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Employers' Replies to Racial Names

A job applicant with a name that sounds like it might belong to an African-American — say, Lakisha Washington or Jamal Jones — can find it harder to get a job. Despite laws against discrimination, affirmative action, a degree of employer enlightenment, and the desire by some businesses to enhance profits by hiring those most qualified regardless of race, African-Americans are twice as likely as whites to be unemployed and they earn nearly 25 percent less when they are employed.

Now a "field experiment" by NBER Faculty Research Fellows **Marianne Bertrand** and **Sendhil Mullainathan** measures this discrimination in a novel way. In response to help-wanted ads in Chicago and Boston newspapers, they sent resumes with either African-American- or white-sounding names and then measured the number of callbacks each resume received for interviews. Thus, they experimentally manipulated perception of race via the name on the resume. Half of the applicants were assigned African-American names that are "remarkably common" in the black population, the other half white sounding names, such as Emily Walsh or Greg Baker.

To see how the credentials of job applicants affect discrimination, the authors varied the quality of the resumes they used in response to a given ad. Higher quality applicants were given a little more labor market experience on average and fewer holes in their employment history. They were also portrayed as more likely to have an email address, to have completed some certification degree, to possess foreign language skills, or to have been awarded some honors.

In total, the authors responded to more than 1,300 employment ads in the sales, administrative support, clerical, and customer services job categories, sending out nearly 5,000 resumes. The ads covered a large spectrum of job quality, from cashier work at retail establishments and clerical work in a mailroom to office and sales management positions.

The results indicate large racial differences in callback rates to a phone line with a voice mailbox attached and a message recorded by someone of the appropriate race and gender. Job applicants with white names needed to send about 10 resumes to get one callback; those with African-American names needed to send around 15 resumes to get one callback. This would suggest either employer prejudice or employer perception that race signals lower productivity.

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The 50 percent gap in callback rates is statistically very significant, Bertrand and Mullainathan note in **Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination** (NBER Working Paper No. 9873). It indicates that a white name yields as many more callbacks as an additional eight years of experience. Race, the authors add, also affects the reward to having a better resume. Whites with higher quality resumes received 30 percent more callbacks than whites with lower quality resumes. But the positive impact of a better resume for those with Africa-American names was much smaller.

"While one may have expected that improved credentials may alleviate employers' fear that African-American applicants are deficient in some unobservable skills, this is not the case in our data," the authors write. "Discrimination therefore appears to bite twice, making it harder not only for African-Americans to find a job but also to improve their employability."

From a policy standpoint, this aspect of the findings suggests that training programs alone may not be enough to alleviate the barriers raised by discrimination, the authors write. "If African-Americans recognize how employers reward their skills, they may be rationally more reluctant than whites to even participate in these programs."

The experiment, conducted between July 2001 and January 2002, reveals several other aspects of discrimination. If the fictitious resume indicates that the applicant lives in a wealthier, or more educated, or more white neighborhood, the callback rate rises. Interestingly, this effect does not differ by race. Indeed, if ghettos and bad neighborhoods are particularly stigmatizing for African-Americans, one might have expected them to be helped more than whites by having a "good" address.

Further, discrimination levels are statistically uniform across all the occupation and industry categories covered in the experiment. Federal contractors, sometimes regarded as more severely constrained by affirmative action laws, do not discriminate less. Neither do larger employers, or employers who explicitly state that they are "Equal Opportunity Employer" in their ads.

Another finding is that employers located in more African-American neighborhoods in Chicago are slightly less likely to discriminate. There is also little evidence that social background of applicants — suggested by the names used on resumes — drives the extent of discrimination.

The advantage of their study, the authors note, is that it relies on resumes, not actual people applying for jobs, to test discrimination. A race is randomly assigned to each resume. Any differences in response are due solely to the race manipulation and not to other characteristics of a real person. Also, the study has a large sample size, compared to tests of discrimination with real applicants.

One weakness of the study is that it simply measures callbacks for interviews, not whether an applicant gets the job and what the wage for a successful applicant would be. So the results cannot be translated into hiring rates or earnings. Another problem of the study is that newspaper ads represent only one channel for job search.

— David R. Francis

Tax Credits Don't Spur College Attendance

The Tax Relief Act of 1997 created the Hope and Lifetime Learning Tax Credit program, which was promoted as a way to increase access to college. By 2000 the program cost $4.9 billion a year, slightly more than half as much as the Pell Grant program. In **The Impact of Federal Tax Credits For Higher Education Expenses** (NBER Working Paper No. 9553, a study commissioned for an NBER Project on "College Choices: The Economics of Which College, When College, and How to Pay for It"), author **Bridget Terry Long** examines the program's results. She finds that the federal tax credits had little apparent effect on the probability of attending college for any group. Instead, the tax credits may have given colleges incentives to increase their tuition.

Colleges were fully aware of the effect of the program on students' ability to pay. In fact, California, Minnesota, North Carolina, New York, and Washington were among the states that responded to the introduction of the tax credits by studying how they could change their tuition policies to substitute federal funds for state funds. After controlling for state appropriations and other characteristics, Long finds that tuitions grew 19 percent faster at low-cost two-year colleges with many students who were eligible for these credits than at more expensive schools with fewer potential beneficiaries. Among public four-year colleges, "schools in states with large financial aid programs increased their prices relative to similar institutions in other states after the introduction of the credits."

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The credits were aimed at middle class families, and that group does seem to have taken the most advantage of them. Although they make up only 35 percent of eligible returns, half of the households who took advantage of the program had an adjusted gross income of between $30,000 and $75,000. However, by 2000, only half of the tax returns that were eligible for the credits claimed them. Insufficient tax liability probably kept many low-income families from participating. And, income ceilings theoretically kept high-income families out.

— Linda Gorman

What has Happened to Wages in Mexico Since NAFTA?

The elimination of trade barriers under the proposed Free Trade Agreement of the Americas (FTAA) would likely have a profound effect on the distribution of incomes throughout Latin America. To assess the nature of this impact, NBER Research Associate **Gordon Hanson** uses as a test case the changes in Mexican wage structures brought about by the North American Free Trade Agreement (NAFTA) in the 1980s and 1990s.

In **What Has Happened to Wages in Mexico Since NAFTA? Implications for Hemispheric Free Trade** (NBER Working Paper No. 9563), Hanson divides his analysis into two parts. In the first part he examines the substantial research already done on NAFTA's impact on the Mexican labor market in the 1980s. The evidence suggests that tariff reductions increased relative wages for skilled workers, increased foreign investment, raised relative demand for skilled labor, and reductions in tariffs and quotas altered inter-industry wage differentials. Mexico's economic opening thus appears to have raised the skill premium and reduced industry rents going to labor. It also appears to have increased wages in states along the U.S. border relative to the rest of the country.

Hanson concludes from this analysis that Mexico's comparative advantage in low-skill activities was not as strong as many had thought. Trade liberalization exposed Mexico's vulnerability in very low-end manufacturing; thus producers of basic consumer goods in this area lost out to imports, especially from China and from elsewhere in Asia. However, Mexico appeared to have a cost advantage in assembly services for the U.S. economy. Therefore, Mexican manufacturing in effect reoriented itself from producing simple consumer products to being a subcontractor for more upstream industries in the North American economy. Meanwhile, the concurrent loosening of restrictions on foreign direct investment allowed plants in Mexico to become part of North American production networks, and this too played a role in the change in wage patterns.

In the second part of his study, Hanson uses Mexican census data from 1990 and 2000 to examine changes in wages over the period in which NAFTA was implemented. His most striking finding is that wage gains were largest for more educated workers living close to the United States and were smallest for less-educated workers living in southern Mexico. Hanson also notes that the dramatically increased openness of Mexico's economy to the rest of the world as seen over the past two decades was concurrent with shocks to wage levels. These include periodic if temporary wage declines (mostly related to such matters as Mexico's macroeconomic and currency problems), wage growth along the U.S.-Mexico border relative to wages in the rest of Mexico, and a steady increase in skills in the country. All of this, Hanson observes, resulted in a general increase in wage disparity in Mexico.

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What then are the implications of the Mexican experience for the rest of Latin American wage structures in view of the proposed Free Trade Agreement of the Americas, which is to be implemented by 2005? For one thing, Hanson notes, prior to the trade reform in Mexico, the country had relatively high tariffs on less-skill-intensive industries. These industries thus bore the brunt of adjustment to Mexico's economic and trade liberalization. But similar tariff adjustments following an FTAA, says Hanson, are unlikely to be common in the rest of Latin America. One reason is that many countries have already liberalized their unilateral trade. Colombia, for example, reduced its trade barriers a decade ago, with special tariff reductions in its less-skill-intensive industries. Thus the shock of trade reform related to tariff reductions in low-skill industries, Hanson theorizes, may already have been absorbed in much of Latin America.

Hanson also maintains that the Mexican experience suggests that multinational firms and others in export-intensive sectors have a relatively strong demand for more skilled labor. Such firms, he adds, also appear to place a premium on locating in regions with relatively high-quality transportation and communication infrastructure. In Mexico, NAFTA evidently strengthened incentives for foreign direct investment. If an FTAA does the same in Latin America, therefore, it is likely that skilled workers will benefit first — particularly those skilled workers living in larger cities or near international ports. At the same time, at least in the initial period of adjustment to trade reform, greater economic openness may mean greater disparity in wages (although average wage levels remain unknown). For a region where wage inequality is already widespread, says Hanson, this is not especially good news.

Hanson extracts a final lesson from Mexico's experience with NAFTA. This arises from the observation that foreign direct investment appears to significantly affect the pattern of specialization that emerges in an economy following a lowering of trade barriers. As noted, much of Mexico's export growth occurred in plants assembling parts manufactured in the United States. Such growth resulted from a combination of lower trade barriers, relaxed restrictions on foreign direct investment, and tariff breaks on imports to the United States. If an FTAA does not address restrictions on foreign direct investment in Latin America, Hanson surmises, it may not produce the same degree of specialization in export production seen in Mexico under NAFTA.

— Matt Nesvisky

How Deregulation Spurs Growth

The U.S. economy grew at an annual average rate of 4.3 percent in the second half of the 1990s, while Germany, France, and Italy grew at an average annual rate of 2 percent. A common view is that greater regulation in continental markets has retarded investment and economic growth — and that this was particularly important in the late 1990s, a period of significant technological innovation. However, the impact of product market regulation on investment has received little attention from economic researchers.

In a new paper, **Regulation and Investment** (NBER Working Paper No. 9560), NBER Research Associate **Alberto Alesina** and co-authors **Silvia Ardagna**, **Giuseppe Nicoletti**, and **Fabio Schiantarelli** examine the relationship between product market regulation and capital spending. Their study is based on differences in regulation among OECD countries. Alesina et al exploit the fact that while most OECD countries have deregulated product markets over the past three decades, they differ in terms of their starting points and the timing, nature, and intensity of reforms. For example, the United States started deregulating in the 1970s. In 1977, 17 percent of U.S. gross national product was produced by fully regulated industries, and by 1988 this total had fallen to below 9 percent of GNP. The United Kingdom was another early reformer, while the laggards include Germany, France, and Italy.

The researchers demonstrate that a number of measures of regulation — in particular barriers to entry — are negatively related to investment. The implications of the analysis are clear: regulatory reforms — in particular those that liberalize entry — are very likely to spur investment; tight regulation of product markets restricts investment.

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The study focuses on the sectors that, traditionally, have been the most sheltered from competition: airlines, road freight and railways, telecommunications and postal services, and electricity and gas utilities. The authors measure regulation using a number of indicators — including barriers to entry and the extent of public ownership. They use a dataset based on the OECD International Regulation Database, for 21 OECD countries over the period 1975-98, and data on investment and the capital stock from the OECD Industrial Analysis database.

The analysis demonstrates a significantly positive impact of deregulation on investment in the transport, communications, and utility industries; it is robust to various controls for sector or country-specific shocks and for labor market liberalization. The most important component of reform is liberalization of entry into markets. A reduction in entry barriers leads to a reduction in the markup of prices over marginal costs, and hence to a reduction in the penalty for expanding the capital stock and production. However, privatization doesn't appear to affect investment significantly. Privatization may lead to more profitable opportunities for private companies, but nationalized companies may over-invest, either reflecting the pressure of politicians, or because managers of public enterprises are not constrained by the discipline imposed by financial markets.

The researchers show that the effect of deregulation on investment depends on the extent of the deregulatory effort and on the initial level of regulation. A more decisive reform is associated with a greater marginal increase in investment. Moreover, liberalization in a more deregulated industry has a bigger impact on investment than liberalization in a highly regulated industry.

— Andrew Balls

Trade Links Move Stock Markets

In the first half of 2002, when accounting scandals, terrorist threats, and disappointing economic growth produced a 17 percent drop in the U.S. stock market, some other economies' markets predictably followed suit. For instance, Mexico's markets lost 11 percent; Ireland's dropped by 14 percent; and Finland's plunged by 30 percent. By contrast, other markets experienced exuberant returns: Iceland and South Africa both jumped by more than 20 percent during that period, while Colombia and South Korea also registered double-digit gains. Why do sudden swings in the market of the world's largest economies appear to spread to some smaller markets but leave others unaffected?

Kristin Forbes and **Menzie Chinn** tackle this question in their recent study **A Decomposition of Global Linkages in Financial Markets Over Time** (NBER Working Paper No. 9555). Although they acknowledge that their analysis is "only a start" and that many additional factors must be considered, they conclude that "direct trade linkages are still more important than financial linkages in determining how shocks to the world's largest economies affect a variety of markets around the globe."

Forbes and Chinn start by theorizing that a country's market returns are determined by global factors (such as international interest rates or commodity prices), sectoral factors (as measured by returns for industry-specific stock indexes), cross-country factors (returns in other financial markets), and country-specific factors. They then consider the cross-country linkages among five large economies — the United States, Britain, Japan, France, and Germany — and 40 developing countries, disaggregating the cross-country impact into four distinct links: direct trade flows, trade competition in third markets, bank lending, and foreign direct investment (FDI). Finally, they assess how the importance of these linkages has evolved over time (1986-2000), and whether bond markets are related across countries similarly to stock markets.

Forbes and Chinn find that cross-country and sectoral factors tend to be important in determining stock market returns around the world. As could be expected, the major economies in each region prove particularly important for nearby markets. Movements in the United States have a particularly important impact in the Americas, for instance, and markets in Germany, France, and the United Kingdom are especially influential in Europe. Market relationships also follow traditional colonial patterns; for example, the performance of British markets is a large factor for nations such as Australia, Canada, and Hong Kong.

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Among the cross-country factors, Forbes and Chinn find that bilateral trade flows, as measured by a country's reliance on exports to the largest economies, are the most important. One surprising finding is that, after controlling for other linkages, foreign investment flows from large economies do not appear to significantly influence stock market returns in smaller markets.

The impact of cross-country factors also has evolved over time, the authors show. Forbes and Chinn divide their study into three periods of equal length: 1986-90, 1991-5, and 1996-2000. In the first two periods, cross-country linkages tend to have low explanatory power. However, from 1996 to 2000, "bilateral linkages through trade and finance become substantially more important determinants" of how shocks are transmitted from large markets to countries around the world. Again, direct trade flows prove the most important factor, with bank lending and trade competition in third markets also playing a role. However, FDI flows remain insignificant throughout the different periods. And, on a country-by-country basis, the United States became increasingly important in the transmission of market shocks in the 1996-2000 period, while British and Japanese influence declined.

Finally, the authors conduct a similar exercise for bond markets although, because of data limitations, they limit the scope of the study to the 1994-2000 period. Once again, sectoral and cross-country factors remain significant and more important than global factors in determining market returns.

The authors stress that their study does not incorporate several potentially important bilateral linkages, such as portfolio investment, trade credit, and exposure to multinational corporations. Nevertheless, Forbes and Chinn end their paper by reaffirming their key conclusion: "Despite the recent growth in capital flows across countries, direct trade linkages are still more important than financial linkages in determining how shocks to the world's largest economies affect a variety of markets around the globe."

— Carlos Lozada

Does Inflation Targeting Matter?

Economists have long sought the ideal framework for monetary policy. Recently, many economists have come to believe that inflation targeting represents that ideal. They cite its many benefits, including solving the dynamic consistency problem that results in high average inflation; reducing inflation variability; stabilizing output; and locking in expectations of low inflation.

In **Does Inflation Targeting Matter?** (NBER Working Paper No. 9577), authors **Laurence Ball** and **Niamh Sheridan** examine twenty OECD countries, seven that adopted inflation targeting during the 1990s and thirteen that did not. The study period lasted through 2001 for most of the countries — for others, the study period lasted only through 1998 because of the advent of the Euro. While economic performance varied widely across individual countries, the authors find no evidence that inflation targeting on average improves performance as measured by the behavior of inflation, output, or interest rates.

Looking at inflation targeting countries alone, the authors find that their performance improved between the period before targeting and the targeting period. For some, inflation fell and became more stable, and output growth also stabilized. However, countries that did not adopt inflation targeting also experienced improvements around the same time period.

For some measures, inflation targeters had greater gains than the other countries. As an example, average inflation fell for both groups between the pre-targeting and targeting periods, but the average inflation for targeters went from above the level of non-targeters to roughly the same level. The authors find that this is likely because of "generic regression to the mean": just as short people, on average, have children who are taller than they are, countries with unusually high and unstable inflation tend to see these problems diminish, regardless of whether they adopt inflation targeting. Once the authors control for this effect, the apparent benefits of targeting disappeared. Nothing in their data suggests that even covert targeters — and some economists believe the United States is one of these — would benefit from adopting explicit targets.

> "The authors find no evidence that inflation targeting on average improves performance as measured by the behavior of inflation, output, or interest rates."

The authors point out that their results do not provide an argument against inflation targeting, since they do not find that it does any harm. Indeed, there may be benefits — possibly political, for example — to inflation targeting that they do not measure. Targeting also may produce more open policymaking, aligning the role of the central bank with the principles of a democratic society. The authors also suggest that inflation targeting might improve economic performance in the future, since central banks during the study period were not tested severely.

— Les Picker

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