Economics

Department Alumni Newsletter

Indiana, PA 15705 (724) 357-2640 Issue #28, Spring 1998 Bob Stonebraker, editor

We're Still Here.....

The late 1960's were heady years. IUP blossomed from a sleepy state college into a robust university. Enrollment soared from 6300 to over 10,000 students, and the Department of Economics emerged from a split of the Department of Social Sciences. From 1968 through 1971 the Department hired nine new faculty members.

You recognize the names. Jerry Holt and Wayne Davis arrived in 1968, joined by Marvin Huff and Steve Ware in January, 1969. John Cross and Alex Garvin arrived the next fall along with Don Walker, recruited as chairperson. Arthur Martel set up shop in 1970 and I followed in 1971. Along with holdover Willis Richard, the Department rolled into the 1970's full of vigor and youth. We added Jim Dyal in 1977, Nick Karatjas in 1978 and Will Radell in 1981. Yaw Asamoah and George Radakovic, our department babies, signed on in 1984.

We're still here. Wayne Davis did defect to the Department of Accounting in 1982, but he's still at IUP. And, we did lose two to retirement: Will Richard in 1978 and Marv Huff in 1996. Will is soaking up the California sunshine and Marvin remains in Indiana so he can continue to humble us on the golf course -- he administered a severe thrashing to me just last week.

Although we're getting older, we have managed to keep outright ossification at bay. Why, some of us have actually been sighted in the library reading current journals and at our computer screens rewriting lectures. More seriously, the level of new curriculum development and scholarly activity has probably risen in recent years. Have the new office digs revitalized us?

Yes, they have! However, the "annual" student-faculty softball games are gone and we can offer our undergraduates two types of role models -- middle-aged (and aging) men with hair, and middle-aged (aging) without hair.

But, not for long.....

Change is upon us. Alex Garvin, Jerry Holt, Steve Ware, and Don Walker will be leaving over the next year, and taking their 120 years of collective IUP service with them. We will miss them; especially Don Walker who, by any reckoning, has been an exemplary teacher, scholar, and department chairperson for thirty years.

While we salute the past, we anticipate the future. We welcome the opportunity to bring new faculty on board with fresh ideas, new enthusiasm and superior softball skills. Bring 'em on!

Bob Stonebraker, editor

Thank You, Dr. Walker

Chairing an academic department at IUP is not easy. Trying to administer a bunch of cantankerous prima donnas (otherwise known as professors) can be akin to trying to administer a two-year-old into proper table etiquette. It's a tough job. Of course, chairpersons do get a partial release from teaching responsibilities -- probably enough to offset about one-half of the hours needed to be a responsible chairperson. And, there's the financial reward. Being a chairperson brings in an extra \$17.31 per week. No. You don't do it for the fun; you don't do it for the money. You chair a department because you care about the department. And, Dr. Donald A. Walker has cared about IUP's Department of Economics for almost 30 years.

Don's career has been remarkable. His over 100 professional manuscripts and books fill an entire display case in IUP's Stright Hall. With a truly international reputation as a scholar, he served as the youngest-ever President of the History of Economics Society and has edited its scholarly *Journal of the History of Economic Thought* for a decade. He has been honored with IUP Distinguished Faculty Awards for both scholarship and service. He received the first Commonwealth of Pennsylvania Distinguished Academic Service Award, was elected as IUP's first University Professor, was invited to be the first Distinguished Fellow of the International Society for Netherlands Research Institute and the first Distinguished Fellow of the International Society for Intercommunication of New Ideas. He was recently chosen as the first President of the International Walras Society. And on. And on.

Although he is leaving IUP this August, Don is not retiring. He will be devoting himself to full-time, continuing scholarship. Despite hushed references to things like *winters in Jamaica*, and *villa in Southern France*, Don has already developed a research and speaking agenda for the upcoming years that puts ordinary scholars to shame.

Thank you, Don. We will miss you. And, we wish you well.

The Wizard of Oz Was

by Willard W. Radell, Jr.

Imagine an entertaining book with characters built around real figures like Michael Milken, Bill Clinton, Alan Greenspan, Jesse Jackson, Donald Trump, Alice Rivlin, and Bill Gates. I don't know of any such contemporary book, but I do know of one written almost 100 years ago. *The Wonderful Wizard of OZ*, by Frank Baum was an economic/political allegory that included many of the leading figures of the last turn of a century. Those of you who have had Professor Cross' course in monetary economics, or my course in U.S. economic history, know much of what is to follow. But since enough of you haven't, the story is worth retelling.

The late 19th century was a time of debate over monetary policy. More specifically, there was a struggle going on over whether the money supply should be expanded with free coinage of silver and liberal minting of paper, or restricted to the money available as gold.

Remember that unexpected inflations damage creditors because they are repaid in dollars with less purchasing power than those that they loaned. Similarly, debtors win because the inflation lowers the real, purchasing-power value of what they owe. Bankers, being creditors, wanted deflation driven by tight money (a gold standard), and workers and farmers as debtors, wanted inflation driven by loose money (greenbacks and silver). The years between the Civil War and the Wizard of Oz were years of

deflation punctuated by periodic economic crises and expansions. Without macroeconomic data, it was hard for people at that time to look past the periodic crises to see the strong economic growth that was trending upward over the course of the business cycle.

My first encounter with the economic content in the Wonderful Wizard of OZ came in 1963, when my zany Teaching Assistant introduced it as a story about monetary policy. Later I tracked down the first published work on the nature of the allegory, written by Martin Gardner, who did the mathematical games section in Scientific American for many years. In the past decade articles have appeared in the Journal of Economic Education and the Journal of Political Economy that explore the allegory for those who want to read more about this.

What does it really mean?

The yellow brick road refers to a gold standard (yellow bricks) measured in ounces (OZ). The Wizard is an orator (a "windbag") born in Omaha, Nebraska who intimidates his subjects by explosive bursts of hot air, and arrives in and departs from OZ in a "hot air" balloon without ever using the gold (yellow brick) road. William Jennings Bryan was born in Omaha, Nebraska. In one of his unsuccessful attempts to become President on a loose money platform, he made his famous anti-gold standard speech, "you shall not crucify humanity on a cross of gold."

In Baum's book, OZ city, the capital of the Land of OZ, is a prosperous, gleaming, white city, that seems to be green because everyone wears "green" glasses backed with a little bit of gold (a gold buckle locked in with a gold key). In OZ city there are numerous references to things green that have a little gold in or on them (perhaps a reference to a greenback paper currency, fractionally backed by gold.)

Dorothy is swept up by an economic storm (tornado) that causes her to lose her house. But with the fall of her house, the wicked witch of the east is also destroyed, much as major eastern banks and mortgage companies were forced into default by waves of default and foreclosure of western farms and businesses in the panic of 1893.

Dorothy's reward for killing the wicked witch of the east who rules over the little people, Munchkins, is the pair silver slippers worn by the witch of the east, who withers away. Hollywood eliminated the silver slippers in the movie version because color movies were a novelty and the color silver was an exact match for movie white in black and white films. Although Hollywood changed the slippers to red to zing up the screen color, if you read the book, you will find that they are silver slippers.

The wicked witch of the west is interesting in that she has but one eye, lives in a land where there are no roads, is an enemy to water, won't let Dorothy and her friends cross a river on a raft, and wears a silver whistle around her neck that she blows on to summon her stooges. She rules over the Winkies, "small yellow people," and steals a silver slipper from Dorothy by causing her to trip over a solid iron bar. It is clear to me that the wicked witch of the west is the railroads run by the likes of Hill, Gould, Fisk, and Stanford. By 1900 the western railroads were empires with vast ownership of land, mines, energy resources, and financial assets. Railroads were so powerful in the late 19th century that they ran many state legislatures. Frank Norris wrote a famous novel of similar vintage as *The Wonderful Wizard of OZ* about the struggle between farmers and railroads titled, *The Octopus*. Upon Norris's untimely death, he was working on two other books in the trilogy of economic conflict, one titled *The Pit*, about the Chicago commodity exchanges and another, *The Wolves*, about big eastern financial interests. Railroad power and economic conflict were hot topics around the time Baum wrote his books. A locomotive has one lantern in the center, "one eye," has a whistle "around it's neck," lays down iron bars, and operates in parts of the country "without roads." That sounds much like Baum's description of

the Wicked Witch of the West.

Time does not allow a complete discussion of all the allegory, but the big picture that emerges is that Dorothy could have always gone back to a prosperous Kansas before the depression of '93 (the cyclone), if, after the destruction of the power of eastern finance and western railroads, she had expanded the money supply by more liberal coinage of silver. Ultimately, electing a windbag as Wizard could not save Dorothy. She could not follow the yellow brick road back to prosperity. Dorothy's ultimate path to salvation was her silver slippers. The odyssey of gold and green stuff backed with gold had been unnecessary. She could always have gone back with free use of silver, one way to increase the stock of money.

While all writers on the economic allegory see a similar picture, there are differences of opinion about who is what. Let me give you some of the alternative interpretations in a summary form:

Scarecrow: The Grange, farmers

Toto: alcohol prohibitionists, Teetotalers (Toto was not put to sleep by the poppies)

Tin Woodsman: Industry, industrial workers

Cowardly Lion: William Jennings Bryan, William McKinley

Wizard: William Jennings Bryan, William McKinley, Marcus Hanna (Republican Chairman)

Witch of the East: Grover Cleveland, Eastern Financial Interests

Witch of the West: William McKinley, Western Railroads

This short article just scratches the surface. If you are interested in reading more about it, or getting a slightly different interpretation, you might find the following readings useful:

L. Frank Baum, The Wonderful Wizard of OZ;

Gardner, Martin, and Nye, Russel B., *The Wizard of Oz and Who He Was*. East Lansing: Michigan State University Press,

1957;

Littlefield, Henry M., "The Wizard of Oz: Parable on Populism," *American Quarterly*, Spring 1964, pp. 47-58;

Rockoff, Hugh, "The Wizard of Oz as a Monetary Allegory," *Journal of Political Economy*, August 1990, pp. 739-760;

Watts, Michael, and Smith, Robert F., "Economics in Literature and Drama," *Journal of Economic Education*, Summer 1989,

pp. 291-306.

* * * * * * * * * * * *

Money, which represents the prose of life, and which is hardly ever spoken of in parlors without apology, is, in its effects and laws, as beautiful as roses.

Ralph Waldo Emerson

* * * * * * * * * * * * * *

The Seeds of the Asian Flu

by Yaw A. Asamoah

During the past nine months, several Asian currencies, especially the Thai baht, the Korean won, and the Indonesian rupiah have been subjected to a series of speculative attacks. The crisis has caught the attention of development economists because its victims are nations that have seen spectacular success in alleviating poverty and meeting the basic needs of their people in the last 25 years. South Korea in particular has achieved a sustained growth rate of about 7% per year in the last 30 years and its pattern of growth, with an emphasis on spreading the benefits of growth through education, skill-building and general improvements in the productivity of its workforce, is widely touted as a model for development.

We should not be surprised. Speculative attacks on currencies are not uncommon. They historically occur during periods of high capital mobility and fixed exchange rates such as during the gold-standard era of the 1920s. Nations -- like South Korea, Indonesia and Thailand -- with a highly-overvalued real exchange rate, a weak financial system and fiscal position, and heavy short-term foreign debt are especially vulnerable to such speculative assaults.

Moreover, economists who study the evolution of financial institutions worry that the financial sectors in capitalist economies are not as robust as we sometimes think. For example, my former instructor, the late Professor Hyman P. Minsky, frequently wrote that capitalist financial sectors operate in cycles. During times of prosperity, people and institutions become euphoric and begin to engage in risky investments. Without fail, the hangover from these excesses trigger a financial crisis. A wave of bankruptcies accompanies the crisis and serves as a rude awakening for financiers who react initially with caution and prudence, and build up sturdy balance sheets. Over time, the turn in the business cycle ushers in the next wave of prosperity, and then the whole euphoria-hangover-crash series repeats itself. According to Minsky, a modern capitalist economy is subject to greater risk, since the government's lender of last resort role tends to make financiers more reckless.

The Korean case

To show the fit between the Minsky proposition and the current economic and financial structures of the Asian economies, let's focus on Korea's economy. Korea's industrial strategy since the 1970's has been an aggressive effort to follow Japan's example and acquire export competitiveness by investing heavily in highly visible industries such as automobiles, steel and semiconductors, as well as more traditional manufactured goods such as microwave ovens and VCRs. Their approach was to borrow heavily to build giant factories that would rely on economies of large-scale production to achieve competitiveness in world markets.

The gamble appeared highly successful in the early years of Korea's industrialization. Aided by cheap credit (some made possible by the high rates of domestic saving, some mobilized with the help of government loan guarantees), a pliant and productive labor force, a protected domestic market and a growing market for exports, these firms had an opportunity to maintain and even enhance their competitiveness. As a result they were very successful and profitable, and Korea's balance of payments showed persistent current account surpluses.

In the last ten years, however, this success has become unsustainable. The labor force became increasingly demanding, and the aggressive domestic investment binge exhausted the domestic pool of funds. Capital and labor were no longer inexpensive, and the prospects for further economies of scale dimmed. In addition, the latter phase of South Korea's industrial strategy dumped investments into the wrong industries. Overcapacity in world production of steel, cars and semiconductors, made it difficult for Korean firms to export enough to capitalize on economies of scale. The result? Profits in heavy industries took a nosedive, the rate of export growth slowed to a crawl, and Korea's current account surpluses evaporated.

Although Korea's export-based industrial strategy was running out of steam, its financial toll was not readily apparent. A faulty system of financial reporting allowed the giant Korean conglomerates to shift funds from profitable to unprofitable product lines and hide their mounting losses. Due to a glut of funds in international capital markets and ineffectual monitoring by both Korean and western monetary authorities, lenders ignored the risks associated with lending to these firms. With credit readily available, and insufficient monitoring by the regulatory institutions, these firms faced no pressures to cutback or abandon their unprofitable product lines. Indeed, in most cases, the Korean government granted the conglomerates direct loans, and guaranteed others.

Egged on by such support, the Asian corporations managed to avoid the equity market, and to pile up external debt, most of it of short-term maturity. That the period of euphoria and risky loans in the Minsky cycle had arrived was hardly in doubt. Financing long-run expansions of questionable business ventures with short-term foreign debt is a recipe for collapse. As the New York Times reported in January:

The Asian crisis stems in part from a lending syndrome that appears periodically, when interest rates vary markedly from country to country. The opportunity arises for a Japanese or European or U.S. bank to borrow yen or dollars at low interest rates, and re-lend the money at significantly higher rates for short periods to banks in, say Korea or Thailand, which then re-lend the money for long periods at still higher rates to local companies. The foreign banks roll over the yen or dollar loans as they expire, until the borrower's currency, such as the Korean won or the Thai baht, loses value. The foreign loans suddenly become more expensive to repay. The lenders, alarmed, refuse to roll over the short-term debt. The borrowers cannot repay fast enough, and a crisis erupts.

Interestingly, Taiwan was not a target of the speculative attacks which beset other East Asian currencies. Why? A plausible answer lies in the structure of Taiwan's economy, and the relationship between Taiwanese firms and the government. Whereas Korea's industry is dominated by a handful of giants who produce scores of products, Taiwanese firms are typically small- or medium-sized, and focus on a few product lines.

More importantly, Taiwanese firms do not enjoy the Korean-style cozy relationship with government agencies. While South Korea's government guarantees loans to its ailing conglomerates, Taiwanese firms in trouble are allowed to fail. As a result, they tend to be profit-driven, and their investment decisions are led by changing comparative advantage in world markets. This more cautious approach appears to have paid off; Taiwan has sustained its current account surpluses, which means that it is not a large net borrower in world financial markets, and hence is less vulnerable to changing sentiments of foreign investors. Taiwan's massive foreign currency reserves place it in a formidable situation to withstand speculative currency attacks.

What to do?

What now? Should the weakened Asian economies be left to sink or swim? Is international intervention appropriate? There is plenty of advice, but little consensus.

The International Monetary Fund (IMF), as the primary agency responsible for rescuing nations that face speculative currency attacks, has pooled together billions in emergency funds to support the Asian nations in crisis. These funds are welcomed, but they come with a steep price: strict monetary and fiscal diets. The cost for IMF support includes an agreement by the nations measures such as a restructuring of the banking system (including the closure of insolvent banks, and the promotion of greater competition among financial institutions), the break-up of the conglomerates and cartels, stricter monetary policies that would allow interest rates to rise, an end to loan subsidies and guarantees, and stricter fiscal policies (including the elimination of government subsidies for unprofitable corporations). The conventional wisdom at the IMF is that policies such as these will impose market discipline on decision makers, avoid wasteful investments and encourage domestic saving so that investor confidence in the local economies (and thus their currencies) could be restored.

Not everyone agrees. Some liberal commentators worry that the policy measures required as a condition of the IMF stabilization package are too austere. The World Bank's chief economist Joe Stiglitz, argues that such measures are likely to deepen the economic difficulties these nations already face and unnecessarily prolong the agony. Indeed, the IMF mandates have drawn fierce criticism from Indonesia's President Suharto, and fueled anti-American sentiments in other affected countries as well.

More conservative commentators counter that the entire salvage effort is misguided; that the billions of dollars of emergency funding offered by the IMF is nothing but bailout money for foreign banks that made risky loans to unprofitable Asian companies. In their minds, the IMF intervention sends the wrong signals. If careless investors are rescued with IMF funds, what incentives will they have to be cautious in the future? The conservative approach is a straightforward laissez faire policy-- let them alone.

Whatever the answer, the crisis points to the weakness in Asia's financial and other economic institutions. Both sides agree that proper monitoring and a less incestuous relationship between the governments and their dominant corporations would help avoid a similar crisis in the future. Both sides advocate measures that would strengthen these institutions--stricter reporting requirements, and a greater independence and detachment on the part of government agencies.

Arms Races: Investment Wasted

We were good friends: Donnie, Steve and me. It was 1954. We were nine years old and riding the school bus to Fountaindale Elementary School. And, we had a problem -- a bus seat could accommodate only two children. The first two of us in line would sit together, the third would have to sit apart. Even worse, given who would enter at the next stop, the empty seat beside the solo member of our trio was likely to filled by a girl -- an unimaginable humiliation for us at that age.

We begged the bus driver that we be allowed to cram together in a single seat; but to no avail. He hid behind "district rules." What could I do? The only way out was to avoid being that third member -- to get to the bus stop early. After all, only the last of our three risked a close encounter with the opposite sex. So, I went early. I sped through my cinnamon toast -- eggs were far too slow -- and hustled out the door a full ten minutes before usual. My reward? I was first in line and got to sit with either Donnie or Steve every day.

But, Donnie and Steve were no dopes. Within a week they caught on to my strategy and began arriving early themselves. So, I arrived even earlier. Within three weeks each was running out of the house a full 30 minutes before the bus was due. Our early morning sprints to the bus stop were costing us both sleep and breakfast, but none of us could afford to end our mini-version of an arms race by ourselves. We were trapped. What could we do?

Luckily, our mothers did it for us. Recognizing the no-win battle for what it was, they joined together and imposed a cartel solution. By parental decree, enforced by threat of household violence, we left our homes at the same time and rotated the dreaded number-three spot in line. Thank God for mothers.

Investment: good and bad

Donnie, Steve, and I invested time and energy in our mini-arms race. All wasted. Normally, investment is touted as the key ingredient of economic growth; it creates the new products and new technology that drive increases in our standard of living. But, not all investment is equally valuable. Not all investment creates socially valuable output.

Rational individuals will only invest time and effort into an endeavor if they expect a profitable rate of return. Unfortunately, what looks like a profitable investment to the individual may not be equally profitable to society as a whole. For example, my efforts in arriving early at the bus stop were "profitable" to me. Their expected benefits to me outweighed their expected costs to me. However, my efforts created offsetting costs for Donnie and Steve. My gain was offset by their loss. Our mutual investments in an early arrival were costly, but created no new products or benefit for the group.

Defense investments provide a more consequential example. As weaponry progressed from broadswords to bows, from muskets to missiles, nations have spent fortunes on developing new and improved instruments of war. To what avail? Individually, potential combatants have little choice. If my enemy might invest in weapons research, I must be willing to match her efforts. Unilateral decisions to limit such investment are perilous. Yet, the social value of such rivalrous expenditures are questionable. Are battles fought with smart bombs more humane than those fought with rocks and clubs? What helps individual participants may have negative payoffs to society as a whole.

Want more examples? College and university admission offices wage similar arms races for students. High school students are inundated by unsolicited, and often unwelcome, brochures, viewbooks, letters, and phone calls. Admission officers scurry all over the country to high schools and college fairs, lugging suitcases crammed with promotional literature, banners, and videos. No single institution can afford to leave the field to its competitors. Yet, in the end, the billions of dollars spent in this academic arms race have precious little impact on the numbers of students pursuing higher education or the types of institutions they attend.

Or, how about world-class athletes? Knowing that only a fraction of a second or a few centimeters separate winners and losers, competitors continually try to *one-up* their rivals. An extra hour or an extra day of training might make the difference. The result is an all-consuming training regimen that few us could imagine. And, for what? The individual rewards for victory can be very substantial; but the social return is dubious. Despite the grueling regimens, despite the pain endured by winners and losers alike, the pleasure a spectator gains from watching a mile run in 3:55 is little different from that watching a mile run in 3:58.

In their *The Winner-Take-All Society* economists Bob Frank and Philip Cook term these cases *positional arms races*. The investments of time and money are geared to improve the relative position of

the participant in the market or contest and have little impact on the quality of the final goods produced. Much of the investment, from society's perspective, is wasted.

Frank and Cook also contend that wasteful positional arms races are most common in winner-take-all markets. These are markets in which success depends upon relative (rather than absolute) performance, and in which the payoffs accrue primarily to a handful of top participants. For example, the Olympic men's sprint champion who wins by the slimmest of margins will capture all of the glory. No one remembers the runner-up or offers him television endorsement deals. Even though he collected the most popular votes, Samuel Tilden lost the U.S. presidency by a single electoral tally. Did you ever hear of him? Americans might have only barely eked out a victory in the Revolutionary War, but that narrow edge changed the course of history.

Curbing positional arms races

Participants in winner-take-all races understand that every investment they make to gain a relative edge might merely induce offsetting investments by their competitors. They understand that positional arms races can be wasteful and mutually draining. Yet, no one can afford to stop by him/herself.

Collusion might be a way out of the box. Perhaps participants could mutually agree to limit investments. For example, countries could enter voluntary arms agreements to limit the numbers and types of nuclear weapons produced and stored. Unfortunately, such agreements are not always legal. And, such agreements are difficult to enforce. Even when I pledge to limit arms, I still have an incentive to develop and stockpile weapons secretly. People cheat.

A better remedy is to have the investment limits imposed by an outside agency with the power to monitor the agreement and discipline violators. In the school bus illustration, mothers effectively enforced the agreement. But, other agencies can be equally effective. Are you worried that junior high students will overspend trying to impress their classmates with the latest fashion attire? Have school officials impose a dress code. Do you want to ensure that colleges don't overspend trying to recruit football players? Have the National Collegiate Athletic Association (NCAA) limit the numbers of scholarships and recruiting visits coaches have in their arsenals. Do political ads drive you up a wall? Petition Congress to limit campaign spending.

Monogamy

Positional arms races are also evident in the contest for love and marriage. Who among us has not invested time, energy, and money trying to outbid a rival in pursuit of a mate? The process is expensive and emotionally wrenching. But, it could be much worse.

Consider mammalian species. Reproduction is far more costly to females than to males. Females bear both the burden of long pregnancies and the initial care and feeding of the young. After conception, from a biological perspective, males are home free. As Frank and Cook note:

This asymmetry means that any single male is capable, in principle, of siring an almost unlimited number of offspring. And since, in the Darwinian scheme of evolution by natural selection, each individual's goal is to transmit as many copies of its genes as possible to the next generation, the result for males is a genetic tournament with enormously high stakes.

In other parts of the animal kingdom, dominant males often service entire herds of females and zealously protect their turf from potential rivals. Lesser males are shut out of the reproductive loop

altogether -- a winner-take-all market with immense impacts. As should be expected, the competition to be top dog in such markets can be savage; even to the death.

Humans are not immune to such battles but, historically, have attempted to limit them whenever possible. In polygamous societies dominant males do commandeer harems of the most desirable females, but the battles for domination are limited by social convention. Typically it is only those males with high social or political rank, often chosen by birth, who can aspire to multiple wives. A former student from a rural Liberian village regaled our class with stories of his great uncle: a chief with almost 100 wives.

The alternative approach, adopted by most Western civilizations, is legally-enforced monogamy. When the dominant male is allowed only a single bride, many beguiling mates remain available for others. Of course, competition still occurs. Contests for the best mates can still get ugly. And, the newspaper classifieds are still littered with the casualties of romantic combat. Monogamy has not completely eliminated positional arms races in love and marriage, but the level of social competition would rise dramatically without them.

Return to the Alumni Newsletter index.

Return to the <u>IUP Department of Economics Front Page</u>.