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Kenneth S. Rogoff

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The 2011Martin Feldstein Lecture

Sovereign Debt in the Second Great Contraction: Is This Time Different?

Kenneth S. Rogoff*

As the aftershocks of the recent financial crisis continue to radiate, it is a troubling period for the global economy. While the current popular moniker for the recent crisis is "The Great Recession," perhaps a more appropriate description is "The Second Great Contraction", as Carmen M. Reinhart and I have argued. This term is parallel to Friedman and Schwartz's description of the Great Depression as "The Great Contraction," referring to the global contraction of debt and credit, in addition of course to output and employment. Unfortunately, a long sub-par recovery is typical of deep financial crises.[1]

My remarks will focus on one aspect of the ongoing great contraction, sovereign defaults on external debt. Long historical experience shows that major global banking and financial crises often are followed by a wave of sovereign debt problems.[2] With the euro zone periphery countries already under severe duress, and with a significant risk that default problems will spread east as generous IMF loan programs unwind, it is becoming increasingly clear that this time is not different. Indeed, there is even a palpable risk that sovereign debt woes will result in a partial breakup of the euro zone, a risk that a number of American economists, including Martin Feldstein for whom this lecture is named, have long warned of.

To say the least, this is an extraordinarily important moment for basic academic research in international macroeconomics. The Great Depression, of course, challenged economists to explain how, if we really live in a world of Walrasian perfectly clearing goods and labor markets, could it be possible for a country like the United States to have sustained unemployment for almost a decade, reaching as high as a quarter of the working population.[3] Through three quarters of a century of debate, economists have more or less reached a

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truce whereby all but a few die-hard real business cycle theorists acknowledge that short-term nominal frictions in goods and labor markets have a significant influence on macroeconomic fluctuations. I use the term "truce" because there is little agreement on the roots of monetary non-neutrality, leaving many open questions about the ultimate welfare effects of policy.

The Second Great Contraction similarly challenges the plausibility of another widely employed assumption in modern macroeconomic theory: that financial markets are perfect and complete in the profound Arrow-Debreu sense of spanning an incomprehensible range of public and private risks. Students of modern macroeconomic theory understand that the assumption of complete financial markets is a huge analytical convenience, allowing one to aggregate individuals and firms while eschewing the need to keep careful score of how shocks idiosyncratically affect winners and losers. There is certainly a great deal of analysis of more general cases allowing for limited asset markets, private information, and yes, sovereign credit risk.[4] Yet, because any departure from complete financial markets quickly can become an accounting and aggregation nightmare, mainstream macroeconomic theorists have been understandably reluctant to embrace alternatives that might be useful in one dimension but difficult to generalize in others, much less to parameterize and quantify.

Still, even before the onset of the Second Great Contraction, it should have bothered macro-theorists more that such a large fraction of world capital markets consists of non-contingent debt, including public and private bonds, as well as bank credit. It is difficult to pin down global aggregates, but a recent McKinsey study found that at the end of 2008, the equity market accounted for roughly $34 trillion out of $178 trillion in global assets, with government debt, private credit, and banking accounting for the rest. This figure, of course, is exaggerated by the global stock market crash that occurred after the collapse of Lehman Brothers in 2008, but even at the pre-crisis equity level of $54 trillion, equity markets represented less than one third of the total. True, there is an entire zoology of derivative markets that makes some of the debt contingent, but incorporating these would not dramatically change the basic point.

There is also a large literature on why so many intertemporal lending contracts, both domestic and international, involve debt that has minimal explicit risk-sharing features.[5] That is, economists

have many models of why non-indexed debt contracts are so disproportionately important in real world finance. The major rationales include asymmetric information and adverse selection, costly state verification, and difficulty in verifying the state in court of law. The last, emphasized by Hart and Moore, is perhaps the most prominent reason cited for why so many sovereign debt contracts have minimal contingencies.[6] This problem, hard enough to circumvent in domestic contracts, is arguably even more profound in the international context. Shiller[7] for example sensibly advocates for having sovereign claims that are indexed to country GDP, and explains why expanded use of such instruments would allow for large gains in international risk sharing. But even aside from explicit default risk, it is difficult to rely too heavily on contracts where the borrower has enormous discretion over creation of statistics (here GDP) that are to be used for indexation. The Argentine government's apparent systematic under-reporting of inflation in recent years is a well known case in point.

There is little doubt that an inability to index international debt flows is a fundamental limitation on the size of global financial markets. But the problem of sovereign default on payment owed to foreigners runs deeper and potentially compromises any form of external claim. After all, foreign direct investment (where companies buy, build, and run plants abroad) is a very highly indexed claim. But the fact that countries routinely tax, regulate, and even nationalize foreign direct investment makes various degrees of default altogether too easy. En passant, part of the reason a troubled debtor country such as Greece cannot easily raise large amounts of funds by selling state-owned assets to foreigners is precisely that foreigners rightly distrust how their future claims will be adjudicated. The same institutions' limitations that create a temptation to default on debt can create a temptation to renege on broader state contingent claims. The issue is one of legal enforcement, not simply information as is central to most standard corporate finance analyses.

The economic theory of sovereign default has yielded some interesting insights, although the endgame to the European debt crisis may well force a rethinking of the standard models.[8] The most popular theoretical frameworks for analyzing sovereign default are variants of Eaton and Gersovitz's reputational model of international borrowing, and Cohen and Sachs's corporate finance style approach, where the penalty to default is proportional to income.[9] From a theorist's perspective, the Eaton and Gersovitz approach is perhaps the more elegant, as it does not require any knowledge or understanding of international legal conventions; indeed, it assumes legal enforcement irrelevant. The decision to default depends on the tradeoff between the short-run benefits and the longer-run costs of financial market autarky that results when a country loses its reputation for repayment. Of course, it is not at all obvious why, if a government defaults on its debt, its loss of reputation will be one-dimensional.[10] Sovereign default is typically associated with broad social duress and institutional breakdowns, not to mention a wide range of sanctions in areas that potentially span from trade to foreign policy. Of course, in the case of the European Union, the potential for broader sanctions is particularly great, given the complex range of interlocking treaties that arguably blur the lines of sovereignty. A second problem with the reputation model is more subtle, having to do with the fact that it is not enough to cut off a defaulting country from borrowing in international capital markets, it must also be cut off from holding assets.[11] This may sound like a small nuance, but it is actually quite important, as the appeal of the pure reputation for repayment models is that they allow one to dispense with any assumptions about the international legal system. And, this is precisely the third problem, at least with the current generation of models. It seems implausible that the imposition of an international sovereign bankruptcy court — a soft variant of which was proposed by the IMF in 2001[12] — would have no implication for sovereign lending, but this issue is left outside reputation-for-repayment models (where foreign creditor legal rights are brushed aside).

Although requiring further parameterization, models that assume that foreign creditors have legal rights, at least over the defaulting country's foreign trade and finance, have proven fertile for policy analysis. Bulow and I[13] show how, if foreign creditors can invoke legal rights to interfere with trade and finance between a defaulting country and its partners, then it is possible to game foreign taxpayers into subsidizing repayments. This, of course, is precisely the moral hazard problem famously emphasized by 1998 Meltzer Commission report to the U.S. Congress on the IMF and the World Bank.[14] Bargaining theoretic models are also useful in analyzing the debt buybacks and other popular debt alleviation schemes that were popular during the 1980s developing country debt crisis, and they have been discussed in the European context today. Bulow and I[15] show that in contrast to the standard corporate finance example, creditors are likely to gain when a country in default employs voluntary participation market buybacks of debt at discount. The basic distinction comes from the fact that in the country case, the resources used in a buyback are typically not ones creditors could expect to seize in the event of default. The buyback typically enhances the stream of cash paid to creditors and bids up the price of any debt that is not tendered in the buyback.

Nevertheless, despite important continuing advances in the sovereign debt literature,[16] there are major deficiencies. The models as yet are of remarkably little use in benchmarking the point at which a country will default on its sovereign debt. Empirical benchmarks and historical experience provide a far better guide. In particular, serial default on sovereign external debt appears to be a nearly universal phenomenon as countries make the transition from emerging markets. Indeed, as Reinhart and I demonstrate in our book, it is a far more universal phenomenon than is commonly recognized, mainly because intervals between sovereign default can be half a century or more. By contrast, the typical cross-country datasets studied by most macroeconomists generally span only a few decades. The origins of serial default and its connection to broader eco-

nomic development are poorly understood at best. Given the limitations of the theoretical literature, policymakers and practitioners must rely on historical quantitative benchmarks, such as those discussed in my papers with Reinhart and by Reinhart and Savastano.[17] These benchmarks turn out to depend importantly on a country's past history of default. Countries with a long history of serial default run into difficulties at much lower levels of debt than countries with a relatively good (if seldom perfect) record of repayment.

Another very important fact that is generally not explained in the theoretical literature is that sovereign defaults rarely happen in a vacuum, and often are connected with other types of financial crises. In their seminal empirical paper on the twin crises, Kaminsky and Reinhart emphasize the deep links between banking and exchange rate crises.[18] Reinhart and I explore the relation between financial crises and sovereign debt crises, finding empirically that waves of financial crises are typically associated with a wave of sovereign debt crises within a few years.[19] While there is some work on trying to draw these linkages, such as Chang and Velasco[20], there is nothing that lends itself to easy parameterization. Of course, the feedback between banking vulnerability and sovereign debt is front and center in the current euro area crisis.

The fact that international capital markets do not seem to operate as in the perfect markets framework of real business cycle models, of course, is a central implication of the classic paper by Feldstein and Charles Horioka[21]. They use a regression framework to formalize the basic point that for most countries, most of the time, national savings and investment are very large relative to the size of current accounts. Of course, they drew the implication that international financial markets are not nearly as integrated in practice as one might expect in theory. Since then, although much of the empirical literature has supported their basic findings, more recent results have tended to show increasing rates of integration by the Feldstein/Horioka measure.[22] Of course, assuming that the recent financial crisis is followed in due time by a wave of sovereign defaults, as my work with Reinhart suggests is quite typical, then it is possible the Feldstein/Horioka puzzle may become even more pronounced in the coming years.[23]

In sum, the likely coming wave of sovereign defaults may be a challenge for the global economy, but it is also an important opportunity for research economists to rethink their canonical models of sovereign debt. Problems such as serial default and deep banking crises, which have been neatly ignored in so much of modern macroeconomics, are likely to command our attention for some time to come.

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[1] *See* This Time is Different: Eight Centuries of Financial Folly, *Princeton University Press, 2009, chapters 10 and 14, as well as C. M. Reinhart and K. S. Rogoff, "The Aftermath of Financial Crises," NBER Working Paper No. 14656, January 2009, and* American Economic Review *,99, May 2009, pp. 466–72. See also "Growth in a Time of Debt," NBER Working Paper No. 15639, January 2010, and* American Economic Review*, 100 (2), May 2010, pp. 573–78.*

[2] *The point that waves of financial crises often are followed by waves of sovereign debt crises is highlighted in* This Time is Different: Eight Centuries of Financial Folly, *and explored in much greater detail in "From Financial Crash to Debt Crisis," forthcoming,* American Economic Review, *August 2011.*

[3] *Of course, although the Second Great Contraction has not been the Second Great Depression, unemployment today still exceeds 9 percent.*

[4] *A number of examples of capital market imperfections are illustrated in M.Obstfeld and K. S. Rogoff,* The Foundations of International Macroeconomics, *MIT Press, 1996.*

[5] *For an excellent survey of the issues, see J. Stein, "Agency Information and Corporate Investment,"* Handbook of the Economics of Finance, *G. Constanides, M. Harris, and R. Stulz, eds., Elsevier Science BV, 2003.*

[6] *O. Hart and J. Moore, "Incomplete Contracts and Renegotiation,"* Econometrica *56 (4), July 1988. See also R.M. Townsend, "Optimal Contracts and Competitive Markets with Costly State Verification,"* Journal of Economic Theory *21 (1979).*

[7] *R. J. Shiller,* Macro Markets: Creating Institutions to Manage Society's Largest Economic Risks, *Oxford, UK Clarendon Press, 1993.*

[8] *The discussion below draws on J. Bulow and K. S. Rogoff, "Sovereign Debt Repurchases: No Cure for Overhang."* Quarterly Journal of Economics *106, November 1991, pp.1219–35; "Sovereign Debt: Is to Forgive to Forget?",* American Economic Review *79, March 1989, pp. 43–50; "A Constant Recontracting Model of Sovereign Debt,"* The Journal of Political Economy *97, February 1989, pp.155–78; "The Buyback Boondoggle," Brookings Papers on Economic Activity: no. 2, 1988, pp. 675–98; and M. Obstfeld and K. S. Rogoff,* Foundations of International Macroeconomics*, MIT Press, 1996.*

[9] *J. Eaton and M. Gersovitz, "Debt with Potential Repudiation: Theory and Estimation,"* Review of Economics Studies *48, (1981), pp. 76–88; D.M. Cohen, and J. D. Sachs, "Growth and External Debt under Risk of Debt Repudiation,"* European Economic Review *30, June 1986, pp. 529–60.*

[10] *See Bulow and Rogoff, op cit, and H. Cole and P. Kehoe, "Models of Sovereign Debt: Partial versus General Reputations,"* International Economic Review *39, February 1998, pp. 55–70.*

[11] *The fact that sanctions must cut off a country from financial markets and not simply borrowing is demonstrated in Bulow and Rogoff (1989).*

[12] *For a survey of proposals for international bankruptcy courts, see K.S. Rogoff and J. Zettelmeyer, "Bankruptcy Procedures for Sovereigns: A History of Ideas, 1976–2001," International Monetary Fund Staff Papers 49, September 2002, pp. 471–507.*

[13] *J. Bulow and K. S. Rogoff, "Multilateral Negotiations for Rescheduling Developing Country Debt: A Bargaining-Theoretic Framework," International Monetary Fund Staff Papers 35, December 1988, pp. 644–57.*

[14] *Report of the International Financial*

Institution Advisory Commission, Allan H. Meltzer, Chair, U.S. Congress, Joint Economic Committee, Washington D.C., March 2000.

[15] *J.Bulow and K. S. Rogoff, "Sovereign Debt Repurchases: No Cure for Overhang,"* Quarterly Journal of Economics *106, November 1991, pp.1219–35; "Sovereign Debt: Is to Forgive to Forget?",* American Economic Review *79, March 1989, pp. 43–50; "A Constant Recontracting Model of Sovereign Debt,"* The Journal of Political Economy *97, February 1989, pp.155–78; "The Buyback Boondoggle," Brookings Papers on Economic Activity: no. 2, 1988, pp. 675–98.*

[16] *For example, M. Aguiar, M. Amador, and G. Gopinath, "Investment Cycle and Debt Overhang,"* Review of Economic Studies, *January 2009, or the literature reviewed in chapter 6 of Obstfeld and Rogoff,1996.*

[17] *See Reinhart and Rogoff, 2009, chapter 9, and C. Reinhart, K. S. Rogoff, and M. Savastano, "Debt Intolerance," in W. Brainard and G. Perry, eds.,* Brookings Papers on Economic Activity *1: 2003, pp. 1–74.*

[18] *G. L. Kaminsky and C. M. Reinhart, "The Twin Crises: The Causes of Banking and Balance of Payments Problems,"* American Economic Review *89(3), June 1999, pp. 473–500.*

[19] *"From Financial Crash to Debt Crisis," forthcoming,* American Economic Review, *August 2011.*

[20] *R. Chang and Andres Velasco, "A Model of Financial Crises in Emerging Markets,"* Quarterly Journal of Economics *116 (May 2011), pp. 489–517.*

[21] *M. Feldstein, and C. Horioka, "Domestic Saving and International Capital Flows,",* Economic Journal *Vol. 90, No. 358, 1980, pp. 314–29.*

[22] *O. J. Blanchard and F. Giovazzi, "Current Account Deficits in the Euro Area: The End of the Feldstein-Horioka Puzzle," in G. Perry and W. Brainard, eds., Brookings Papers on Economic Activity, September 2002.*

[23] This Time is Different: Eight Centuries of Financial Folly, *Princeton University Press, 2009, chapters 10 and 14, as well as C. M. Reinhart and K. S. Rogoff, "The Aftermath of Financial Crises," NBER Working Paper No. 14656, January 2009, and* American Economic Review*, 99, (May 2009), pp. 466–72.*

Research Summaries

Selection and Asymmetric Information in Insurance Markets

Liran Einav and Amy Finkelstein*

Since the seminal theoretical work of Arrow, Akerlof, and Rothschild and Stiglitz, economists have been aware of the potential for market failures arising from the existence of asymmetric information in private insurance markets. The possibility that competitive forces may not push toward efficiency in such a large and important class of markets creates interesting and difficult economic and policy issues. It also poses a challenge for empirical research: identifying and quantifying the effects of asymmetric information and tracing its implications for welfare, competition, and government policy.

The empirical research in this area has advanced rapidly over the past decade. However, although providing valuable descriptive information about the workings of an insurance market, tests for whether asymmetric information actually exists in particular insurance markets and in what form have some important limitations. Notably, without a clear mapping from patterns in the data to underlying economic primitives, the tests are relatively uninformative about the extent of market inefficiency or the welfare impact of potential market interventions.

Motivated by these concerns, we and our coauthors have written a series of papers that attempt to incorporate theoretically grounded specifications of consumer preferences and firms' pricing into this analysis. Our models can be used to quantify both the welfare distortions arising from asymmetric information and the potential welfare consequences of such government policies as

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mandates, pricing restrictions, and taxes. Our approach takes its cues from descriptive findings in the initial testing literature, in particular by seeking to incorporate rich heterogeneity in consumer preferences, as well as the heterogeneity in risk emphasized by the classic theoretical contributions.

In this article we summarize some of our own recent work and findings. A less self-centered discussion of these topics can be found in our recent overview article.[1]

Determinants of Insurance Demand

Why do individuals place different values on insurance coverage? Much of the seminal theoretical work assumed that individuals only varied along one dimension, their expected risk. Some individuals face greater risk and therefore are willing to pay more for insurance. For example, all else equal, older and sicker individuals would be willing to pay more for health and life insurance; individuals who commute long distances would be willing to pay more for auto insurance; and retirees with greater life expectancy would place a higher valuation on annuities. If risk (or some component of it) is private information to the individual, then adverse selection can result.

At the heart of these contributions on adverse selection is the idea that at a given price of insurance, buying insurance is more attractive for riskier individuals. This is the same idea that subsequently guided early empirical attempts to test for the existence of asymmetric information, focusing on comparing claims rates for consumers who self-selected into different insurance contracts. A finding that consumers who selected more insurance coverage have higher claim rates, conditional on all information available to insurers, would suggest asymmetric information: either these consumers had prior information about their exposure to risk (adverse selection) or the purchasers of greater coverage took less care (moral hazard).

In our early work in this area, we examined some of the correlates of purchases of annuities, insurance products that provide a survival-contingent payment stream to help smooth consumption when individuals cannot know when they are going to die. Consistent with the original theoretical work, we found that individuals who lived longer were more likely to purchase annuities.[2] We also found that, among those who purchase annuities, those whose policies had more coverage were more likely to live longer.[3]

Yet, our subsequent empirical work challenged the notion that risk was the only determinant of insurance demand. In two separate papers, we showed that while private information about risk indeed plays an important role in insurance demand, another dimension of heterogeneity — risk aversion — may be just as important, or even more so. Recognizing this potential for multiple dimensions of private information can complicate testing for the presence of selection, and has implications for welfare analysis of the consequences of selection and for optimal contract design.

To study the long-term care insurance market in the United States,[4] we combined data on coverage choice, long-term care utilization, and self-reported beliefs about the chance that an individual would subsequently use long-term care. We found, just as the classic asymmetric information theory would predict, that individuals who believe that they are more likely to use long-term care are also more likely to buy long-term care insurance. At the same time, we found that individuals who exhibit more precautionary behavior (those who wear seat belts or get flu shots, for example) are both more likely to buy long-term care insurance and less likely to subsequently use long-term care. The net result is that in this market, adverse selection is eliminated: the insureds are not more likely than those without insurance to use long-term care. Insurance policies are attractive to more risky individuals but also to more risk-averse individuals who, in this setting, are less risky, thus offsetting adverse selection.

A second paper[5] investigated a similar idea, using data from an Israeli auto insurance company and a more structural modeling approach. We specified a model of deductible choice, such that greater coverage (that is, a lower deductible) is attractive to individuals with greater risk and/or higher risk aversion. Using the model and the data on coverage choices and subsequent claim realization, we were able to estimate the joint distribution of risk and risk aversion. In contrast to the U.S. long-term care market, we found strong evidence in this market of adverse selection and a positive association between risk and risk aversion. However, we also found that heterogeneity in risk aversion was important in determining insurance demand; indeed, in this case it appeared to be more important than heterogeneity in risk.

Recognition of the importance of risk aversion — and how it varies across individuals — in determining insurance demand also provoked our interest in heterogeneity in risk aversion within and across contexts. Specifically, we investigated the extent to which individuals display a stable ranking in their willingness to bear risk, relative to their peers, across different choices.[6] Using data on employee choices regarding health, drug, and disability insurance, as well as 401(k) investment decisions, we found that an individual's choices in one insurance market have substantial predictive power for their choices in other insurance domains, but that the willingness to bear risk in an insurance context has considerably less predictive power for the willingness to bear risk in 401(k) asset allocation decisions.

Welfare Implications of Adverse Selection

Adverse selection and its associated welfare consequences have always been an important rationale for government intervention in insurance markets. Indeed, researchers have documented patterns in the data that point to the existence of adverse selection in particular insurance markets. But are the welfare consequences of this adverse selection important, and can they be remedied by standard interventions? In several papers, we have developed ways to quantify the efficiency consequences of asymmetric information. Our approach was influenced and guided by our earlier findings that preferences, in addition to risk, can play an important role in determining insurance demand.

In one of our most recent papers on this topic,[7] we presented a graphical

framework that can be used to analyze and quantify the welfare distortions that may arise because of inefficient pricing associated with selection. We noted that the key aspect of selection is that competitive pricing responds to the average *insured* individual, while efficient pricing should be based on the *marginal* individual. In the presence of adverse selection, the average covered individual is riskier than the marginal one, thus leading to prices that are too high and to the familiar result of under-insurance. In an earlier paper,[8] we developed and applied this framework to data on employees' health insurance choices at Alcoa, Inc. We showed how one could use price variation across individuals, and data on insurance choices and subsequent claims, to estimate the efficiency consequences of selection. While we found evidence of adverse selection, our exercise suggested that its welfare cost in this setting was modest, and was lower than the welfare cost that would be associated with possible interventions, such as mandates or subsidies.

In another paper,[9] we address a similar question using data on annuity choices in the United Kingdom where, as noted, we had previously found evidence of adverse selection. In this paper, we did not have quasi-experimental variation in annuity prices, so we relied more heavily on a fully specified model of underlying consumer primitives that gives rise to annuity valuation and welfare. We used the model and our estimates to quantify the welfare costs associated with adverse selection and with possible government interventions in the market, such as mandates. Again, we found the welfare costs to be relatively modest and evaluated the welfare consequences of mandates.

What about Moral Hazard?

Thus far we have focused on adverse selection, but consideration of moral hazard raises several interesting issues. First, it complicates the detection of adverse selection. If one observes in the data that individuals who purchase more insurance have more accidents, does this reflect ex-ante selection into greater insurance by those with private information, or ex-post behavioral changes induced by the greater insurance? Clearly it is important to distinguish between these two very different forms of private information, which motivate different potential welfare-improving government interventions. In the same paper that showed how identifying price variation can be used to quantify the welfare costs of adverse selection, we also showed how this pricing variation can be used to test for adverse selection separately from moral hazard.

While it is of interest to empirically distinguish between adverse selection and moral hazard, we suggested in our most recent paper that the two concepts are not completely independent.[10] Specifically, returning to our earlier interest in the determinants of insurance demand, we noted that when moral hazard is present, it can be of interest to decompose risk into a component that is invariant to coverage (that is, "traditional selection") and a component that arises because of coverage (which we term "selection on moral hazard"). We used panel data on employer-provided health insurance choices and subsequent claims (again from Alcoa, Inc.), and showed that individuals increased their medical utilization as a response to greater insurance coverage. This pattern is often characterized as "moral hazard" in the literature. Moreover, we found that individuals who exhibit a greater behavioral response to the increased coverage are also more likely to choose greater coverage. Such patterns may have important implications. For example, when trying to predict the reduction in healthcare costs associated with offering a high-deductible health insurance plan, one would obtain larger estimates if individuals who select into such plan are those with the smallest behavioral response to the decrease in coverage. This paper also stimulated our interest in understanding more generally the nature and determinants of moral hazard in health insurance, a topic that we are currently exploring.

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Economic Shocks, Weather, and Civil War

Edward Miguel*

Civil War and Economic Development

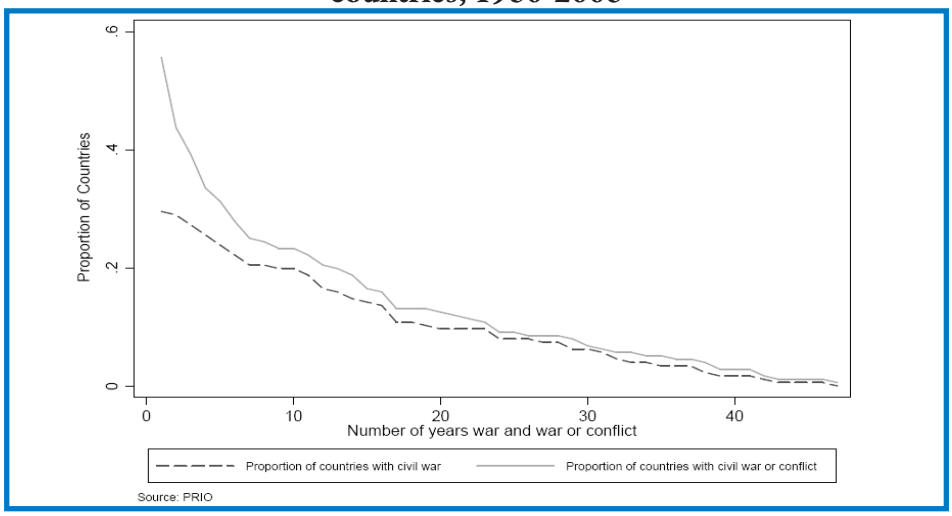
Internal civil conflict has been common during the past half century, a fact that until recently escaped the notice of most economists.[1] Civil wars — internal conflicts with more than 1,000 battle deaths in a single year — have afflicted one third of all nations. Adding in civil conflicts, which involve at least 25 battle deaths per year, increases the incidence figure to more than half.[2] And, internal warfare is not just extremely common, it is also persistent. Figure 1 presents the cumulative proportion of all nations experiencing wars and conflicts since 1960: 20 percent of nations have experienced at least ten years of civil war during the period.

The proportion of countries embroiled in civil conflict at a single point in time also has increased steadily through the last half of the twentieth century, peaking at over 20 percent in the 1990s. In sub-Saharan Africa, the world's poorest region, nearly a third of countries experienced active civil wars or conflicts during the mid-1990s. But why is this so?

The outbreak of internal wars is commonly attributed to poverty. Indeed, the correlation between low per capita incomes and higher propensities for internal war is one of the most robust empirical relationships in the economic literature. Figure 2 illustrates the relationship between per capita income (percentiles) and civil war using a non-parametric Fan regression; the countries towards the bottom of the world's income distribution — many in Africa — have several times more wars than those in the top quartile, while the middle income countries still face considerable conflict risk.

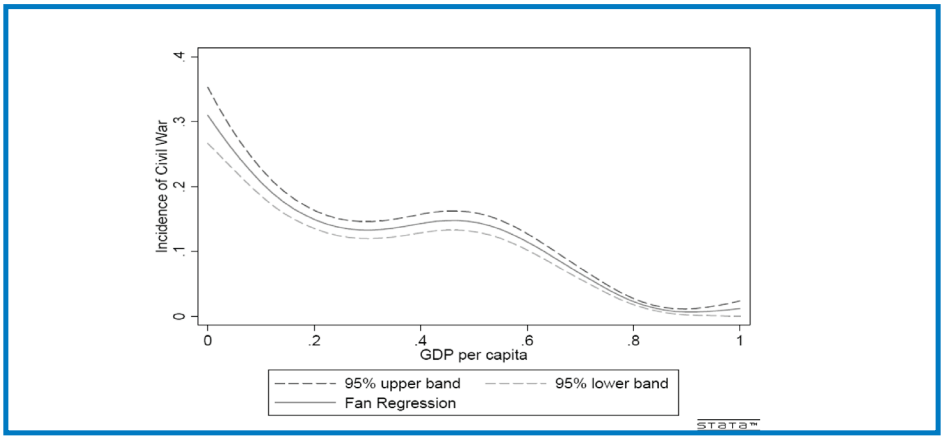
Still, we should be cautious about inferring a direct causal link from poverty to conflict because the reverse is also true: conflicts devastate life, health, and living standards. The Democratic Republic of Congo, where surveys suggest millions may have died as a result of the recent civil war, primarily due to hunger and disease, is a chilling example[3]. Although the accuracy of mortality figures in such war zones is open to question, the estimated mortality figures for Rwanda,

Figure 1: The distribution of civil war or conflict years across countries, 1960-2006



Notes: Data based on UCDP/PRIO armed conflict database. Civil wars are internal conflicts that count more than 1,000 battle deaths in a single year. "Civil war or conflict" includes cases with at least 25 battle deaths in a single year.

Figure 2: Incidence of civil war by country income per capita, 1960-2006



Notes: Figure 2 displays the results of a Fan regression of the incidence of civil war on GDP per capita percentiles (bandwidth=0.3, bootstrapped standard errors). Population and GDP data are drawn from the World Bank's World Development Indicators database. Civil war incidence is drawn from the UCDP/PRIO armed conflict database (Gleditsch et al., 2002; Harbom and Wallensteen, 2007).

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Angola, and Sudan are likewise shocking. Massive loss of life inevitably affects the economy. Warfare also destroys physical infra-structure and human capital, as well as possibly altering some social and political institutions. Moreover, internal wars are contagious; refugee flows, disease, lawlessness, and the illicit trades in drugs, arms, and minerals have generated "spillover" effects into the countries neighboring the conflict zones.

A seeming paradox, however, is that warfare is also sometimes credited for the technological and institutional development that underpins Western economic prosperity. Both internal and external wars are commonplace in European history. Several scholars have claimed that inter-state wars and wars of territorial conquest served a critical role in enabling the development of strong and capable government institutions in Europe and Asia[4].

Civil war is clearly central in the study of international economic development, yet leading development economists have often overlooked it, and some undergraduate textbooks do not even mention the issue. Over the past decade, however, many economists and other social scientists have worked to better understand the causes and the economic legacies of internal warfare, often in collaboration with political scientists and other scholars. The main goal of this research summary is to describe some of this progress, with a particular focus on the role of economic shocks, weather, and climate in driving the patterns laid out above.

Cross-Country Evidence on the Causes of Armed Conflict

The correlation between civil conflict and low income levels and negative income shocks is clear, but the direction of causality remains contested. Even the use of lagged national income growth (as in earlier studies[5]) does not eliminate this concern, because the anticipation of *future* political instability and conflict can affect *current* investment behavior, and thus living standards. In other words, there are likely to be permanent fixed differences between countries that are correlated with their income levels, economic growth rates, and civil war.

To address this concern, several papers seek to isolate exogenous variation in income. In sub-Saharan Africa, where most households rely on rain-fed agriculture, falling rainfall and the existence of drought cause large reductions in income. Shanker Satyanath, Ernest Sergenti, and I[6] therefore use annual rainfall growth as an instrument for income growth. We find a statistically significant relationship in our sub-Saharan Africa sample, but it is weaker in other regions of the world, where much less economic activity relies on rain-fed agriculture. This makes Africa the natural region for the application of our approach. In our main statistical specification, we find that a 5 percent drop in income growth increases the likelihood of a civil conflict in the following year by up to 10 percentage points, or nearly one half. This effect is not substantially dampened in countries with stronger democratic institutions, greater ethno-linguistic fractionalization, or oil exporters.

Antonio Ciccone[7] argues that "log rainfall" is a conceptually more appealing instrument than rainfall growth, but Satyanath and I[8] show that the main relationship between economic growth and civil conflict is nearly unchanged with this alternative specification. These papers also demonstrate that the relationship between rainfall shocks and civil conflict appears to become weaker in Africa since roughly 2000. It is unclear why this is the case, but it may be related to Africa's unprecedented economic growth in non-agricultural sectors in the past decade, as well as to public policy changes perhaps stemming from spreading democratization[9].

This analysis highlights the role of income shocks in generating armed conflict in Africa. Unfortunately, this econometric strategy does not allow the authors to definitively pin down a unique causal mechanism: rainfall shocks may provoke conflict because they lower the opportunity cost of fighting among rural populations (those most affected by weather shocks), or because crop failure also reduces government revenues and state capacity, or both.

Recent research has emphasized the role that climate might play in driving future armed conflict. Solomon M. Hsiang, Kyle Meng, and Mark A. Cane[10] show that armed conflict increases significantly in El Nino Southern Oscillation (ENSO) years in tropical regions, and that poor countries are the most prone to increased violence. Their estimates imply that ENSO may have played a role in 21 percent of all civil conflicts since 1950.

How might future climate change heighten or dampen the risk of armed conflict in sub-Saharan Africa, the world's poorest and most violence-prone region? Marshall Burke, John Dykema, David Lobell, Satyanath, and I[11] combine historical estimates of the weather-conflict relationship with a wide range of leading global climate model projections and conclude that future climate change is likely to increase conflict risk in Africa by 54 percent. The expected rise in future temperatures serves as the key driver of this relationship. These relationships remain speculative by necessity, given the inherent uncertainty about future global political, economic, and emissions trends, but this exercise serves as a useful benchmark for the risk that climate change poses for political stability in Africa.

Building on the approach taken in that paper, our related research explores the impact of incorporating climate uncertainty into estimates of how climate change will affect agriculture in the United States and sub-Saharan Africa.[12] A growing body of research projects the effects of global climate change on economic outcomes, but climate scientists often criticize these articles because nearly all of them ignore the well-established uncertainty in future temperature and rainfall changes. Therefore, they are likely to have downward biased standard errors and potentially misleading point estimates. Our paper finds that accounting for climate uncertainty leads to a much wider range of projected effects on agricultural profits, with the 95 percent confidence interval featuring drops of between 17 percent and 88 percent. An application to African agriculture yields similar results.

The Way Forward: New Research Using Microeconomic Data

A number of researchers of cross-country conflict have called for more disaggregated analyses, which allow for more sophisticated econometric methods and

for data that is closer to the phenomena being studied. This change is already underway. An emerging literature finds strong links between adverse economic shocks and political violence in a wide range of settings, including as a significant cause of land invasions in Brazil, more intense armed conflict in Colombia, increased rebel recruitment in Burundi, and the outbreak of Hindu-Muslim communal riots in India.[13] Taking the cross-country research together with this emerging literature, there is a growing body of evidence that adverse economic shocks contribute to political violence in less developed countries, with potentially severe welfare consequences for the world's poor.

Related papers focus on understanding how best to help post-conflict societies emerge from poverty. One example is my recent work with Katherine Casey and Rachel Glennerster that uses a randomized experimental methodology to evaluate the impact of a local institutional reform on public goods outcomes in post-war Sierra Leone.[14]

While deriving policy implications is not the main goal of this summary, the literature does have certain implications. For example, the empirical relationship between violence and low and falling incomes suggests that implementing insurance schemes to protect poor societies from negative income shocks might reduce future rounds of bloodshed. One possibility is expanded regional drought insurance for farmers. Another is foreign aid contingent on objective conflict risk indicators (for example, weather or commodity price shocks, or a coming El Nino year) — what I have elsewhere called "rapid conflict prevention support"[15] — to bolster local economic conditions when the risk of particularly political violence is high.

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Finance and Macroeconomics: The Role of Household Leverage

Atif R. Mian and Amir Sufi*

The increase in household leverage prior to the most recent recession was stunning by any historical comparison. From 2001 to 2007, household debt doubled, from $7 trillion to $14 trillion. The household debt-to-income ratio increased by more during these six years than it had in the prior 45 years. In fact, the household debt-to-income ratio in 2007 was higher than at any point since 1929. Our research agenda explores the causes and consequences of this tremendous rise in household debt. Why did U.S. households borrow so much and in such a short span of time? What factors triggered the slowdown and collapse of the real economy? Did household leverage amplify macroeconomic shocks and make a quick recovery less likely? How do politics constrain policy responses to an economic crisis?

While the focus of our research is on the recent U.S. economic downturn, we believe the implications of our work are wider. For example, both the Great Depression and Japan's Great Recession were preceded by sharp increases in leverage.[1] We believe that understanding the impact of household debt on the economy is crucial to developing a better understanding of the linkages between finance and macroeconomics.

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The Rise in Household Debt

Our explanation for the increase in household debt begins with the dramatic expansion in mortgage originations to low credit-quality households from 2002 to 2007.[2] Mortgage-related debt is a natural starting point, given that it makes up 70 to 75 percent of household debt and was primarily responsible for the overall increase in household debt. Further, the expansion of new mortgage originations was much larger in zip codes with a large fraction of low credit-quality households.

We argue that the primary explanation behind the dramatic increase in mortgage debt was a securitization-driven shift in the supply of mortgage credit. The fraction of home purchase mortgages that were securitized by non-GSE (government sponsored enterprise) institutions rose from 3 percent to almost 20 percent from 2002 to 2005, before collapsing completely by 2008. We show that non-GSE securitization primarily targeted zip codes that had a large share of subprime borrowers. In these zip codes, mortgage denial rates dropped dramatically and debt-to-income ratios skyrocketed. Our evidence contradicts the hypothesis that the expansion in mortgage credit reflected productivity or permanent income improvements for marginal borrowers. For example, mortgage credit growth and income growth become negatively correlated at the zip code level from 2002 to 2005, despite being positively correlated in every other time period back to 1990.

Part of our research explores the relationship between house prices and mortgage credit growth, which is difficult to disentangle because mortgage credit is likely to both respond to and to drive house price growth. We address this issue by focusing on areas of the country with extremely elastic housing supply, where both expected and realized house price growth is very low. The logic of this test is straightforward: house price expectations cannot drive credit supply decisions in cities where house price growth expectations must be constrained to be close to the rate of inflation. Even in cities with very elastic housing supply which did not experience house-price growth, there was a sharp increase in mortgage originations in low credit-quality zip codes corresponding to falling incomes and a sharp rise in securitization. However, these effects are larger in cities with an inelastic housing supply. Therefore we conclude that the expansion in mortgage credit was more likely to be a driver of house price growth than a response to it. In cities with inelastic housing supply, though, the initial increase in house price growth likely had important feedback effects on mortgage credit during the housing boom.

We focus on the feedback effect from house prices to household borrowing by analyzing individual-level borrowing data on U.S. households that already owned their homes in 1997, before mortgage credit expanded.[3] Using an instrumental variables approach and isolating the direct impact of house price increase on home equity-based borrowing, we find that existing homeowners borrowed 25 to 30 cents against the rising value of their home equity from 2002 to 2006. Further, this effect is concentrated among borrowers with a weak credit history.

Our findings are in line with models that propose a "feedback" or "accelerator" effect of asset prices on the real economy through collateral constraints. For example, we find that the home equity-based borrowing chan-

nel is largest for low credit-quality and high credit-card-utilization individuals. Moreover, the borrowings were not used to purchase new properties or to pay down expensive credit card balances, implying that they were likely used for real outlays, such as home improvement and consumption. Overall, we estimate that the home-equity based borrowing channel can explain 50 percent of the overall increase in debt among homeowners from 2002 to 2006.

Household Debt, the Recession, and the Weak Recovery

An expansion in the supply of credit, coupled with the feedback effect of borrowing against rising house values by existing homeowners, led to an unprecedented growth in U.S. household leverage between 2002 and 2006. One strand of our research has shown that during the Recession of 2007–9 and beyond, the cross-sectional variation in leverage growth across U.S. counties as of 2006 is an early and powerful predictor of the severity of the recession.[4] The predictive effect of household leverage on macroeconomic outcomes is large enough to explain the entire rise in mortgage defaults, the fall in house prices, and the fall in durable consumption measured by auto sales.

We use county-level information on auto sales and building permits to show that durable consumption declined earlier and more sharply in counties that experienced a large increase in household leverage before the recession. In the most highly levered counties, auto sales and new residential building began declining as early as 2006, a full year before the beginning of the recession. In fact, counties with low household leverage completely escaped the drop in durable consumption until the fourth quarter of 2008.

The most recent data show that while low leverage households have brought their consumption back to the levels from before 2008, high leverage households continue to experience very low consumption.[5] Auto sales and residential investment in high leverage counties continue to remain 30 to 50 percent below their 2005 levels according to most recent data.

We also find much sharper drops in employment, both during and after the recession, in counties with high household leverage. The theoretical links between leverage and employment do not yield an obvious prediction. First, we would expect over-levered households to supply more labor in order to pay off their debts. Second, employment in a given county is not directly linked to consumption in that county, given that the factors of production are often outside of the area. Despite these issues, we find that employment in high household leverage counties dropped by 8 percent from 2008 to 2009 and remained depressed through the end of 2010.

The continued weakness in aggregate demand and labor markets in areas with high leverage highlights the main source of economic weakness in the current environment. This analysis also hints at why some of the traditional policy tools, such as monetary easing, are not having much of an impact on real activity. We suspect that the problems with the household balance sheet will be difficult to resolve without a credible mechanism for writing down bad debt by highly indebted households.

The Role of Foreclosures

One of the mechanisms through which high leverage can adversely affect real outcomes in a downturn is the negative feedback effect of leverage-induced forced sales on asset prices. The negative impact on prices in turn can lead to lower consumption and investment through a reduction in collateral value, balance sheet weakness, or negative wealth effects.

With Francesco Trebbi, we examine this idea in the context of foreclosures.[6] The recent financial crisis has led to almost 3 million U.S. households going into foreclosure, and the number is expected to increase. Does the forced sale of houses reduce house prices further and, more importantly, lead to declines in real economic activity? We use legal differences across states in the requirement that foreclosures go through a judicial process to construct an instrument for foreclosures. We then estimate the effect of foreclosures on house prices, new automobile purchases, and residential investment.

By comparing states with different legal requirements on foreclosures, we find that state laws have a large impact on the incidence of foreclosures. We find that foreclosures have large price and real effects. From 2007 to 2009, foreclosures were responsible for 20 to 30 percent of the decline in house prices, 15 to 25 percent of the decline in residential investment, and 20 to 35 percent of the decline in auto sales.

The Political Economy of Policy Intervention

Financial crises lead to urgent calls for governments to intervene. Optimal policy prescriptions vary depending on one's view of the world. However, actual policy decisions are equally likely to be made based on the constituent and special interest pressures that members of Congress face.

In another study with Francesco Trebbi,[7] we show that special interest pressure via campaign contributions from the financial industry influenced voting behavior on the financial rescue legislation that was designed to provide support to the banking sector in 2008. Similarly, constituent pressure from delinquent and under-water homeowners significantly influenced legislators to vote in favor of legislation that promoted mortgage modifications.

The Bigger Picture: Linking Finance and Macroeconomics

In the aftermath of the Great Recession, a broad consensus has developed that both finance and macroeconomics need to incorporate more of the other discipline in their conceptual frameworks. Our work is motivated by a desire to advance the conversation between financial and macro econo-

mists through a better empirical understanding of the evolving relationship between financial markets and the real economy.

A number of serious econometric questions — from identifying causality and structural parameters of interest to quantifying economic magnitudes — arise as one embarks upon the journey to link finance with macroeconomics. However, advancements in information technology, econometrics, and micro-founded theoretical models together put us in a much better position than our predecessors to overcome these obstacles.

Our own work highlights the availability of large datasets that enable researchers to break down macroeconomic aggregates to the level of actual decision making. For example, we can track individual-level borrowing decisions. We can quantify house prices and consumer spending at a much more granular level than ever before. We can observe job creation and destruction at the establishment level and follow household mobility across space and time. We have data that track borrower-lender relationships in the banking sector.

At the same time, the theoretical literature increasingly has developed more "bottom-up" macroeconomic models in which agents explicitly maximize objective functions and frictions between agents are carefully modeled. These models provide a richer set of predictions which can now be tested with increased rigor given the availability of large-scale microeconomic data. Moreover, the development of new empirical techniques in applied microeconomic fields offers tools that can more effectively tease our causal relations in the macroeconomy.

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The Labor Market Effects of Immigrants

Giovanni Peri*

Introduction

International migration is firmly restricted by national policies and national laws. While capital, technology, and goods move globally with few restrictions, governments heavily regulate the movement of labor, restricting the number of foreign nationals who reside and work in their countries. In spite of this, immigration into the rich countries of Europe, North America, and Oceania increased dramatically during the last decade. As of 2009, around 10 percent of the working age population in the OECD countries and about 14 percent of that population in the United States was born abroad. That was up from around 6 percent in the OECD and 11 percent in the United States, in 2000.

From a world perspective, international migration is a formidable way to increase individual productivity: immigrants moving from poor to rich countries nearly quintuple their income (on average) after the move.[1] Therefore, less restrictive immigration policies could

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generate huge gains, accruing in large part to migrants. What would be the effects on the economies of the receiving countries, though? Would immigrants take the jobs of natives or stimulate firms' growth? Who would suffer losses? Who would benefit? Would native workers be better or worse off with more immigrants?

My research agenda, developed with a number of co-authors during the last several years, has analyzed the economic impact of immigrants, helping to identify some crucial aspects that need to be considered in describing the labor market effect of immigration on natives. First, for example, we have emphasized that differences in the skill distribution (schooling and age) between natives and immigrants, and in the interactions of these skills in production, are crucial to assessing the skill-specific effect of immigrants on wages and employment. Second, we have identified an important mechanism of specialization, which allows local economies to absorb less educated immigrants with little or no adverse effects on native wages and potentially positive effects on productivity. Third, we have looked across countries to see how economies outside the United States have absorbed recent immigrant flows and what the role of labor market institutions has been in determining the wage and employment effects of immigrants. I describe these contributions below.

Immigrants and Natives: Competition and Complementarity

From a labor market perspective, immigration is an inflow of workers distributed across education and experience cells (skills). This was emphasized first in an influential paper by George Borjas.[2] Because workers with different skills tend to perform different jobs, immigrants in a skill group tend to compete more intensely with natives in the same group than with natives in other groups. They may even "complement" workers in other skill groups. This means, for instance, that a young, less educated construction laborer competes with (hence reduces the demand for) native construction workers but he/she also complements (and increases the demand for) native construction-supervisors and engineers. Similarly, an immigrant engineer competes with native engineers but he/she complements native construction supervisors and construction workers. One needs to account for both this direct and indirect competition and the complementary effects in order to characterize the impact of immigrants on the demand for native workers. Gianmarco Ottaviano and I[3] use this multiple skill-group approach to estimate the parameters needed to identify the competitive and the complementary channels, and finally to evaluate the wage effect of immigrants.

Our findings imply that immigration to the United States in 1990–2006 had a small impact on the wages of native workers with low levels of education. Our preferred estimates are actually positive and range between 0.5 percent and 1.5 percent. Similarly, native workers overall have gained a small 0.6 percent in wages because of the immigrant flows in 1990–2006.

Three important factors account for these small positive gains and offset the potential losses from competition in the labor market. First, firms have responded to the increase in workers by investing. Capital adjustment, which was reasonably fast in response to a small and predictable inflow of workers,[4] maintained the capital intensity of the economy at a roughly constant level over the period. Hence immigrants did not crowd out existing workers but simply increased the size of the economy.

Second, while the United States attracts many immigrants with low education, it also attracts many with very high education. The previous literature considered four schooling groups as distinct (workers with no degree; high school graduates; workers with college education; and workers with a college degree), but we show that in the recent decades (1960–2006) native workers with no degree and native high school graduates constitute a group of essentially homogeneous workers. Similarly, at a high level of education, workers with some college and college graduates compete for similar jobs. When we consider only two schooling groups (college educated and non-college-educated) rather than four, as differentiated by their contribution to production, it turns out that immigrants and natives are distributed between groups in similar proportions.[5] Therefore, immigration did not alter the relative supply and, consequently, the compensation of more educated relative to less educated workers much.

Finally, the small wage effects are attributable to imperfect substitutability between immigrants and natives in the same skill group. In particular, immigrants have different abilities, choose different occupations, and perform different jobs than natives in the same skill group. These differences further reduce the competition between natives and immigrants in a skill group and add to their overall complementarity. These effects combined to attenuate the labor market competition of immigrants and natives, particularly those with low schooling. Immigration turns out to have had a small (and positive) effect on the demand for less educated native workers.

The Area Approach

The approach adopted above uses a structured analysis of labor markets by skills, and considers the United States as one labor market. However, many previous studies[6] have used local labor market effects (in U.S. states or cities) to assess the wage and the employment consequences of immigrants. This is often described as "the area approach. But if workers are mobile in the long run, then local differences in wages will be arbitraged away. This criticism recently was applied to the area approach by Borjas (2003, 2006).[7]

I re-consider the area approach in a recent paper,[8] adopting the skill group structure (used in the national approach) at the local level, but allowing workers of a certain skill group to move nationally in response to immigration, in order to arbitrage wage differentials. I apply this structure to the case of California, which

received a massive net inflow of immigrants (8 percent of its population in each decade) in the 1970s, 1980s, and 1990s. In this context, immigration to California in a skill-group should not affect the wage but may affect the employment of that group, as natives move in response to immigration. I found that by looking at how the employment of natives in a skill group responds to immigration, it is possible to derive an alternative estimate of their substitutability with natives. That substitutability is high if the employment effect of immigrants on natives is negative, but it is small if the employment effect is zero or positive.

The empirical estimates for California over the period 1960–2005 show essentially no employment (or wage) effect of immigrants on natives in the same skill group. In my framework, this implies imperfect substitution between immigrants and natives, with an elasticity of similar magnitude[9] as found using wage data at the national level in Ottaviano and Peri (2008).

Manual and Communication Tasks

What exactly makes immigrants and natives imperfectly substitutable? Chad Sparber and I[10] tackle this question by analyzing the productive specialization of natives and immigrants. The explanation resides in the relative productivity of natives and immigrants in "manual-intensive" and "communication-intensive" production tasks. Because immigrants are less proficient in the local language, they have a tendency to specialize in manual-intensive jobs. In response, natives specialize in communication-intensive jobs where they are relatively more productive. As the share of immigrants grows and their supply of manual tasks increases, natives further specialize in communication tasks, the return on which increases as they complement manual tasks. This process is particularly strong for workers with low levels of education. This mechanism is qualitatively and quantitatively strong enough to generate the observed degree of imperfect substitution between native and immigrants.

Examples of this phenomenon are numerous. Natives who begin their career as waiters may become cook/kitchen-managers as immigrants take the jobs of waiting and preparing food. Others begin as construction workers and become construction supervisors as immigrants take the manual jobs of building, and so on. The evolution along one's lifetime from more manual to more "communication-intensive" jobs takes place naturally for most workers. We find that this process was accelerated in states with a high degree of immigration.

In a related paper[11] I show that such reorganization of tasks along specialization of immigrants and natives is associated with a reorganization of production and adoption of techniques that also may have increased overall productivity, especially for less educated workers, in U.S. states.

International Comparisons

Are these effects of immigration on labor markets and the described mechanism of absorption of immigrants specific to the United States? European countries have experienced inflow of immigrants that were larger than those of the United States, relative to their population, during the 1990s (Germany) or the 2000s (Spain and Italy).

In our analysis of how European labor markets absorbed immigrants, we find several commonalities and some interesting differences with the United States. First in a paper on Germany, Ottaviano, Francesco D'Amuri, and I[12] find that immigrants and natives are imperfect substitutes. However, the insiders' protection which is typical of more regulated European markets has produced more competition among immigrants who tend to crowd out employment opportunities of earlier immigrants. The employment rate among immigrants was lower than among natives in Germany (unlike the United States, where the opposite is true). In the presence of unemployment benefits, this may generate a transfer to immigrants and lower benefit for natives.

In a very recent paper, D'Amuri and I[13] analyze the manual-communication task mechanism in Europe. We find that while European workers too moved to more communication-intensive and complex jobs in response to immigration, they did this at a much slower rate than U.S. workers. Moreover, splitting countries into those with high and those with low employment protection, we find that the occupational mobility of natives in response to migration has been particularly slow in countries with high employment protection. The existence of national contracts, strong insider entitlements, and the high costs of hiring and lay-offs have reduced the mobility of workers and thus the operation of a mechanism that could protect wages and employment in the presence of immigrant competition. The group most affected by the differences in employment protection is less educated natives; in Europe they have responded the least to immigrants, remaining more vulnerable to their competition.

Further Research

Many interesting questions about the economic effects of immigration remain to be studied. At the cross-country level, we need to better understand the overall impact of immigrants on productivity and growth, especially in conjunction with other globalization phenomena such as trade and capital movements. At the micro level, we need to learn more about the interaction between firms, immigrants, and natives in order to more clearly identify productivity and employment effects. We also need to consider the impact of emigration (a loss of workers), especially of highly skilled workers. I hope to explore these themes in the next few years.

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[1] *As shown in M. Clemens, C. Montenegro, and L. Pritchett, "The Place Premium: Wage Differences for Identical Workers across the U.S. Border," Working Paper # 148, Center for Global Development, 2009. Available at: http://www.cgdev.org/content/publications/detail/16352*

[2] *G.J. Borjas, "The Labor Demand*

Curve is Downward Sloping: Reexamining the Impact of Immigration on the Labor Market," Quarterly Journal of Economics, *118, pp.1335–74, (2003).*

[3] *G.I.P. Ottaviano and G. Peri, "Rethinking the Effects of Immigration on Wages", NBER Working Paper No. 12497, August 2006, forthcoming in the* Journal of the European Economic Association; *and "Immigration and National Wages: Clarifying the Theory and the Empirics," NBER Working Paper No. 14188, July 2008.*

[4] *Net immigration was +0.4 percent of employment per year in the period 1990–2006.*

[5] *63 percent of immigrants had no tertiary education versus 59 percent of natives as of 2009.*

[6] *For instance, the following influential papers: D. Card, "Immigrant Inflows, Native Outflows, and the Local Labor Market Impacts of Higher Immigration,"* Journal of Labor Economics *19, 2001, pp. 22–64; "How Immigration Affects U.S. Cities," Discussion Paper No. 11/07, CreAM, London UK, 2007; and "Immigration and Inequality",* American Economic Review, Papers and Proceedings, *99, 2009, pp. 1–21.*

[7] *G.J. Borjas, "Native Internal Migration and the Labor Market Impact of Immigration,"* Journal of Human Resources, *XLI, 2006, pp. 222–58.*

[8] *G. Peri, "Rethinking the Area Approach: Immigrants and the Labor Market in California, 1960–2005," NBER Working Paper No. 16217, July 2010, and* Journal of International Economics, *Vol. 84 (1), 2009, pp. 1–14.*

[9] *The elasticity of substitution between immigrant and natives of similar skills is estimated between 10 and 20.*

[10] *G. Peri G. and C. Sparber, "Task Specialization, Comparative Advantages, and the Effects of Immigration on Wages," NBER Working Paper No. 13389, September 2007, and* American Economic Journal, Applied Economics, *1:3, July 2009.*

[11] *G. Peri, "The Effect of Immigration on Productivity: Evidence from U.S. States," NBER Working Paper No. 15507, November 2009, forthcoming in the* Review of Economics and Statistics.

[12] *F. D'Amuri, G.I.P. Ottaviano, and G. Peri, (2010) "The Labor Market Impact of Immigration in Western Germany in the 1990s," NBER Working Paper No. 13851, March 2008, and* European Economic Review, *Vol. 54, (4), 2010, pp. 550–70.*

[13] *F. D'Amuri and G. Peri, "Immigration, Jobs, and Employment Protection: Evidence from Europe," NBER Working Paper No. 17139, June 2011.*

NBER Profile: *Liran Einav*

Liran Einav is a Research Associate in the NBER's Programs on Industrial Organization and the Economics of Aging. He is also an Associate Professor of Economics at Stanford University.

Einav received his B.A. in Computer Science and Economics from Tel Aviv University and his Ph.D. in Economics from Harvard University. He joined Stanford's faculty when he graduated from Harvard in 2002.

Einav's areas of specialization are industrial organization and applied microeconomics. Beyond the insurance work described in this issue of the *NBER Reporter,* Einav has studied consumer behavior and the pricing of subprime auto loans, competition in the motion picture industry, and strategic commitment. He is currently involved in a large-scale project using data from eBay.

Einav lives in Stanford, CA with his wife, Shirit, and their three children: Shiley, Yahli, and Libby.

NBER Profile: *Atif R. Mian*

Atif R. Mian is a Research Associate in the NBER's Programs on Corporate Finance and Monetary Economics. He also holds the Joe Shoong Chair in International Business at the Haas School of Business of the University of California, Berkeley.

Mian received a Ph.D. in economics from MIT in 2001. Before joining the Berkeley faculty, he taught at the University of Chicago. He also has been a visiting scholar at the Federal Reserve Banks of New York and San Francisco.

Mian's research sits at the intersection of finance and macroeconomics. Some of his early work focused on how political, informational, and organizational constraints in financial markets can shape the allocation of capital in less developed economies. His more recent focus has been on household leverage: why it grows; how it affects aggregate demand; and how it can strangle even the world's mightiest economy.

Mian grew up in Pakistan — a country that taught him why politics cannot be separated from economics. He currently lives in the bay area with his wife, Ayesha, and their daughters Rida (6) and Hayah (3).

NBER Profile: *Edward Miguel*

Edward (Ted) Miguel is a Research Associate in the NBER's Programs on Political Economy and Education. He is also a professor of economics and director of the Center of Evaluation for Global Action at the University of California, Berkeley, where he has taught since 2000.

Born in New York City and raised in New Jersey, he earned B.S. degrees in both Economics and Mathematics from MIT and received a Ph.D. in Economics from Harvard University, where he was a National Science Foundation Fellow. His main research focus is African economic development, including work on the economic causes and consequences of violence; the impact of ethnic divisions on local collective action; and interactions between health, education, and productivity for the poor. He has conducted field work in Kenya, Sierra Leone, Tanzania, and India.

Miguel and NBER Research Associate Ray Fisman are co-authors of *Economic Gangsters: Corruption, Violence and the Poverty of Nations* (Princeton University Press, 2008). He is also an Associate Editor of the *Quarterly Journal of Economics, Journal of Development Economics,* and *Review of Economics and Statistics,* the recipient of the 2005 Alfred P. Sloan Fellowship, and winner of the 2005 Kenneth J. Arrow Prize awarded annually by the International Health Economics Association for the Best Paper in Health Economics.

Miguel lives in Piedmont, California and enjoys running, cooking, and spending time with his wife, three-year old son, and baby daughter.

NBER Profile: *Giovanni Peri*

Giovanni Peri is a Professor of Economics at the University of California, Davis and a Research Associate in the NBER's Program on International Trade and Investment. He is also a CESifo Research Professor at the University of Munich and Editor of *CESifo Economic Studies.*

Peri received his B.S. and Doctoral Degree in Economics from Bocconi University in Milan, and his Ph.D. from the University of California, Berkeley. His earlier research focused on human capital, growth, and technological innovation, but more recently he has turned his attention to the impact of international migration on labor markets, housing markets, and the productivity of the receiving countries, and to the determinants of international migration.

Peri's work has been published in several academic journals, including the *Review of Economic Studies, the Review of Economics and Statistics,*and the *Economic Journal,* He is also on the Editorial Board of *Regional Science and Urban Economics,* the *Journal of Urban Economics,* and the *Journal of Population Economics.*

Peri lives in Davis, CA with his wife, Paola, and three children: Claudia, Fabio, and Dante. In his spare time, he enjoys playing sports with the kids and traveling with the family to his native Italy, to make and taste olive oil from his family's olive grove in Todi, Umbria.

NBER Profile: *Amir Sufi*

Amir Sufi is a Faculty Research Fellow in the NBER's Programs on Corporate Finance, Economic Fluctuations and Growth, and Monetary Economics. He is also Professor of Finance at the University of Chicago's Booth School of Business.

Sufi received his bachelor's degree from the Walsh School of Foreign Service at Georgetown University in 1999 and his Ph.D. in economics from MIT in 2005. Prior to his graduate studies, he worked as an Assistant Economist at the Federal Reserve Bank of New York.

Sufi's research focuses on the linkages between finance and the real economy, which he investigates in the context of corporate finance, household finance, and macroeconomics. His corporate finance work looks at the effects of incentive conflicts on contractual design, capital structure, and investment policy. His household finance research investigates the macroeconomic implications of household balance sheet strength and house price cycles. His research has been published in the *American Economic Review,* the *Journal of Finance,* and the *Quarterly Journal of Economics.*

Sufi received an Alfred P. Sloan Fellowship in 2011. He currently serves as an associate editor for the *Quarterly Journal of Economics* and the *Review of Financial Studies.*

While most don't guess it, Sufi grew up in heartland city of Topeka, Kansas. He currently lives in Hyde Park, an area of Chicago, with his wife and two sons, and another baby is on the way. He spends a lot of his personal time running — both on his own, for exercise, and after his kids.

Conferences

The Global Financial Crisis

The NBER held a conference on "The Global Financial Crisis" in Bretton Woods, NH on June 3 and 4, 2011. NBER Research Associates Charles Engel of the University of Wisconsin, Kristin Forbes of MIT, and Jeffrey Frankel of Harvard's Kennedy School organized the meeting and chose the following papers for discussion:

- **Bergljot Barkbu** and **Ashoka Mody**, IMF, and **Barry Eichengreen**, University of California at Berkeley and NBER, "International Financial Crises and the IMF: What the Historical Record Shows"
- **Sebnem Kalemli-Ozcan**, University of Houston and NBER; **Bent Sorensen**, University of Houston; and **Sevcan Yesiltas**, Johns Hopkins University, "Leverage across Firms, Banks, and Countries"
- **Kristin Forbes**, and **Francis E. Warnock**, University of Virginia and NBER, "Capital Flow Waves: Surges, Stops, Flight, and Retrenchment"
- **Carol Bertaut, Laurie Pounder DeMarco, Steve Kamin**, and **Ralph Tryon**,Federal Reserve Board, "ABS Inflows to the United States and the Global Financial Crisis"
- **Galina Hale**, Federal Reserve Bank of San Francisco, "Bank Relationships, Business Cycles, and Financial Crisis"
- **Nicola Cetorelli**, Federal Reserve Bank of New York, and **Linda S. Goldberg**, Federal Reserve Bank of New York and NBER, "Liquidity Management of U.S. Global Banks: Internal Capital Markets in the Great Recession"
- **Andrew K. Rose**, University of California at Berkeley and NBER, and **Mark M. Spiegel**, Federal Reserve Bank of San Francisco, "Dollar Illiquidity and Central Bank Facilities during the U.S. Sub-Prime Crisis"
- **Marcos Chamon, Atish R. Ghosh, Jonathan D. Ostry**, and **Mahvash S. Qureshi**, IMF, "Managing Capital Inflows: The Role of Controls and Prudential Policies"
- **Marcel Fratzscher**, European Central Bank, "Capital Flows, Global Shocks and the 2007–08 Financial Crisis"
- **Claudio Raddatz** and **Sergio Schmukler**, The World Bank, "On the International Transmission of Shocks: Micro-Evidence from Mutual Fund Portfolios"
- **Pierre-Olivier Gourinchas**, University of California at Berkeley and NBER; **Helene Rey**, London Business School and NBER; and **Kai Truempler**, London Business School, "The Financial Crisis and The Geography of Wealth Transfers"
- **Philip Lane**, Trinity College Dublin, and **Gian Maria Milesi-Ferretti,** IMF, "External Adjustment and the Global Crisis"
- **Stijn Claessens** and **Hui Tong**, IMF, and **Shang-Jin Wei**, Columbia University and NBER, "The Channels for the Real Collateral Damage of the 2008–2009 Global Crisis: Evidence from Firms in 42 Countries"
- **Kathryn M.E. Dominguez**, University of Michigan and NBER; **Yuko Hashimoto**, IMF; and **Takatoshi Ito**, University of Tokyo and NBER, "International Reserves and the Global Financial Crisis"

Summaries of these papers may be found at: http://www.nber.org/confer/2011/GFC11/summary.html

34th International Seminar on Macroeconomics

NBER's 34th International Seminar on Macroeconomics (ISOM) took place on June 17 and 18, 2011. NBER Research Associate Jeffery A. Frankel of Harvard's Kennedy School and Christopher Pissarides of the London School of Economics organized this year's program. The following papers were discussed:

- **Barry Eichengreen** and **Andrew K. Rose**, University of California at Berkeley and NBER, "Flexing: Effects of Abandoning Fixed Exchange Rates"
- **Alejandro Justiniano**, Federal Reserve Bank of Chicago, and **Claudio Michelacci**, CEMFI, "The Cyclical Behavior of Unemployment and Vacancies in the U.S. and Europe"
- **Enrico Spolaore**, Tufts University and NBER, and **Romain Wacziarg**, University of California at Los Angeles and NBER, "Long-Term Barriers to the Diffusion of Innovations"
- **Giancarlo Corsetti**, University of Cambridge, "Nontraded Goods Prices, Terms of Trade, and Risk Sharing"
- **Julian di Giovanni**, International Monetary Fund, and **Andrei Levchenko**, University of Michigan and NBER, "The Risk Content of Exports: A Portfolio View of International Trade" (NBER Working Paper No. 16005)
- **Gilles St. Paul**, Toulouse School of Economics, "Toward a Political Economy of Macroeconomic Thinking"
- **Joshua Aizenman**, University of California at Santa Cruz and NBER, and **Yothin Jinjarak**, University of London, "The Fiscal Stimulus in 2009–11: Trade Openness, Fiscal Space and Exchange Rate Adjustment"
- **Gianmarco Ottaviano**, Bocconi University, "Pricing-to-market, Intra-Industry Reallocations and Macroeconomic Dynamics"

Summaries of these papers may be found at: http://www.nber.org/confer/2011/ISOM11/summary.html

Twenty-second Annual EASE Conference

The NBER, the Australian National University, the China Center for Economic Research, the Chung-Hua Institution for Economic Research, the Hong Kong University of Science and Technology, the Korea Development Institute, the National University of Singapore, Tsinghua University, and the Tokyo Center for Economic Research jointly sponsored the NBER's 22nd Annual East Asian Seminar on Economics. It took place on June 24 and 25, 2011 at Peking University. Takatoshi Ito, University of Tokyo and NBER, and Andrew K. Rose, University of California, Berkeley and NBER, organized the conference, which focused on "The Role of Government." These papers were discussed:

- **Qingyuan Du,** Columbia University, and **Shang-Jin Wei,** Columbia University and NBER, "A Darwinian Perspective on the Chinese Real Exchange Rate"
- **Martin Berka**, Massey University, and **Michael B. Devereux**, University of British Columbia and NBER, "What Determines European Real Exchange Rates?" (NBER Working Paper No. 15753)
- **Yi Wen**, Federal Reserve Bank of St. Louis, "Making Sense of China's Excessive Foreign Reserves"
- **Woochan Kim,** KDI School of Public Policy and Management, "Korea Investment Corporation: Its Origin and Evolution"

- **Binkai Chen**, Central University of Finance and Economics, and **Yang Yao**, Peking University, "The Cursed Virtue: Government Infrastructural Investment and Household Consumption in Chinese Provinces"
- **Hyungkwon Jeong,** Bank of Korea, and **Sung Wook W. Joh**, Seoul National University, "Risk Taking of 'TBTF' Banks in a Concentrated Market: Evidence from Surviving Banks after a Financial Crisis"
- **Zvi Bodie**, Boston University, and **Joseph Cherian** and **Chua Wee Kang**, National University of Singapore, "Worry-free Inflation-Indexing for Sovereigns: How Governments can Effectively Deliver Inflation-Indexed Returns to Their Citizens and Retirees"
- **Chong En Bai** and **Binzhen Wu,** Tsinghua University, "Payroll Tax and Household Consumption"
- **Bruce D. Meyer,** University of Chicago and NBER, and **James X. Sullivan**, University of Notre Dame, "Consumption and Income Inequality in the U.S. Since the 1960s"
- **Lucas W. Davis** and **Catherine Wolfram,** University of California at Berkeley and NBER, "Deregulation, Consolidation, and Efficiency: Evidence from U.S. Nuclear Power"
- **Ayako Kondo,** Osaka University, and **Hitoshi Shigeoka,** Columbia University, "Effects of Universal Health Insurance on Health Care Utilization and Health Outcomes: Evidence from Japan"
- **Janet Currie,** Princeton University and NBER, and **Erdal Tekin**, Georgia State University and NBER, "Is the Foreclosure Crisis Making Us Sick?"

Summaries of these papers may be found at: http://www.nber.org/confer/2011/EASE11/summary.html

NBER Conference in Beijing

The thirteenth annual NBER-CCER Conference on China and the World Economy took place at the China Center for Economic Research (CCER) in Beijing on June 29—July 1, 2011. The conference program was jointly arranged by the National Bureau of Economic Research, the CCER at Beijing University, and Tsinghua University. After opening remarks by James M. Poterba of NBER and MIT, Yang Yao of CCER, and David Li of Tsinghua University, the following topics were discussed:

Macroeconomics

- **Yiping Huang,** CCER, "China's Capital Account Liberalization"
- **David Li,** Tsinghua University, "An Emerging Policy Paradigm of China's Macroeconomic Policy"
- **James Poterba**, MIT and NBER, "The Long-Term U.S. Fiscal Challenge"
- **Julio Rotemberg,** Harvard Business School and NBER, "Behavioral and Institutional Roots of Financial Instability"

Capital and Foreign Exchange

- **Patrick Bolton,** Columbia University and NBER, "Contingent Capital and Counter-Cyclical Investment Strategies"

Housing Markets

- **Martin Schneider,** Stanford University and NBER, "Borrowing and House Prices"
- **Shang-Jin Wei,** Columbia University and NBER, "Mating Competition and Housing Market Characteristics"

- **Fan He,** Chinese Academy of Social Sciences, "Demographic Change and Housing Prices"

Education and Marriage

- **Bentley MacLeod,** Columbia University and NBER, "The Anti-Lemons Effect and the Market for Education"
- **Li-An Zhou,** Peking University Graduate School of Management, "Estimating the Return to Education: Evidence from China's Schooling Reform"
- **Tao Li,** HSBC School of Business, Peking University, "Intergeneration Status and Marital Sorting"

Land Markets and Land Reforms

- **Hongbin Cai,** Graduate School of Management, Peking University, "Land Market Auctions in China: Evidence of Corruption?"
- **Michelle J. White,** University of California, San Diego and NBER, "Land in the United States"
- **Lixing Li,** CCER, "Land Titling in China: the Chengdu Experiment and Its Consequences"

Financial Market

- **Monika Piassezi,** Stanford University and NBER, "Interest Rate Risk in Credit Markets"
- **Qiao Liu,** Peking University Graduate School of Management, "The Evolution and Consequence of Chinese Pyramids"
- **Ailsa Roell,** Columbia University, "Managerial Pay and Stock Price Manipulation"

Financial Stability

- **Xiaojing Zhang** and **Cheng Li,** Chinese Academy of Social Sciences, "Making Room for China's Currency: Development Potential and Future Path of Renminbi Internationalization"
- **David Scharfstein,** Harvard Business School and NBER, "Housing Finance and Financial Stability"
- **Jiandong Ju,** Tsinghua University, "Industry Dynamics and Economic Growth"

Public Finance

- **Chong-En Bai** and **Binzhen Wu,** Tsinghua University, "Payroll Tax and Household Consumption"
- **Roger Gordon**, University of California, San Diego and NBER, "The Role of the Corporate Tax"
- **Fan Zhang,** CCER, "Government Control in the Process of Market Liberalization"

Income Distribution and Labor Supply

- **Feng Lu,** CCER, "Changing Labor Supply in China"
- **Yan Shen,** CCER, "New Evidence of Income Distribution in China"
- **Hongbin Cai** and **Yuyu Chen,** Graduate School of Management, Peking University, "Beggar Thy Neighbor: Problem of River Commons in China"

- **Edward Lazear,** Stanford University and NBER, "The Fiscal Situation, Economic Recovery and the Labor Market"

Health

- **Yaohui Zhao,** CCER, "Rural Health Care in China"
- **Janet Currie,** Columbia University and NBER, "Health Inequality in Early Life: Consequences for Human Capital Formation"

NBER News

Lipsey Dead at 84

Robert E. Lipsey, an NBER Research Associate, former Vice President for Research, and the Director of the NBER's New York office since 1978, passed away on August 11 at the age of 84. A Professor Emeritus at Queens College and the Graduate Center of the City University of New York, Lipsey was actively involved in NBER research for more than six decades. He received both his B.A. and his Ph.D. from Columbia University and began working at the NBER in the summer of 1945, after completing his first year of graduate school. His first job was in the Business Cycle Dating unit, and he was also a research assistant to Solomon Fabricant.

Lipsey maintained his interests in international economics and economic measurement, and was an active participant in the intellectual life of the NBER, throughout his professional career. He did fundamental work on foreign direct investment, on the international comparison of investment and saving, and on the measurement of prices and trade flows. He was a central figure in the Conference on Research on Income and Wealth, organizing a number of its most influential projects. He also participated in the CRIW meetings at the just completed 2011 NBER Summer Institute. Bob was a warm and generous colleague to several generations of NBER researchers.

Several years ago, Claudia Goldin interviewed Lipsey about his many and varied experiences at the NBER. This interview was recorded, and it is posted on the NBER's website in the "oral histories" library: http://www.nber.org/nberhistory/oralhistories2.html It offers an interesting perspective on the evolution of the NBER.

NBER Hosts 2011 Summer Institute

The NBER hosted the 33rd annual Summer Institute during a four-week period in July and early August. With more than 2100 participants, 515 of whom were attending their first Summer Institute, this was the largest summer gathering in NBER history.

NBER Research Associate Kenneth Rogoff of Harvard University, the former chief economist of the IMF, delivered the Martin Feldstein lecture on the topic of "Sovereign Bankruptcy: Is This Time Different?" His presentation, just three weeks before the deadline for raising the U.S. debt limit, was particularly timely.

NBER Research Associates Lawrence Christiano of Northwestern University and Jesus Fernandez-Villaverde of the University of Pennsylvania presented the "Econometrics Methods Lectures" on the topic "Computational Tools and Macroeconomic Applications." Their lectures, which spanned two days and have been recorded and posted on the NBER website at http://www.nber.org/~confer/2011/SI2011/ML/MLprg.html emphasized both numerical methods for solving macroeconomic models and applications of dynamic stochastic general equilibrium (DSGE) models.

As in past years, the 2011 Summer Institute drew participants from a wide range of institution — more than 360 different colleges, universities, and research institutes were represented — and spanned a wide range of research topics. There were more than 450 research presentations, organized into 49 distinct research meetings. A full list of meetings and the papers presented may be found at: http://www.nber.org/confer/2011/SI2011/SI2011.html

Program and Working Group Meetings

Japan Project Meets

The NBER together with the Center on the Japanese Economy and Business, The Center for Advanced Research in Finance, and the Australia-Japan Research Centre held a project meeting on the Japanese economy in Tokyo on June 24 and 25, 2011. The organizers were: Jennifer Corbett, Australia-Japan Research Centre; Charles Horioka, NBER and Osaka University; Anil K Kashyap, NBER and the Graduate School of Business, University of Chicago; Kazuo Ueda, University of Tokyo; and David Weinstein, NBER and Columbia University. The following papers were discussed:

- **Robert Dekle,** University of Southern California; **Hyeok Jeong,** GRIPS; and **Nobuhiro Kiyotaki**, Princeton University and NBER, "Dynamics of Trade and Heterogeneity in General Equilibrium"
- **Gauti Eggertsson,** Federal Reserve Bank of New York, and **Paul R. Krugman,** Princeton University and NBER, "Debt, Deleveraging, and the Liquidity Trap"
- **Ayako Kondo,** Osaka University, and **Hitoshi Shigeoka,** Columbia University, "Effects of Universal Health Insurance on Health Care Utilization and Health Outcomes: Evidence from Japan"
- **Melvin Stephens Jr.,** University of Michigan and NBER, and **Takashi Unayama,** Kobe University, "The Consumption Response to Seasonal Income: Evidence from Japanese Public Pension Benefits" (NBER Working Paper No. 16342)
- **Jess Diamond,** University of California at San Diego, "Employment Status Persistence in the Japanese Labor Market"
- **Shinji Takagi,** Osaka University, "The Future Role of Japan in Asia"
- **Takero Doi,** Keio University; **Takeo Hoshi,** University of California at San Diego and NBER; and **Tatsuyoshi Okimoto,** Hitotsubashi University, "Japanese Government Debt and Sustainability of Fiscal Policy"
- **Takeo Hoshi** and **Anil Kashyap,** "Why Did Japan Stop Growing?"
- **Hiroyuki Kasahara,** University of British Columbia, and **Yasuyuki Sawada** and **Michio Suzuki,** University of Tokyo, "Investment and Borrowing Constraints: Evidence from Japanese Firms"
- **Kohei Kubota** and **Fumio Ohtake,** Osaka University; **Charles Y. Horioka,** Osaka University and NBER; **Akiko Kamesaka,** Aoyama Gakuin University; and **Masao Ogaki,** Keio University, "Cultures, Worldviews, and Intergenerational Altruism"
- **Richard H. Steckel,** Ohio State University and NBER; and **Dongwoo Yoo,** Ohio State University, "Property Rights and Financial Development: The Legacy of Japanese Colonial Institutions" (NBER Working Paper No. 16551)

Summaries of these papers may be found at: http://www.nber.org/confer/2011/JPMs11/summary.html

Economic Fluctuations and Growth Research Meeting

The NBER's Program on Economic Fluctuations and Growth met in Cambridge on July 16. NBER Research Associates Susanto Basu of Boston College and John Cochrane of the University of Chicago's Booth School of Business organized the meeting. These papers were discussed:

- **George-Marios Angeletos,** MIT and NBER, and **Jennifer La'O,** University of Chicago, "Decentralization, Communication, and the Origins of Fluctuations"
- **Paul Beaudry,** University of British Columbia and NBER; **David A. Green,** University of British Columbia; and **Benjamin M. Sand,** Copenhagen Business School, "How Elastic is the Job Creation Curve?"
- **Veronica Guerrieri,** University of Chicago and NBER, and **Guido Lorenzoni,** MIT and NBER, "Credit Crises, Precautionary Savings, and the Liquidity Trap"
- **Mark A. Aguiar** and **Mark Bils,** University of Rochester and NBER, "Has Consumption Inequality Mirrored Income Inequality" (NBER Working Paper No. 16807)
- **Francois Gourio**, Boston University and NBER, "Credit Risk and Disaster Risk" (NBER Working Paper No. 17026)
- **Nicholas Bloom,** Stanford University and NBER; **Benn Eifert,** University of California, Berkeley; **Aprajit Mahajan** and **John Roberts,** Stanford University; and **David McKenzie,** The World Bank, "Does Management Matter: Evidence from India" (NBER Working Paper No. 16658)

Summaries of these papers may be found at: http://www.nber.org/confer/2011/EFGs11/summary.html

Economics of Household Saving

NBER Research Associate Erik Hurst of the University of Chicago and NBER President James M. Poterba of MIT, who co-direct an NBER project on "The Economics of Household Saving", organized a meeting of that project on July 23, 2011. The following papers were discussed:

- **Dimitrios Christelis,** University of Salerno; **Dimitris Georgarakos,** Goethe University Frankfurt; and **Tullio Jappelli,** University of Naples Federico II, "Wealth Shocks, Unemployment Shocks, and Consumption in the Wake of the Great Recession"
- **Sule Alan, Tom Crossley,** and **Hamish Low,** University of Cambridge, "Household Consumption Behavior in Recessions"
- **James M. Poterba; Steven Venti,** Dartmouth College and NBER; and **David A. Wise,** Harvard University and NBER, "The Asset Cost of Poor Health" (NBER Working Paper No. 16389)
- **Marianne Bertrand,** University of Chicago and NBER, and **Adair Morse,** University of Chicago, "Consumption Contagion: Does the Consumption of the Very Rich Drive the Consumption of the Less Rich?"
- **Song Han**, **Benjamin Keys,** and **Geng Li**, Federal Reserve Board, "Credit Supply to Bankrupt Consumers: Evidence from Credit Card Mailings"

Summaries of these papers may be found at: http://www.nber.org/confer/2011/SI2011/SAV/summary.html

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Understanding Long-Run Economic Growth: Geography, Institutions, and the Knowledge Economy

Understanding Long-Run Economic Growth: Geography, Institutions, and the Knowledge Economy, edited by Dora L. Costa and Naomi R. Lamoreaux, is available this fall. The price of this NBER Conference Report is $110.00.

The conditions for sustainable growth and development are among the most debated topics in economics, and the consensus is that institutions matter greatly in explaining why some economies are more successful than others over time. Probing the long-term effects of early colonial differences on immigration policy, land distribution, and financial development in a variety of settings, this volume explores the relationship between economic conditions, growth, and inequality, with a focus on how the use of resources by the political elite may limit incentives for others to invest in human capital or technological discovery. Among the topics discussed in this book are the development of credit markets in France, the evolution of transportation companies in the United Kingdom and the United States, and the organization of innovation in the United States.

Costa is Director of the NBER's Cohort Studies Working Group, a professor of economics at the University of California, Los Angeles, and associate director of the California Population Research Center. Lamoreaux is a Research Associate in the NBER's Program on the Development of the American Economy and a Professor of Economics and History at Yale University.

Controlling Crime: Strategies and Tradeoffs

Controlling Crime: Strategies and Tradeoffs, edited by Philip J. Cook, Jens Ludwig, and Justin McCrary, is available this fall. The price of this NBER Conference Report is $110.00.

Expenditures on criminal justice have more than doubled since the 1980s, dramatically increasing the costs to the public. With state and local revenue shortfalls becoming common, the question of whether crime control can be accomplished with fewer resources, or by investing those resources in areas other than the criminal justice system, has become all the more relevant. *Controlling Crime* considers alternative ways to reduce crime without sacrificing public safety. The topics considered in this volume include: criminal justice system reform; social policy; and government policies affecting alcohol abuse, drugs, and private crime prevention.

All three editors of this volume co-direct the NBER's Working Group on the Economics of Crime. Cook is the ITT/Terry Sanford Professor of Public Policy and a senior dean for faculty and research at Duke University. Ludwig is the McCormick Foundation Professor of Social Service Administration, Law, and Public Policy at the University of Chicago and director of the University of Chicago Crime Lab. McCrary is a professor of law at the University of California, Berkeley.

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NBER International Seminar on Macroeconomics 2010

NBER International Seminar on Macroeconomics 2010, edited by Richard H. Clarida and Francesco Giavazzi, is available for $90.00 in the clothbound version and $50.00 for the paperback.

In June 2010, the International Seminar on Macroeconomics (ISOM) met in Amsterdam. As it has done every year since 1978, ISOM convened a group of about thirty European and American economists to study a variety of topics defined very broadly within macroeconomics. The eight papers in this volume cover fiscal policy, monetary policy, global business cycles, and studies on the recent financial crisis.

Clarida and Giavazzi are Research Associates in the NBER's Program on International Finance and Macroeconomics. Clarida is also the C. Lowell Harriss Professor of Economics and International Affairs at Columbia University. Giavazzi is a professor of economics at Bocconi University in Milan, a regular Visiting Professor at MIT, and a fellow of the Innocenzo Gasparini Institute for Economic Research.

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