

Advancing Economies by the Power of Industry

For the Confederation of Danish Industry

Primary Authors

Joel Kotkin
Delore Zimmerman

Research Team

Mark Schill
Matthew Leiphon
Andy Sywak

Editor

Zina Klapper



Executive Summary

For the last quarter century there has been a growing tendency among policy makers and corporate executives to downplay, and even ignore, the primary importance of the ‘real,’ or tangible, economy. It is now widely believed that the primary engine of wealth creation is the manipulation of symbols and images—‘the new economy’ of the ‘information/ creative age’—as opposed to the manufacture of tangible products and services.

This paper challenges these assumptions. Our research in Europe, Asia, Australia and North America suggests that rapid economic and income growth tends to occur most steadily in areas where tangible production has been readily encouraged. Although the successful strategy varies by region and country, the basic fundamentals to propel growth lie in policies that stress the construction of essential physical infrastructure, investments in basic and skill-oriented education, and favorable tax and regulatory policies.

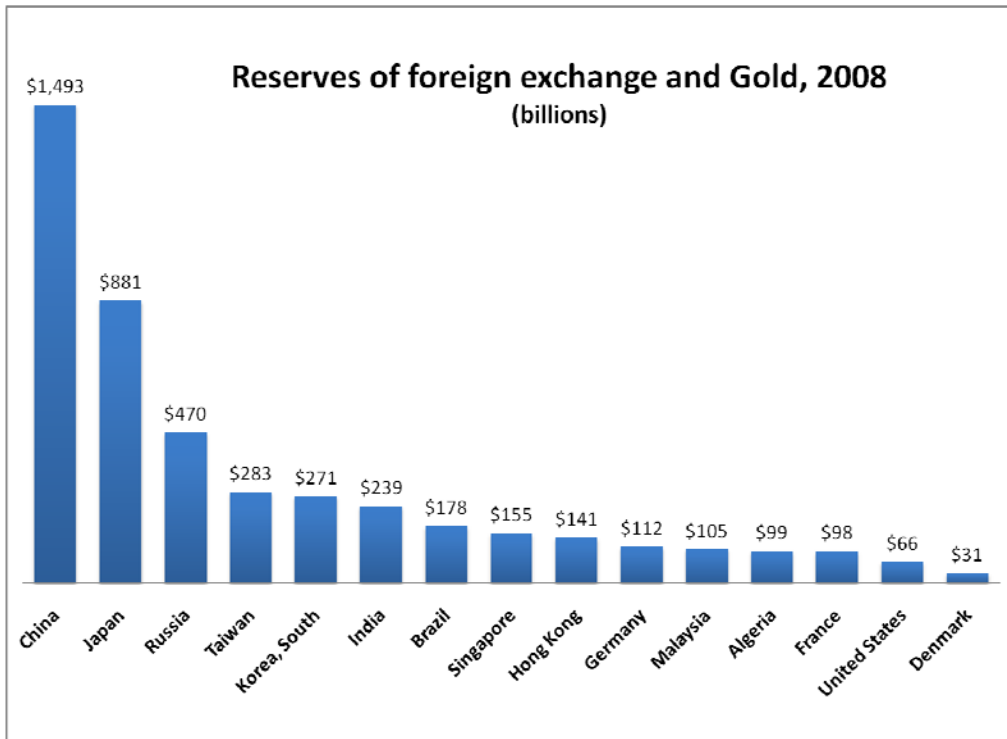
Increasingly, this also includes the building of what we refer to as ‘infrasystems’, also called regional innovation systems. These are policies that encourage innovation and cross-firm transactions through the development of interlocking regional institutions, such as schools and governments that work closely with local industries. These infrasystems investments represent the cutting edge of progressive economic policies that encourage wealth creation and broad based opportunities for a wide variety of citizens.

We believe that this ‘back to basics’ approach is particularly applicable during the current global financial crisis. Attempts to ‘create’ wealth through financial manipulation and the hyping of cultural attributes have done very little except create short-lived economic bubbles on the local, national and, most ominously, global levels. The time for a reassessment, and a return to the basic principles of wealth creation, clearly has arrived.

The Evolution of Economic Thinking

In recent decades, we have witnessed a remarkable phenomena that demonstrates the critical role of industry in propelling economic and income growth. In case after case, the rising economic powers – America in the 1950s, Europe in the 1960s, Japan in the 1970s and 1980s, Korea and Taiwan in the 1990s, and recent surges by China, Brazil and India – have all been rooted largely in the expansion of their industrial economies.

At the same time another set of countries, mainly in the Middle East and parts of the former Soviet Union, have seen growth based on their ability to produce energy and other raw materials for both rising and stagnant industrial economies. Indeed, if one is to look at the largest foreign currency reserves, virtually all the national leaders have followed an industry-first policy or have invested in primary resource extraction and export.



Remarkably, even as these realities have become evident, many in the more advanced economies have turned away, sometimes for environmental reasons but also because their importance has been devalued, particularly by financial institutions, the media, and local and even national governments.

Communication is the economy

The new age ideology spans the political spectrum. American economists and pundits, for example, believe the American future can be built around a handful of high-end “creative” jobs. Although such jobs are clearly important, it is also clear that economies cannot thrive over time simply by being more clever, more creative – even more self-fulfilled – than their competitors.ⁱ

As one new age economist put it, the economy is not about bricks, mortar or steel and glass: “Communication is the economy.” Yet there is something disturbingly referential in this view which, unsurprisingly, is often most enthusiastically embraced by the media, urban politicians and academics.ⁱⁱ

American disinterest in manufacturing grew in the 1970s and 1980s, precisely as the country began to suffer in competition first with European and later Asian competitors. Pundits such as *Megatrends* author John Naisbitt urged American companies to regard manufacturing as “a declining sport” and instead focus on “post-industrial” pursuits” that would lead to ever greater profit.

This notion has long been widely embraced by much of the financial community. Indeed in 1984 the New York stock exchange issued a report stating baldly that “a strong manufacturing economy is not a requisite for a prosperous economy.” In the ensuing decades, this disdain for industry has only grown, with potentially disastrous consequences.ⁱⁱⁱ

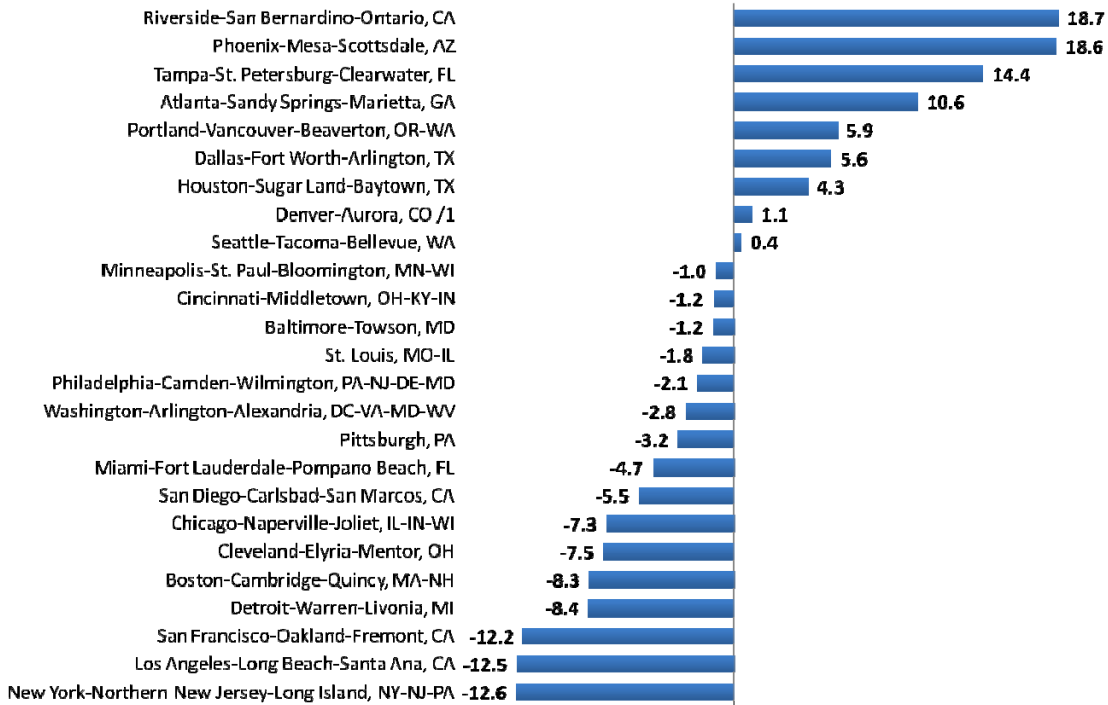
Class and the “Creative Class”

Perhaps the most pervasive example of this ideology can be seen in the notion of the importance of the “creative class”, which is widely described as young, educated, unattached and single workers. The key issue has become how to attract these people by being ‘hip and cool’.^{iv} Until at least late in this decade, this notion has supplanted older ideas that to build industry or infrastructure would drive the economy. In the “creative age”, such approaches are considered antiquated, and in some case actually noxious, since they emit greenhouse gases.

This emphasis on such characteristics – what *USA Today* recently called the “Be Hip and They May Come” approach^v – has exercised strong influence among economic developers. It has informed the thinking of city officials promoting the growth of arts districts, entertainment centers and condo housing projects as the critical elements of a successful urban development strategy.^{vi} As ‘creative class’ guru Richard Florida puts it: “Take the guy with the tattoos seriously.”^{vii}

Yet there is not much evidence that being “cool” creates economic growth or attracts large numbers of educated workers. Over the past seven years, in fact, most “cool” cities have not actually experienced a large in-migration of educated workers, while less cool cities, such as Phoenix, Arizona, Riverside, California and Charlotte, North Carolina have done much better in terms of both growth and in-migration of educated workers.

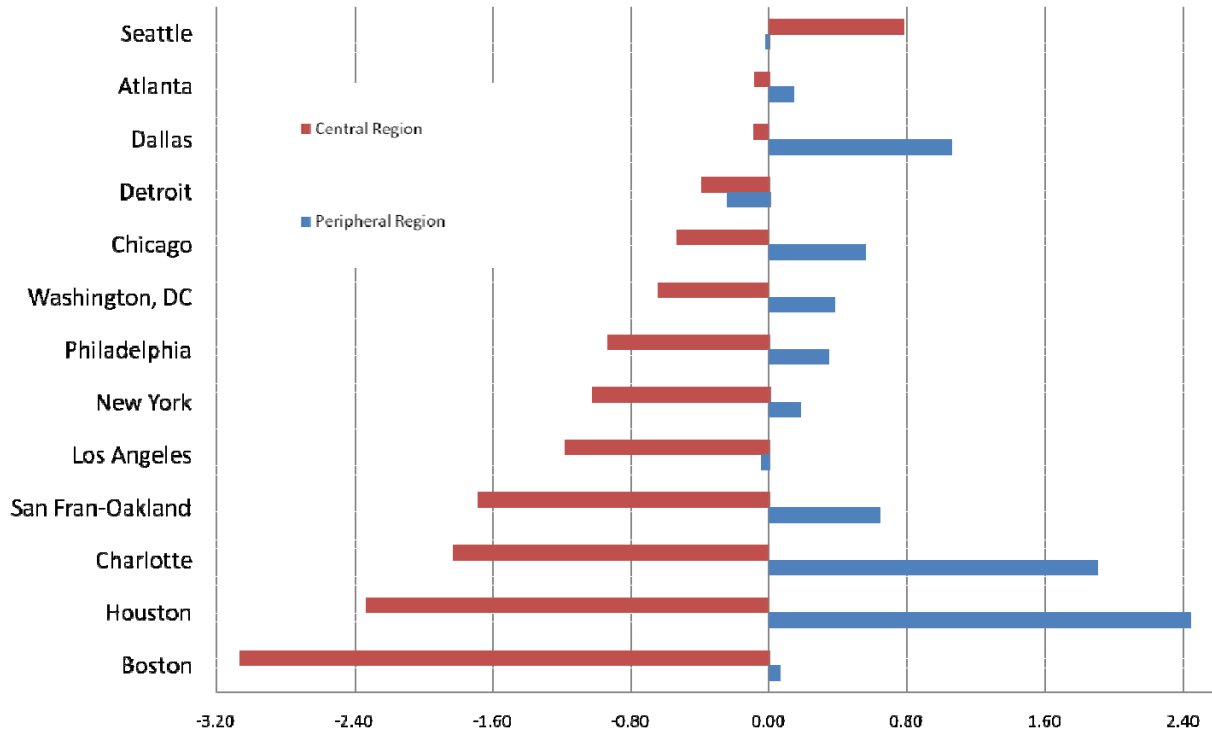
Net Domestic Migration, 25 Largest Metro Areas Annual Average rate per 1,000 residents, 2001-2007



In addition, much of the growth that has taken place, particularly, in hip capitals such as Portland, Seattle and Austin over the past several years has not been in their core cities, but in the surrounding suburbs, which possess fewer of the “cool” attributes that Florida emphasizes. It turns out that the bulk of educated American workers, once they enter their late 20s, choose suburban locales.

Net Domestic Migration of Young, Educated Families

Those Age 25-45, with at least a Bachelor's Degree, with Own Children
Annual Average 2004-2006, rate per 1,000 total residents



There is another critical problem with the 'creative class' and related anti-industrial viewpoints. Economies oriented towards entertainment, tourism and other "creative" activities tend to be ill-suited to provide upward mobility for more than a small slice of the population. Indeed, in the United States, it has been the large core metros which have seen the greatest increases in inequality over the past decade

In contrast, areas that have managed to maintain their large industrial sectors have done far better at maintaining egalitarian income distribution. In the United States, this can be seen in the relatively high levels of equality in suburbs, exurbs and rural areas with heavy industrial concentrations, as shown in the recent research by the University of Washington's Richard Morrill.^{viii}

Selected averages by level of inequality, 2000 census

	Levels of Inequality		
	Low	Medium	High
FILF	59	55	51
% in Manuf Jobs	18	15	13
% HS only Educ	65	61	55
% Service Jobs	15	16	17
% Government Jobs	15	17	20
% Black	4	8	18

FILF = female labor force participation

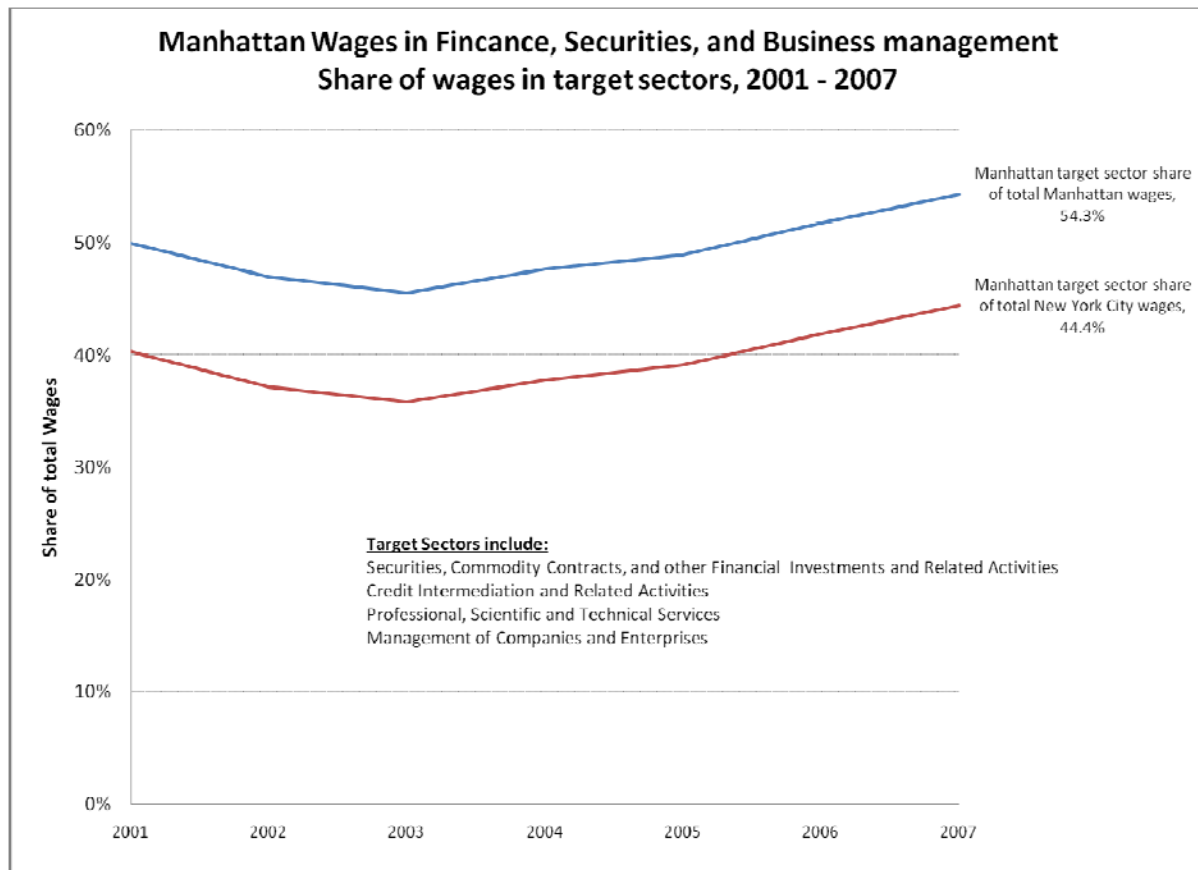
Perhaps nowhere is this pattern more demonstrable than in New York City, which has experienced a near 80% drop in employment in its once vibrant industrial sector since 1960. The city has evolved increasingly into “dual cities”, made up of cosmopolitan elite, and a large class of those who, usually at low wages, service their needs.^{ix}

Since the 1990s virtually all the gains made in the city economy have accrued to the highest income earners. The city’s middle class – those making between \$35,000 and \$150,000 a year – fell to 53% while the national average remained steady at 63 percent. Overall New York has the smallest share of middle income families in the nation, according to a recent Brookings Institution Study; its proportion of middle income neighborhoods is smaller than any metropolitan area, except for Los Angeles.^x

Instead New York’s economy has become increasingly dependent on an ever smaller cadre of very well paid workers in the finance sector, bolstered by salaries that in fields like investment banking average \$275,000. By 2007 well more than half of Manhattan’s payroll went to finance-related employment and represented over 40% of total wages for the city.^{xi}

In Manhattan, where these rich workers have been concentrated, the disparities between the classes have been rising steadily. In 1980 it ranked seventeenth among the nation’s counties for social inequality; today it ranks first, with the top fifth of wage earners earning 52 times that of the lowest fifth, a disparity roughly comparable to that of Namibia.^{xii} Not surprisingly other elite cities such as New York, Chicago, San Francisco and Los Angeles also have experienced both growing class inequality and a strong reduction in their middle class.^{xiii}

What will happen next, given the meltdown in the financial sector, is far from clear. But it seems obvious that many of these cities- and their residents – may have wished their economies were more economically, as well as socially, diversified.



Hip Cool Europe

In Europe as well there has been a growing focus on arts, culture, and the cultivation of “cool” urban environments as the centerpiece of economic strategy. In France, for example, the priority of cultural production has long been stressed. As former French minister Jack Lang famously remarked: *“Economie et Culture- meme combat.”*^{xiv}

This notion has spread elsewhere in Europe, particularly in Scandinavia. Some of the impetus, surprisingly has come from the political left, which has shifted away from its traditional emphasis on

blue collar workers and instead set its heart on the development of the ‘creative’ economy. As a recent paper by Nima Sanandaji states:

In Sweden, Florida’s ideas are used by those who wish to argue that public funding of cultural events, rather than a competitive business climate, is the way to achieve economic growth. Swedish cities quote Florida in their strategies for urban development, shifting focus from business friendly reforms to attracting “unusual shops” in order to bring development to communities struck by high unemployment and other social ills.^{xv}

Similarly, Berlin, once known as ‘Chicago on the Spree’ for its huge industrial base, is now focused on leveraging its ‘hip’ cultural atmosphere. Yet although there has been growth, much of it subsidized, in film and other cultural industries, none of this has done much around the economy. Mayor Klaus Wowereit likes to say that his culturally “progressive” city is “poor but sexy”. But it is poor nevertheless, with some of the highest rates of unemployment in Europe.^{xvi}

The abandonment of basic industries has particularly impacted recent immigrants. Many newcomers arrived in western Europe for opportunities related to warehousing and manufacturing that have largely disappeared. For many the only option is to work in low paid service professions, or, given the generosity of European welfare states, not at all..^{xvii}

This is also true in Great Britain, where unrest and widespread poverty has accompanied mass de-industrialization. A host of cities, such as Manchester- the ‘cradle of the industrial revolution’ - Liverpool, Birmingham and Wolverhampton, have attempted to use a culture-based strategy and large development projects, but with limited success^{xviii}

London, the premier center of media and finance for Europe, has also fallen under the spell of the ‘creative’ mantra. Former Mayor Ken Livingstone placed great emphasis on the city’s role as a world ‘cultural capital’. A 2004 report from his office contended that the “diversity of its cultural and creative resources” constituted the city’s “heartbeat” and the key to its economic future.^{xix}

There is no denying the scale of London’s cultural assets. And certainly the financial boom has created a huge market among the wealthy to consume these wonderful offerings. In March, 2007 alone over \$17 billion in annual bonuses were paid out to the financial sector, including \$2 million each to 4200 people. For those working in service industries – nannies, jewelers, gardeners – this also was a boon.

Yet for much of the population, the results have not been so wonderful. Even at the height of the bubble, London possessed some of the poorest in the UK, including many immigrants. Some 41 percent

of the city's children lived in poverty, the highest rate in the country. In the inner ring that number approaches nearly 50%. London also had one of the highest rates of unemployment in the UK, a reversal of traditional patterns.

A Historical Delusion

Overall the obsession with “creativity,” arts and culture represents something of a delusion. For one thing, it is not reasonable for residents in the EU or the United States to expect China, India, or other low-wage nations to concede for long higher value added sectors, including finance, media and software design.

Indeed the clear historical pattern shows that countries that focus on basic industries – notably manufacturing but also energy production – use the financial wherewithal gained in less glamorous industries to target more design or culture-oriented activities. In the 1980s Japanese firms, widely considered “copycats” by Western producers, reinvested their earnings to emerge as first rank innovators in everything from automobiles to semiconductors and computer games.

Today Chinese and Indian companies seem to be following a similar scenario, making strong moves into pharmaceuticals, fashion, film and software design.^{xx} They are perfectly aware that high end workers – software designers, special effect supervisors, architects, fashion directors, even attorneys, financial analysts and accountants – can be lured or developed in those places that have the capital to pay the price.^{xxi}

Improvements in telecommunication technology make these shifts ever more likely. China, for example, leads the world in the number of cell phone subscribers and ranks second in everything from broadband users to PCs and televisions. By 2025 Chinese consumers could have a combined purchasing power equal to Americans. Meanwhile Korea is the world's first in broadband internet penetration and its IT infrastructure is widely considered the world's best.^{xxii}

Back to Basics – alternative perspective

Rather than focus on only the highest end of economic enterprise, European and American policy makers should reconsider surrendering any significant part of the production process to firms based in other countries.

As discussed below, China, India and other emerging countries are already creating significant multinational corporations capable of buying assets or competing anywhere in the world, coupled with an aggressive national commitment to developing industry as a facet of political power.

Our research suggests that Europe and the US, and indeed other advanced locations such as Japan, Taiwan, Canada or Australia, would benefit from a shift to a “back to basics” approach that emphasizes both retaining manufacturing skills and building the critical infrastructure that supports industrial growth.

More Machinists, Fewer Poets

Manufacturing’s role in promoting job and income growth is often understated. In the case of the US, although manufacturing employment overall has dropped, the percentage of higher-wage, skilled industrial workers has climbed over the last two decades, much of it concentrated in formerly rural regions in the West and South, and in small towns.^{xxiii}

More than 80 percent of the 800 U.S. manufacturing firms surveyed in 2005 by the National Association of Manufacturers, the Manufacturing Institute, and Deloitte Consulting reported “experiencing a shortage of qualified workers overall.” Nine in 10 firms stated that they faced a “moderate-to-severe shortfall” of qualified technicians.^{xxiv}

The National Association of Manufacturers is projecting that by 2020 the shortage could grow to 10 to 13 million workers with many of the organization’s 14,000 member manufacturers already struggling to find qualified help. Skilled production workers are expected to become scarcer than scientists, engineers, sales and marketing employees, suggests one recent survey.^{xxv}

The US manufacturing sector now employs about a quarter of the nation’s scientists and related technicians, and about 40 percent of all engineers and engineering technicians. Increasingly, our key challenge in manufacturing is not a shortfall of opportunities, but rather a shortage of qualified applicants. Manufacturing in the future is likely to continue its trajectory with fewer new jobs, but a growing preponderance of high-skilled, well-paying positions.^{xxvi}

Firms in Europe, Canada, and Japan report the same problem. Shortages have become so severe that many EU countries are looking to Third World countries for skilled workers.^{xxvii} Even in newly emerging economies, such as those in Eastern Europe, a rapidly dropping birthrate has started to create a severe shortage of new workers.^{xxviii} And even with high unemployment, German industrial firms have had a difficult time finding new workers for their advanced manufacturing plants. By 2020, according to an analysis by the German Institute for Economic Research, there may be a shortfall of 270,000 skilled workers.

If countries are serious about retaining their industrial sectors it may make sense for them to invest in people with practical skills, for example, welders, carpenters, and plumbers. Global competition and the sheer numbers of recent college graduates are likely to debase the value of many degrees,

particularly in the liberal arts. But the demand seems to be inexorable for, as one North Dakota economic development official put it, “more machinists and fewer poets”.

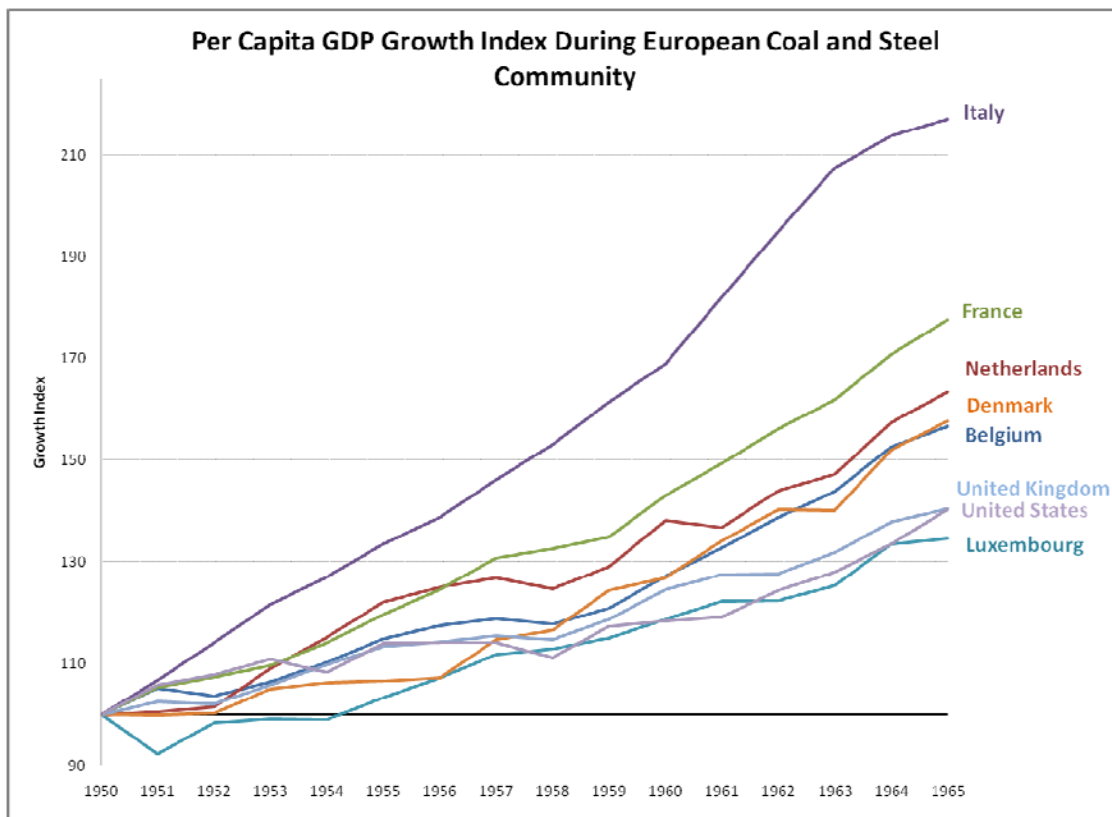
Case Studies: Europe

Europe, after the Second World War, initiated a series of initiatives to revive its former industrial base. Perhaps the most notable effort was the European Coal and Steel Community, whose member nations pledged in the 1950s to pool their resources by providing a unified market for their coal and steel products, lifting restrictions on imports and exports, and creating a unified labor market. Economically, the Coal and Steel Community achieved early success; between 1952 and 1960 iron and steel production rose by 75% in the ECSC nations, and industrial production rose 58%.^{xxix}

In the 25 years following the Second World War, European per capita income more than tripled. This has been called “the European Golden Age” since the increases in wealth were so rapid and evenly shared. Foreign trade was a critical component of this success but perhaps even more could be ascribed to a rapid increase in intra-European trade which replaced the historic tendency. Overall trade within Western Europe was more than twice the average from before the war.

Another critical factor is what one leading economist called “exceptionally high investment rates”. European productivity grew faster than that in the United States, and by the mid 1990s many countries had achieved parity or better with the US. Since then, the “Golden Age” has been somewhat tarnished as American as well as Asian companies have achieved higher rates of both economic and productivity growth. American leadership in information based industries was among the reasons for this gap.^{xxx}

The Rueff Plan, adopted in 1958 by France, made multiple deep changes to the economic structure of France. One imperative was to drive production “from the economy’s sheltered sectors towards manufacturing.” The goal was to give French industry a competitive advantage, and use it as an engine for economic growth. (The French used devaluation of the franc as a means to drive this, but their ends, manufacturing and industrial growth, are what is important for our project.) This led to “a period of much more rapid and smooth growth” in the French economy during the 1960’s, with a steadiness of output trends that was “exceptional.”^{xxxii}



Europe Stays in the Game

One reason for Europe’s relative decline over the past decade, some have suggested, is an overemphasis on manufacturing and skills-based training. To be sure, the United States in the 1980s and 1990s possessed far more “depth” in graduate and bachelor’s degrees. In Europe, labor market regulation also stalled adoption of new technologies.^{xxxiii}

Yet now some European countries – notably Denmark, Sweden and the Netherlands – have liberalized their labor markets and appear to be gaining some of their momentum. And many EU countries have remained committed to an industrially based “real” economy, a trend that may be further encouraged by the collapse of the current economic bubble. At a time when American trade negotiators have focused on service industries such as finance, European countries have continued to fight hard for the local industries; subsidies for key industries like aerospace have created powerful competitors.^{xxxiii}

The Lisbon Strategy of 2000, an economic development agenda for the EU, set the goal of making the EU “the most dynamic and competitive knowledge-based economy in the world” by 2010. The strategy embraced knowledge and innovation in industry.

There was no inkling that, as some post-industrial theorists suggest, there is no room for basic infrastructure or manufacturing. Regions throughout Europe have undertaken Regional Innovation Strategies (RIS) in order to look at ways to improve innovativeness in their economies. While the “glory time for manufacturing as steering engine for Europe’s economy and provider of massive employment is over,” manufacturing remains “important for trade, and its productivity increases outpace that in services.”^{xxxiv}

Industrialism in the ‘new’ Europe

This has been the case, interestingly enough, in both the “old” and “new” parts of the European community. Emerging eastern European nations such as Hungary have made a point of targeting manufacturing. Companies such as Audi and Suzuki have located manufacturing facilities in the nation, and the Hungarian government offers incentive packages and subsidies to draw more development.^{xxxv} In 2007, automotive production in Central and Eastern European countries “grew by 27 per cent, five times higher than in Western Europe.”^{xxxvi}

Similarly, the Polish region of West Pomerania, in northwestern Poland, published their RIS in 2005, with an emphasis on manufacturing industries.^{xxxvii} One important recommendation was to increase in the development of “technology transfer systems,” akin to what we describe as ‘infrasystems’. These systems include technology incubators, science-technology parks, and centers directly involved in transferring technology and research between the public and private sectors.

The goal of the systems, as outlined by West Pomerania, is to enhance “communication between research institutions and enterprises,” while facilitating “common access,” to innovation information.^{xxxviii}

A similar approach has been used in Moravia-Silesia, a region in eastern Czech Republic. The collapse of the mining based economy and closure of communist era manufacturing industries had led to 15 years of economic restructuring. Facing an “unfavorable” economic climate, the region has embraced three effective measures: attract more foreign development investment (FDI); create cluster initiatives between private companies and public agencies and academia; and focus on R&D, innovation, and collaboration with universities.^{xxxix}

A focus on clusters within existing industries, as well as within emerging new potential industries, and research initiatives with local universities were pursued to add value and competitiveness to the MSR manufacturing base. The Czech Republic, as a small nation, has chosen to select its priorities: “Sectors exhibiting a growth potential thanks to a concentration of research, production, education and supporting activities.”^{xl}

Looking ahead

In order to assure that manufacturers in Europe maintain the highest level of competitiveness the Lisbon Agenda/ ManuFuture report calls for industrial transformation, increased focus on R&D systems and structures, and a commitment to innovative production:

An economy based on service industries alone will not survive in the longer term... As each job in manufacturing is linked to two jobs in services, the reliance on services cannot continue in the long term without a competitive EU manufacturing sector.^{xli}

The strategy reflects the fact that an estimated that 75% of EU GDP was related to manufacturing. Over 17 billion Euros will be spent on research in these areas, and ICT will act as a “main driver for product innovation.”^{xlii}

This approach can also be seen on the national level. “Towards 2016” is Ireland’s new strategic plan, built around a social partnership to create a “strategic framework for meeting the economic and social challenges ahead.”^{xliii} The document lays out a structure to maintain manufacturing in a “central role” in the Irish economy.^{xliv} Manufacturing has played a major role in the economic emergence of Ireland over the past three decades, during which manufacturing employment in Ireland actually grew, bucking international trends.^{xlv}

In order to drive future development, the government of Ireland is calling for increased focus on R&D and innovation, in order to increase productivity and competitiveness. Increased grants for research and partnerships between multinationals and indigenous firms are seen as ways to help small and mid-sized firms drive growth in the manufacturing sector.^{xlvi}

Under the terms of “Towards 2016,” manufacturing will continue to be a central focus in Ireland’s growth strategies. In 2007, manufacturing activity in Ireland increased by 8%. In order to build on this growth, Ireland is looking to create National Manufacturing Competence Centres, focused on specific sectors, which will work to “engage with industry, both large companies and SMEs, to address the current and future needs of production, through R&D and innovation in process, supply chain management, and energy efficiency, and to address training and reskilling needs.”^{xlvii} A call is also made for industry benchmarking in relation to international counterparts, in order to gain in-depth understanding of areas for improvement..^{xlviii}

The Role of ‘Hard’ and Soft Infrastructure

MEDEA+ is an industry initiated program for “advanced co-operative research and development in microelectronics.” The overall goal of the project is to pool R & D efforts from institutes and companies throughout Europe, using both public and private funding. Through these efforts, the program hopes to drive innovation, allowing European microelectronics manufacturers to “stay in the group of worldwide leaders”.^{xlix} Partners in the effort, which began in 2001, include companies both small and large, and public research institutes and universities located in 22 European countries.^l (Notably, none of these are located in Denmark.) The program represents a long standing public-private partnership in research and development, aimed at creating “better, stronger, broader industry chains.”^{li}

The Asian Example

The pure service and information economy model has been least adopted in the place where economic growth and social mobility has been most marked: Asia. To be sure, all major Asian countries aspire to leadership in information management, finance, and creative enterprises. Yet there is a widespread understanding that it is power over the ‘real’ economy that places a country or region in the position to do so effectively.

Across Asia the relationship between industrial growth, infrastructure and increased prosperity is well-recognized. As Haruhiko Koroda, President of the Asian Development Bank, noted in a 2006 speech in Hyderabad, India:

...the miraculous transformations of Japan, Hong Kong, the Republic of Korea, Singapore, Taipei, China, Thailand, Malaysia, and the People’s Republic of China were preceded by substantial investments in physical and social infrastructure...a reliable infrastructure network lays the

Foundation for a future of sustainable economic growth.^{lii}

The earliest example of this could be found in Japan which early on understood that its economic – and military – power would depend on constructing an industrial economy. Japan’s modernization has been paced largely by its industrial development from its origins in the later part of the 19th Century.

Blessed with a highly literate population, a developed national market, talented artisans and a strong entrepreneurial tradition – and its political independence intact – it was positioned to meet the challenges of the industrial age.^{liii} Japan’s experience with infrastructure and industrial growth in the Meiji Era transformed not only Japan but provided a model for other emerging Asian nations.^{liv}

In the 19th and early 20th Century cities such as Nagoya, Tokyo and Osaka – dubbed the “Manchester of the East” – all became major industrial centers. A rapid infrastructure program and powerful investments in education and training transformed Japan, so much so that by the 1920s it was clearly challenging the United States for supremacy in the Pacific Basin,^{lv}

Japan’s industrial culture, like that of Germany, survived the cataclysm of the Second World War. What was needed after the war was to rebuild its basic infrastructure, which became a key element of the New Long-term Economic Plan of 1957 and the National Income Doubling Plan of 1960. Japan knew well the relationship between infrastructure and industrial growth, and followed on this approach throughout the 1960s and 1970s.^{lvi}

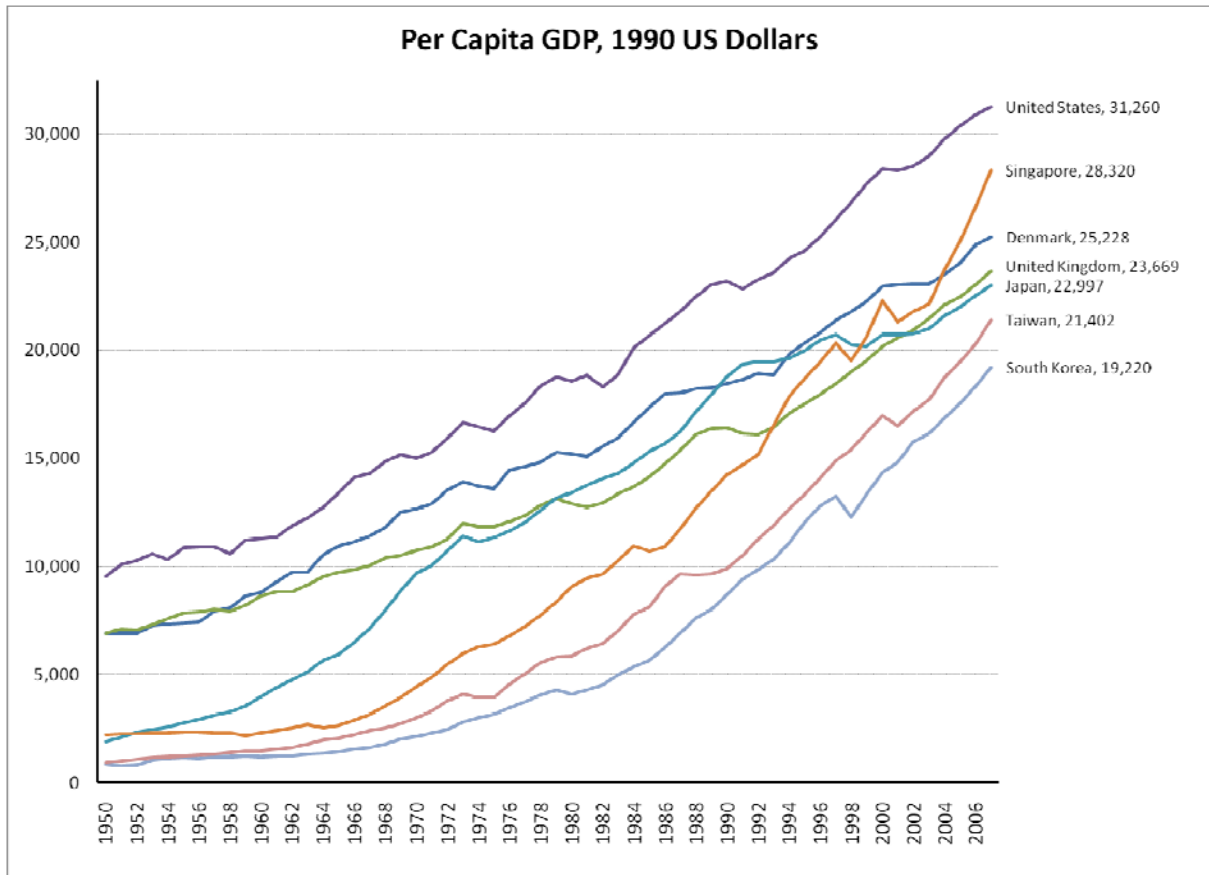
Its massive industrial export machine catapulted its rise from the ashes to the world’s second largest economy. At the same time, former parts of the Japanese empire—notably South Korea, Singapore, and Taiwan – adopted a similar approach to economic growth, stressing basic infrastructure, skills training and high value added manufacturing.

Perhaps no place epitomizes this Japanese approach better than Nagoya, the region that gave birth to Toyota and that has emerged as the strongest economy in the country. Steady investment in basic infrastructure, notably port and rail, and a respect for the craft of industrialism has created the basis for the so-called “Nagoya Boom”. Although Toyota and other industrial firms in the region will no doubt suffer from the current economic crisis, the funds gathered during the recent boom were not ephemeral, and have been largely invested in updating plants and equipment.^{lvii}

Korean Examples

Korea has often been Japan’s pupil, at first involuntarily. It emerged after the Korean War much as Japan had after the Pacific War --- 47% of Seoul’s buildings, were destroyed. Migrants poured in from

the countryside, and by 2000, the city had grown to over eleven million people, with a surrounding metropolitan area accounting an additional nine million.^{lviii}



Korea's growing wealth provided the wherewithal to meet the challenges posed by its rapid demographic growth. New roads, housing, office and research parks arose throughout the region. To make way for the development of the central city, sprawling squatter settlements were demolished throughout the 1960s and again in the 1980s. Although many were displaced, poverty was effectively reduced.^{lix}

Few countries have made a more determined commitment to building an industrial infrastructure than Korea. Given the extreme concentration of population in Seoul –home to half the country's population – there have been huge efforts to address congestion and other infrastructural problems that bedevil the country's industrial machine. This investment has helped Korea achieve between 1993

and 2002 a rate of productivity growth three times the OECD average. Its rate of improvement dwarfs that of almost all advanced western European countries, the United States or Australia.^{lx}

Interestingly, Korea stepped up this investment in the years following the 1997-8 Asian financial crisis. Joining with private sector finance, the government has pushed the construction both of social infrastructure- like schools and hospitals- as well expansive programs to extend telecommunications systems and ports throughout the country.^{lxi} Like Japan before it, Korea's industrial and infrastructure strategy has become a model to other developing countries, such as Indonesia.^{lxii}

Taiwan Examples

Few countries have focused more on this approach- and more successfully- than the island of Taiwan. A formerly agricultural colony of Japan, the country has been run since 1945 as the remnant of the old Republic of China. Its rapid development drew both from American support and markets but also from the Japanese model of economic development.

Taiwan became a powerful exporter first of textiles and then of consumer electronics – RCA was a major early investor – and later of high-technology electronics. Taiwanese officials sought to leverage gains made in manufacturing to shift their economy more aggressively into higher order research and development.

This process included coordination with the large expatriate community in the United States. as well as increased investment in China. And the development of a Silicon Valley-like industrial area around Hsinchu, beginning in the 1980s, was described by its director as “the cradle of the new Taiwan.”

Over the past fifteen years, Hsinchu has seen a rapid growth in both industrial and research functions. Combined with facilities in other parts of the country, Taiwan has become a small but potent industrial power and has garnered a remarkable \$280 billion in foreign currency reserves, the fifth most in the world behind only much larger China, Japan, India and Russia.^{lxiii}

Singapore, Asia's model city

Like Taiwan, Singapore's rise can be traced to a strong industry-led strategy. Once considered a wide open city – Joseph Conrad described it as “riotous with life”^{lxiv} – the 225 square mile city/state has transformed itself into a first-class industrial power. Under the authoritarian leadership of Cambridge-educated Lee Kuan Yew, Singapore broke dramatically with much of its colonial past and forged a new model for Asian urbanism. Tenements and low-slung shops were replaced by planned apartment complexes; congested streets were supplanted by a modern road system under which ran an advanced subway system; crime, once rampant, was nearly eliminated.

As in Seoul and Hong Kong the key lay in large scale economic growth, based largely on ever higher value added manufacturing and a burgeoning port and airport. Moving rapidly from low-wage industries like textiles to high-technology and service industries, Singapore by the end of the twentieth century boasted among the world's best educated and economically productive populations. Class divisions remained, but most now achieved a standard of living and wealth unimaginable for the masses in other cities of the post-colonial world. Income levels, barely \$800 per person in 1964, had risen to over \$23,000 in 1999.^{lxv}

Greater China

The success of Singapore has greatly impacted the development of the world's next great superpower, China. In 1992, China's paramount leader, Deng Xiaoping, openly expressed particular admiration for Singapore's "social order", embracing the city-state's authoritarian approach to capitalism as the best blueprint for the rapid development of China's own cities.^{lxvi}

Under Deng Xiaoping's "Four Modernizations," Beijing gradually loosened its strict control over industrial firms, and encouraged both private initiative and outside investment. The creation of special economic zones, such as that in Shenzhen between Hong Kong and Canton, attracted the largest amounts of foreign capital, much of it from Hong Kong, Taipei and Singapore. Within fifteen years, the area around the Pearl River Delta was becoming, much like British Midlands in the mid-19th Century, not only the "country's workshop" but the workshop of the world.^{lxvii}

This manufacturing prowess has allowed China to accumulate the means to finance its future development. China's authoritarian leaders have understood that continued rapid industrial growth necessitates massive new infrastructure. In the past decade the country has completed a 25,000 mile (40,233) interstate highway system, and a huge subway system in Beijing. Thousands of miles of high-speed rail projects are being completed.^{lxviii}

Shanghai, China's industrial capital, also embarked on some of the world's most ambitious infrastructure projects, including a new subway system and airport improvements. The largest development, the massive Pudong New Area, across the Hungpau River from Shanghai, started construction in 1990; within a decade, a whole new city had arisen, complete with a greenbelt area, luxury hotels, 140 high rise office buildings, sleek roadways, a modern ferry terminal, a subway and an underground pedestrian tunnel.^{lxix}

It should be clear that China's goal is to move rapidly from low to high-value production. Revenues accumulated in the production of lower cost goods is now being plowed back into training, modernization and the purchase as well as development of technology. This money is also being reinvested in "creative" industries such as entertainment and high-end fashion.^{lxx}

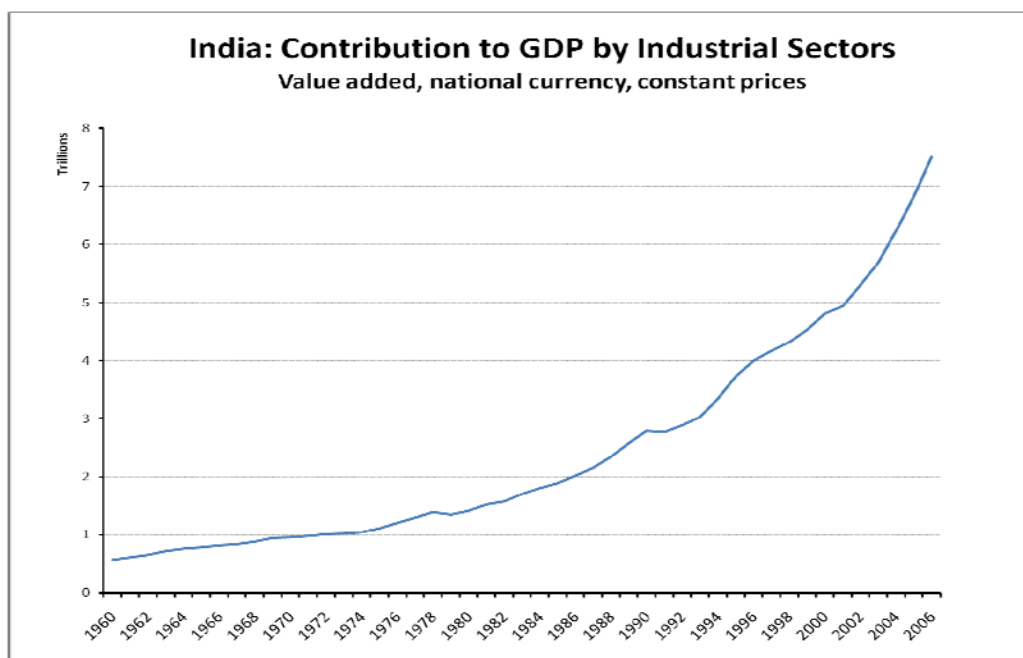
India

Although less well known than Chinese industry, India has also based much of its growth strategy on developing its industrial sector and its infrastructure. India's democratic governance tends not to allow the kind of concentrated, quick-paced investments seen in China, but it has made multi-billion dollar investments in roads, trains, airports and port infrastructure.^{lxxi}

All this has led to massive reduction in poverty – from 36% to 26% over the past decade – and the emergence of India as a major industrial power. Over recent years Indian pharmaceutical firms, for example, have shifted from being copycats to producing for their domestic market and as an exporter, in partnership with major US and European firms. A Morgan Stanley report recently suggested that the country had become “a credible force in the global pharmaceutical industry”^{lxxii}

India has also become an emerging power in the worldwide steel industry, with the largest company, Mittal, although run from London, controlled by an Indian entrepreneur. Overall steel production more than quadrupled between 1990 and 2007.^{lxxiii} India is also becoming a preferred production base for Hyundai and other auto manufacturers. Indian companies, like the conglomerate Tata, are now exporting steel and other manufactured goods to the West and to China.

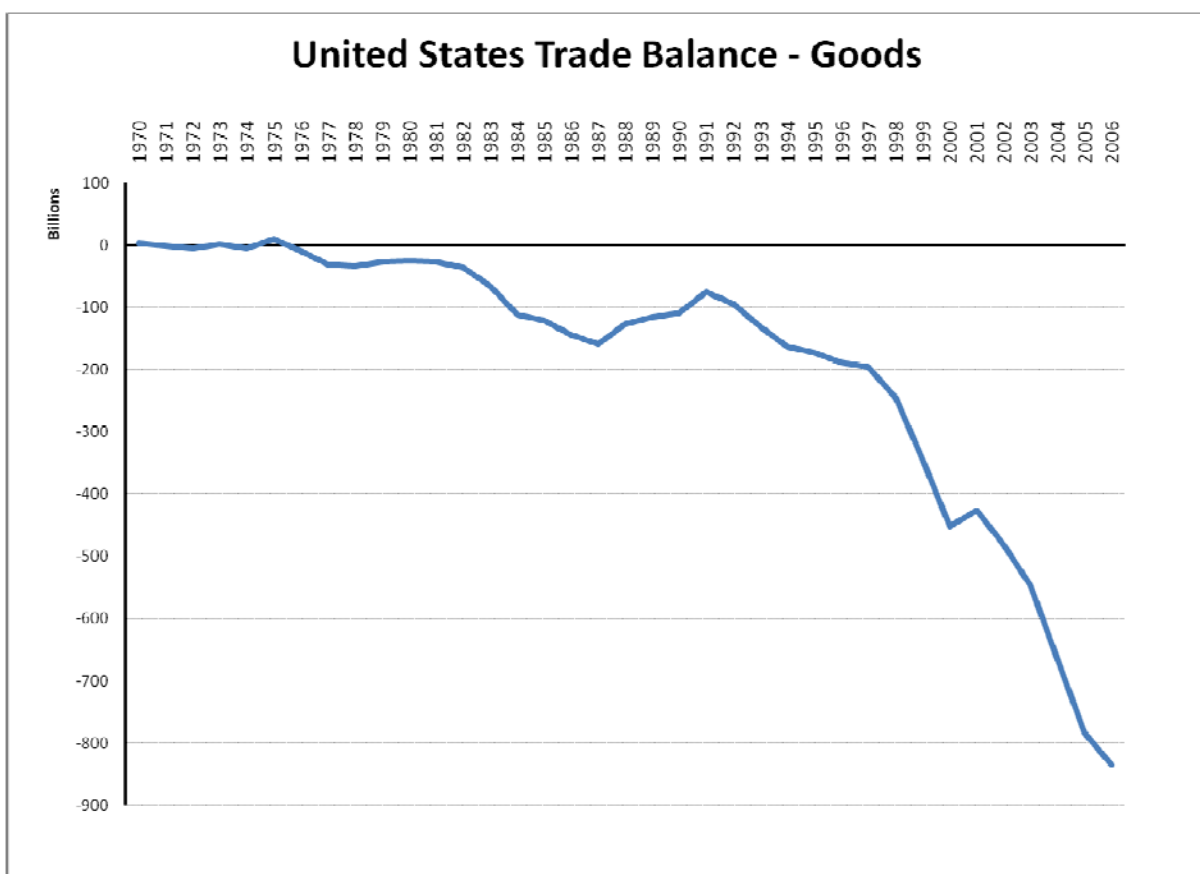
The global reach of the Indian steel industry, along with its success in software-related businesses, suggest that it will follow Japan and other manufacturing powerhouses into the higher end “creative” industries as well, most recently demonstrated by a recent \$500 million investment in Dreamworks SKG by a division of Reliance Industries, an Indian firm with roots in the textile, materials and other manufacturing-related businesses.^{lxxiv}



The American Experience

In the 1970s, America's industrial culture started to exhibit many of the same traits that undermined British firms a century before. Motivated by short-term financial returns, many refused to invest in new technologies. Top graduates shifted their focus to non-manufacturing pursuits such as law, finance and consulting. By 1984 the New York Stock Exchange concluded in a published study that "a strong manufacturing sector is not a requisite for a prosperous economy" (Cohen and Zysman, 1989).

Policies which de-emphasize or resist basic improvements in industrial capacity took hold in the U.S. Meanwhile, foreign producers, particularly in Japan, continued to make significant technical advances in manufacturing – just as Americans had out-innovated Britain decades before. In 1970, the United States enjoyed a modest \$3.4 billion manufacturing trade surplus. Just 14 years later, it had amassed what was then an unthinkable large \$80 billion industrial deficit (US Department of Commerce, International Trade Administration). That deficit now stands at more than \$800 billion:



The Historical Experience

We have seen a reverse from the traditional American approach which emphasized infrastructure and industrial development as a way to increase wealth and spread prosperity across class and geographic lines. This began in the early 19th Century with expansion of turnpikes and canals, which spurred trade and allowed for the mass industrialization of the Great Lakes region. ^{lxxv}

Perhaps the greatest example of the success of the “basics” approach can be seen by looking at the New Deal. Historians and economists still debate the relative contributions of the New Deal and World War II to the nation’s eventual economic recovery. There is little argument, however, that the era’s public works investments profoundly improved the nation’s industrial base and quality of life. As New Deal scholar Jason Scott Smith observed:

While the WPA spent its funds on "work relief" and the PWA spent its funds on "public works", both efforts in fact produced substantial infrastructure throughout the nation. ^{lxxvi} "[A]s far as infrastructure was concerned, the PWA was a resounding, and nationwide success. By March 1939 the PWA had authorized the construction of 34,508 projects costing over \$6 billion, completing 34,448 of them. Streets and highways were the most common PWA projects, as 22, 428 road projects, or 33 percent of all PWA projects, accounted for over 15 percent of total PWA spending. Educational buildings were the next most common project (7,488, or 22 percent of all PWA projects)... Public buildings, along with sewer and water projects...taken together comprised 25.3 percent of PWA projects. ^{lxxvii}

As one WPA official summarized, it “... touches intimately the lives of more than fifty million people. ^{lxxviii} In many ways, the New Deal implemented the progressives’ vision on a vast, national scale.

The focus on public investment reduced the concentration of wealth. Wealth concentration in the top 10% of all households fell from the mid 1930s to the aftermath of World War II, and then remained at historically low levels until the mid 1980s. ^{lxxix} As we will discuss later, it was not until the late 1980s, when public infrastructure fell out of favor, that indices of upward mobility and opportunity began to change in ways that are reminiscent of the pre- progressive era.

Expanding Geographic Opportunity

Perhaps the most dramatic impact was on the South. Before the 1930s, the South lagged behind the rest of the country in development. It had higher rates of illiteracy, higher infant mortality and some of the lowest percentages of urbanized population. The investments in infrastructure in the Great Depression (TVA and New Deal public works programs) in addition to investments during World War II created an economic atmosphere that attracted private capital.

The infusion of public capital—roads, schools, waterworks, power plants, dams, airfields, telephone lines, and hospitals, among other infrastructure improvements—increased rates of return to private investment and generated significant external economies that fundamentally reshaped the Southern economy and turned it into the country’s ascendant industrial powerhouse .As one study observed:

... evidence from a National Planning Association survey of firms that moved South just after 1945 strongly suggests that the public capital improvements undertaken during the New Deal and World War II provided the important impetus for the widespread adoption of mass production techniques which lead to demand spillovers and created a self-sustaining growth path in the decades that followed^{lxxx}.

Rather than an exercise in economic planning, observed historian Richard Hofstadter, New Deal reform “was a chaos of experimentation.”^{lxxxi}

This experimentation --- and the realities of the American geography--- created essentially an expansive strategy. Programs such as rural electrification under the Tennessee Valley Authority spurred the modernization of vast areas of the country, including rural communities that had been largely bypassed in earlier periods of economic expansion.

In the postwar years, the Eisenhower administration continued to support a broad range of public spending, including defense-related projects and scientific research and technology development. The Eisenhower era triggered an unprecedented period of growth in public infrastructure and r&d spending that did not reach its peak until the mid-1960s.

Eisenhower’s fascination with high-speed roadways was sparked by his exposure to Germany’s autobahns after the war. Under his guidance, the Interstate Highway System was initiated in 1956 to link the country with a network of freeways and efficient highways, and it revolutionized the American economic landscape. By some estimates, it has returned more than \$6 in increased productivity for every \$1 invested. According to one federal study, the highway program reduced U.S. producer costs by more than \$1 trillion. Travel time between Seattle and Portland, for example, declined by 25 percent and between Cleveland and New York by a third.^{lxxxii} As a result, transportation costs dropped from 9 percent of GDP a century ago to about 2 percent of GDP today.

The nation’s new roadways also generated what one scholar has called the “democratization of mobility.”^{lxxxiii} In 1940, fewer than 45 percent of Americans owned their own homes.^{lxxxiv} By the mid-1980s about 67 percent of all American families owned their homes, double the rate in Germany, Switzerland, France, Great Britain, and Norway. Nearly three-quarters of all AFL-CIO members and the vast majority of two-parent families owned their own homes.^{lxxxv}

The Great Retrenchment

Since the 1980 public investment in basic infrastructure construction and maintenance has declined in inverse proportion to the growth of the population through natural increase and massive immigration^{.lxxxvi} This is true across all American geographies, from small towns to big cities.

New York provides an apt example. “One looks back at that map ‘Landscape by Moses,’” writes the noted sociologist Nathan Glazer in looking at the legacy of New York City’s “master builder” Robert Moses, “and if one asked what has been added in the fifty years since Moses lost power, one has to say astonishingly: almost nothing.”^{.lxxxvii}

Indeed, despite the staggering private wealth generated by the stock market and real estate in New York, the city’s public infrastructure has been largely neglected. Infrastructure spending levels by the early 2000s were barely half of what was required to maintain the city’s streets and railways in “a systematic state of good repair.” Subways and rail lines in America’s richest city are frequently shut down after heavy rains due to flooding caused by poor drainage. Brownouts and blackouts, in part caused by underinvestment in energy infrastructure, have become common during summer high-use periods.^{.lxxxviii}

Similarly, California’s once envied water-delivery systems, roadways, airports, and education facilities are in serious disrepair. In the 1960s, infrastructure spending accounted for 20 percent of all state outlays, but as the technocratic perspective took hold, infrastructure spending fell to just 3 percent of all expenditures, despite the rapid growth of the state’s population.^{.lxxxix}

The Failure of anti-Industrial Policy

In lieu of basic infrastructure and a commitment to productive industry, investments in convention centers have been a common way for cities to attempt to boost their economic fortunes. Public capital spending on convention centers has doubled to \$2.4 billion annually. Nationwide, 44 new or expanded convention complexes are in planning or under construction.

Yet few of these centers ever make money, and many lose considerable funds. The big convention business is not growing, and the surplus of convention space has forced cities to accept bookings at or below costs. Los Angeles, Phoenix, Washington and St. Louis, among other major urban areas, have financed unprofitable convention complexes with bonds or tax waivers that divert resources from other priorities. As a recent Brookings Institute study observes:

But if taxing, spending and building have been successful, the performance and results of that investment have been decidedly less so...what is even more striking, in city after

city, is that the new private investment and development that these centers were supposed to spur --- and the associated thousands of new visitors --- has simply not occurred.^{xc}

The same disappointing results are true for new arenas and sports stadia. Des Moines, Kansas City, and Little Rock have built new sports facilities to lure new teams, rather than house a committed, professional sports franchise.^{xcj} Although hailed as the centerpiece of downtown and central city development in Baltimore, Cincinnati, Cleveland, San Francisco, and Milwaukee, there is precious little evidence to justify the public expense.

The cost to the taxpayers for each job created for Baltimore's Ravens Field stadium, according to a Congressional study, was over \$127,000. Most of these jobs were part-time and low paying. Concluded one exhaustive 2000 survey of U.S. sports and entertainment projects:

... the direct and indirect economic impact of sports teams and the facilities they use is quite small. New facilities do not engender substantial job creation or economic development regardless of whether the frame of reference is a downtown, a city, a county or a region.^{xcii}

Convention centers^{xciii}, arts complexes, ball stadia, and ^{xcivxcv}subsidized housing to lure the upper classes to city centers have replaced a focus on basic investment in education, public parks and transportation.^{xcvi} One Pittsburgh observer concluded:

...future historians will look at [such] investments with amazement. Communities that were hard-pressed to keep their schools open or police on the beat nevertheless spent billions on stadiums and arenas for the use of professional sports teams."^{xcvii}

Much the same thinking motivated economic policy in Michigan, the epicenter of the US industrial recession. Rather than address the state's loss of blue-collar and middle-class jobs, Gov. Jennifer Granholm vowed to create "cool cities" that would attract young professionals.

But art galleries, coffee houses, and similar amenities have done nothing to halt the decline of the state's urban areas. Michigan's cities still consistently rank at the bottom of America's urban areas in terms of job growth, and near the top in population loss. Nearly one in three residents, according to a July 2006 *Detroit News* poll, believes that Michigan is "a dying state." Two in five of the state's residents under 35 said they were seriously considering leaving the state.^{xcviii}

The New Orleans ‘Model’

Perhaps there is no more tragic reminder of this misplaced focus than New Orleans, once one of the nation’s great industrial and commercial centers. Throughout the latter decades of the 20th Century, the Crescent City ignored the needs of its traditional port-related, manufacturing and energy industries.^{xcix}

It also ignored its engineering needs and failed to repair and upgrade its protective levees. New Orleans did not lack money for public ventures before Katrina; plenty was spent on convention centers, sports stadiums, and other glitzy, but ephemeral, projects. Beguiled by the false promise that arts and culture could drive their economy, the remains offer a glimpse into a less than promising vista for the future.^c

Misguided Priorities

It is difficult to overstate how profoundly “creative class” concepts have transformed urban investment priorities. In the last century, Milwaukee epitomized what some called the “sewer socialism” that was prevalent in progressive era cities. Economic development was spurred by investment in facilities like sewers and roads. Today, even as the city’s economic base continues its long decline, Milwaukee’s civic leaders have almost exclusively directed their attention to more chic endeavors, such as building a new Santiago Calatrava-designed Art Museum.

But unlike the sewers of the city’s heyday, the art museum has proved to be an economic albatross. After opening in 2004 to enthusiastic reviews, attendance plummeted, and the anticipated economic windfall in the urban core never materialized. Nevertheless, city leaders proposed to subsidize a plan to convert the old Pabst beer brewery into an entertainment and retail complex. Local businesses and taxpayers condemned the effort as a “Carnival City” rather than a blue-collar, livable burg.^{ci}

Areas that are the most celebrated for embracing the “creative classes” are almost always where job and economic growth has stagnated. Even the most fervent supporters of the approach cannot cite a single instance in which directing public funds towards a “hip” elite triggered widespread economic recovery.

The Rock and Roll Museum in Cleveland, for example, is often said to have generated a downtown renaissance. Yet, the city retains one of the largest US urban poor populations. Baltimore, Philadelphia, and Pittsburgh are frequently cited as examples of how enlightened gentrification and “creativity district” development can stimulate a “comeback” from industrial decline. Each of these cities still substantially underperforms the nation as a whole; during 1994-2005, their employment rose by just 1.5%, near *twelve times* more slowly than for the nation as a whole (see Table 1).

Table 1
1994-2005 Employment Growth (1000s)
Baltimore, Philadelphia, Cleveland and Pittsburgh

	1994 Nonfarm Employment	2005 Nonfarm Employment	Net Job Growth	Percent Change 1994- 2005
Cleveland-Elyria-Mentor, OH	1,041	1,077	36	3.4%
Pittsburgh, PA	1,063	1,136	73	6.9%
Philadelphia City, PA	682	651	-30	-4.4%
Baltimore City, MD	411	380	-31	-7.4%
TOTAL	3,197	3,245	48	1.5%
USA	96,244	113,122	16,878	17.5%

Source: Inc (2006)

Baltimore’s decaying infrastructure, including, thirty-foot potholes, featured prominently in a recent federal study of national infrastructure “problems and failures.”^{cii} A 2005 University of Maryland study found that the city’s inner suburbs, which boomed after World War II, are in chronic decline as jobs and younger, more-affluent families move to less decaying areas farther away from the urban core.^{ciii}

Success with the Real Economy

Contrast these scenarios with the approach of cities like Dallas, Houston, Charleston, and Phoenix. Over the past two decades, these communities consistently allocated spending to improve highways and other basic infrastructure. Houston recently announced plans to double investment in new transportation infrastructure to \$77.3 billion by 2025. Dallas-Ft. Worth, El Paso, and other Texas cities are also preparing large scale new transportation infrastructure projects.^{civ}

All of these regions grew far more rapidly than areas that focused on high-end or creativity-based infrastructure. Charleston, which has invested heavily in its port and industrial facilities, generated more net new jobs than all of greater New York, despite starting 1994 with 1/16th the job base of the larger region.^{cv} Houston, Phoenix, and Dallas *each* exceeded or nearly matched the net employment growth of New York, Boston, San Francisco and Silicon Valley *combined* (see Table 4).

Table 4
Examples of U.S. High Infrastructure and Elite Investment Regional Job Growth
1994-2005

	1994 Nonfarm Employment	2005 Nonfarm Employment	Net Job Growth	Percent Change 1994-2005
HIGH INFRASTRUCTURE SPENDING REGIONS				
Charleston-North Charleston, SC	209	282	73	34.7%
Dallas-Plano-Irving, TX Metropolitan Division	1,533	1,929	396	25.8%
Houston-Baytown-Sugar Land, TX	1,879	2,320	441	23.5%
Phoenix-Mesa-Scottsdale, AZ	1,138	1,737	599	52.6%
TOTAL	4759	6268	1509	32%
HIGH ELITE, LOW INFRASTRUCTURE SPENDING REGIONS				
New York City, NY	3,314	3,573	259	7.8%
San Francisco-San Mateo-Redwood City, CA Metropolitan Division	903	947	44	4.9%
San Jose-Sunnyvale-Santa Clara, CA	811	860	49	6.0%
Boston-Cambridge-Quincy, MA NECTA Division	1,555	1,651	97	6.2%
TOTAL	6,582	7,031	448	6.8%

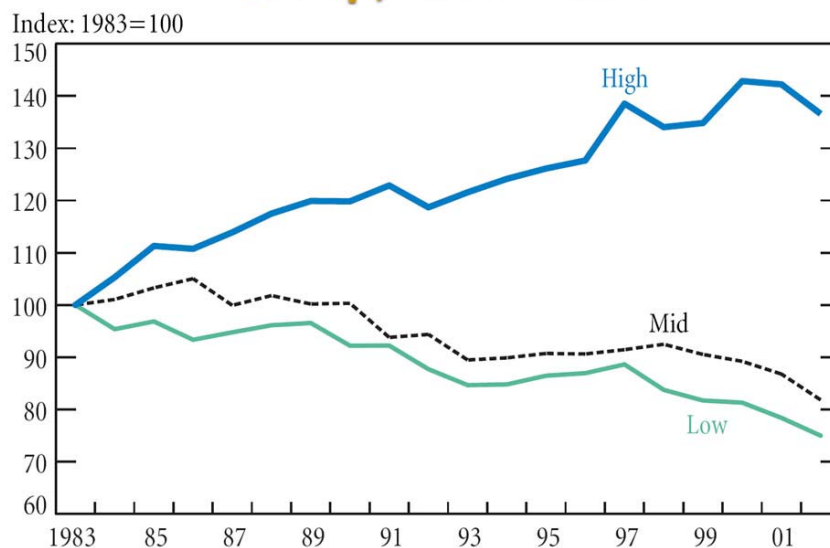
Not surprisingly, areas that do not generate strong job growth and allow basic amenities to decline also tend to have the greatest class bifurcation. Recent studies by the Brookings Institution have found that since 1970 middle income neighborhoods have declined most rapidly in low infrastructure spending cities such as New York, Los Angeles and San Francisco.^{cv} The San Francisco-based Public Policy Institute of California found that, once the cost of living is considered, Washington, New York, San Francisco, Monterey and Los Angeles --- all centers of considerable wealth --- also have poverty rates over 20%, ranking them in the range of the ten poorest counties in the nation.^{cvii}

The Industrial Connection

Infrastructure investment has historically been associated with the growth of industrial jobs. It has become fashionable in recent years to dismiss the industrial sector as antiquated, low-paying, and destined for China, India, or lower wage nations. Yet, infrastructure investments in new roads, port facilities, train and conveyances have a proven record of sparking growth in manufacturing activities and supporting upward mobility.

By 2008 many old line “codger” companies – those making industrial products like steel as well as farm equipment and other basics – were doing far better than the much ballyhooed high-tech and service industry. In some cases, such as steel, the United States was becoming a low cost producer not only in comparison with Europe but also China.^{cviii}

Manufacturing Employment by Skill Group, 1983 - 2002



Source: U.S. Bureau of Census, Current Population Survey
 Analysis by Richard Deitz, New York Federal Reserve Bank

Cities such as Dubuque have revived previously moribund manufacturing sectors. The Iowa turnaround was the product of a pro-business climate, a strong commitment by local educational institutions to supply industry with skilled workers, and a tradition of hard work and manual labor. By the mid 2000s Dubuque enjoyed the fastest job growth rate of any city in the Midwest, with low unemployment and rising wages. Much of this was due to manufacturing job growth.^{cxix}

Dubuque, Bismarck and other faster-growing industrial areas tend to place great emphasis on road, rail and air travel improvements and local training programs. The Dubuque experience is a suitable model. Industrial expansion should be one of the criteria for allocating infrastructure investments.

A strong investment in roads, such as the one now being made in Texas, makes great economic sense^{cx}. Ground transportation links to other elements of the trade and commerce infrastructure, such as airports and ports, is particularly critical. Major investments in airports can have rippling effects. That has been the case in Denver, where the airport investment has turned the city into a major global hub for transporting both people and cargo, employing some 30,000 workers, with an estimated \$7 billion payroll.

2025, according to some estimates, the Denver Airport could emerge as a major “new downtown” for the region, contributing upwards of \$85 billion to the regional economy, up from \$15.3 billion today. This process is occurring on a worldwide basis. Some economic thinkers, like the University of North Carolina’s John Kasarda, see airports as primary drivers of 21st Century economic growth. Each “aerotropolis,” he suggests, serves not only business travelers but those who ship high-end, often high-tech goods. Unfortunately, many airports including those in Los Angeles, San Francisco and Atlanta – are facing major opposition to their expansion plans^{cxix}

Such projects are important not only for larger cities. Smaller communities such as Ontario, California are seeing their economic futures in managing increased passenger and cargo handling at their small, regional airports. And with the development of regional jets and even smaller craft that can serve as “air taxis”, airport infrastructure improvements could boost communities even in relatively remote rural locations.^{cxii}

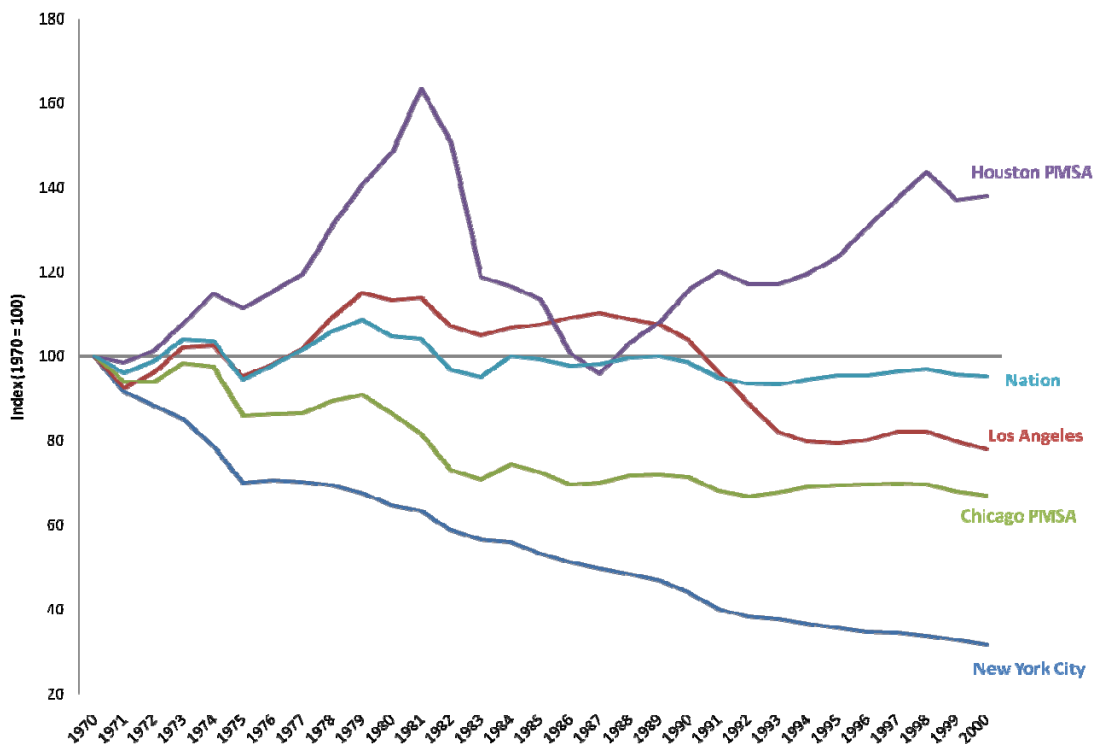
Although Kasarda and other experts focus on airports, there is also a great need to bolster traditional cargo-handling facilities such as water ports. As in other cases of infrastructure development, the biggest beneficiaries would be the nation’s business community, as well as its middle and working classes.

In many cities, reinvestment in the port is critical to employment growth. The LA-Long Beach trade complex, the world's third largest port system, accounts for as much as 15 to 20 percent of the region's total employment, much of it in highly paid, blue-collar sectors. Unionized longshoremen, for example, beneficiaries of the nation's soaring international trade, represent one of the best paid groups of blue collar workers in the nation. Lack of investment in the port is already inspiring new competitors, including a proposed major port in the Baja region of Mexico which could siphon blue collar jobs completely out of the country.^{cxiii} On top of these problems, the port complex remains highly congested.

Similarly, New York City and its environs could benefit from significant new investment in its trade infrastructure, notably the proposed rail-freight tunnel under the East River. New York's emergence grew largely out of major public investment, notably the Erie Canal, which took advantage of its magnificent natural harbor.

There is a compelling argument that the disproportionate loss of warehouse and other blue collar employment from New York can be traced to a basic reluctance to build significant new infrastructure, while cities such as Charleston and Savannah were willing to do so. These cities have also leveraged their strong ports to expand industrial opportunities, often on land adjacent to their harbor facilities.^{cxiv}

Manufacturing Employment Growth Index, 1970-2000



The Role of Energy

A reduction in imported oil consumption through development of domestic alternatives can positively affect the balance of payments, spur domestic job creation and investment, potentially reduce greenhouse gas emissions, and reduce dependence on imports from hostile nations. Yet, in the case of the US, for example, America's is unable to efficiently deliver coal to power plants due to a lack of railcars.^{cxv} Producers with surplus power, such as electricity plants in North Dakota, lack the transmission capacity to deliver energy power to states that need it.

During 1975 to 1999, the U.S. spent an average of just \$83 million per year on power lines and facilities that deliver electricity from generation plants to end users. Since 1999, increases in transmission spending have been just a third of new demand. As a result power cannot be delivered from surplus regions to high consumption areas, leaving major metropolitan systems vulnerable to catastrophic failure. This widespread vulnerability has been attributed to the lack of a mandatory national investment policy, and the failure of individual utilities to voluntarily maintain the country's electrical grid capacity.^{cxvi}

Investments in energy bring strong economic payoffs. Cities in the Columbia River region, with its massive, cheap and clean sources of hydro-electric power, have become attractive as locations for high-technology firms that require cheap, reliable electricity. Once a "given," reliable power is now a sought after commodity.^{cxvii}

More generally, long-term and chronic energy infrastructure problems stem from a failure to diversify energy generation options, and delaying or precluding new, more efficient facilities due to environmental, aesthetic, or jurisdictional conflicts. As the National Commission on Energy Policy recently observed:

...[Energy] infrastructure has not always been proposed or built where it is needed most, or most urgent; extraordinary efforts have often been required to get facilities permitted in a timely fashion; and regulatory uncertainty and resulting delays have raised the cost of facilities themselves, along with delivered energy prices. In some cases, stakeholders have discounted the fact that new technologies can be environmentally and operationally superior to the technologies they replace. Permitting problems have also narrowed fuel and technology options in some regions, exposing consumers to higher price volatility, reduced fuel diversity, increased risk of supply interruptions, and diminished operational reliability. Such hurdles—even when they represent an appropriate, or merely accepted cost of development— have implications for the market's ability to finance energy infrastructure; can result in the undesirable

geographic concentration of certain types of facilities (as witness the current concentration of much of the nation’s oil and gas infrastructure in the storm-prone Gulf Coast region); may have negative impacts on the economic competitiveness of some regions; and may slow the retirement of more polluting and less efficient facilities.^{cxviii}

Compounding these problems is a failure to address dependence on foreign oil and the direct and indirect costs of relying on non-market driven producers to meet significant energy needs. The U.S., for example, imports approximately 12 million barrels of oil per day, or 60% of its domestic needs. Economists have estimated the “premium” paid above nature market prices to OPEC and similar coordinated sellers at anywhere from \$5 to \$14 per barrel

Innovative Approaches to the Real Economy

Despite the widespread support for de-industrialization throughout the intelligentsia, as well as in business and policy circles, many American regions, as we have discussed, have focused on a ‘back to basics’ approach. There is an increased understanding that locating industrial plants in the United States becomes more feasible as energy costs drive up the price of long-distance shipping, and the relatively weak dollar makes investment from both Europe and East Asia more likely.^{cxix}

Northern Plains Commerce Centre

Located in Bismarck, ND, the NPCC is a 243 acre industrial park and multimodal facility, offering regional businesses “a secure rail and storage yard, as well as equipment and staff for loading railcars and trucks.”^{cxix} Developed by the city of Bismarck in partnership with multiple agencies and companies, the NPCC utilizes over \$23.5 million in private investment^{cxix} from, among others, Bobcat, and Montana Dakota Utilities.^{cxix} Conceived as an “economic development asset to the region,” the NPCC is expected to “help the entire state address rail freight access challenges.”^{cxix} EDA funds were invested to upgrade and install support infrastructure to the joint public-private project. Major manufacturers, such as Bobcat, plan to use the facility, managed by Mallory Alexander International Logistics,^{cxix} to bring in parts and ship out completed projects in rail containers. The project is the “first and only privately owned (by Bismarck) and publicly opened BNSF Premier Transload facility,” which, unlike many such facilities, is open to all shippers.^{cxix} According the US EDA, the project has already surpassed expectations, creating a projected 1330 jobs, 30 percent above expectations.^{cxix}

Burle Business Park

Located in Lancaster, PA, Burle Business Park is a commercial and industrial park committed to “adaptive reuse.”^{cxvii} With over 1.3 million square feet of usable space, the park is home to over “30

companies of all kinds.”^{cxxviii} First opened in 1942 as a Navy installation, over the past 20 years it has been adapted and developed into a “cutting-edge technology park,” with a long term track record of success.^{cxxix} Working with a variety of partners, including economic development agencies and angel investors, the Burle Business Park works to offer “safe, secure, state-of-the-art facilities for organizations of all sizes that are looking for a site but do not wish to deal with the intricacies of navigating the real estate waters alone.”^{cxxx}

West Fargo Technology Center

A “public/private job creation initiative,” between the city of West Fargo, ND, and software developer Marcil Technologies, the West Fargo Technology Center will be “oriented to small technology and software companies”.^{cxxxi} Expected to create 30 to 40 high-paying tech jobs, the 20,000 foot center will adjoin Marcil Technologies offices.^{cxxxii} The city of West Fargo plans to invest in support infrastructure for the facility, in addition to providing a loan to facilitate the start-up process. West Fargo sees the facility as a way to provide primary-sector jobs, economic growth, and diversification to the local economy.^{cxxxiii}

Spec Buildings

It appears that some communities are choosing to finance the development of speculative buildings for their business and industrial parks through the use of private finance structures and public-private partnerships. As one noted in one article from 2002, the buildings have been “part of the economic development tool box for decades.”^{cxxxiv} Over the past several years, some economic development organizations have chosen to partner with private developers, who can finance, build, and market the structures. A recently completed project in Roane County, Tennessee, involved a series of three buildings “financed and built by the private sector.” The county paid for some needed infrastructure supporting the project (sewage lines), while a local construction company built the spec buildings. The project has been successful enough to justify “another agreement,” that, if exercised, “provides options for another series of three spec buildings”.^{cxxxv}

Conclusion

We believe that robust job creation – particularly in high wage blue collar fields – is far better for advanced economies as a whole, particularly as a nation’s population increases, than the slow-growth, elite investment model that has enjoyed recent popularity in Europe, the UK, and the US. Infrastructure investment is a key component of expanded employment. Rapidly growing areas must provide new roadways, sewers, communications linkages, state of the art business services, and reliable utilities to

keep pace with and encourage economic development. Infrastructure spending by itself cannot guarantee prosperity, but if it is neglected, opportunity also tends to lag.

Given the extraordinary allure of the “creative class” ideologies, a new ‘back to basics’ approach will require a departure from contemporary politics, which have focused predominately on redistribution of income. Indeed, much of what is now called “progressive” policy has diverged dramatically from the standards of traditional progressivism, and is often either indifferent or outwardly hostile to major infrastructure development.

Yet, as the recent economic crisis makes clear, the notion of a “creative” economy – epitomized by the financially and media driven economies of places like New York and London – should be critically reviewed. Deindustrialized economies seem likely to suffer the greatest consequences from the financial fallout.^{cxxxvi}

At the same time, those places best positioned to take advantage of this shift will be those that – in addition to high-end service sector capabilities – have amassed huge wealth through the expansion of energy, manufacturing and other ‘real’ sectors. These include Shanghai, Mumbai, and Dubai, all of which seem ready to take advantage of the current economic meltdown to assume a greater portion of the financial, media and other high-end service marketplace.^{cxxxvii}

In the end, this is the great irony of economic development: that power in the “real” economy also underpins long-term success in other, emerging sectors. This has been the historical pattern at least from the rise of Great Britain in the 19th Century, America in the first half of the 20th, the re-emergence of Europe after the Second World War, followed by the dramatic growth of Japan, Korea, Taiwan, Singapore in the late 20th. And finally, more recently, and perhaps ominously, we see the power of the energy or industrially based powers of China, Russia, the Middle Eastern states and India.

At the same time, an emphasis on culture as a primary industry has not proven to be very successful in America or in Europe. France, for example, has arguably the longest European experience with a culture-based strategy, yet its success in culture-based industries- from fashion and films to video games- has been weak compared to the US or India.

A powerful argument can be made that it is success in wealth-producing industries that has sparked cultural growth throughout history, at least in the West. The emergence of Florence, Venice, Amsterdam, London, and New York since the Renaissance has followed a predictable pattern of wealth accumulation through engagement in industry, followed by an efflorescence of cultural development in large part sponsored and supported by rising incomes in at least some portion of the population.

The ultimate lesson, particularly for the older industrial economies of Europe and North America, lies in a fundamental appreciation of the importance of basic industries and the infrastructure needed to sustain them. Those countries that focus on the basics can then use success there to bolster their long-term futures, not only in the traditional industries, but in those that will emerge over the coming decades.

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