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New "growing" pains?

America has a cheap and plentiful food supply. The reason: U.S. agriculture is among the most productive sectors in the U.S. economy. Not only does this sector produce high volumes of output, but it does so with less and less inputs. In other words, agricultural productivity is very high. For most of the last five decades, U.S. agricultural productivity growth averaged just under 2 percent a year. That growth means the U.S. is producing over 250 percent more food—with fewer inputs—than it did 50 some years ago.

This growth also contributes to our competitiveness in international markets. U.S. agricultural productivity growth exceeds that of most developing and many developed countries. Though a country's competitiveness can be linked to many factors—agricultural policies, exports, resource endowments—high productivity growth is advantageous when competing with countries with lower productivity.

With this growth has come some growing pains. Farms have declined in number but increased in size. Specialization of production is now the norm. And economic opportunities abound in some rural areas, but are elusive in others. Despite the disparities, consumers continue to benefit from an abundant and affordable food supply. And the farm sector is riding a crest of record-high income.

But, some signs point to a recent slowdown in agricultural productivity growth: From 1996 to 2002, productivity grew at a modest 0.6 percent per year. For the U.S. to stay ahead of its competitors, it must maintain or improve upon its pace of productivity growth. This pace is driven, in large part, by our knowledge base. Thus, higher productivity growth rates reflect how well we know how to make things, using our financial and other resources efficiently. This knowledge can come from experience and practice, but it primarily comes from investment in scientific research and education.

With the beginning of the land grant system of colleges in the 1860s and later with Federal research labs, the U.S. has recognized the importance of investing in people and research. Since the early 1980s, however, the amount of inflation-adjusted funds invested in U.S. public research has been relatively flat. Investments in research take time—usually 8 to 15 years—to bear fruit. Interestingly, productivity started flattening in 1996, roughly 8-15 years since investments flattened. Also, since 1996, the agricultural trade balance has trended downward. Though driven largely by rising imports and the falling U.S. dollar, this decline begs the question about our continued competitiveness. Viewing a slowdown in productivity growth in the context of rising farm income, a declining trade balance, and other changes raises questions about the future. How long will farm income continue to rise? Will productivity growth stay flat or return to its former growth path? And what new pains, growing or otherwise, lie ahead for U.S. agriculture?

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Cover photo: Arch of Constantine located in Rome. Roundel depicts chariot of the Greek sun god Helios ascending. Each morning at dawn he rises from the ocean in the east and rides in his chariot, drawn across the sky by four horses, to descend at night in the west. He sees all and knows all. As such, Helios is a fitting symbol of the ambition of ERS to enlighten and to spread

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