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## Education Level Drives City Growth

Processing or attracting a large population of skilled, educated workers appears to be the key factor in determining whether declining urban areas — such as the infamous “Rustbelt” manufacturing centers of the 1980s — chart a path back to prosperity or remain relatively stagnant. In **The Rise of the Skilled City** (NBER Working Paper No. 10191), NBER researchers **Edward Glaeser** and **Albert Saiz** conclude that the percentage of workers with college degrees is a “powerful predictor of urban growth.”

Initial skill levels predict the growth of urban populations, house prices, and wage levels, but the effects of skills is much stronger in declining regions than in areas that are growing already. The fact that skills predict growth in New England and the Midwest, but not in California or Arizona, supports the “reinvention hypothesis” — the idea that a good skill base allows cities that have been hit by negative shocks to reinvent themselves.

In a separate analysis, **Re-inventing Boston: 1640 to 2003** (NBER Working Paper No. 10166), Glaeser presents the city as a stellar example of how well developed human capital can consistently overcome economic adversity. He traces this phenomenon to Boston’s early days when its large population of skilled mariners allowed it to make the transition from declining seaport “likely to become a nostalgic backwater” to a thriving base of global shipping and fishing operations. More recently, he points out, Boston has leveraged talent in financial services, high tech, and higher education to evolve from “dying manufacturing town” to its current incarnation as

vibrant “information city.”

“Boston’s experience suggests that human capital is most valuable to a city during transition periods when skills create flexibility and the ability to orient towards a new urban focus,” he writes. Glaeser notes that its commitment to cultivating a population of skilled workers also explains why Boston has consistently bounced back from crises while urban areas such as Detroit and Syracuse have never really recovered from the hard hit they took two decades ago.

In their broader analysis of the relationship of worker skills to a city’s economic performance, Glaeser and Saiz acknowledge that skills are not

vitality (if not weather) than Detroit. The population drain has stopped and the housing market is hot, even if well into April the weather is not.

It’s no coincidence, he writes, that as this latest renaissance was in full bloom, a 2000 survey showed that half of Bostonians between 25 and 34 had college degrees. “This extremely high level of education predicts that Boston should have done well over the past 20 years and indeed it did,” Glaeser writes.

Both studies offer a number of observations on why “skilled cities” such as Boston can stage such impressive comebacks. Overall, Glaeser and Saiz speculate that “skilled workers

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“A good skill base allows cities that have been hit by negative shocks to reinvent themselves.”

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everything. Most notably, warm, dry weather and an influx of immigrants can be key ingredients for growth. But for cities lacking these attributes — that is, the relatively wet and cold urban areas of the Northeast and Midwest — the impact of skill levels is particularly pronounced. Glaeser and Saiz observed that as the “number of college graduates per capita doubles, the expected growth rate over the decade rises by roughly 4 percent.”

Again, the Boston example looms large. Consider that in 1980, Boston and Detroit looked a lot alike: formerly great cities with shuttered manufacturing plants, declining populations, falling real estate prices, and long, cold winters. Yet, as Glaeser observes, instead of “continuing along its sad path toward urban irrelevance” twenty years later, Boston ends up looking more like sunny San Jose, California in terms of its economic

may react more speedily to painful economic shocks and educated workers find it easier to switch techniques.”

For Boston, there are a number of factors at play. A history of industrial diversity, for example, has allowed it to shift from a dying industry into a lively one without having to invent the newly dominant economic motor “from scratch.” And, though it may not have the temperate climate of a San Jose or Phoenix, there are a sufficient number of people who like to live in Boston and, when times get tough, would rather look for opportunities to stay rather than leave.

But, as Glaeser notes, “human capital has been critical,” even if its accumulation is sometimes serendipitous. In the late 1800s Boston may not have accomplished the transition from maritime city to industrial center had it not amassed a large population of future factory workers in the

form of Irish immigrants who chose Boston as a refuge from the potato famine for the simple reason that it was the cheapest and closest port of entry into the United States.

Glaeser and Saiz say their analysis implies that “city growth can be promoted with strategies that increase the level of local human capital.” They assert that economic revitalization efforts should concentrate on “basic services, amenities, and quality public schools that will lure the most

skilled,” and on boosting the education level of local residents.

Cities also need to consider whether certain policies repel growth and skilled workers. For example, Glaeser observes that Boston's future growth could be inhibited by policies that make “new construction extremely difficult.” In good economic times, these restrictive policies have caused housing prices to rise as new home construction fails to keep pace with population growth. That’s

why today “Boston faces extraordinary housing prices.”

“Boston’s limits on new construction were relatively costless in an era of urban decline,” Glaeser writes. “But as the area thrives, these barriers to construction pose the largest barrier to new growth and may well create large social costs for Bostonians and would-be Bostonians. The regulation of construction is surely the most important policy area facing Boston today.”

— Matthew Davis

## Illiquidity Raises Investment Risk

One of the principal tenets of today’s professional fund managers is that their portfolio of holdings should adhere to a strategy dictated by the Capital Asset Price Model (CAPM). The CAPM is an analytical tool — a formula of sorts — widely utilized by professional investors seeking assurances that purchasing a risky asset is justified because its rate of return is expected to compensate for the asset’s risk. For example, investors would not

equivalent of the remainder bin.

For example, fund managers purchasing a 30-year U.S. Treasury bond generally take into account the risk that if they sell it before it matures, they won’t get face value for the asset and they will incur what is known as a “transaction cost.” But they may not consider how the value of that illiquid holding could plummet when troubled times prompt a “sudden and strong preference for

times “because they give their owner the option to convert them easily into cash if needed.” This phenomenon, Vayanos writes, is tied to a world in which fund managers generally are under pressure to sell their holdings when performance drops below a certain threshold. In other words, if one were to remove the “performance-based” pressure to sell, then the risks associated with the illiquid assets would remain constant, and the value of illiquid assets would not escalate so sharply, if at all, relative to liquid assets when markets take a dive.

But that is not the reality in which the vast majority of fund managers operate. Instead, when the going gets especially tough, the individuals who have invested in their fund are likely to bail out. Moreover, these investors assume that fund managers are purchasing assets after thoroughly considering the risks they present, especially when it comes to “worst case” scenarios.

Vayanos believes that his study “has implications” for how investors in general and fund managers in particular go about assessing the risks associated with purchases of illiquid assets. He warns that if they evaluate illiquid assets based on their average risk (average “beta” in the CAPM analysis), failing to note that they can become considerably riskier during volatile times, then investment strategies could appear better than they actually are.

— Matthew Davis

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“If [investors] evaluate illiquid assets based on their average risk..., failing to note that they can become considerably riskier during volatile times, then investment strategies could appear better than they actually are.”

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buy into a tech stock unless they expect it to outperform the S&P500 index by an amount commensurate to the difference in risk between the two investments.

In **Flight to Quality, Flight to Liquidity, and the Pricing of Risk** (NBER Working Paper No. 10327), author **Dimitri Vayanos** asserts that the analysis as is currently performed may significantly understate the risk of holding assets that cannot readily be sold at face value, that is “illiquid assets.” More to the point, Vayanos finds that fund managers may not sufficiently appreciate how a confluence of factors — chiefly, a jittery market that in turn prompts individual investors to withdraw their money en masse — so skews demand toward assets that can quickly be converted into cash (liquid assets) that illiquid assets head for the financial market

holding liquid assets” (the so-called “flight to liquidity”) which in turn makes that bond, even one just a few months old, something that can be sold only at a heavy loss.

Vayanos notes that during the financial crisis in 1998, a flight to liquidity prompted the value of a three-month-old 30-year Treasury bond to drop. It was a clear example, he observes, of how “illiquid assets become very risky in volatile times,” as the preference for liquid assets creates an environment in which “the negative effect of volatility is reflected more strongly on (the suddenly shunned) illiquid assets.”

Meanwhile, liquid assets — which could include “near cash” instruments such as Treasury bills or money market funds — can experience the opposite effect, becoming “more valuable” during troubled

## Financial Reform Changed Stock Markets in Latin America

**D**uring the late twentieth and early twenty-first century, many emerging markets experienced severe financial crises. These episodes led some economists to argue that financial markets in poor nations are poorly developed and differ in fundamental ways from those in advanced economies. As a result, they maintained, emerging nations should not fully open their capital markets like rich nations; they should impose some controls on the flow of capital that moves across their borders.

But do financial markets in emerging nations operate differently from those in other regions? In **Stock Market Cycles, Financial Liberalization, and Volatility** (NBER Working Paper No. 9817), co-authors

Using monthly data on stock returns for the six emerging markets in the study, the authors find that after the market liberalization of the late 1980s and early 1990s, the average duration of bear markets declined in all countries except Korea, while the duration of bull markets declined in all countries except Argentina and Mexico. The authors also find that the amplitude of bull as well as bear markets — that is, the total return from the trough of the market to the peak, or the total loss from the peak to the trough — is significantly higher in emerging markets than in the two benchmark advanced economies. “Emerging stock markets seem to offer a significant premium, or excess return, during expansions,” the

also varies after periods of market liberalization. Before liberalization, different emerging markets did not appear to move together or to track the U.S. market. However, after liberalization, three groups appeared to emerge: Argentina, Brazil, and Mexico showed high concordance; Chile and Korea became more concordant with each other but less with other countries; and Thailand did not fit into any other group.” These findings suggest that liberalization processes have indeed contributed to a much stronger co-movement of the stock markets in the emerging countries, the authors explain, both in the long and short term.

The authors also study the shape of bull and bear phases of the market cycles. Prior to market liberalization, the shape of the cycles in the six emerging economies displayed “significant predictabilities,” by which the returns accelerated depending on their proximity to the peak or trough of the cycle. These patterns were more marked than in the benchmark, advanced economies (thus suggesting possible inefficiencies). After liberalization in the developing countries, however, those markets began to display patterns much more similar to those of advanced markets. Bear markets still show some acceleration, but the difference was significantly reduced.

Overall, the authors conclude that even while stock market behavior in emerging economies differs in important ways from behavior in advanced markets — bull phases are shorter, bear periods longer, and amplitude and volatility of both phases is greater — financial opening has helped make Latin American markets more stable and more similar to markets in rich nations. Asian economies, for their part, have not shown the same evolution, as “they seem to have been affected too intensely by the financial crisis of late 1997.”

— Carlos Lozada

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“Financial opening has helped make Latin American markets more stable and more similar to markets in rich nations.”

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**Sebastian Edwards, Javier Gomez Biscarri, and Fernando Perez de Gracia** attempt to answer that question. They examine stock market cycles from 1975 to 2001 in four Latin American economies (Argentina, Brazil, Chile, and Mexico) and two Asian economies (South Korea and Thailand), and compare them with market cycles in the United States and Germany during the same period. After identifying the bull and bear phases of market cycles in each economy, they focus on several key aspects of cyclical behavior, including the duration of market expansions and contractions, their amplitude, the volatility of the cycle, the synchronicity of cycles across countries, and whether these characteristics have changed following periods of market liberalization in emerging markets. (This final point is particularly relevant from a policy perspective, since some analysts have argued that “Washington Consensus”-style liberalization policies have resulted in increased market instability.)

authors find, “that compensates for the big losses during contractions.” For example, average annual gains during bullish periods in Argentina reached 142 percent, whereas average losses during Argentina’s bearish times totaled 123 percent.

The authors identify some striking differences between the Latin American economies and the Asian markets. For instance, the amplitude of market cycles in the Latin American countries declined in the post-reform period, but not in the Asian cases. Also, the volatility of market cycles — the average size of market returns in bull and bear periods — is indeed much higher in emerging markets than in advanced economies, but that volatility generally declined in Latin America following the period of market reform. By contrast, in Thailand as well as South Korea, market volatility actually increased in both bull and bear periods following market openings.

The degree of synchronicity (concordance) among the markets

## Taxation and Corporate Payout Policy

The Job Growth and Taxpayer Relief Reconciliation Act of 2003 (JGTRRA) substantially reduced the individual income tax on dividends. It also reduced tax rates on capital gains from the sale of corporate stock. Before JGTRRA, an individual investor in the top federal income tax bracket received aftertax dividends equal to 61.5 percent of his pretax dividends. Aftertax capital gains, by comparison, were at least 80 percent of pretax gains. Proponents of tax relief argued that lowering the dividend tax would raise corporate payout by reducing the cost of paying dividends, and that it would reduce the corporate cost of capital, thereby encouraging investment.

In **Taxation and Corporate Payout Policy** (NBER Working Paper No. 10321), author **James Poterba** analyzes the potential impact of JGTRRA on corporate payout behavior by examining the historical relationship between the relative tax burden on dividends and capital gains and the share of corporate earnings distributed as cash dividends. He also considers actual changes in payout behavior since JGTRRA was enacted and discusses the interaction between payout decisions and investment deci-

sions. Poterba finds that the enactment of JGTRRA raises the aftertax value of dividends relative to capital gains by more than 5 percentage points. Based on historical patterns of corporate behavior, he predicts that JGTRRA ultimately will increase dividends by almost 20 percent.

Media accounts of corporate dividend policy in the months since

2001 and 2002 was substantially lower than the comparable percentage throughout most of the previous two decades.

Poterba suggests that by reducing the tax burden on future dividends, JGTRRA also should increase stock prices. The U.S. Congressional Budget Office (2004) estimates that the dividend and capital gains tax pro-

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“The recent tax legislation (JGTRRA) ultimately will increase dividends by almost 20 percent.”

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passage of JGTRRA have emphasized the decisions by several large firms, such as Microsoft, to initiate or increase dividends. Other researchers have reported that dividend payments did increase in the quarter after JGTRRA was enacted. During 2003, the net increase in dividends paid by firms in the Standard and Poors’ 500 — defined as the percentage of firms increasing dividends minus the percentage of firms reducing dividends — was 38.7 percent. This contrasts with 29.8 percent in 2002 and 30.2 percent in 2001. However, it is difficult to draw any conclusions from these numbers because the percentage of firms raising their net dividends in

visions of JGTRRA will reduce federal income tax revenues by \$23 billion in 2004 and by larger amounts in future years. This revenue stream can be capitalized to determine its impact on stock prices. In the first half of 2003, the price-earnings ratio on the S&P500 was close to thirty. If the stock market capitalized the dividend tax cut in the same way that it capitalized other earnings, the implied increase in stock market value would be approximately \$690 billion, or roughly 6 percent of the \$11.4 trillion aggregate value of U.S. equities at the end of March 2003.

— Les Picker

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