

Summaries of the Presentations

Opening Remarks

Thomas M. Sullivan, *Chief Counsel for Advocacy*,
U.S. Small Business Administration

SUMMARY DISCUSSION

Thomas Sullivan discussed the mission of the Office of Advocacy, and noted that it is charged by Congress to research the impacts of public policy on small business. The challenge for researchers and policymakers, he said, is to take a farsighted view when looking at the issues that might confront small firms. The “Entrepreneurship in the 21st Century” conference, like other intensive efforts before it, should “crystallize the thinking on the issues most likely to affect small business in the coming decades.”

Small businesses face issues and challenges at the beginning of the 21st century. Global competition has altered the industrial landscape, and global concerns over terrorism have changed the nation’s priorities. Phenomenal work force productivity gains made possible by new technologies have hampered new job growth in certain industries. At the same time, innovations in high tech fields and medicine have spawned a new generation of startup companies and high-quality job opportunities. Meanwhile, small firms still struggle to attract and retain a high quality, motivated work force. And regulations, taxes, and insurance premium costs remain major concerns for entrepreneurs. Access to financial and procurement markets will continue to be of paramount importance.

With all these issues in mind, Advocacy and the Ewing Marion Kauffman Foundation want to direct policymakers’ attention to the future of small business.

To view the video of this presentation, visit
http://www.sba.gov/advo/video/advo_video.html
and click on Introduction.



Business Dynamics, Entrepreneurship, and the Macroeconomy in the 21st Century

PANELISTS

Zoltan Acs, *Professor*, University of Baltimore (Moderator)

John Haltiwanger, *Professor*, University of Maryland

F.M. Scherer, *Professor Emeritus*, Harvard Kennedy School of Government

SUMMARY DISCUSSION

This panel appropriately kicked off the “Entrepreneurship in the 21st Century” conference, showing the value to the economy when new firms (which are small by necessity) prosper. Other sessions focused on what is needed for prosperity: innovations/technology, financing, a balanced regulatory environment, and a society of opportunity where all have the chance to succeed.

F.M. Scherer maintained that only a few businesses reap big rewards for investors, and the returns from these firms constitute most of the returns for the economy. But their distribution is such that just having a large portfolio of firms still results in variable, not stable, returns. This variability, mapped out over time, can seem to suggest a pattern or cycle, but it is really just “a natural consequence of aggregating over highly skewed payoff distributions.”

The implication for individuals or investors is that you can’t blindly put your eggs in various baskets; finding the right baskets is what matters. And for the economy, the new top companies just develop when they develop, and their development or lack of it, drives the aggregate economic change. “Trends are tough to identify,” Scherer noted. Casting doubt on the ability to forecast, he offered a good reality check for a forward-looking conference.



Advocacy economists, past and present, in attendance included, from left, Zoltan Acs, Radwan Saade, and Richard Boden (far right).

John Haltiwanger continued the theme by focusing on new firms. Good ideas/methods succeed, and bad or outdated ideas/methods go away. This churning of inputs and outputs is necessary to increase economic productivity. While new firms represent a small part of aggregate activity, they are a large share of growth in the aggregate economic figures. Haltiwanger agreed with Scherer in pointing out that young firm growth is fast and volatile. Unfortunately, statistical agencies tend to focus on firms that are easier to collect data from—that is, existing firms, at the expense of newer firms. Therefore changes in the aggregates are not captured well in macroeconomic indicators.

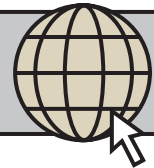
Zoltan Acs showed the evolution of macroeconomic theory. In the 1950s the Solow Growth Theory, which describes how larger plants take advantage of scale economies, was the consensus view for growing the economy. By the 1990s, the theory had given way to the Romer Growth Theory, in which young firms take advantage of knowledge spillovers (with technology being the driver of growth). Focusing on regional employment growth, Acs showed that firm births—and entrepreneurial activity in general—lead to

employment growth, even in recessionary periods. So the old public policy of lowering interest rates to boost machinery investment and protecting existing firms should give way to public policies that enable the entry of new firms. Specific policies to do this are unclear.

All three speakers came to the conclusion that young firms (and therefore small firms), not only matter, they are the key to change and economic growth. Following individual firms through time and examining the various life cycles of businesses is necessary to evaluate the economy. Watching large aggregate economic figures turn slightly up or slightly down and searching for reasons is not a good way to follow the progress of the economy, as the golden age of the entrepreneur supplants the golden age of the factory.

The presentations spurred questions related to public policies supporting new firms, outsourcing, and the need for data. There was some debate on whether a new firm policy is needed, or whether our current system is sufficient. Outsourcing is not going away and as economically developing countries become more entrepreneurial, the United States will be affected. Robert Litan of the Ewing Marion Kauffman Foundation announced that his organization is working to create a database of firms that can be used to better understand young/small businesses and the macroeconomy.

To view the video of this presentation, visit
http://www.sba.gov/advo/video/advo_video.html
and click on Session 1.



To view the slides shown in this presentation,
see **Appendix D, sections 1–3** (pages 40–47).

Small Business & Demographic Trends in the 21st Century

PANELISTS

Robert Fairlie, *Associate Professor*, University of California at Santa Cruz

Patricia Greene, *Dean of the Undergraduate School*, Babson College

Paul Reynolds, *Professor*, Babson College (Moderator)

Marta Tienda, *Professor*, Princeton University

SUMMARY DISCUSSION

Robert Fairlie discussed race, ethnicity, and business ownership, and presented a report on where we are, where we might be headed, and what we can do to improve business ownership among minority groups. Focusing on 1999 self-employment data, Fairlie revealed the differences in self-employed business ownership and self-employment earnings among seven racial and ethnic groups. The self-employed business ownership rate of non-Latino Whites was 10.46 percent, and their average self-employment earnings were \$53,244. The self-employment rates and average self-employment earnings for the other six groups were African-American, 4.26 percent and \$35,006; Asian, 9.88 percent and \$52,805; Native American, 6.84 percent and \$33,036; White Latino, 7.76 percent and \$38,225; other Latino, 6.11 percent and \$28,121; and multiple races, 8.56 percent and \$40,441. Although the rates of self-employed business ownership and self-employment earnings were relatively low for African Americans and Native Americans, the growth in their self-employment earnings was very high between 1990 and 2000: 23 percent for self-employed African Americans and 17.6 percent for Native Americans, while the rates for other groups were significantly lower.

Patricia Greene gave a report titled “A Multi-University Longitudinal Research Program to Determine and Influence the Factors that Lead to High-Growth Women-Led Ventures,” which was conducted by the Diana Project. Individuals’ goals, capacities, aspirations, and commitments were the most important factors influencing venture growth. Hurdles that affected women-led business growth included insufficient aspiration and commitment; inadequate human capital, financial and business knowledge; poor social capital and funding connections; and misplaced strategic orientations. Only 10

percent of the decisionmakers in the venture capital industry are women. Twenty-seven percent of partnerships had women in 1995, and 25 percent in 2000. Women managers are three times more likely to be clustered in entry and mid-level positions. Also, women may not be in the right networks, as they tend to focus on friendship and obligation in network relationships, rather than exchange, as has been men’s primary focus.

Marta Tienda spoke about the demography of ethnic and immigrant entrepreneurship and discussed minority business development. She described the rising foreign-born population of Hispanics and Asians since the 1980s. The influx of immigrants into the United States has influenced the composition of the population and the business sector. Using Census data, she predicted that the current majority population will shrink to 63.7 percent in 2020 from 87 percent in 1950 and 72 percent in 2000. Dr. Tienda observed that there was rapid growth in the number of minority Hispanic-owned businesses, but a shrinking share of total sales and receipts.

Motivated by this observation, Tienda prepared a report on “Promoting Hispanic Immigrant Entrepreneurship in Chicago,” based on a survey of business owners in “Little Village,” a Latino immigrant community in Chicago. This report examines the evolution of Hispanic immigrant entrepreneurship in Chicago during the 1980s and 1990s—a period when the ethno-racial composition of the population changed appreciably and minority businesses grew rapidly. It investigated the relatively weaker economic position of Hispanic-owned businesses by examining the pathways to business ownership, the sources of start-up capital, and the role of institutional and informal resources in business start-ups. She illustrated the reasons for the precariousness of Hispanic-owned businesses in comparison with those of Koreans, Asians and non-Hispanic Whites.

Paul D. Reynolds summarized U.S. entrepreneurship using both temporal and spatial comparisons. He defined the term “entrepreneurship” as business start-ups—both nascent entrepreneurs at the gestation phase and new businesses up to 42 months old. “Total entrepreneurial activity” or TEA is the percentage of adults in the United States aged 18 to 64 involved in the start-up process or engaged as the owner/manager of a business less than three and a half years old. He noticed that the TEA prevalence rate tripled in the 1993–2001 period and dropped slightly in 2002–2003. Two important data sources for entrepreneurial studies are the Panel Study of Entrepreneurial Dynamics

(PSED)—a longitudinal study of U.S. business start-ups that began in 1993 and screened 64,000 representative adults in 1998–1999—and the Global Entrepreneurship Monitor—a five-year study of entrepreneurial activity at the national level in 41 countries through 2003, for which the primary measures were based on techniques developed for the PSED. Both databases were sponsored by the Ewing Marion Kauffman Foundation.

To view the video of this presentation, visit
http://www.sba.gov/advo/video/advo_video.html
and click on Session 2.



To view the slides shown in this presentation,
see **Appendix D, sections 4–7** (pages 48–62).

Small Business, Technology, and Innovation in the 21st Century

PANELISTS

David Audretsch, *Professor*, Indiana University (Moderator)

Paul Almeida, *Associate Professor*, Georgetown University

Maryann Feldman, *Professor*, University of Toronto

Melissa Schilling, *Assistant Professor*, New York University

SUMMARY DISCUSSION

The panelists approached the subject matter from different angles as they offered views on what makes small businesses unique and innovative.

Paul Almeida focused on how small businesses play a unique, active, and critical role in the innovation process through their ability to innovate in new technological space and improve knowledge networks in high-technology firms and innovative regions. His observations are based on empirical research over a 10-year span (1994–2004) in high-technology industries. He discovered that small firms are likely to be concentrated in new innovative environments, but was unsure whether small firms were crowded out or pushed out by the government. The localization, creation, and building of knowledge and networks largely rely on the sociology of the region. Small business owners also look outside the firm for knowledge, thereby creating dependence and circulation of knowledge across firms.

Dr. Almeida said that small firms often have a strong regional emphasis, but that geographical regions may not provide all the innovative inputs needed for successful technological innovation. Small firms use their alliances and networks to fill in knowledge gaps across geographic regions. Findings from earlier work indicate that generally knowledge is geographically localized for some technologies in some regions, but this is not true for every technology.

Maryann Feldman's presentation addressed entrepreneurship along with technology and innovation at the regional level, but from the perspective of informal social networks. The key question was, how do regions change? The main focus was how informal networks assist entrepreneurship at the local level. Entrepreneurship as a local process involves human agents, latent

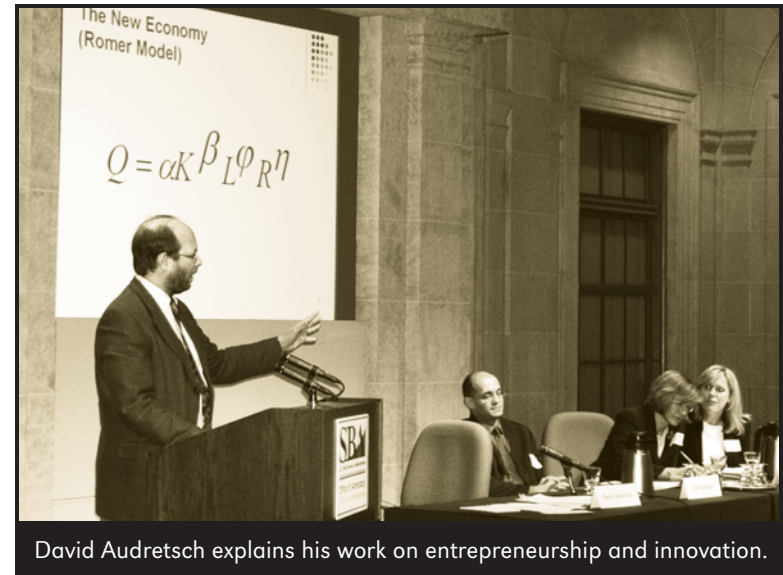
entrepreneurship, staying put, and responses to exogenous shocks. The key to understanding entrepreneurship builds on clusters and transformation of the economy. Innovation occurs in mature industries.

Entrepreneurs shape their local environment while building a firm, and by being serial entrepreneurs. Feldman concluded by pointing out that the Small Business Innovation Research (SBIR) model is great for promoting entrepreneurship out of universities, since as a model it helps small and medium-sized enterprises (SMEs) with procurement and gets them into the market.

Professor Schilling continued the focus on networks. She discussed firm size and rates of innovation, but with emphasis on formal social networks through interfirm collaboration. She examined the roles of small and large firms via these networks. Innovation is greater in firms that have well-established networks within the firm and industry, but certain benefits, costs, and risks are associated with the process. Firms that are well connected through formal networks tend to eliminate redundant paths since they are costly. As a result, central hubs tend to be large firms, since they are well connected. Network connectivity varies across different industries; for example, the chemical and medical sectors are connected, the auto industry is sporadically connected, and the pharmaceutical sector is extremely well connected.

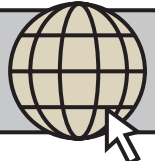
David Audretsch started by comparing the traditional economy (the Solow Model) and new economy (the Romer Model), and discussed the limitations and extensions of the Romer Model. He used the model to focus on different types of capital pertaining to entrepreneurship in a discussion of the role of entrepreneurial capital. Entrepreneurial capital is still undefined, he noted. He stressed the importance of new firms in the economy and their unique ability to transmit knowledge spillovers. These spillovers are local, with spatial boundaries. Innovation and knowledge are local, and research does not necessarily transfer into innovation.

The common theme among the speakers was that network connectivity aids entrepreneurs and small firms in the innovation process. The presenters concurred that informal and formal social networks are vital to the small firm innovation process. Small firms are more likely to cultivate networks at the regional level than large firms. Entrepreneurship is an important mechanism for transmitting knowledge spillovers.



David Audretsch explains his work on entrepreneurship and innovation.

To view the video of this presentation, visit http://www.sba.gov/advo/video/advo_video.html and click on Session 3.



To view the slides shown in this presentation, see **Appendix D, sections 8–11** (pages 63–78).

Luncheon Remarks

Robert Litan, *Vice President, Research and Policy*,
Ewing Marion Kauffman Foundation

SUMMARY DISCUSSION

The Kauffman Foundation has a dual mission: to promote entrepreneurship and education. Research is an important component of the Foundation's work. Robert Litan cited four areas in which the Foundation plans to conduct research in the future:

- Small business innovation provides fuel for entrepreneurship and economic growth. Innovation also drives higher productivity. While some limited research has documented these linkages, the Foundation is supporting more empirical research to better define the nature and magnitude of the link between entrepreneurship and innovation.



Greg Udell, Allen Berger, Tom Sullivan, and David Audretsch discuss issues between sessions.

- Entrepreneurship is the gateway for many immigrants into the American economic mainstream, yet minorities often lag behind. To illustrate, from the publicly available data the Foundation has compiled, roughly 1.7 million businesses are created annually that survive at least four years; of these, 3,200 have 100 or more employees. But just four percent of those with 100 or more employees are minority-owned; and just 1 percent have African-American owners. These figures cry out for innovative programs to help minority-owned firms grow more rapidly (and to form at a higher pace).
- The lack of data is another concern. The Kauffman Foundation is currently underwriting a National Academy of Sciences study to make recommendations for improved federal data on new firms, especially as they age. The Foundation is also developing its own new longitudinal database, the Kauffman Survey of New Firms, that will be publicly available, and which should facilitate more research about the factors that lead to success and failure of new businesses.
- Several areas of policy-related research warrant further investigation, including rising tort liability, higher health insurance premiums, possible roadblocks to off-shoring (which anecdotal evidence is important in the formation of new, innovative firms), and the role of intellectual property protection in either facilitating or impeding the formation of new businesses.

The Kauffman Foundation also has recently made multi-year, multi-million-dollar grants to eight universities to promote entrepreneurship programs for students across these campuses (and not confined to their business schools).



SBA Administrator Hector Barreto, Chief Counsel Thomas M. Sullivan, U.S. Treasury Secretary John Snow, and Kauffman Foundation Vice President Robert Litan.

Keynote Address

The Honorable John W. Snow, Secretary of the U.S. Treasury

SUMMARY DISCUSSION

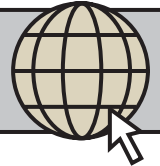
The Treasury Secretary praised the entrepreneurial spirit in the United States. Secretary Snow's father was a small business owner in Toledo, Ohio, and he learned about this spirit from his father and other owners. "They are a hearty lot," he said, "and it is a good thing that they do not look at how much they make on an hourly basis. No one works harder, and no one takes more risks." It is important for government to create an environment where entrepreneurship can thrive.

"What are the jobs of the future and where will they come from?" the Secretary is often asked. The short answer is that no one really knows right now, but new innovations and small business will play a key role. Moreover, so long as "we can keep this spirit of enterprise and people who are willing to take risks,

then we will not have to worry" about where the jobs of the future will come from. Government should not stand in the way and try to "freeze-frame" the dynamic economic process. Instead, it should provide opportunities for job retraining so that employees will have the necessary skills for whatever the work force of the future demands. This is especially significant in light of the structural changes currently taking place in the economy.

The Secretary discussed the small business challenges related to litigation, noting that one runaway verdict can destroy a business that took years to build. On the medical front, doctors are now forced to practice defensive medicine, which is driving up costs and forcing many practitioners to quit. He is also convinced that these torts are affecting employment. "Each additional employee is another possible lawsuit." Businesses are rational enterprises, and he fears that the "can do" entrepreneurial spirit is too often overtaken by a "can sue and will sue" mentality. He added that while people who have been harmed should be compensated, it is important for the United States to do something to curb "runaway juries."

To view the video of this presentation, visit
http://www.sba.gov/advo/video/advo_video.html
and click on Lunch.



Small Business Finance in the 21st Century

PANELISTS

Allen Berger, *Senior Economist*, Board of Governors of the Federal Reserve System (Moderator)

Josh Lerner, *Professor*, Harvard Business School

Gregory Udell, *Professor*, Indiana University

SUMMARY DISCUSSION

Gregory Udell began this panel by providing an overview of small business debt and discussing the taxonomy of lending technologies. Small business financing is not homogenous: his overview looked at subcategories of financing broken down by the suppliers of funds and by types, including debt versus equity, internal versus external, and private versus public. The importance of different types of lending and their characteristics were discussed. Various technologies are being used to evaluate a borrower's credit and to structure loan contracts for different types of borrowers in different

loan markets. Technologies include relationship lending, financial statement lending, asset-based lending, factoring, trade credit, and credit insurance. He discussed in detail how each of these technologies is employed to deal with special problems involved in different types of small business lending.

Allen Berger discussed major trends that might affect small business lending. One trend is technological progress. Innovations in information technology and sophistication in economic and statistical modeling have great impacts on the development of new lending technologies for borrowers. First, expanded use of credit scoring and other technologies for small firm lending could shift the continuum on which borrowers with different degrees of information problems use public versus private debt markets. Second, as use of these technologies continues, more small business loans will be securitized for the secondary market.

Dr. Berger also discussed the New Basel Capital Accord (also known as “Basel II”). As currently proposed, this would lower the capital requirements for small business loans in the very largest U.S. banking organizations (perhaps the top 10 to 20 organizations). Lowering capital requirements could lower the marginal costs for small business lending and encourage these banks to compete harder for these credits. Cost reductions would generally be greater for safer credits, and less (or even reversed) for riskier credits. However, the impact may be limited unless a secondary market is developed in which large banks participate and purchase small business loans for their portfolios. Basel II might help encourage securitization of credit-scored loans.

Technological innovation and government regulation led to the consolidation of the banking industry and a decline in the number of community banks. The concern is raised about the availability of small business credit, since large banks allocate smaller shares of their portfolios to small business loans, and appear to have difficulty making relationship loans. Moreover, international evidence suggests that a healthy community banking sector may be critical to economic growth. That said, recent research suggests that there may be less to worry about with respect to bank consolidation and small business lending than these numbers suggest.

The final speaker was Josh Lerner, who concentrated on the external equity financing of high technology and high growth ventures. He reminded the audience that the industry is still young and in flux, with much instability. High-technology ventures are characterized as full of uncertainty, with infor-



Allen Berger, Josh Lerner, and Greg Udell participate in the panel on financing for small business.

mation asymmetry and knowledge-based assets that are difficult to evaluate in a young financial market. They face problems from traditional lenders and are in public stock markets that are tradition-bound and heavily regulated.

While many financiers contributed to the growth of the venture capital industry, Dr. Lerner discussed two pioneers who helped create and grow the industry: General Georges F. Doriot (founder of American Research and Development) and William Draper (of Draper, Gaither & Anderson). While the short history of the industry has been filled with ups and downs, Lerner believes that the market will continue to expand. Several long-term demand factors provide the basis for continued growth in this industry, (1) continued innovation in the United States, (2) continued need for corporate restructuring, and (3) corporate buyers in the merger and acquisition process.

He also sees structural changes in the venture capital industry. There will be a movement from a one-tier market to one characterized by two tiers, and the industry will be dominated by a small number of all-purpose global fund companies with a large number of small venture capital firms serving specialized niche markets. A middle-tier group with no clear specialized emphasis is likely to suffer a decline in the future, he believes.

Very small firms in the market for financing will need to understand their suppliers better if they are to find the firms serving their special needs for funding and advice.

To view the video of this presentation, visit
http://www.sba.gov/advo/video/advo_video.html
and click on Session 5.



To view the slides shown in this presentation,
see **Appendix D, sections 12–13** (pages 79–95).

Future of Small Business Policy Making

PANELISTS

Thomas M. Sullivan, *Chief Counsel for Advocacy*,
U.S. Small Business Administration (Moderator)

Stephen Friedman, *Director*, National Economic Council

John D. Graham, *Administrator*, Office of Information & Regulatory Affairs

Douglas Holtz-Eakin, *Director*, Congressional Budget Office

SUMMARY DISCUSSION

Future policymaking, from the point of view of all the panelists, rests squarely on a few key principles. Tom Sullivan opened up the panel with a theme that resonated through all of the presentations: good policy can only come from good research. More specifically, greater availability of data, and better quality data, is paramount for informed decisions to take place. Not surprisingly, the complementary goal of transparent data analysis is also necessary. Sullivan outlined the role of the Office of Advocacy, and the statutes and executive orders that empower Advocacy's role as a voice for small business in the regulatory process. He expressed optimism that the trend of improvement in regulation will continue, based on both the production of quality data and analyses, and on the public's access to these resources. The role of the public in policymaking is facilitated through the use of quality data and transparent analysis by policymakers. Sullivan suggested that "15–20 years hence, small business policymaking will depend on the private sector having access to better data to better inform government policymakers."

Douglas Holtz-Eakin presented a framework outlining the environment in which policymaking will develop. Federal government policies will shape private enterprise, but the economy, driven by private enterprise, will also shape policymaking. Two long-term trends will shape the future of policymaking: the demographic shift driving the growth of entitlements, and the productivity growth that drives not only the dynamic economy but also the tax base that must fund the entitlement spending. The demographic shift on the horizon will present policymakers with a need for more resources. The resulting policies will be made with fewer resources on the table. "Rules that guide small business policy need to be focused on informed decisions,"

Holtz-Eakin said, and described “a need to set out a framework for small businesses to make decisions based on stable, known factors.” Better data and more research are needed to inform and educate policymaking. Holtz-Eakin cited health care and pension costs as looming problems for small business, again driven by demographics and mirroring federal budgetary pressures. He emphasized the need for policy neutrality with respect to firm size and industry to remove policymakers from the business of picking winners in the marketplace. Better policies will be forthcoming only when based on better data and sound research. He advocated building the research base in order to have a baseline that can be used for examining the impact of shifts in the age of the population and in immigration flows.

Federal regulations figure prominently in small businesses’ calculus, and Office of Advocacy-sponsored research by Crain and Hopkins (2001) found that small businesses pay 60 percent more than their larger counterparts to comply with federal regulations. John D. Graham of the Office of Information and Regulatory Affairs (OIRA) suggested that his office has significantly slowed the flow of unfunded mandates, but acknowledged that OIRA still has much unfinished business. Because small businesses bear a disproportionate burden of federal regulations, OIRA under Dr. Graham has worked with the Office of Advocacy to share the burden of policing agencies’ compliance with mandates like the Regulatory Flexibility Act and to reduce the number of bad regulations. Graham stressed the importance of OIRA’s information quality initiative for ensuring that good information is used to form regulations. While progress has been made toward improving new federal regulations, much work remains to be done. The sea of regulations already in existence, including those reviewed by OIRA since 1981, needs to be re-examined in order to eliminate rules that are no longer relevant. Dr. Graham suggested that “we need to reverse the burden of truth, by letting rules expire unless federal agencies rejustify them.”

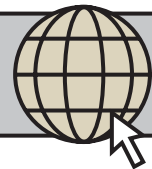
Stephen Friedman spoke to the audience about the macro economy. He outlined current economic trends and gave a glimpse of upcoming action items for the Administration. Friedman proposed that the resilience of the American economy helps it recover relatively quickly from recessions, and he attributed much of that resilience to small businesses. He detailed how key parts of the Administration’s economy policy strengthen the economy by strengthening small business. Of particular importance to small business, for example, are litigation reform, health insurance, reliable and predictable



Tom Sullivan responds to an audience query to the panel on the future of small business policy making.

sources of energy, and trade. He emphasized the importance of tax permanence, or making the tax system predictable and stable to provide incentives for long-term planning and investment. Friedman also suggested that the unbundling of federal contracts could help entrepreneurial development. His concluding remarks were an apt summary of the conference’s key point: that small business is at the core of the American economy, serving as a driver for economic growth. Good policy, he said, should support and strengthen that small business capacity.

To view the video of this presentation, visit http://www.sba.gov/advo/video/advo_video.html and click on Session 6.



Appendix A Speaker Biographies

ZOLTAN J. ACS is the Doris and Robert McCurdy Distinguished Professor of Entrepreneurship and Innovation and director of the entrepreneurship program in the Robert G. Merrick School of Business, University of Baltimore. For two years he served as chief economic advisor in the Office of Advocacy. He has a Ph.D. in economics from the New School University in New York City. His primary research interest is the relationship between entrepreneurship, technological change, and economic development. He has published over 100 scholarly articles in leading journals. Dr. Acs is a leading advocate of the importance of entrepreneurship as an emerging engine of economic growth. He is the recipient of the 2001 Small Business and Entrepreneurship Research Award given by the Swedish Foundation for Small Business. His most recent publication is *Innovation and the Growth of Cities* (Edward Elgar Publishing, Ltd., 2002). He is the founder and editor of *Small Business Economics*, the leading international journal in entrepreneurship and small business research.

PAUL ALMEIDA is associate professor and dean's research fellow at the McDonough School of Business at Georgetown University. Professor Almeida's research focuses on the study of innovation and knowledge and its relationship to the competitiveness of firms, high technology regions, and countries. Articles published in 2003 include "Learning by Hiring: When is Mobility Useful?" and "Overcoming Local Search through Alliances and Mobility" both in *Management Science* and "External Knowledge and MNC Subsidiary Innovation" in the *Strategic Management Journal*. He is currently coauthoring a volume on *Managing Knowledge in the 21st Century*. He serves on the editorial board of the *International Journal of Networks and Virtual Organizations* and is a regular reviewer for more than 10 other scholarly journals. Professor Almeida is a member and active contributor to the

Academy of Management, Academy of International Business, and Strategic Management Society. Professor Almeida has been awarded the Outstanding Teacher Award for the International Executive MBA program, the Joseph F. Le Moine Award for Graduate and Undergraduate Teaching Excellence, and the Best Professor Award for Executive Programs at Georgetown University.

DAVID B. AUDRETSCH is the Ameritech Chair of Economic Development and director of the Institute for Development Strategies at Indiana University, director of the Institute for West European Studies at Indiana University, and a research fellow of the Centre for Economic Policy Research in London. From 1989 to 1991 he served as acting director of the Wissenschaftszentrum fuer Sozialforschung, a think tank in Berlin, Germany, where he was from 1984 to 1997. Audretsch's research has focused on the links between entrepreneurship, government policy, innovation, economic development, and global competitiveness. He has consulted with many international, national, and state organizations, governments, and private corporations, from the World Bank, to the National Academy of Sciences, to the General Accounting Office, to the Organization for Economic Cooperation and Development. His research has been published in more than 100 scholarly articles in leading academic journals, and in 32 books, including *Innovation and Industry Evolution* (MIT Press). He is founder and editor of *Small Business Economics: An International Journal*. He was awarded the 2001 International Award for Entrepreneurship and Small Business Research by the Swedish Foundation for Small Business Research.

ALLEN N. BERGER is senior economist at the Board of Governors of the Federal Reserve System and senior fellow at the Wharton Financial Institutions Center. He has served on the advisory board for the *Journal of Money, Credit, and Banking* since 2001 and was the journal's editor or coeditor from 1994 to 2001; as well as serving as associate editor or editor of the *Journal of Productivity Analysis*, the *Journal of Banking and Finance*, and the *Journal of Financial Services Research*. He has co-organized research conferences at the Wharton School, New York University, the Board of Governors, and the Atlanta and New York Federal Reserve Banks. He has coedited six journal special issues on various topics and has published more than 90 professional economics and finance articles. His research covers topics related to financial institutions, including efficiency, productivity growth, and technological progress; small business finance; relationship lending; small business credit scoring; credit rationing, credit crunches, and the procyclicality of bank lending, among many others. He received a Ph.D. in economics from the University of California, Berkeley, in 1983.

DOUGLAS HOLTZ-EAKIN is on leave from Syracuse University, where he is trustee professor of economics at the Maxwell School, having served previously as chairman of the Department of Economics and associate director of the Center for Policy Research. Before joining the Congressional Budget Office, Dr. Holtz-Eakin served for 18 months as chief economist of the Council of Economic Advisers. He has been a faculty research fellow and research associate for the National Bureau of Economic Research, a member of the Economics Advisory Panel to the National Science Foundation, and a visiting scholar at the American Enterprise Institute. At the state level, he has served as a consultant for commissions and agencies in Arizona, New York, and New Jersey. Recent research has centered on the economics of fundamental tax reform; the effects of public infrastructure on productivity; income mobility in the United States; and the role of families, capital markets, health insurance, and tax policy in the success of business ventures.

He has served as editor of the *National Tax Journal* and as an editorial board member for *Economics and Politics*, *Small Business Economics*, *Journal of Sports Economics*, *Regional Science and Urban Economics*, and *Public Works Management and Policy*. Dr. Holtz-Eakin received a Ph.D. in economics from Princeton University in 1985.

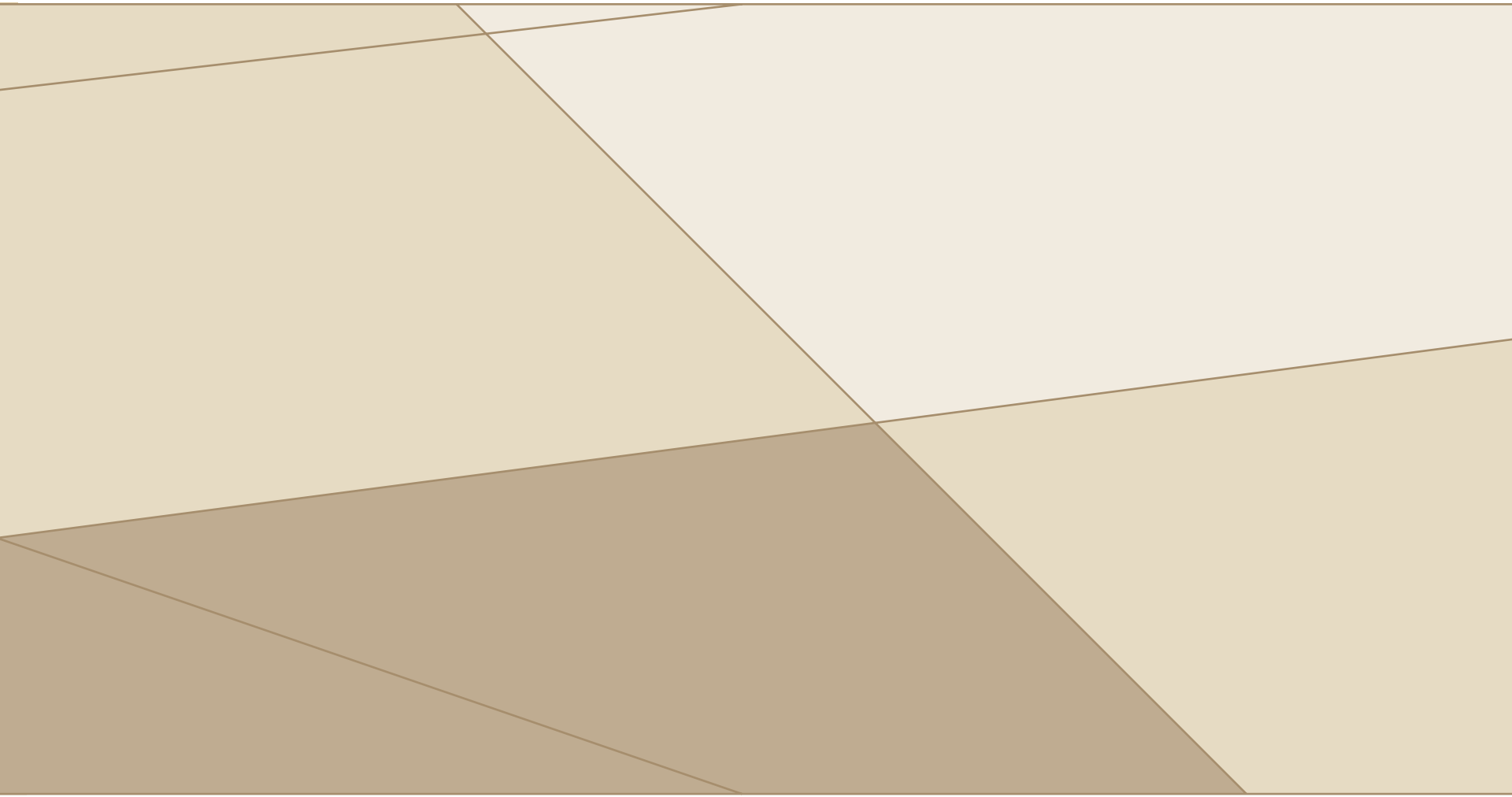
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