally very low. More than one-third of all exporters demonstrated little interest in increasing their exports. The numbers for non-exporters are far lower. Eighty-four percent of non-exporters gave themselves the lowest possible score (a one) for how much they have explored the possibility of beginning to export. Only six percent scored themselves a four or a five.

OBSTACLES FOR RURAL FIRMS

For Kentucky businesses that have long been engaged in exporting, there is little problem continuing to do so, as long as they monitor their markets and plan accordingly. For many smaller businesses, even those with a relative advantage in export potential, the probability of success is much lower due to a number of obstacles which serve to deter, and, at worst, defeat the effort altogether.

Knowledge of Foreign Markets. The fundamental problem which inhibits growth in exports (in terms of new exporting businesses) in Kentucky is simply that a majority of Kentucky providers of goods and services continue to focus only on domestic markets. There is much evidence to suggest why this is so, but, essentially, Kentucky businesses have developed in accordance with the market forces of a "middle America" and a regional economy. This market traditionally has not been connected to the global economy except for certain sectors, such as energy (coal and oil), transportation (autos and auto parts), and agriculture (tobacco and corn).

Regulation. Ironically, at a time when global markets offer the greatest opportunity, the architecture for international trade has never been more complicated. In fact, new international agreements designed to open and ease trade have had quite the opposite effect. Local businesses and governments must make sense of new paperwork and increasingly rely on specialized attorneys and trade analysts to interpret the new rules and regulations—a time-consuming and expensive process.

Finance. Perhaps the most imposing obstacle to exporting is a difficult financial environment. Kentucky businesses are risk-averse when it comes to exporting within the scope of uncertainties that arise from a shifting regulatory environment. However, their potential financiers (banks) are even more risk-averse upon examining the creditworthiness of small to medium-size businesses seeking to export to uncertain markets for the first time.

Conclusion. Kentucky's sister states are also working very hard to increase export earnings, creating a more competitive export environment. While most states are developing in-state architecture in an effort to give their indigenous businesses a competitive advantage in

world markets, it is suggested here that efforts placed at the "grass roots" level will achieve the greatest gains over time.

NETWORKS: A LOCAL APPROACH

The challenge posed by limited and fragmented resources can be overcome by collaboration. Pooled resources at the local level, combined with insights into the unique needs of different communities, can generate tremendous energy and allow businesses to achieve goals that, on their own, would be difficult, if not impossible, to reach. Cooperation among manufacturers and farmers is becoming increasingly sophisticated in Kentucky and around the world. Relationships among producers are closer, more formalized, and are integral components of development planning. In fact, these more sophisticated cooperative relationships now have a name—networks.

Producers might cooperate with one another in several ways:

- in *learning networks*, firms share valuable knowledge and experience necessary to remain competitive;
- in *resource networks*, firms develop solutions to common problems or spread expenses for insurance, certification, training, equipment or testing;
- in *co-marketing networks*, firms employ joint marketing to gain access to new customers and new markets; and,
- in *co-production networks*, firms jointly manufacture components or finished goods, complementing one another's operations (Bosworth, 1995).

THINK GLOBALLY, ACT LOCALLY

Kentucky state government has begun an initiative to encourage the formation of networks, but a much more ambitious program is possible. Some states and nations have focused many more resources on networks and use them as a key element of development policy. The Kentucky Wood Products Competitiveness Corporation offers a model of how the state might enable firms in other industries to form competitive networks, which would be supported by regional organizations and state agencies. In the end, though, success lies in the hands of businesspeople, community leaders, schools and other civic institutions. Only they can act locally.

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Globalization Takes Hold

Nineteen-hundred ninety-five was a year of optimism. In April, the World Bank proclaimed in a news release, "Rapid Growth Expected as 'Globalization' Takes Hold," and went on to project that world merchandise trade would grow by more than 6 percent a year if trade liberalization continues. In an interview with the *Wall Street Journal*, Harvard economist Jeffrey Sachs averred, "We are in the midst of one of history's greatest expansions of market capitalism" (Davis and Harper, p. A1). Georgia State economist Donald Ratajczak echoed this sentiment at a conference of the Southern Growth Policies Board.

There is good reason to be optimistic: international trade, in tandem with advances in information and communication technology, may bring an era of long-term prosperity for developing and industrialized nations (Davis

...a government, a producer, even an individual employee cannot simply choose not to compete in the global marketplace. The very existence of open markets means that we are all in competition...

and Harper, 1995). Echoing the World Bank, the *Wall Street Journal* reported that "growing global markets would create big opportunities for dynamic U.S. companies and their employees" (Davis and Harper, p. A1). Much of this growth is driven by the increased integration of developing countries into the global economy, creating unprecedented new

opportunities for companies in industrialized countries (World Bank, 1995).

The dynamic companies enjoying the benefits of trade are not simply IBM, Boeing and RJR Nabisco; many small firms, in fact, are already "going global," and are enjoying ample rewards for their efforts. A *Business Week* special report on small exporters noted that a national survey of nearly 750 companies found that 20 percent of small companies exported products and services last year, up from 16 percent in 1993 and 11 percent in 1992 (Barrett, 1995). Small businesses are estimated to account for more than half of all manufactured goods exported from the United States (Barrett).

The experience of Lucerne Farms, a tiny horse feed company based in Maine, illustrates the power of globalization. With the fall of the dollar against the yen, the company's products were 25 percent cheaper in Japan in 1995 than in 1994 (Barrett, 1995). This prompted a Japanese distributor to contact the company, which expects 1995 orders from Japan to double total revenue. The *Business Week* report also sees opportunities in the markets of newly industrialized Southeast Asia for environmental companies, specializing in areas such as waste-water treatment and landfill management. These examples suggest the range of Kentucky firms which could enjoy gains from world trade.

Another small producer in Kentucky who may benefit from global trade is the farmer. The United States Department of Agriculture projects that agricultural exports will rise 11.5 percent in fiscal year 1995, to a record \$48.5 billion, and it appears that the United States is poised to begin a period of rapid expansion in agricultural exports (Koretz, 1995). Export growth will be greater for high-value, consumer-oriented goods than for bulk commodities or intermediate products. Exports of high-value U.S. agricultural products rose \$1.5 billion in 1994 to a record \$16.2 billion (Foreign Agricultural Service, 1995a).

Along with international trade, foreign investment is creating new opportunities for Kentucky's small producers. Kentucky has 259 industrial facilities with foreign ownership, employing over 54,000 people, with an investment of \$8 billion (Kentucky Legislative Research Commission, 1995). Not only do these plants have a large direct impact on the state's economy, but their effect is multiplied several times over, through additional purchases by employees and firms. For example, in November 1992, the Toyota plant in Scott County was purchasing parts and

supplies from 40 Kentucky establishments, spanning the state from Mayfield to Ashland (Haywood, 1992).

Prospects for Rural Kentucky

The globalization of the economy offers the hope of expanded prosperity, but this is by no means assured. Failure to adapt to the new business environment will not result in stagnation but loss. This is most unfortunate, for many people—politicians, front-line workers, teachers, farmers, even business managers and entrepreneurs—may be intimidated by the demands of the global marketplace, and understandably so. Change can occur at a breathtaking pace, and the issues are exceedingly complicated. Yet despite the complexity of new forces affecting the economy, they cannot be ignored. Indeed, a government, a producer, even an individual employee cannot simply decline to compete in the global marketplace. The very existence of open markets means that we are in competition with governments which have developed cogent, comprehensive and forward-looking development plans; we are in competition with foreign producers of goods and services who use state-of-the-art manufacturing and information systems; and we are in competition with foreign workers who may have a better education or demand lower wages or both. The real question is not whether to compete globally, but how to do it.

Globalization will ultimately touch the lives of almost everyone in almost every community. However, some will feel a more immediate and direct impact from trade liberalization and rising international investment. The impact will not be entirely positive, nor will it be entirely negative. In short, as with any major change in the economy, there will be winners and losers in the era of expanding global markets and reduced barriers to trade. The same industry may include both winners and losers, depending on how different firms respond to new challenges. Likewise, communities may benefit, suffer, or see mixed results depending on the kinds of jobs they gain or lose.

Outline

We begin by asking how globalization might affect two cornerstones of Kentucky's rural economy—agriculture and manufacturing. Next, we report the results of a survey of rural manufacturing firms, and explore the question of whether rural firms are prepared for an era of increased competition and increased opportunity. Following the survey is a special section from Dr. R.E. Burnett, Assistant Director of the Patterson School of Diplomacy and International Commerce at the University of Kentucky. Dr. Burnett explains why many small and rural firms aren't well-prepared for globalization and suggests what can be done to help these firms. We conclude with a discussion of emerging strategies which enable rural firms to help themselves become more competitive.

Farms

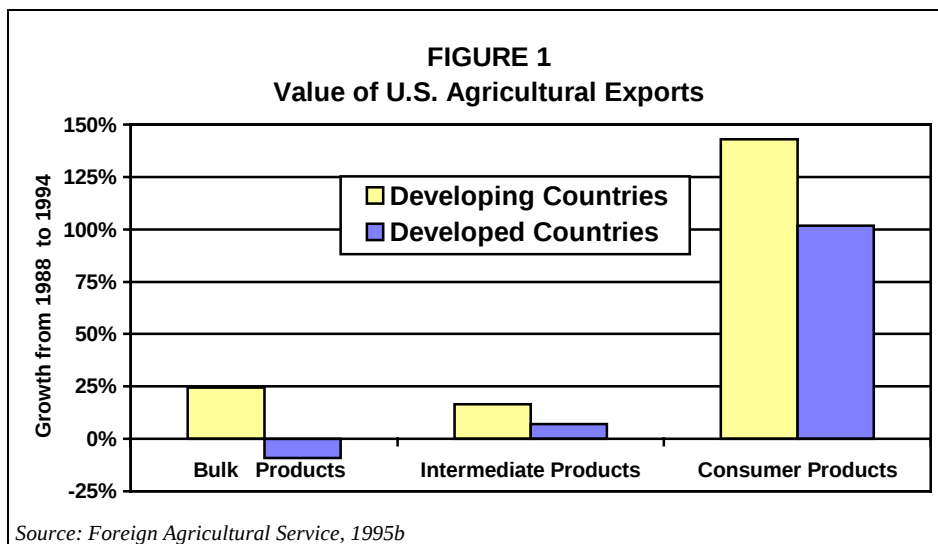
While manufacturing makes a larger contribution to the rural economy overall, agriculture still employs thousands of people. In addition to full-time farms, agriculture provides needed supplemental income to many people across the state who farm part-time. Furthermore, in certain counties farming remains the most significant economic activity, one that is closely linked to the traditions of rural Kentucky. In this new era of globalization, however, some of the traditions of Kentucky agriculture are likely to undergo change. Growth in domestic demand for agricultural products is sluggish, while the global marketplace offers burgeoning opportunities, particularly in the developing world. Already, 20 percent of all U.S. farm output is exported, and one out of every three acres of land is used for export crops (Espy, 1994). International trade is becoming so important that Mike Espy, former Secretary of the U.S. Department of Agriculture, observes that "the U.S. economy simply cannot grow rapidly enough to absorb the output from the steady rise in farm productivity. The expansion of export markets is critical to U.S. agriculture" (p. 3).

Our deficiency in value-added businesses does not bode well for the future of Kentucky in the international economy.

Bulk Commodities versus High-Value Products

Agricultural exports from the United States are comprised of bulk commodities—for example, corn, wheat, and unprocessed tobacco—and value-added agricultural products. Value-added products include intermediate products such as soybean meal or animal feeds, and consumer-oriented products, such as snack foods, fresh and frozen meats,

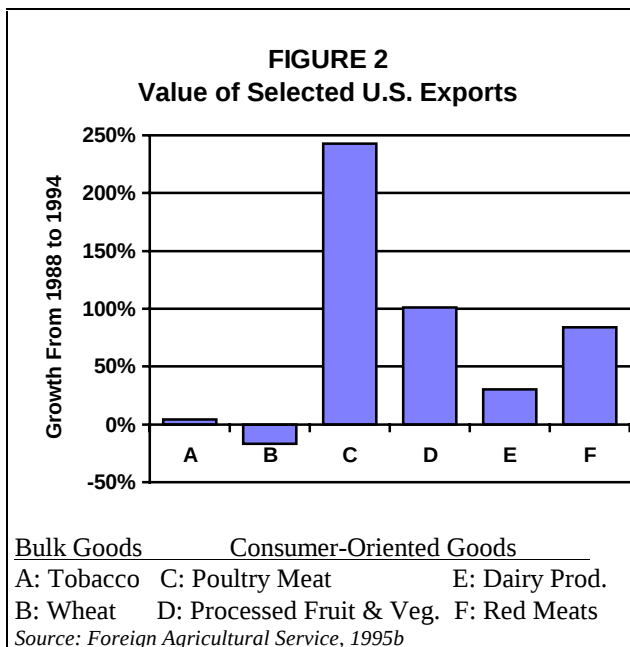
and processed vegetables. In recent years, U.S. exports of bulk agricultural products have slowed while exports of intermediate products have remained steady and exports of consumer-oriented agricultural products have taken off. Exports of value-added, consumer-oriented agricultural products rose \$1.5 billion in 1994 to a record \$16.2 billion, while exports of bulk commodities fell almost \$1 billion to \$18 billion (Foreign Agricultural Service, 1995a). Value-added intermediate and consumer-oriented products comprised 55 percent of U.S. agricultural exports in 1993, up from about 33 percent just 10 years earlier. Eighty-five percent of U.S. agricultural export growth since 1985 is attributable to value-added products (Goldthwait, 1994). In the future, the United States will face intense competition and consequently low margins on bulk commodities, but markets for value-added consumer goods are expanding dramatically.



Although Canada, the European Union, and Japan have been the largest markets for U.S. consumer goods, the fastest growing markets are in Hong Kong, South Korea, Taiwan, Indonesia, Malaysia, Thailand, and Mexico. Developing countries in Asia and Latin America, with their growing incomes and rising standards of living, “promise to be the wave of the future” for U.S. exports as traditional U.S. export markets mature (Drabenstott and Barkema, 1995). The developing countries are becoming less self-sufficient in agriculture because population growth and urbanization are outpacing domestic agricultural output. Developing

countries tend to import capital-intensive consumer food items because labor, not capital, is abundant in these countries.

Unfortunately, even as the international market for value-added agricultural products grows, Kentucky remains deficient in value-added businesses related to agriculture. New capital investment in Kentucky lags behind the United States as a whole (University of Kentucky Center for Agricultural Export Development, 1992), and Kentucky farmers raise crops and animals that must be shipped out of state to be processed. This deficiency in value-added businesses does not bode well for Kentucky in the international economy. As developing countries become more competitive in the bulk commodities sector and U.S. agribusinesses establish their presence in other countries, Kentucky risks being left behind. One positive note is that beverage production (particularly distilled spirits) is a large component of the value-added agricultural industry in Kentucky (University of Kentucky Center for Agricultural Export Development), and this is one sector which is expected to enjoy significant growth as a result of the new GATT agreements (U.S. International Trade Commission [ITC], 1994).



Kentucky already produces many raw goods which are ultimately processed and sold on the world market. Valerie Vantreesse of the Center for Agricultural Export Development at the University of Kentucky believes that "country ham, bourbon and popcorn are Kentucky products with excellent prospects for overseas sales" (Vantreesse, 1990, p. 4). Increasing import demand

for beef in Pacific Rim countries, especially Japan and South Korea, as well as in Mexico, will provide export opportunities for the United States. U.S. pork exports overall are not expected to increase dramati-

cally, but there will be export opportunities in Mexico and the Pacific Rim. Poultry is expected to experience the greatest export gains as consumption will increase in almost every country. The United States is most likely to increase exports to Japan, Hong Kong, Mexico, Russia, China, South Korea, other Pacific Rim countries, Latin America, and the Caribbean (United States Dept. of Agriculture [USDA], 1994a).

While developing countries will become increasingly important destinations for U.S. agricultural exports, trade opportunities with advanced nations will continue to emerge, often in the form of niche markets. Successful niche marketing requires a substantial investment of time and international market research, but there are numerous opportunities for Kentucky-made products. Snack foods are gaining popularity throughout the world, and U.S. exports of popcorn to Canada and Europe are increasing rapidly. Health foods and convenience foods, including microwavable products, are rising in popularity as more women enter the workforce.

Despite the fact that value-added agricultural products have surpassed bulk commodities in world trade, export demand for some bulk commodities should remain strong in coming years. Worldwide demand for animal feed and industrial products made from coarse grains is expected to increase demand for corn, barley, and sorghum. U.S. exports of these commodities are predicted to rise steadily over the next 10 years as South Korea, Taiwan, Mexico, and China increase imports (USDA, 1994a). Moreover, demand for white corn is increasing as Mexican-style foods and snack foods are gaining popularity in Europe and, to a lesser extent, in other parts of the world. World trade in soybeans and soybean meal will be fueled by demand in developing countries as livestock herds increase in size and number. The United States is expected to increase production and exports of both soybeans and soybean meal, thus reversing a downward trend (USDA).

International Trade Agreements and Agriculture

The North American Free Trade Agreement and the Uruguay Round Agreements (URA) in the General Agreements on Tariffs and Trade should favorably affect the U.S. agricultural trade balance. Most experts agree that the United States will benefit from the increased trade and world demand afforded by these agreements, as closed markets

open and current markets expand as a result of liberalized trade. Table 1 reflects the predictions from the U.S. International Trade Commission of the impact of the URA. Only dairy products are expected to see a sizable increase in imports, and no sector should suffer anything worse than a negligible decrease in exports as a result of the URA. On the other hand, several sectors, most notably beverages (especially distilled spirits), should enjoy a significant increase in exports. Other strong agricultural sectors in Kentucky which expect to see more export demand as a result of the URA include livestock, tobacco and dairy products.

TABLE 1 Potential Impact of the Uruguay Round Agreements of GATT on U.S. Agriculture		
SECTOR	IMPORTS TO U.S.	EXPORTS FROM U.S.
Livestock and meat	• small increase	• small increase in beef • modest increase (5-15%) in pork
Poultry and eggs	• negligible change	• small increase
Dairy	• sizable increase (over 15%)	• sizable increase (over 15%)
Fruits and vegetables	• negligible increase	• modest increase
Grain, milled grain, animal feed	• negligible increase	• modest increase
Oilseed and oilseed products	• small increase	• negligible decrease
Beverages	• small increase	• sizable increase (15-25%), mostly in distilled spirits
Tobacco and tobacco products*	• small increase	• modest increase (5-10%)
<i>*These figures assume domestic content legislation remains intact. Source: U.S. International Trade Commission, 1994</i>		

The liberalization of global trade, as well as economic advances and population growth in developing countries, should bring significant new opportunities for U.S. agricultural exports. Kentucky will be in a better position to enjoy these developments in world trade if it can increase the value added to its agricultural exports. If we do not anticipate the changes at work in world agriculture and act accordingly, we will be left behind. The experiences of Kentucky's tobacco producers reinforce the message that whether we wish to confront these challenges or not, we are already engaged in global competition: American tobacco growers have seen their share of the world market fall from 23 percent in 1959 to 10 percent in 1991 (Community Farm Alliance, 1993). The increasing quality of foreign tobacco is a major threat to U.S. tobacco production and a driving factor behind the expected decrease in Kentucky's tobacco

quotas in coming years (Childress, 1994). But just as globalization brings increased competition, it can also open new markets and introduce U.S. products to hundreds of millions of new consumers.

Factories

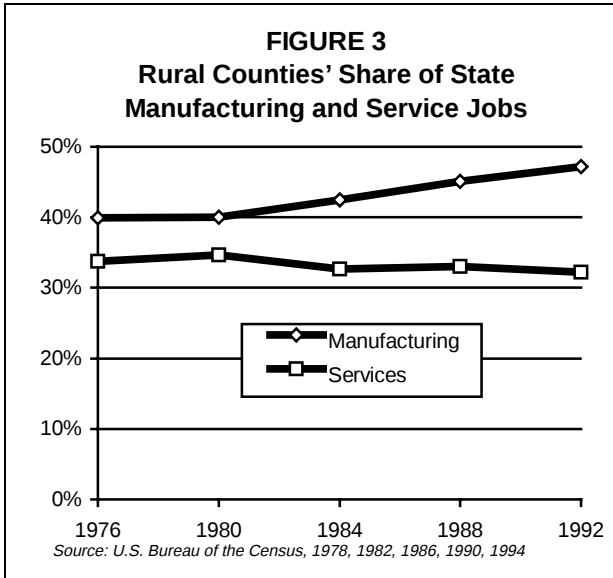
One of the enduring characteristics of Kentucky's economy is the misconception of it. People who believe that agriculture is the main source of income for Kentucky will no doubt be surprised to learn that farming and agricultural services accounted for less than 3.5 percent of all earnings in 1992, about the same as civilian employment in the federal government and only half as much as transportation and public utilities' share of total earnings (U.S. Bureau of Economic Analysis [BEA], 1994). Among the Commonwealth's 98 non-metropolitan counties, only *nine* are classified by the USDA as farming-dependent, while 24 are classified as manufacturing-dependent (USDA, 1994b).

Manufacturing, in fact, is far more important to the state's economy than some of the industries traditionally associated with Kentucky. Nearly 22 percent of Kentucky's earnings come from manufacturing employment, down just slightly since 1969. By comparison, mining's contribution to state earnings, though fluctuating dramatically, has not even reached ten percent during the past 25 years, and is *Many of Kentucky's rural counties have hundreds of jobs in export- or import-sensitive manufacturing industries...* currently about three percent (BEA, 1994). Compared to the United States average, Kentucky receives a larger share of its earnings from manufacturing and has a higher percentage of its jobs in manufacturing.

This section begins with an overview of manufacturing across rural Kentucky, and then examines two manufacturing industries of special importance to the state: apparel and wood products.

Overview

During the past 10 years, manufacturing employment has increasingly migrated to rural counties, while service sector employment, though growing in all areas, has become more concentrated in urban counties. The number of rural manufacturing jobs remained virtually



unchanged between 1976 and 1984, and then increased by more than 20 percent between 1984 and 1992. Metropolitan counties, conversely, had nearly 10 percent *fewer* manufacturing jobs in 1992 than they did in 1976. Meanwhile, the rural share of Kentucky's service jobs fell. In 1980, 35 percent of all service industry jobs in Kentucky were outside of metropolitan counties; in 1992, rural counties had

only 32 percent of the state's service jobs. This occurred even as the number of service jobs in rural areas increased by more than 60,000 (U.S. Bureau of the Census, 1978, 1982, 1986, 1990, 1994).

Although manufacturing employment is becoming more concentrated outside of Kentucky's metropolitan areas, it is not evenly distributed across rural counties. Six of the 24 rural counties classified by the USDA as manufacturing-dependent can be found within one area development district, Barren River, which lies along the Tennessee border, and six more manufacturing-dependent rural counties are located nearby. Of the 49 Appalachian counties in the state, only three, located along or near the Tennessee border, are classified as manufacturing-dependent (1994b). Apparel manufacturers constitute a large share of the jobs in south-central counties. In this part of the state there are 10 counties in which more than half of all manufacturing jobs are in apparel. Fabricated metal products, which is the second largest manufacturing

industry in rural Kentucky after apparel, is more concentrated in western and northern counties.

The Impact of Globalization

The growth of manufacturing abroad may lead some people to believe that the sun is setting on American manufacturing, but the Bureau of Labor Statistics recently observed that "in terms of production, efficiency, and competitiveness, U.S. manufacturing is holding its own" (Mittelhauser, 1994, p. 27). The manufacturing sector's contribution to gross domestic product has fallen only slightly over the last 30 years, even as manufacturing's share of total employment has steadily declined from 25 percent to 15 percent nationwide (Mittelhauser). Much of this decline may be attributable to an increased reliance on contract services and rising productivity, rather than world trade. The increases in productivity which have allowed manufacturers to produce a large share of the nation's output while employing a shrinking share of the nation's labor force are a mixed blessing. Higher productivity for existing workers has historically led to higher wages, but it also may lead to job losses due to potential downsizing and the diminished chances for future employment growth.

International trade has certainly contributed to long-term employment declines in some manufacturing industries. Many jobs, both low-skill and high-skill, have migrated south of the border or across the seas. Not one VCR, for example, is manufactured in the United States; foreign automobile producers have staked claim to more than 20 percent of the domestic market; and apparel is the largest manufacturing employer in the developing world. But international trade, like productivity, has its good side as well as its bad. In fact, international trade may play a role in counteracting the negative effect of productivity gains on employment. The Bureau of Labor Statistics suggests that industries with higher productivity growth have among the highest rates of net job growth because of their ability to compete in the global marketplace (Mittelhauser, 1994).

Another way that the global economy contributes to manufacturing employment is through foreign direct investment. Certainly the most salient example in Kentucky of job creation from investment by a foreign firm is the Toyota plant in Scott County, but there are many foreign companies in many industries which provide important manufacturing jobs in Kentucky communities. Between 1980 and 1989, jobs in foreign-owned manu-

facturing establishments tripled, and now represent about 20 percent of all manufacturing employment in the Commonwealth (BEA, 1983, 1993). Foreign-owned manufacturing firms based in Kentucky have an annual payroll of more than \$1 billion (BEA, 1993). In 1989, Kentucky ranked fourth nationally in the number of foreign-owned transportation equipment firms, ninth in the number of primary metals manufacturers, and sixteenth in the number of fabricated metals manufacturers (BEA, 1993). Foreign businesses, which clearly have no aversion to coming to Kentucky, invested \$41 billion in the United States in 1994, making the United States the global leader in receipts of international investment (Bleakley, 1995).

As international trade expands in the future, what effects could this have on manufacturing employment? The Bureau of Labor Statistics (BLS) has forecast national employment in hundreds of industries under three different scenarios: high trade-growth, moderate trade-growth, and low trade-growth. The forecasts suggest that in the aggregate, the employment effects of exports and imports tend to balance each other out, so that total employment levels are not affected much by the level of international trade (Su and Chentrens, 1994). Total employment projections for the United States through 2005 vary by only 46,000 jobs between the high trade-growth and low trade-growth scenarios. However, within a particular industry, the impact of trade can be far more dramatic. According to the BLS projections, for example, apparel industry employment in the United States is projected to be 30 percent lower in the high trade-growth scenario (because of increased competition from imports) than in the low trade-growth scenario. Conversely, employment in some manufacturing industries is projected to be 15 percent higher in the high trade-growth scenario (because of increased exports). Industries which are greatly hurt or helped by trade are known as "trade-sensitive."

Trade-Sensitive Jobs in Rural Kentucky

How Kentucky's rural counties will be affected by the growth of the international economy partly depends on how sensitive rural manufacturing industries are to global trade. In general, when world trade increases, export-sensitive industries are more likely to see employment

growth, while import-sensitive industries are more likely to see employment declines or little growth.¹

Tables 2 and 3 suggest how rural Kentucky might be affected by the growth of international trade. Many of Kentucky's rural counties have hundreds of jobs in export- or import-sensitive manufacturing industries, and in some counties these jobs constitute a large percentage of total employment. Roughly half of all employment in Jackson County is in export-sensitive industries, and export-sensitive industries account for a large percentage of total employment in Ballard, Clay and Powell counties, among others. Likewise, import-sensitive industries account for a large percentage of jobs in many rural counties. In Casey, Clinton, Metcalfe and Nicholas counties, close to half of all non-government employment is in import-sensitive manufacturing industries, and in 18 other counties import-sensitive industries account for at least 10 percent of all non-government employment.

TABLE 2 Rural Employment in Export-Sensitive Manufacturing Industries (Counties with 50 or more jobs in export-sensitive industries)									
County	Total Export Sensitive Jobs*	Type of Industry			County	Total Export Sensitive Jobs*	Type of Industry		
		High Wage	Medium Wage	Low Wage			High Wage	Medium Wage	Low Wage
Allen	170	0	170	0	Marion	122	0	122	0
Ballard	652	10	642	0	Marshall	854	830	24	0
Barren	140	0	140	0	McLean	52	0	52	0
Bath	140	0	140	0	Monroe	110	0	110	0
Bell	70	0	70	0	Montgomery	154	0	154	0
Bracken	230	230	0	0	Nelson	82	0	82	0
Carroll	349	340	9	0	Perry	60	0	60	0
Clay	420	0	420	0	Powell	610	0	610	0
Graves	2147	0	2147	0	Pulaski	77	33	44	0
Grayson	470	0	470	0	Rockcastle	57	0	57	0
Hancock	609	153	456	0	Shelby	305	150	155	0
Harrison	64	0	64	0	Simpson	90	0	90	0
Hopkins	864	800	64	0	Taylor	160	0	160	0
Jackson	700	0	700	0	Trigg	91	0	91	0
Knox	214	0	214	0	Union	216	0	216	0
Lincoln	50	0	50	0	Webster	98	0	98	0
Logan	123	0	123	0					
*Bold numbers represent more than 10 percent of non-government employment in the county									
Source: Kentucky Long-Term Policy Research Center analysis of data from: Bednarzik, 1993; U.S. Bureau of the Census, 1994; Kentucky Cabinet for Economic Development, 1994.									

¹ The industries classified as "export-sensitive" or "import-sensitive" are based on a 1993 Bureau of Labor Statistics study of manufacturing industries between 1982 and 1987 (Bednarzik). Export-sensitive industries (classified at the four-digit Standard Industrial Classification [SIC] level) are defined by the study's author as those in which at least 20 percent of U.S. production is exported; import-sensitive industries are defined as those in which at least 30 percent of the supply in the United States is imported. The industries are separated into high-wage, medium-wage or low-wage categories based on a comparison of manufacturing industries classified at the two-digit SIC level.

Also noteworthy in Tables 2 and 3 is that almost none of the import-sensitive jobs are in high-wage industries, and no export-sensitive job is in a low-wage industry. This fits with economic theory. The products a country such as the United States will likely export are products which require more capital investment and a skilled workforce. High capital investment per worker and high skills in the workforce generally translate into higher wages for employees. Conversely, the United States is more likely to import products requiring low capital investment and low skills, which consequently lead to low wages. Low-skill, low-wage manufacturing industries in the United States will find it increasingly difficult to compete as barriers to world trade continue to fall. Many of the jobs in these industries are vulnerable.

TABLE 3
Rural Employment in Import-Sensitive Manufacturing Industries
(Counties with 50 or more jobs in import-sensitive industries)

(Counties with 50 or more jobs in import sensitive industries)									
County	Total Import Sensitive Jobs*	Type of Industry			County	Total Import Sensitive Jobs*	Type of Industry		
	High Wage	Medium Wage	Low Wage	High Wage		Medium Wage	Low Wage		
Adair	605	0	105	500	Laurel	153	0	65	88
Allen	361	0	10	351	Lee	159	0	11	148
Anderson	337	0	337	0	Lewis	706	0	0	706
Ballard	80	0	80	0	Livingston	90	0	90	0
Barren	264	0	0	264	Logan	706	0	43	663
Bath	130	0	130	0	Marion	150	0	147	3
Boyle	171	0	171	0	Marshall	139	120	19	0
Butler	1201	0	825	376	Mason	200	0	200	0
Calloway	1610	0	10	1600	McCracken	562	400	162	0
Carlisle	114	0	114	0	McCreary	222	0	3	219
Casey	1256	0	356	900	Mercer	899	0	899	0
Clay	400	0	400	0	Metcalfe	1013	0	755	258
Clinton	796	0	23	773	Monroe	831	0	85	746
Cumberland	217	0	17	200	Montgomery	639	0	149	490
Fleming	475	0	0	475	Muhlenberg	144	0	144	0
Franklin	195	0	95	100	Nicholas	650	0	0	650
Graves	718	0	702	16	Ohio	367	0	154	213
Grayson	1302	0	619	683	Pulaski	349	0	344	5
Green	500	0	0	500	Rowan	69	0	69	0
Hancock	188	0	188	0	Russell	235	0	235	0
Hardin	67	0	67	0	Shelby	430	0	430	0
Harrison	64	0	64	0	Simpson	85	0	85	0
Hart	85	0	15	70	Taylor	244	0	244	0
Henry	658	0	483	175	Union	415	0	415	0
Hickman	270	0	10	260	Warren	1370	0	420	950
Hopkins	75	0	75	0	Wayne	753	0	0	753
Larue	50	0	50	0	Whitley	1070	0	580	490

*Bold numbers represent more than 10 percent of non-government employment in the county

Source: Kentucky Long-Term Policy Research Center analysis of data from: Bednarzik, 1993; U.S. Bureau of the Census, 1994; Kentucky Cabinet for Economic Development, 1994.

Finally, a couple of caveats are in order with regard to how these tables are interpreted. They are meant to provide a rough sketch—nothing more—of the economic structure of Kentucky's rural counties. The data are highly aggregated, are based on a BLS study of manufacturing industries in the 1980s, and do not necessarily project the export- or import-sensitivities of various industries in the future. Also, many firms manufacture a variety of products, often at the same plant, and some of these products are more trade-sensitive than others. And while an entire industry may stand to benefit or suffer from increased trade, particular firms within the same industry may meet with very different fates, depending on how well they anticipate future needs and opportunities. Indeed, one of the major goals of this report is to provide information to firms about potential vulnerability and to help them avoid the fates that befall others in their industry.

Apparel

One manufacturing industry which may be particularly affected by globalization is the apparel industry. Between 1982 and 1987 more than one-half of the U.S. market for some types of apparel belonged to foreign producers. Moreover, imports of many types of apparel are rising quickly (Bednarzik, 1993). Illustrating the effects world trade may have on this industry, the Bureau of Labor Statistics projects U.S. apparel industry employment in the year 2005 to be 653,000 if world trade grows more *slowly*

Rural Kentucky was ravaged by apparel plant closings and consolidations in 1995.

than expected, compared to only 458,000 if world trade grows more *rapidly* than expected (Su and Chen-trens, 1994). The apparel industry is the

cornerstone of rural manufacturing in

Kentucky, particularly in the south-central part of the state. In several counties, apparel accounts for more than half of all manufacturing jobs.

Globalization and the Future of Apparel Manufacturing

In the coming years, the liberalization of world trade may have a devastating impact on the U.S. apparel industry, which has already weathered significant job losses. Between 1970 and 1980, apparel industry employment in developing countries nearly doubled as global production moved to take advantage of lower wages. Over the past 30 years, almost half of the productive capacity of the world apparel industry has moved to developing countries (ITC, 1995). Richard Rothstein of the Economic Policy Institute in Washington, DC argues that U.S. manufacturers are struggling, not because the Third World has the competitive advantage in apparel, but because of government-induced currency devaluations, wage reductions and export promotions (Rothstein, 1989). Rothstein notes that foreign governments give apparel firms tax rebates, fabric subsidies, cash grants for new plants and equipment, research and development subsidies, and preferential financing agreements. Moreover, governmental policies of Third World countries keep the wages of apparel workers in those countries artificially low.

Restrictions on textile and apparel imports into the United States, from the Short-Term Arrangement of 1961 through the Multifiber Ar-

rangement and its extensions dating from 1974 to 1994, had helped insulate U.S. manufacturers from foreign competition. However, with the advent of the North American Free Trade Agreement (NAFTA) and the Uruguay Round Agreements (URA), the apparel industry will be forced to operate in a liberalized trade environment without the help of protectionist measures. In compliance with NAFTA, which took effect on January 1, 1994, the United States has lifted quotas on approximately 90 percent of apparel imports from Mexico and has removed tariffs on nearly 30 percent of apparel imports. The Uruguay Round Agreement on Textiles and Clothing will require the United States to phase out import quotas over 10 years.

Under NAFTA, removal of U.S. quotas and tariffs may result in an estimated 45 percent short-term increase and a 57 percent long-term increase in Mexican apparel exports to the United States. U.S. exports to Mexico are unlikely to increase by more than one percent of total apparel exports (ITC, 1993). Overall, the U.S. textile and apparel trade will experience minimal change because Mexico comprises such a small portion of that trade. The effects of the URA will likely be more profound. The U.S. International Trade Commission (ITC) predicts the URA will increase the U.S. trade deficit in textiles and apparel. An expected increase in exports of more than 15 percent will be outweighed by an even larger increase in imports. As a result, U.S. production and employment will likely decrease by 5 to 15 percent (ITC, 1994). The eventual elimination of quotas is expected to lead to an increase in U.S. investment in emerging Asian countries such as India, Pakistan and the Association of Southeast Asia (ASEAN) countries, including Thailand, Malaysia and Indonesia.

While the ITC predicts a modest decline in the apparel industry, four apparel manufacturers' associations claim the URA will abolish 33 to 75 percent of the U.S. apparel industry (ITC, 1994). Most of the expected decline will occur in small firms, especially contractors, which lack the capital, brand name recognition, niche markets and production efficiencies to compete against large U.S. firms and imports (ITC, 1994). After analyzing data collected from numerous American apparel firms, Dr. Amy Glasmeier, who has done extensive research on the U.S. apparel industry, concurs with the associations' opinion (personal communication, 1995). She emphasizes that job loss is inevitable as American firms pursue low-cost opportunities in Asia and Latin America. Glasmeier also notes that modern production programs, quality and responsiveness to retail-

ers' requests are sometimes more important than transportation costs and delivery time. Therefore, Asia can compete effectively with firms in the United States and Latin America. Moreover, she emphasizes that the Asian system of apparel production and the lack of textiles and entrepreneurship in Mexico give Asia a competitive advantage in the post-URA environment.

The Economic Research Service of the USDA suggests four alternative scenarios for the future of the apparel industry in the United States. The scenarios range from gloomy to optimistic, but all predict "diminished employment due to a combination of continued/intensified competition and technological change" (Redman and Sears, 1994). In short, while the impact of trade liberalization cannot be predicted precisely, job loss in the apparel industry is highly likely. The jobs most in jeopardy are low-skill, low-paying jobs in small companies unable to modernize and capitalize on the advantages of global trade. The firms which have the capital to invest in new technology to increase production and decrease labor costs will be more competitive. However, the use of new, labor-saving technology will also lead to the loss of some production jobs while potentially creating jobs in other high-tech sectors. Job losses in the U.S. apparel industry cannot be blamed solely on competition from imports (Dickerson, 1991).

Apparel Manufacturing in Kentucky

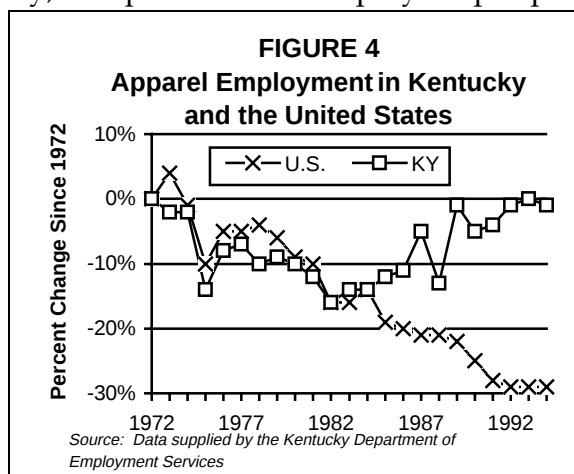
Table 3 on page 16 lists dozens of counties with "import-sensitive" jobs. But what does it mean if a county has hundreds of import-sensitive jobs? The apparel industry offers a grim answer: rural Kentucky was ravaged by apparel plant closings and consolidations in 1995. One major apparel manufacturer closed two plants, which together employed nearly 700 people. Some of the jobs were transferred to other plants in the region (Brown, 1995; "Fruit of the Loom...", 1995). When two other plants, each employing about 135 people, closed in Marrowbone, some of the jobs went to Tennessee and others went to Honduras ("OshKosh B'Gosh...", 1995). News releases from the companies cited competitive concerns as the reason for closing.

The outlook for Kentucky's apparel industry is not entirely bad, however, because the apparel industry in Kentucky is different from the rest of the nation in several respects. The average plant size for apparel firms is 40 employees nationally, compared to 140 employees per plant in

Kentucky. Thus, Kentucky firms may be in a superior position to compete globally, as experts generally agree that it is the smaller firms which are most likely to be adversely affected by foreign competition. Another contrast between Kentucky and the rest of the country is the change in employment levels over the past two decades. Em-

ployment in the U.S. apparel industry fell 29 percent between 1972 and 1994. Kentucky's apparel industry employment very closely followed the national trend from the early 1970s through the early 1980s. But after 1982 the employment decline in Kentucky's apparel industry was reversed and employment has since climbed back to its level of 20 years ago. Today, apparel industry employment in Kentucky is less than two percent below its 1972 level.

Kentucky's comeback in apparel employment during the last 10 years and its above-average plant size suggest that this state has some strengths which, if put to good use, may help apparel manufacturing retain its role in the state economy. If the largest manufacturing employer in rural Kentucky does not build on its strengths, the results, as we saw in 1995, can be devastating.



Wood Products

The wood products industry in Kentucky is chronically underdeveloped. Despite the fact that Kentucky is the nation's fourth largest producer of hardwood lumber, Kentucky's primary and secondary wood industries contribute only \$1.3 billion per year to the state's economy. In contrast, wood products manufacturing is a \$3 billion industry in Tennessee, which has about the same forest area as Kentucky, and a \$4 billion industry in Indiana, which has substantially less forest land.

...“recognizing and accepting that the marketplace has changed, and that we must compete in a global economy” should be first priority for all firms.

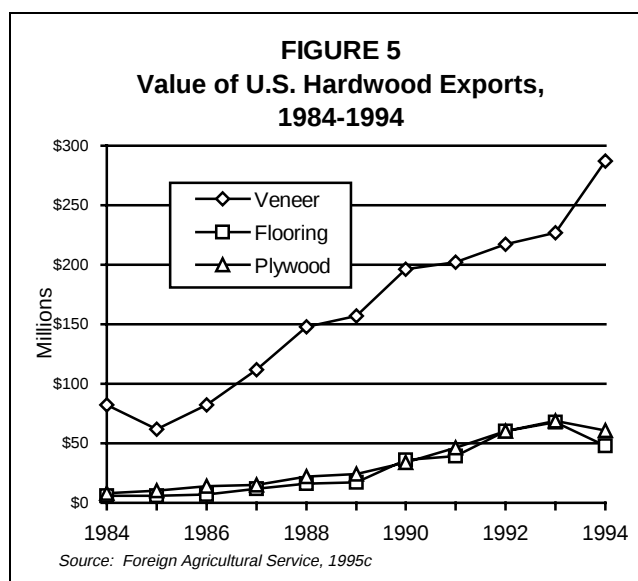
Although it is not as large as in surrounding states, Kentucky's secondary wood industry is well-established, with 449 secondary wood manufacturers which employ 11,565 people (Eastern Kentucky University [EKU] and Kentucky Division of Forestry, 1994). Moreover, secondary wood manufacturing and primary wood manufacturing account for 8.5 percent of all manufacturing employment in the state, but the secondary wood industry is composed of mostly small manufacturers with an average firm size of 26 (EKU and Kentucky Division of Forestry).

Over the past three decades, several studies have examined the potential for secondary wood processing industries in the state. All reached essentially the same conclusions and made similar recommendations. A lack of skilled workers and managers, relatively high workers' compensation rates, regulatory problems, wood waste disposal problems, capital availability, an image of poor labor relations, forest management issues and transportation infrastructure in eastern Kentucky are among the obstacles to developing the industry. Secondary wood manufacturing has remained underdeveloped in the state because many of the problems have not been addressed and many of the suggestions from the studies have not been implemented (Spencer, 1993).

Globalization and the Future of the Wood Industry

The recent trade agreements are not expected to have a major impact on world trade in lumber and wood products. This may be partly due to the fact that these agreements allow many countries to continue to levy high tariffs on products such as plywood and engineered wood, products in which the U.S. would "otherwise be highly competitive" (American Forest & Paper Association, 1994). The remaining tariffs are presently shielding U.S. producers from trade opportunities, but in the climate of liberalized trade these walls may soon fall.

Despite remaining trade barriers, world trade offers many opportunities for the wood products industry. Growing populations and improved standards of living



in developing nations should benefit the U.S. wood products industry. In November 1993, the Forest Products Society and the Oregon Forest Resources Institute sponsored a conference, "The Globalization of Wood: Supply, Processes, Products, and Markets." One of the main themes was the connection between population increases and increased wood usage. Because

population is increasing in other parts of the world at a much faster rate than in the United States, foreign markets are and will continue to be major customers for U.S. wood products. However, the developing nations' share of wood production is also increasing and will compete with U.S. products in the international arena. According to conference participants, exports to Japan should increase dramatically in the near future. In addition, there are export opportunities in the European Union for specific market segments, including temperate hardwood substitutes for tropical hardwoods (Cooper, 1994).

In recent years the value of softwood exports has risen, while the volume has remained fairly constant. On the other hand, both the value and the volume of hardwood exports (which is what Kentucky produces) have increased. Hardwood lumber exports increased 13 percent from 1992 to 1993, with Canada, Japan, Italy, Taiwan, the United Kingdom and Germany as the main markets. Among the different types of hardwood exports which will continue to increase are millwork products, veneer and plywood, which can be used in specialty products related to home remodeling and as unassembled components for furniture. The Department of Commerce and the International Trade Administration predict that "exports [of hardwood plywood and veneer will] continue to grow and offer one of the industry's best growth opportunities because of the increasing concern over tropical deforestation" (1993, p. 10). The growth potential for these products is reflected in the 47 percent increase in plywood exports between 1992 and 1993.

To take advantage of these opportunities, Robert Tichy, president of Technology, Management and Implementation, Inc., believes that product development is the key. He emphasizes that research and development are essential in today's business climate and that "recognizing and accepting that the marketplace has changed, and that we must compete in a global economy" should be first priority for all firms (1994).

As with so many other industries, U.S. export strength in hardwood products lies in delivering a high-value product customized to consumer needs. These exports have been increasing, but Kentucky does not appear to be in a good position because the industry is chronically underdeveloped. Because of emerging growth opportunities overseas among consumers who may have different tastes and needs, product and market research will become increasingly essential. The limited and fragmented resources of small firms which predominate in Kentucky may prohibit critical research and development. As a result, Kentucky could miss important and broadly beneficial opportunities.

Free Trade: Are We Prepared?

It is abundantly clear that globalization will create waves of change, rolling across the state, reaching every community, every business and every citizen. Whether Kentucky will ride these currents or be washed under will ultimately depend on how well the people of the Commonwealth prepare for new ways of doing business in the global marketplace. Today it appears that Kentucky's business leaders are not well-prepared. An informal survey of manufacturers in 88 rural counties reveals a fairly low level of knowledge about NAFTA, GATT and international quality standards.

Our research also provides important information on manufacturers' beliefs about how their companies and their industries will be affected by

..programs to promote rural exports must demonstrate the benefits of trade and must impress on manufacturers that everybody will be affected by globalization.

globalization, how much manufacturers have tried to increase their exports, and whether they have access to needed information.

Questionnaires were mailed to over 1300 manufacturing establishments in 88 non-metropolitan counties. All establishments (except newspapers) listed in the 1994 *Kentucky Directory of Manufacturers* were mailed a survey. A total of 253 usable questionnaires were returned, for a 19 percent response rate.² Eighty-six firms indicated that they currently

² This is not a rigorous scientific survey, because the responses do not represent a random sample of the population. Rather, they only reflect the firms which took the time to complete and return the questionnaire.

export their product to a foreign country, and we therefore classify them as exporters. The remaining 167 are classified as non-exporters. The survey, addressed to each plant's owner or manager, obtained some background information and also asked respondents to indicate their responses to various questions on five-point scales.

Do Rural Manufacturers Expect to Win or Lose?

Rural manufacturers were polled on their expectations of how the globalization of the economy would affect the following:

- Demand for their company's product
- Overall health of their company
- Health of their industry
- Job security of current employees
- Prospects for workforce expansion

For each category, respondents indicated whether they believed globalization would have a very positive effect, somewhat positive effect, no effect, somewhat negative or very negative effect. The average or typical response from exporters and non-exporters alike indicated a more or less positive view of the effects of globalization. However, more than 25 percent of non-exporters indicated that they did not know what the impact might be, or else they simply left the question blank, while only eight percent of exporters did so. With so many non-exporters not even expressing an opinion on how their company, industry or workforce would be affected by globalization, we suggest that programs to promote rural exports must demonstrate the benefits of trade and must impress on manufacturers that everybody will be affected by globalization.

More than one in four exporters believe that globalization will have a very positive effect on demand for the company's product, and another 53 percent believe globalization will have a somewhat positive effect. It is interesting that exporters foresee globalization having a more positive impact on their particular companies than on their industries as a whole. For example, of the clothing exporters who responded, all but one see their companies faring better than the overall industry as a result

It is possible, therefore, that the survey results may not reflect the true characteristics of all rural manufacturers. It should also be noted, however, that this is a very common methodology for manufacturing surveys. Manufacturing surveys conducted by Eastern Kentucky University Professors Engle and Sharp (1993) and by the Kentucky Transportation Center used similar methodologies and report similar response rates.

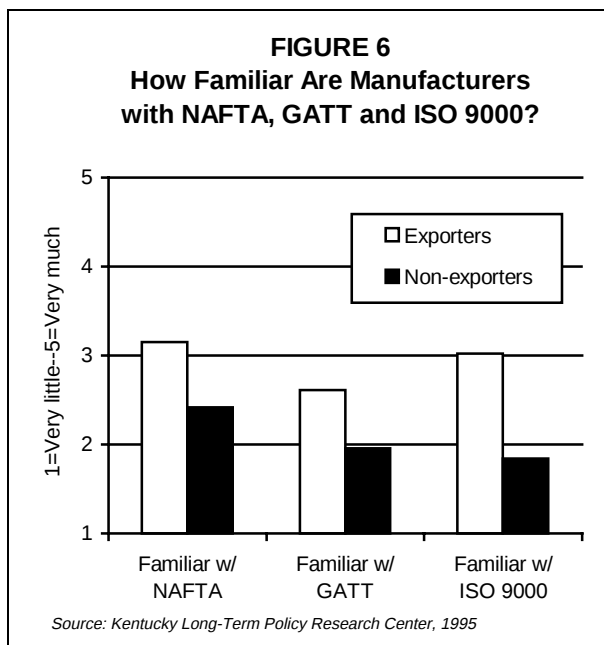
of globalization. This is consistent with our finding that Kentucky's apparel industry has some characteristics which distinguish it (for the better) from the United States as a whole.

Manufacturers are only slightly less optimistic about the impact of globalization on the workforce. More than 60 percent of exporters believe that globalization will have a very positive or somewhat positive effect on the job security of their current employees, and almost 70 percent believe that globalization will have a very positive or somewhat positive effect on workforce expansion. By contrast, more than half of non-exporters who responded believe globalization will have no effect or a negative impact on employment.

TABLE 4 Expected Effect of Globalization on Rural Manufacturers (Percentage of Responses)					
	VERY POSITIVE	SOMEWHAT POSITIVE	NO EFFECT	SOMEWHAT NEGATIVE	VERY NEGATIVE
Demand for Product	17%	37%	37%	5%	3%
Health of Company	19%	41%	32%	4%	3%
Health of Industry	16%	46%	22%	10%	4%
Job Security	16%	37%	35%	9%	3%
Workforce Expansion	14%	38%	37%	7%	4%
<i>Source: Kentucky Long-Term Policy Research Center survey, 1995</i>					

Familiarity with NAFTA, GATT and ISO 9000

In recent years, the United States has entered into two major trade agreements. One is the North American Free Trade Agreement (NAFTA), of which Canada and Mexico are also members. The other is the Uruguay Round Agreements in the General Agreements on Tariffs and Trade (GATT), which has emerged from an association of countries working to lower trade barriers. In addition to the new trade agreements, international quality standards are being set for a wide array of products traded in the global marketplace. The International Organization for Standardization has established standards that provide quality management guidance as well as quality assurance requirements and guidance. These standards, known collectively as the ISO 9000 Series, allow manufacturing and non-manufacturing companies alike to receive certification for complying with world-class standards for quality.



Survey respondents were asked to assess their familiarity with the international agreements driving U.S. trade policy and with the international quality standards established in the ISO 9000 Series. Respondents scored themselves on a scale from one to five, with one being the lowest score and five the highest.

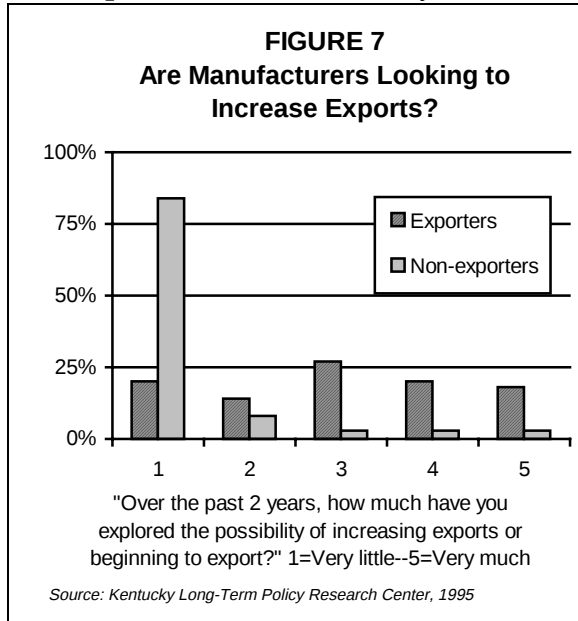
As expected, firms which indicated that they export to foreign countries generally are more familiar with NAFTA, GATT and ISO 9000, although for ex-

porters and non-exporters alike the scores are not especially high. Possibly due to the intense scrutiny it received during the ratification process, NAFTA is the most familiar to respondents. Familiarity with GATT is much lower, even among the firms which export. Only three percent of exporters reported being "very familiar" with GATT (the same percentage as non-exporters), while more than 40 percent of exporters and more than 60 percent of non-exporters rated their familiarity with GATT low or very low. Exporters are much more familiar with ISO 9000 than non-exporters, but even among exporters the scores are fairly low.

It is true that knowledge of NAFTA and GATT is not essential for a manufacturer to be a successful exporter. However, these are two major trade agreements, and familiarity with these is a proxy for general knowledge of new opportunities and challenges emerging in the international trade environment. Furthermore, knowledge of international quality standards, such as ISO 9000, will become increasingly important, particularly for those manufacturers exporting to the European Community. Thus, familiarity with NAFTA, GATT and ISO 9000 as a measure of the sophistication of manufacturers' preparedness for globalization is quite appropriate, and can inform policymakers about how to help Kentucky's rural manufacturers make the most of new opportunities.

Pursuing Export Opportunities

The questionnaire asked exporters how much, over the past two years, they have explored the possibility of increasing exports, and asked non-exporters how much they have considered beginning to export. As with the questions on familiarity with NAFTA, GATT and ISO 9000, re-



spondents scored themselves on a scale from one to five, with one being the lowest score and five the highest. Again, scores were generally very low. More than one-third of all exporters demonstrated little interest in increasing their exports, scoring themselves only a one or a two, and the average score for all exporters was barely above three. The numbers for non-exporters are far lower. Eighty-four percent of non-exporters gave

themselves the lowest possible score (a one) for how much they have explored the possibility of beginning to export. Only six percent scored themselves a four or a five.

Of course, it is to be expected that some manufacturers would have no reason to think about exporting. Some produce goods which are difficult to export or have little demand overseas. The

number of such products, however, is diminishing rapidly. With some modification or with improved marketing, many goods no one even considered exporting before are now sold around the world. Perhaps the reason more than four out of five non-exporters have not even looked

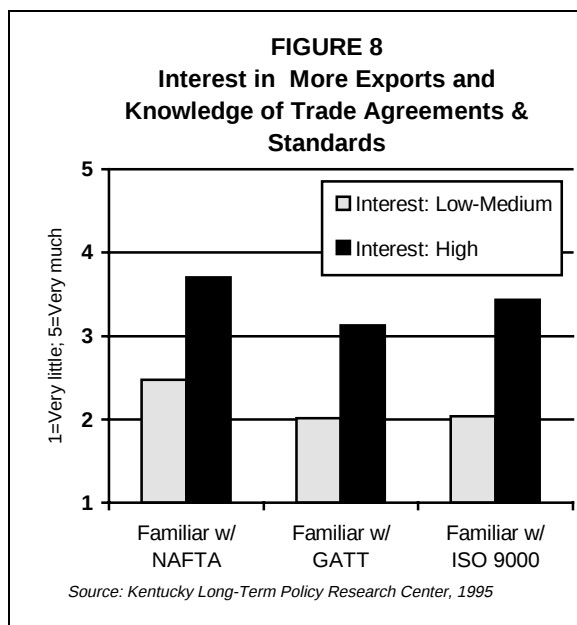
Perhaps...rural manufacturers are daunted by the information and preparation needed to export, or else they underestimate the benefits of world trade and the opportunities that are available.

into exporting their goods is that rural manufacturers are daunted by the information and preparation needed to export, or perhaps they underestimate the benefits of world trade and the opportunities that are available.

Whether firms interested in expanding their international trade have adequate knowledge to do so is an important question. Its answer will assist policymakers in developing programs and policies that will help manufacturers to increase their exports and bring added sales, revenues and job opportunities to Kentucky. The survey shows that firms which expressed a high level of interest in increasing exports or beginning to export

(scoring themselves a four or a five) generally are much more familiar with NAFTA, GATT and ISO 9000. NAFTA is better-known than GATT among all firms, despite the fact that the U.S. International Trade Commission projects the impact of the Uruguay Round Agreements of GATT to have a greater impact on the U.S. economy. Firms interested in more exports are more familiar with the trade agreements and with international quality standards.

The results of this survey suggest that many rural manufacturers are not aware of how they may be affected by, or may take advantage of, the forces of globalization. About 20 percent of the respondents did not express any opinion on how their company, their industry or their workforce would be affected by globalization, or else they indicated that they did not know. Moreover, most non-exporting firms have done very little in the past two years to begin to export, and many exporters have said that they have done little



...more than four out of five non-exporters have not even looked into exporting their goods...

to increase their exports. Low interest in exporting is accompanied by unfamiliarity with NAFTA, GATT and ISO 9000. These findings suggest that before enacting more expensive and complicated programs offering incentives and technical assistance for export promotion, a more appropriate state strategy at this time might be to raise interest in exporting and to increase general knowledge of export opportunities, quality requirements and potential benefits of trade.

Obstacles for Rural Firms

The survey of rural manufacturing reveals that many producers simply are not thinking about exporting. This undoubtedly has impeded the development of export markets for Kentucky products. Other factors also work to inhibit Kentucky's participation in the global marketplace. Dr. R. E. Burnett, Assistant Director of the Patterson School of Diplomacy and International Commerce at the University of Kentucky, has written the following section, in which he examines some of the obstacles to exporting which small and rural Kentucky businesses face.

For Kentucky businesses that have long been engaged in exporting, there is little problem continuing to do so, as long as they monitor their markets and plan accordingly. For many smaller businesses, even those with a relative advantage in export potential, the probability of success is much lower due to a number of obstacles which serve to deter, and, at worst, defeat the effort altogether. In order for Kentucky's businesses to reach their export potential and further assist economic development in the state, the obstacles to exporting must be defined and strategies for overcoming them must be created and implemented. This mission is the primary goal of Kentucky's export consortia and the International Trade Office in Frankfort.

...exporting is viewed as being too complicated, too expensive and too demanding.

Knowledge of Foreign Markets

The fundamental problem which inhibits growth in exports (in terms of new exporting businesses) in Kentucky is simply that a majority of Kentucky providers of goods and services continue to focus only on domestic markets. There is much evidence to suggest why this is so, but, essentially, Kentucky businesses have developed in accordance with the market forces of a "middle America" and a regional economy. This market traditionally has not been connected to the global economy except for certain sectors, such as energy (coal and oil), transportation (autos and auto parts), and agriculture (tobacco and corn). Logically, these industries have developed with export markets and are the largest exporters in Kentucky today.

Many Kentucky industries, however, conduct business in a traditional manner. They have not developed a viable research component to continually identify and define potential market opportunities. As a result, they are often completely unaware of services that are available here at home that could assist them with these and other important tasks and services that facilitate exporting.

These perceptions are further substantiated when one attends many of the international trade shows conducted around the state each year to bring importers and potential Kentucky exporters together, to impart knowledge about foreign markets and the export process and to motivate Kentuckians to complete export transactions. Many Kentucky business owners or their principal representatives leave these meetings uncommitted to following through on an export deal. The reasons for this are many, but, typically, exporting is viewed as being too complicated, too expensive and too demanding.

Kentucky businesses often consider themselves to be too small with too little knowledge and sophistication to understand foreign markets and their diverse cultures. Few rural and small Kentucky businesses have staff who are fluent in a foreign language and knowledgeable about foreign cultures and who also have good business skills. Persons with these skills have advanced training and experience and command higher salaries than many small Kentucky businesses can afford to pay. So basic knowledge of how to deal with foreign markets, how to contact them, how to market to them and how to negotiate with them, is a commodity that is in short supply for many Kentucky producers.

Regulation

Ironically, at a time when global markets offer the greatest opportunity, the architecture for international trade has never been more complicated. In fact, new international agreements designed to open and ease trade have had quite the opposite effect. Local businesses and governments must make sense of new paperwork and increasingly rely on specialized attorneys and trade analysts to interpret the new rules and regulations—a time-consuming and expensive process. The first two or three years of the implementation of NAFTA will primarily serve as a transition period during which government and private attorneys must interpret this architecture for their business clients. For the small or rural Kentucky business, the expense and complexity that is associated with exporting within such a regulatory environment is a powerful disincentive.

Finance

Perhaps the most imposing obstacle to exporting is a difficult financial environment. Kentucky businesses are risk-averse when it comes to exporting within the scope of uncertainties that arise from a shifting regulatory environment. However, their potential financiers (banks) are even more risk-averse upon examining the creditworthiness of small- and medium-size businesses seeking to export to uncertain markets for the first time.

Banks are notorious for refusing credit to enterprises that need it the most—usually smaller businesses attempting to establish themselves in a new market or with a new product. An export arrangement involving foreign markets and foreign banks adds significant risk to the deal. Understandably, a bank may balk at providing credit in such an arrangement. If it does decide to extend credit, it may charge a premium fee (to protect itself) that renders the deal unaffordable to the local exporter. The end result is that small- and medium-size Kentucky businesses may decide they want to export and perform all of the hard work necessary to do so, only to come up empty-handed when seeking credit. For many, this is the "coup de grace." It sends an inestimable number of would-be exporters fleeing from any real discussion of what, where or how to export products and services.

Implications

Clearly, we can do more to help Kentucky reach its export potential in the years to come by focusing directly on the problems indigenous businesses face and by seeking homegrown solutions. First, there is a great deal of work to be done at the grassroots level among the state's small- and medium-size and rural businesses. As the Kentucky Long-Term Policy Research Center's manufacturing survey reveals, what is missing among Kentucky businesses is a fundamental commitment to exporting. Kentucky's businesses, government, universities and international citizens must work together to help those who are not exporting "get into the game." There is no ready substitute for a hands-on approach to cultivating export potential. The first international business transaction for most small businesses will have to be conducted principally by those who have the knowledge and networks necessary to conduct export business. And, importantly, this transaction will have to be conducted in a manner that teaches and trains novice exporters so they can assume responsibility for future export growth.

We will get more "bang for the buck" through grassroots efforts to help businesses arrange and conduct initial export transactions. Unfortunately, such partnerships are often discussed but seldom achieved. Achieving them will require extensive work in numerous localities throughout Kentucky over time. There is no alternative to the kind of intense, one-on-one work with small and rural businesses required to boost engagement in international trade. The International Trade Office is developing this type of model in an effort to cultivate the skills businesses need to create a successful export component of their operations.

Second, businesses must acquire or develop the international skills (language, knowledge of culture and political risk, and specialized business and financial knowledge) needed to conduct a successful export operation. Businesses must accept and commit to paying the premium necessary for such skills, an expense that is readily justifiable given the increased sales and profits exports are likely to bear. Industrial networks offer a possible means to affordable international skills that could enable groups of businesses to engage in exporting. Furthermore, Kentucky must increasingly produce this kind of talent through its secondary and higher education systems by utilizing the international educational pro-

grams that exist and by enhancing them with new resources and missions.

Third, we must recognize that the regulatory environment surrounding exports is largely beyond the control of Kentuckians. This makes it very difficult to achieve a comparative advantage in terms of regulation. Instead, we must seek a comparative advantage *here* for our businesses. To accomplish this we must have in place capable individuals in both government and the private sector whose job it is to stay abreast of daily developments in international trade architecture and to provide analysis and legal interpretation to exporting businesses quickly and competitively.

Fourth, we must seek new strategies for financing exports from small businesses in a risky business environment. We are not alone in attempting to enhance our export effort in this important category. Numerous other American states are frustrated with the less-than-optimal financial conditions surrounding their fledgling export efforts. Wisconsin, already a leading exporter, cites the lack of export finance as a principal factor in limiting future export growth. However, the state's Export Commission also concluded that Wisconsin (or any other individual state) can do very little to increase the availability of funds for potential exporters operating in a tight credit environment. Their plan is to educate exporters about existing Small Business Administration and Eximbank programs ("Program Profile," 1995).

Though the Kentucky Task Force on Creating a Globally Competitive Business Environment has recommended that the Kentucky Economic Development Cabinet's Financial Incentive Office review the possibility and desirability of developing a state-sponsored export finance program, the state will be hard-pressed to do so in tight economic times where real and political demands for state dollars are highly competitive. As in the case of Wisconsin and other states, we will have to put our efforts into making those businesses which seek to export more competitive for funds from the Small Business Administration and Eximbank.

Conclusion

Participating in the global marketplace is key to the future economic health of Kentucky's rural communities. World Bank data show

that world trade is continuing to exceed world economic output. This means that export activity will invigorate local economic health more so than business betting on overall economic growth. Unfortunately, Kentucky faces several obstacles in seeking to increase its export earnings. Knowledge of foreign markets and cultures, international trade regulations, and export finance are substantial obstacles that Kentucky businesses must overcome. At the same time, Kentucky's sister states are also working very hard to be successful in this arena, creating a more competitive export environment. While most states are developing in-state architecture in an effort to give their indigenous businesses a competitive advantage in world markets, it is suggested here that efforts placed at the "grass roots" level will achieve the greatest gains over time.

Networks: A Local Approach

Our manufacturing survey suggests that generating interest in foreign trade and raising expectations will be important steps toward broader participation in the global economy. However, rural producers are likely to have a healthy skepticism about whether they can actually become exporters. Dr. Burnett discusses several rather daunting needs—regulatory expertise, international sophistication and low-interest financing—which are sure to dampen the enthusiasm of rural producers. At the root of these obstacles is one problem—a lack of resources.

By themselves, most rural producers do not have the resources necessary for successful exporting. State government programs alone cannot remedy the problem. With cutbacks taking place all across government, public resources will be constrained well into the foreseeable future. Export-promotion and producer-education programs, particularly if they are new, are among the least likely to receive precious government revenues.

The challenge posed by limited and fragmented resources can be overcome by collaboration. State and local government can encourage collaborative efforts, but success or failure ultimately depends on individuals, enterprises and communities. Pooled resources at

Pooled resources at the local level...can generate tremendous energy and allow businesses to achieve goals that would otherwise be difficult, if not impossible, to reach.

the local level, combined with insights into the unique needs of different communities, can generate tremendous energy and allow businesses to achieve goals that would otherwise be difficult, if not impossible, to reach. Cooperation is not a new concept to rural producers. Farm co-ops have been well established for years, as have trade associations for various industries. However, cooperation among manufacturers and farmers is becoming increasingly sophisticated in Kentucky and around the world. Relationships among producers are closer, more formalized, and are integral components of development planning. In fact, these sophisticated cooperative relationships now have a name – networks.

What is a Network?

The term "network" is open to different interpretations. At a 1992 summit of networking experts from around the world, "network" was given a codified definition: "A network involves a form of associative behavior among firms that helps expand their markets, increase their value-added or productivity, [and] stimulate learning [to] improve their long-term market position" (Bosworth and Rosenfeld, 1993, p. 19). Firms might cooperate with one another in several ways:

- In *learning networks*, firms share valuable knowledge and experience necessary to remain competitive.
- In *resource networks*, firms develop solutions to common problems or spread expenses for insurance, certification, training, equipment or testing.
- In *co-marketing networks*, firms employ joint marketing to gain access to new customers and new markets.
- In *co-production networks*, firms jointly manufacture components or finished goods, complementing one another's operations (Bosworth, 1995).

These types of networks are listed in ascending order that reflects the level of trust and cooperation necessary for success. Learning networks and resource networks are known as "soft networks," since these types of networks do not require the more formalized relationships of co-marketing or co-production networks, which are known as "hard networks." Firms typically begin working together in soft networks, which require less effort and less commitment, and as trust and coopera-

tion develop, they may move towards hard networks. Hard networks generally yield greater results in terms of sales and competitiveness.

A good example of a *learning network* is the Cost Reduction Association of Northern Kentucky, or CRANK. This organization was created in 1994 by about 20 Northern Kentucky firms for the purpose of reducing costs. The group is examining inventory programs, scrap reduction, team approaches to management and trash disposal reduction costs. CRANK is also developing a plan for members to purchase office supplies as one large unit (Friedberg, 1995).

A *resource network* in Gosheim, Germany, has a number of small- and medium-size engineering and metalworking firms which were under competitive pressures from other European firms and from the rising quality standards of large manufacturers. They decided they needed to improve quality, but individually they could not afford to purchase the necessary equipment. Instead, they came together to buy a single set of the very best equipment on the market, to be housed at an independent technology center (Pyke, 1994). Similarly, the Oregon Book Publishers Expanded Network is an association of 167 small publishing companies which share equipment, technology, training, information and cost-cutting procedures ("NetNews", 1994). Washington state has established the ISO 9000 Implementation Networks Program to help small firms share the cost of ISO 9000 certification, reducing their training and consulting costs by nearly half ("NetNews", 1995).

A *co-marketing network* requires firms to become more interdependent and necessitates higher levels of trust. Nonetheless, these networks are quite common. For years farmers have sold their produce at farmers' markets and have cooperated to gain access to new markets, but today many different kinds of producers are engaging in this kind of activity. In Great Britain, a network of printers publishes a comprehensive brochure that describes the capabilities of the 10 member firms. When designing the brochure, the firms were careful not to overlap their products, so that no two companies provide the same services in the brochure. The network's members share customer databases with one another and sometimes engage in joint contract work, enabling them to secure larger contracts than they could individually (Broun, 1994b).

Firms in a *co-production network* not only market their goods together, they also produce them together. The Iowa Strategic Alliance Beef Project is a network of several dozen cow-calf producers, an area

feedlot operator and a beef packer. The feedlot operator and the packer exchange information with the producers, enabling greater quality control in the production process and producing more consistent and flavorful beef (Borst, 1995). The Western Canada Marine Group, a small, six-member network of marine equipment and design technology firms, recently won a \$20 million contract to design and build a new patrol boat for the Mauritius Coast Guard, and it is currently bidding on another \$200 million worth of contracts in Asia, the Middle East and South America ("NetNews", 1995). The Appalachian Center for Economic Networks makes household products, such as adjustable cabinets, for people with disabilities (Broun, 1994a). The firms in Canada and Appalachia are winning contracts that would be too large for any individual company to fill.

A network might consist of firms which produce similar products, such as the Western Canada Marine Group. A network might also be a group of firms producing different stages of the same final product, as with the Iowa Strategic Alliance Beef Project. Or a network may be like CRANK, with firms in different industries cooperating to share information about new business practices and to solve common problems.

How Do Networks Get Started?

Like and linked firms tend to cluster geographically. The cluster may be based on common technologies, labor needs, transportation needs and so forth. While these firms frequently view one another as competitors, it is also true that they probably share many of the same interests and concerns. Networks build upon the similarities among firms in a given region, and help them pool human and physical resources to promote innovation, increase the value added to their products and improve market shares. Firms are motivated to collaborate by the rapid growth of global trade—the metalworking shop on the east side of town no longer competes solely with the metalworking shop on the west side of town; it is now competing with metalworking shops in Mexico, Brazil, Taiwan and Spain, all of which may have lower labor costs, better public and private marketing services, and world-class machinery. Firms are increasingly coming to see their neighbors, with similar needs and similar interests, as collaborators rather than competitors.

However, firms are rarely drawn together as if by destiny. Rather, it takes extensive effort, often initiated by an individual firm or person, known as a "broker," to initiate a network. Brokers may be required to devote a considerable amount of time to laying foundations before any collaborative efforts can be constructed. The British printing network was founded by a printer and a marketing consultant. The two contacted other printing firms in the Gloucester area, and 10 firms formed the network (Broun, 1994b). When the Jane Adams Resource Center (JARC) in Chicago surveyed metalworking industries in the neighborhoods in which it worked, it found that firms were interested in working collaboratively. JARC then helped establish the Metalworking Consortium, a co-marketing network (Broun, 1995a). In Gosheim, Germany, the resource network of 40 engineering and metalworking firms was largely initiated through the efforts of one local person, who organized meetings and agendas (Pyke, 1994).

Particularly when firms are first exploring the possibilities of collaboration, it may take considerable time to establish trust between people who ordinarily view one another as competitors. At this stage the broker is key. Experts repeatedly state that interpersonal relationships between representatives of the different companies are essential to make the networks work. As trust develops, networks may move towards co-marketing or co-production activities, which tend to have larger benefits than shared learning or resources (Bosworth, 1995). Brian Bosworth of Regional Technology Strategies writes, "Networking behavior seems to involve more fundamental issues of modernization as trust relationships deepen and interdependence grows" (p. 2). These interpersonal relationships may be nurtured by frequent face-to-face meetings among networking firms (many networks meet once or twice a month, particularly in the early stages), and through other activities, such as seminars or social functions. Cordes Seabrook, who co-founded Value Systems Inc., a private consulting firm in the Carolinas, brought representatives from textile firms together at dinners and cocktail parties (Broun, 1995b).

Public agencies can assume the critical role of broker, but state government's role must be much larger than simply inviting firms to meet with one another. If new processes of development are to take root and flourish, private companies are not the only ones who need to change their thinking and their way of doing business. It is incumbent upon government and other members of the community—educational

institutions, individual citizens, civic groups—to enable these changes in the private sector.

Getting Government and the Community Involved

One of the true strengths of networks is the considerable value they have beyond service as economic development tools. Although networks have emerged in Europe and the United States largely in response to the rising competitive pressures of the global economy, they can serve a much broader purpose. Here in Kentucky we have examples of how networks can unite diverse actors within a community, build social capital and benefit those not previously associated with a particular industry.

In Louisville, the plastics industry is one of several networks which has formed as a result of the efforts of the Louisville/Jefferson County Office for Economic Development (OED). The plastics industry network has been quite active since its formation in February 1994. Among other things, it has established a 42-hour curriculum for entry-level employees, to be taught at one of Jefferson County's magnet career academies. Nine suppliers and vendors donated a mold-making machine and support equipment to the school, and the Bluegrass State Skills Corporation provided an in-kind matching grant. St. Anthony Outreach, Inc., an inner-city community resource center, provided several students from a pool of job applicants to the training program. These students were hired by the plastics companies upon completion of the training program. The network has begun planning a 520-hour curriculum to be taught at Jefferson Community College (Louisville/Jefferson Co. Office for Economic Development, n.d.).

Not only do the plastics companies benefit by reducing worker training costs, but local educational institutions have acquired equipment, skills and training capability that are highly responsive to the local job market. Inner-city residents receive training which results in employment. All the while, the OED has worked to facilitate communication among the plastics firms and enlist the resources of a diverse group of organizations. This is clearly a community effort.

Rural communities may have to be a bit larger, geographically speaking, since firms are less concentrated than they are in a city. Firms in the same industry might be spread over several counties, which could

inhibit the development of networks for a couple of reasons. First, face-to-face meetings, which are critical for establishing trust and cooperation, would be more difficult. More importantly, assistance from a single agency, such as the OED, is probably more efficient than a program which would require coordination of resources from several different county governments. This suggests that the state, while encouraging network development everywhere, would have a particular obligation to assist rural firms.

Kentucky recently established a program known as the Networking Initiative, administered by the Cabinet for Economic Development. The Networking Initiative provides information, expertise, training and financial assistance to firms wishing to establish a network. As of the spring of 1995, the program was still establishing guidelines for financial assistance, although it was already providing other kinds of support to a handful of existing networks in the state. However, much

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more could be done. Some states, and even some countries, have made networks a cornerstone of their development policy. Denmark is widely acknowledged as having one of the most sophisticated net-

working programs in the world, and several other European countries have enacted programs to actively encourage networking. Networks have been slower to catch on in the United States, but they are undoubtedly an emerging consideration in state economic development plans. Oregon became a leader in promoting the network process with passage in 1991 of the Key Industries Bill. This bill stipulates that the state work with "private firms, industry associations and others, to encourage cooperative, sector-based strategies to promote industrial competitiveness" (as cited in Simon, 1995). The Commonwealth of Virginia has also established an economic development plan focusing on key sectors of the economy, with one of its goals being the construction of public/private partnerships.

Strengthening Kentucky's Economic Foundations

Kentucky's Strategic Plan for Economic Development lists "encouraging the establishment of manufacturing networks" as one of its

tactics for reducing unemployment and increasing per capita income. The team working on this tactic recommended that unlike Oregon and Virginia, Kentucky should not designate statewide industries to be targeted for networking efforts. Rather, local and regional community groups and business organizations should identify industry sectors on a regional basis, and the Cabinet for Economic Development would then offer support to those sectors. Several industries are likely candidates to be selected by local leaders to receive networking assistance. The key industries discussed earlier—agriculture, apparel and secondary wood products—are very important to certain regions of the state, and each offers an example of how regional firms can develop effective networks.

Agriculture. Farmers' cooperatives have been in existence for decades but have only had limited success. Critics note that marketing cooperatives have had difficulty getting geographically dispersed farmers to work together, management is sometimes poor and unprofessional, profits often go to private investors instead of cooperative members, and cooperatives can become so large that the members lose control of the organization. Yet a new kind of cooperative, one which adds value to bulk agricultural products, has demonstrated some remarkable successes. The Minnesota Corn Processors co-operative began in 1982 and today is one of the world's largest producers of ethanol; farmers who made the minimum investment of \$10,000 in 1982 now own more than \$100,000 in equity and received a dividend of nearly \$3,000 in 1993 (Alster, 1994). Farmers who helped purchase the American Crystal Sugar cooperative in 1972 own shares worth twenty times their original investment (Alster). These successes have made farmers very interested in food processing cooperatives; when the Northern Corn Processors co-operative offered 14.5 million shares to farmers, it received offers for 17.5 million shares in 24 hours (Alster).

To be successful, farmers need not organize on so large a scale, nor must they formally incorporate their organization. The Iowa Strategic Alliance Beef Project includes only a few dozen cow-calf producers, one feedlot operator and one beef packer, who cooperate with one another without confining themselves to the regiments of a formal organization. Alan Borst, an agricultural economist for USDA, writes that "networks have generated considerable excitement among some agricultural producers who want an alternative to traditional cooperatives"

1995). Borst recommends that producers who are uncertain whether they want to immediately risk investing much time or money in a formal co-operative agreement should first establish a soft network, in which they would simply share information or training expenses. Smaller, informal networks can lay the foundation for hard networks, in which farmers market or process food jointly.

One of the distinguishing features of hard agricultural networks (what *Forbes* magazine calls the "new wave of farmers' co-ops") is that they are now in the business of adding value to a wide variety of farm products (Alster, 1994). In recent years, co-operatives have formed to process wheat, corn, broccoli, cauliflower, navy and pinto beans, hogs, cattle and buffalo (Alster). Small networks will have the flexibility to process food for niche markets, enabling them to respond to changing market demand and offer customized products to consumers who may have vastly different tastes (Borst, 1995).

In Kentucky, a grant from the W. R. Kellogg Foundation is enabling networks of farmers across the state to develop more sustainable agricultural systems. Using start-up money, the groups are working in a variety of sectors, including cattle marketing, organic apple production, dairy products, vegetables and pork genetics. The goal of the project is to increase the networks of farmers and farm groups in the state. Because many farmers in Kentucky are part-time and have limited resources to contribute to a network, public and private institutions such as the Kellogg Foundation have a critical role to play. Financial assistance, professional management and market research will be essential for improving our agricultural networks.

Apparel Manufacturing. The challenge for apparel manufacturers is to compete with foreign producers who have lower labor costs. Richard Rothstein of the Economic Policy Institute points out that the United States has the competitive advantage in every aspect of production except wages. Apparel manufacturers in the United States have more highly-trained and productive workers, superior technology, minimal political and economic instability, no administrative costs of importing or travel to foreign plants, and close proximity to the U.S. market, meaning lower shipping costs, better quality control and shorter lead times (Rothstein, 1989).

Networks can play an important role in helping U.S. firms invest in technologies and worker training programs to make them competitive in the face of rapid globalization. Quick Response programs, which establish closer working relationships with retailers and enable shorter delivery times and other production efficiencies, are being adopted by manufacturers to help reduce inventory requirements and eliminate stockouts for retailers. One example of flexible manufacturing associated with Quick Response programs is modular manufacturing. With modular manufacturing, small teams of employees use specialized, electronically-controlled equipment to produce an entire garment. Workers are trained to perform multiple tasks, and pay and incentives are based on team performance in order to minimize downtime and improve quality (ITC, 1995). Other examples of technological advancements used by firms in Quick Response programs include computer-aided design and ergonomics, a concept which involves designing instruments to improve worker safety, health and productivity. In addition, communications technology is vital to Quick Response programs because apparel manufacturers must keep in close contact with retailers in order to fill orders as quickly and efficiently as possible. In doing so, they improve the quality of service and reduce inventory and markdown costs for retailers.

Quick Response programs offer apparel manufacturers the hope of regaining their competitive position, but the costs of purchasing new equipment and upgrading communications capabilities can be daunting, particularly to smaller firms. Many firms have not invested in efficiency-increasing technologies because of the lack of skilled labor capable of using the technology and the failure of management to recognize its importance. In addition, many firms have failed to adopt high-performance management practices such as team production.

With the high costs of advanced technology and training, networks could offer apparel manufacturers considerable advantages. Firms might conduct worker training programs jointly, as the Louisville plastics manufacturers do. Communications and equipment costs might be shared as well. Learning networks, the easiest kind of networks to establish, would enable firms to share information about management practices and cost-saving ideas. Not only could apparel firms collaborate with one another, but they could also work with local educational institutions, as they do in South Carolina. There, the Apparel Research Cen-

ter at Clemson University works with groups of apparel firms, particularly small ones, to aid in technology transfers, including flexible manufacturing processes, computer-aided design and worker training in team-based manufacturing.

Dispersion of firms across a wide geographic area would not be a problem for apparel manufacturers in Kentucky. Many plants are located in the south-central part of the state and would be able to work together with frequent face-to-face meetings. In the summer of 1995, the Cabinet for Economic Development's Networking Unit conducted a seminar in Bowling Green, and several apparel firms expressed an interest in pursuing the networking idea. This could be the beginning of a process which will strengthen the largest manufacturing industry in rural Kentucky.

Secondary Wood Products. Kentucky has done more to promote networking in this industry than in any other. House Bill 561, enacted in March 1994, created the Kentucky Wood Products Competitiveness Corporation in order to, among other things, develop workforce training plans for the secondary wood products industry and review proposals to establish networks for businesses and industries. The legislation states:

The Kentucky Wood Products Competitiveness Corporation...shall provide development and promotion advice and assistance...that will allow three (3) or more secondary wood industry businesses to: pool expertise, improve technology, develop new markets, improve employee skills, increase capitalization, improve product and production quality, and develop a system of collective intelligence among participating entities.

The Corporation is instructed to work with the Tourism, Labor, Economic Development, and Natural Resources and Environmental Protection Cabinets, as well as the Quicksand Wood Utilization Center in Breathitt County, the University of Kentucky, Eastern Kentucky University, Morehead State University, the community college system and the Kentucky Tech System. These state agencies and regional institutions are enlisted "for the purposes of increasing product quality and productivity of Kentucky's wood products manufacturers and processors and enhancing the *global competitiveness* [*italics added*] of Kentucky secondary wood products industries" (Kentucky General Assembly, 1994, p. 3).

One of the early successes of the Corporation is the Kentucky Woodworkers' Network, based in Johnson County. A local extension agent had been working with area woodworkers for several years to find a market for their products when the Wood Products Competitiveness Corporation helped the Woodworkers' Network find a buyer in Lexington. The Network has secured contracts for \$400,000 worth of goods for 1996, and some of the craft items will be sold overseas. Network members assist each other when orders exceed one member's capability, thus enabling them to secure larger contracts than would be possible individually. Furthermore, network members purchased the same type of equipment, they purchase materials together, they help train each other and they set quality control standards. To lower materials costs, the network uses wood waste products from manufacturers across the state, thus enabling those enterprises to lower their waste disposal costs.

Enhancing the Capacity of Enterprises & Industries

Many people are discovering the benefits of networks. Network support activities often originate outside of state government, and are often provided by local organizations in response to the needs of small producers within a particular region. The Northern Economic Initiatives Center of Northern Michigan University utilizes faculty, students and staff to provide coordinated assistance to micro-enterprises, businesses that employ fewer than 20 people, in the Upper Peninsula. A graduated program of services enables micro-business owners to improve product quality, productivity and marketing. The long-term goal of services is to move owner-operated businesses toward limited or full-scale manufacturing and active participation in export markets (Anderson and Lambert, 1994).

Winrock International, a Henderson State University program in Arkansas, offers an example of a successful, self-sustaining industrial extension service. Winrock provides small wood and metal industries with a range of technical and support services designed to expand sales and improve plant productivity through process and equipment redesign and worker training. This member-supported program forms alliances of small manufacturers that jointly secure bids from furniture manufacturers and building suppliers. More than 1,000 small manufacturers participate. This model holds particular promise for Kentucky as it seeks to advance the wood products industry. Through cooperation, wood products manufacturers and crafts workers can overcome deficiencies in training, equipment and production capacity.

Similarly, the Montana Women's Economic Development Group (WEDG) provides consultation, training and much-needed capital to women entrepreneurs in five rural, mountainous counties of western Montana. Since 1992, the organization has achieved remarkable results, helping entrepreneurs to create, expand or sustain businesses employing more than 500 people. Only 5 percent of WEDG clients have either sold their businesses or opted not to go into business since the service organization was launched in 1992. Through service to what traditional lenders and support organizations would recognize as an unlikely client base, WEDG has enabled and empowered entrepreneurs to expand their individual capabilities and, consequently, improve the capacity of the region as a whole. Presently, the Berea-based organization, Mountain Area Community Economic Development (MACED), is working on a similar project. Were Kentucky actively engaged in capacity building as a primary development strategy, this project would be a likely candidate for funding and replication in rural regions throughout the state. WEDG offers an excellent model of organizational leverage and social capital that could help raise labor force participation rates among women in rural areas, a significant obstacle to increased prosperity.

In rural Arkansas, Southern Development Bancorporation, a community development bank, and the Arkansas Enterprise Group (AEG), which coordinates the work of five for-profit and non-profit organizations, combine to provide a range of services and capital to businesses and low-income individuals who want to become self-employed. Southern and AEG have invested more than \$25 million in small enterprises and provided \$1.5 million in short-term financial assistance in addition to providing vital support services to help businesses improve the management of accounting, forecasting, acquisitions, equipment leasing, etc. Additionally, the program has provided low-cost, high-quality office space for rural enterprises. AEG is an example of achieving greater leverage and impact through organizational collaboration, a model that can be broadly encouraged and rewarded with financial incentives and technical support.

Think Globally, Act Locally

The slogan that originated with environmentalists is also applicable for those concerned about the economic future of rural Kentucky. Acting locally is imperative, for rural Kentucky continues to shoulder many of the problems which have traditionally burdened it—poverty, low educational achievement, joblessness, inadequate access, and the list goes on. The fact that these are continuing legacies in many parts of the state is reason enough to dramatically change our approach to development. As the saying goes, "If you keep doing what you're doing, you'll keep getting what you've got." But if our dreams and aspirations for rural Kentucky are to become reality, we must now contend with another set of forces far beyond our control: trade liberalization, growing economic interdependence, rising standards for quality and increased international competition. In short, we must think globally.

...if our dreams and aspirations for rural Kentucky are to become reality, we must now contend with another set of forces: trade liberalization, growing economic interdependence, rising standards for quality and increased international competition.

Unfortunately, not everybody will be treated kindly by the forces of globalization, at least in the short-run. With expanding world markets and rising international investment will come increased competition for market shares abroad and here at home. The United States imports tobacco, clothing, food, automobiles, oil, furniture and many other prod-

ucts which compete with Kentucky industries. At the same time, growing populations and rising incomes in the developing world, combined with a climate of more liberalized trade, are creating huge export opportunities for agriculture and manufacturing. Our challenge is to avoid the dangers of globalization and to tap the opportunities it yields.

Who wins and who loses as a result of international trade will partly depend on the jobs people have and the products they make. The skills and products of the past, associated with mass production and specialization of labor, are giving way to new skills and products—those based on flexibility, quality and customization. The U.S. role in the global economy will be to supply high-quality, customized products and services; firms with a low-skill, low-wage workforce may be hurt by increased imports. The mix of industries in the different rural counties means that some counties may suffer job loss or stagnant wages, while other counties may enjoy a much brighter future.

Low interest in exporting and unfamiliarity with opportunities and quality requirements will hinder export growth in rural Kentucky. Programs offering technical assistance will no doubt be essential for increasing Kentucky's exports, but it would appear that for now the most pressing need is to generate more interest in, and understanding of, the export process. Once this is accomplished, small and rural firms will have a list of needs, including knowledge of foreign markets, special cultural and language skills, regulation expertise and financing. Dr. R.E. Burnett, assistant director of the Patterson School of Diplomacy and International Commerce, recommends "grass roots" assistance to give rural firms hands-on learning about the export process and to demonstrate the positive results from trade.

Globalization will have a direct impact on rural Kentucky. The needs and obstacles producers face will create new responsibilities for Kentucky's rural communities. Industrial best practices, across the nation and around the world, engage all members of a community in efforts to create internationally competitive agricultural and manufacturing networks. Through these networks, firms can address common problems and opportunities and at the same time train disadvantaged citizens and provide equipment and curricula for educational institutions. Communities, in turn, can decide which industries are critical to the survival of their region and use their resources to strengthen those industries.

Kentucky state government has begun an initiative to encourage the formation of networks, but a much more ambitious program is possible. Some states and nations have focused many more resources on networks and use them as a key element of development policy. The Kentucky Wood Products Competitiveness Corporation offers a model of how the state might enable firms in other industries to form competitive networks, which would be supported by regional organizations and state agencies. In the end, though, success lies in the hands of businesspeople, community leaders, schools and other civic institutions. Only they can act locally.

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