1. **The Recent Evolution of the Natural Rate of Unemployment**
   Bart Hobijn (Federal Reserve Bank of San Francisco).
   Co-authors: Mary Daly (FRBSF) & Rob Valletta (FRBSF)

The U.S. economy is recovering from the financial crisis and ensuing deep recession, but the unemployment rate has remained stubbornly high. Some have argued that the persistent elevation of unemployment relative to historical norms reflects the fact that the shocks that hit the economy were especially disruptive to labor markets and likely to have long lasting effects. If such structural factors are at work they would result in a higher underlying natural or nonaccelerating inflation rate of unemployment, implying that conventional monetary and fiscal policy should not be used in an attempt to return unemployment to its pre-recession levels.

We investigate the hypothesis that the natural rate of unemployment has increased since the recession began, and if so, whether the underlying causes are transitory or persistent. We begin by reviewing a standard search and matching model of unemployment, which shows that two curves—the Beveridge curve (BC) and the Job Creation curve (JCC)—determine equilibrium unemployment. Using this framework, our joint theoretical and empirical exercise suggests that the natural rate of unemployment has in fact risen over the past several years, by an amount ranging from 0.6 to 1.9 percentage points. This increase implies a current natural rate in the range of 5.6 to 6.9 percent, with our preferred estimate at 6.25 percent. After examining evidence regarding the effects of labor market mismatch, extended unemployment benefits, and productivity growth, we conclude that only a small fraction of the recent increase in the natural rate is likely to persist beyond a five-year forecast horizon.

**Keywords**: equilibrium unemployment, Beveridge curve, structural unemployment, mismatch

**JEL codes**: E24, J3, J6.

2. **A Competitive Theory of Mismatch**
   Javier A. Birchenall (University of California at Santa Barbara).

This paper studies the mismatch between unemployed workers and vacant jobs in general equilibrium. The economy consists of segmented but perfectly competitive labor markets. Market participants face idiosyncratic uncertainty regarding job and worker availability and make decisions in the absence of contracts contingent on the realization of this uncertainty. Mismatch is efficient and consistent with a version of market clearing that allows for trading before the full resolution of uncertainty. The model highlights the competitive pricing of trading uncertainty, trading frictions not associated with labor market search, and interdependencies between the labor and other critical markets.

**Keywords**: Unemployment, Vacancies, Mismatch, Arrow-Debreu Competitive Equilibrium

**JEL classification**: O11; J23; J64.

3. **The Return to College: Selection Bias and Dropout Risk**
   Oksana Leukhina (University of Washington).
   Co-author: Lutz Hendricks (UNC Chapel Hill)

We study two long-standing questions: (i) What part of the measured return to education is due to selection? (ii) The ex post return to schooling appears higher than the return to most financial assets. How large are the contributions of various frictions to the “high” return to schooling? We focus in particular on the roles of college dropout risk, borrowing constraints, and learning about ability.

We develop and calibrate a model of school choice. Key model features are: (i) ability heterogeneity, (ii) students learn about their abilities while in college, (iii) borrowing constraints, (iv) dropping out of college is a choice.
Preliminary results indicate that the probability of graduating from college increases strongly with ability. Most college dropouts are students of intermediate abilities who try college in part to learn about their abilities and in part because of the option value of receiving a large earnings gain upon graduation. Ability selection accounts for about 80% of the measured college wage premium.

**Keywords**: Education. College dropout risk.

**JEL**: E24, J24 (human capital), I21 (analysis of education).

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4. **The Allocation of Talent and U.S. Economic Growth**  
Chad Jones (Stanford GSB).  
Co-authors: Chang-Tai Hsieh (Chicago Booth), Erik Hurst (Chicago Booth), and Peter J. Klenow (Stanford)

In 1960, 94 percent of doctors were white men, as were 96 percent of lawyers and 86 percent of managers. By 2008, these numbers had fallen to 63, 61, and 57 percent, respectively. Given that innate talent for these professions is unlikely to differ between men and women or between blacks and whites, the allocation of talent in 1960 suggests that a substantial pool of innately talented black men, black women, and white women were not pursuing their comparative advantage. This paper estimates the contribution to U.S. economic growth from the changing occupational allocation of white women, black men, and black women between 1960 and 2008. We find that the contribution is significant: 17 to 20 percent of growth over this period might be explained simply by the improved allocation of talent within the United States.

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5. **Immigration, Human Capital and the Welfare of Natives**  
Juan Eberhard (USC FBE).

I analyze the effect of an unexpected influx of immigrants on the price of skill and hence on the earnings, human capital accumulation, and educational attainment of native workers. In order to study these effects, I develop a general equilibrium model with heterogeneous workers who differ in their level of skill and in their ability to learn new skills. These workers accumulate human capital optimally using information about the current and future market price of skill to guide their decisions. To assess the impact of immigration, I compare simulated earnings in the presence of immigration with a series of counterfactual experiments. My findings suggest that immigration has a small negative direct effect on earnings, but a positive and relatively large impact indirectly through human capital accumulation and educational attainment. This latter mechanism explains 60% of the variations in earnings caused by immigration. I also show that this mechanism is consistent with various findings in the literature.

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6. **Health Insurance Reform: The impact of a Medicare Buy-In**  
Gary Hansen (UCLA).  
Co-authors: Minchung Hsu (GRIPS) and Junsang Lee (ANU)

Current U.S. policy extends medical insurance in the form of Medicare to individuals aged 65 and over. Younger individuals may have group health insurance through their employer, purchase individual health insurance, or go without. The fact that many individuals have no insurance, or have relatively expensive individual insurance, is a motivation for health insurance reform. This paper evaluates the general equilibrium and welfare consequences of health insurance reform in a calibrated life-cycle economy with incomplete markets, uncertain lifespans, and endogenous labor supply. In particular, we consider a policy reform that would allow younger workers (aged 55-64) to purchase Medicare coverage. In our model, working age individuals face idiosyncratic productivity shocks, choose whether or not to work (labor is indivisible), accumulate claims to capital, and can purchase private health insurance if they do not receive group health insurance through their employer. Retired individuals receive social security and Medicare which, along with accumulated savings, is used to finance consumption and medical expenditures. Preliminary results indicate that adverse selection renders a Medicare buy-in program infeasible unless at least 40 percent of the costs of the program are financed through government subsidy.