





Chicago With 66.8 million passengers annually through Chicago O'Hare International Airport, business leaders from around the world come to Chicago as a hub for manufacturing and innovation. The transport web within Chicago is made for trade. Exports need massive transport logistics and infrastructure and Chicago's road, rail and air complexes are ideal for expanding trade. Source: Chicago Department Of Aviation

About HSBC Group

Founded in 1865 to finance trade between Asia and the West, today HSBC Group is one of the world's largest banking and financial services organizations. Headquartered in London, HSBC Group operates through long-established businesses and an international network of some 6,300 offices in 75 countries and territories. HSBC is the world's leading bank for international trade, financing approximately 10 percent of international trade flows in 2012.* Our global reach and expertise helps millions of customers – from small businesses to multinationals – unlock their potential.

The Chicago Council on Global Affairs

The Chicago Council on Global Affairs, founded in 1922, is an independent, non-partisan organization committed to educating the public—and influencing the public discourse—on global issues of the day. The Council provides a forum in Chicago for world leaders, policymakers and other experts to speak to its members and the public on these issues. Long known for its public opinion surveys of American views on foreign policy, The Chicago Council also brings together stakeholders to examine issues and offer policy insight into areas such as global agriculture, the global economy, global energy, global cities, global security and global immigration. Learn more at thechicagocouncil.org and follow @ChicagoCouncil on Twitter for updates.

About Made For Trade

HSBC Made For Trade is a national conversation with leaders in business, government, industry and academia about the role of global trade in today's economy. This national tour looks at the contribution of international flow of goods, services and capital to the U.S. economy, and the opportunities for American businesses brought about by global trade. HSBC Made For Trade stops in four U.S. cities whose economies have been shaped by global trade, and concludes in Washington, DC, where voices from around the country are brought together with national officials and thought leaders to discuss the policies to further promote the international flow of goods, services and capital.

Contents

Executive Summary	3
An Introduction to Chicago	4
The City and the Factory	6
Manufacturing and Trade	7
The Future of Manufacturing and Trade	11
Manufacturing's Strengths	15
Conclusion: A City's To-Do List	17
Appendix	18

EXECUTIVE SUMMARY

Chicago remains a center of industry, and it's a different sort of industry from its days as the "City of the Big Shoulders." Manufacturing in the post-industrial era is seen as a producer of innovation, as much as of products. The volume of growth by manufacturing companies coming to the region affects the city, its people and its exports.

Manufacturing dominates Chicago's trade. Despite two recessions, total exports from the Chicago region have more than doubled since 1997, with manufacturing accounting for two-thirds or more of the total. The role that manufacturing and trade play creates stability and growth opportunities for the Chicago region.

Manufacturing is Chicago's second leading industry, adding \$53.9 billion to the gross regional product (GRP).

- Manufacturing accounts for about 90 percent of Illinois' exports, amounting to \$63.2 billion in 2012.
- Manufacturing accounts for some 12 percent of the U.S. gross domestic product (GDP), making manufacturing even more significant for Chicago and the Midwest.

Today's manufacturing jobs go beyond traditional, assembly line manufacturing.

- Manufacturing pumped \$6.4 billion in direct wages into the six-county region including and around Chicago.
- Each manufacturing job accounts for a "spin-off" of another 2.2 jobs, adding approximately 800,000 more jobs to the economy.
- Chicago's community college system is being reformed to put a new emphasis on vocational and skills training for industry.

Chicago's greatest strength in manufacturing exports lies in the depth and experience of its business services.

- Services have risen from 20 percent of American exports in 1979 to about 30 percent today, according to the Bureau of Economic Analysis.
- Service exports are now more than \$500 billion per year and rising.

Midwestern manufacturing and manufactured exports will remain strong.

- Chicago remains the world's leading repository of sophisticated knowledge on manufacturing and intends to leverage that advantage.
- New production of inexpensive shale oil and natural gas are transforming the manufacturing picture by slashing costs for industries with big energy bills. The Chicago region is in the middle of this transformation, geographically and economically.
- Manufacturing will thrive on the strength of its research and development (R&D) in creating new processes and methods for the 21st century.

Chicago has room to expand.

- The city needs banks with an expertise in financing manufacturing, especially advanced manufacturing and start-ups and manufacturing trade.
- Most of all, the Chicago region and the Midwest itself needs to take an integrated regional approach to its global future.

Revival in the Heartland:

Manufacturing and Trade in Chicago

By Richard C. Longworth, Senior Fellow, The Chicago Council on Global Affairs
With support from Phil Levy, Senior Fellow for Trade and the Global Economy, The Chicago Council on Global Affairs

AN INTRODUCTION TO CHICAGO

"Here, mid-most in the land, beat the Heart of the Nation, whence inevitably must come its immeasurable power, its infinite, infinite, inexhaustible vitality. Here, of all her cities, throbbed the true life – the true power and spirit of America; gigantic, crude with the crudity of youth, brutal in its ambition, arrogant in the new-found knowledge of its giant strength, prodigal of its wealth, infinite in its desires."

So wrote Frank Norris in his novel, "The Pit", describing the Chicago of 1903. "Factories, their smoke blackening the sky, clashed and flamed," he wrote, a decade before Carl Sandburg put this prose into poetry and coined the epithet: "City of the Big Shoulders."

Manufacturing made Chicago. The city was a labor pool before it was a civilization. Its mills, stockyards and factories imported workers from Midwestern farms and Polish villages and exported the goods they made, some into that wider world, but more to the hungry markets of the American heartland. Industrial wealth created the city's symphony, arts, museums, libraries and universities. Saul Bellow, assessing the city's aspirations, said, "Culture in Chicago is the ransom the rich guys pay to their wives." The smoke and fumes from the mills turned the city's sky into an angry and carcinogenic cloud: to workers and their families, it smelled like bread on the table.

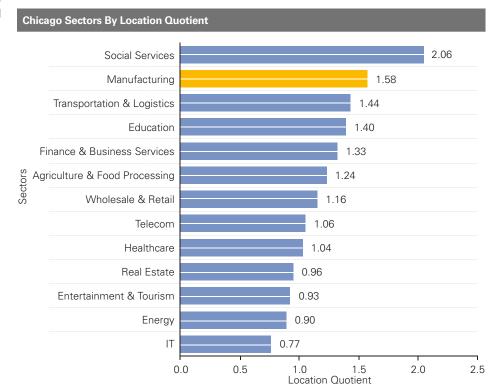
That was more than a century ago. Today, the stockyards are gone and most of the big factories are gone. So are most of the traditional workers from these industries. A recent book on Chicago and the post-industrial Midwest is entitled, "Nothin' But Blue Skies." The sky looks better but it doesn't smell of anything.

This is what most Chicagoans think when they think about manufacturing – that it is yesterday's story. They see the old,

throbbing, powerful industrial economy, exemplified by the South Side steelworker, replaced by a new global economy personified by the LaSalle Street trader or Loop lawyer. If they're parents, they know that high school guidance counselors are telling their sons and daughters to get a college degree because there aren't any factory jobs any more.

All these details are true. And they all add up to the wrong conclusion.

Manufacturing in Chicago – and in the Midwest in general – is still a powerhouse. In the global era, manufacturing remains Chicago's number one industry. Notably, it remains the single biggest driver of Chicago's trade – both its exports and



Manufacturing Is The Second Largest Sector In Chicago

Source: Provided by World Business Chicago using Bureau of Labor Statistics and Moody's Analytics data

Manufacturing in Chicago is an old heavyweight slugger, punching below its weight. Even if some heavy manufacturing has left, the city still knows manufacturing; it may be the single most influential center of manufacturing expertise on the planet.

imports. Manufacturing still supports hundreds of thousands of jobs – in factories themselves but also in shipping and logistics, in the manufacturing-focused business services that underlie Chicago's new status as a global city and in the myriad of "spin-off jobs" that manufacturing generates for the wider economy.

Manufacturing in the Chicago region, as powerful as it is, lags behind its potential. It produces a lot; it could produce more. It exports volumes; it could export more. It hires legions of workers; it could hire more. Manufacturing in Chicago is an old heavyweight slugger, punching below its weight.

The fact is that, in the years since Chicago stopped being the City of the Big Shoulders, much has changed, including manufacturing itself. High-tech manufacturing has taken the place of commodity manufacturing. Blast furnaces and assembly lines have been replaced – mostly – by labs and design shops. The city still imports parts and processes and assembles them or adds value and ships them on, as part of the new global flow of manufacturing. Even if some heavy manufacturing has left, the city still knows manufacturing; it may be the single most influential center of manufacturing expertise on the planet.

Public policy is catching up, most visibly in the announcement that Chicago is to be the site of a new government-sponsored Digital Manufacturing and Design Innovation Center. The current administration, led by Mayor Rahm Emanuel, has made "advanced manufacturing" its mantra. The city's economic plan for the future, produced by World Business Chicago, said that its number-one strategy is to "become a leading hub of advanced manufacturing." Emanuel has said he wants to double exports by small and medium-sized businesses in the next five years.

Definition of Location Quotient: (LQ) is a valuable way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region "unique" in comparison to the national average.

Export Snapshot: Evans Food Group

Not all exports into the global market are high-tech cell phones or massive earth movers, the product of rare metals or rolled steel. Sometimes a container leaving Chicago for foreign nations contain nothing more glamorous than the dried skin of a pig.

But for ninety workers at the Evans Food Group's plant on Chicago's South Side, these pork pellets are their contribution to the global economy. By truck or ship, they will end up in sixteen countries, most of them in Latin America, where they will be turned into pork rinds, also called pork cracklings.

When the United States joined Mexico and Canada in the North American Free Trade Agreement (NAFTA) pact, its negotiators probably didn't have pork rinds on their mind. Nevertheless Alejandro Silva, the chairman and CEO of Evans, said this pact, like the U.S.-Colombia Trade Promotion Agreement, has been a boon to his business.

"NAFTA has made unbelievable inroads into the export markets of all three countries," Silva said. "My exports (to Mexico) have doubled, easily. It's like Europe, like a common market."

The millions of Latin American immigrants to the United States, especially from Mexico, account for much of the company's domestic sales, he said. But these domestic sales are flat, he said. Exports account for 35 to 40 percent of Evans' output and are growing.

Mexico is a major export market for Evans' pork rinds, where they are a favorite snack or side dish. But Silva said he exports throughout Central America, the Caribbean nations, Colombia, and Venezuela. Pork rinds are a hard sell in some other Latin American nations, including Brazil, Argentina, and Uruguay, he said, as well as the Philippines, with its Spanish culture.

Chicago, in the heart of the American farm belt, is a natural location for any exporter of meat products. The Chicago Stockyards once dominated meat production in the Midwest, but the Stockyards left the city in the postwar years. Today, the region is dotted with major hog farms and big meat-packing plants, most of them in small towns, agribusiness giants such as Tyson and Cargill process hogs, turkeys, cows, and other livestock into a vast variety of meat products.

What's left is the skin, which goes to the Evans plant, where it is dehydrated and trimmed of its fat and turned into pellets. The exported pellets are loaded into containers and shipped by truck to Mexico or by ships to other destinations. Once there, they are rehydrated, processed through deep-fat frying, packaged, and sold.

Source: economicmodeling.com

THE CITY AND THE FACTORY

A History of Chicago's Industries

Chicago today is a center of global trade, a way-station in the global flow of money, people and ideas.

Go down to the shore of Lake Michigan, with the Chicago skyline towering behind you, and take a deep breath. What you get is the tang-less smell of an inland sea. No whiff of salt water, no briny sense of an ocean bringing waves and news from the great world out there. Jump in the lake and swim across, and you'll still be in the Midwest. Chicago is the heartland, irredeemably mid-continental, a long way away from another country.

For most of its history, this geography determined Chicago's destiny. The city accepted – even celebrated – its isolation in the center of the American land mass. Chicago became the heartland metropolis, the capital of the Midwest, the ruler of its inland empire. For most Chicagoans, that was enough. As William Cronon has written, Chicago created the Midwest and the Midwest created Chicago.

Chicago always traded with the world, but as an afterthought. In the last half century that has changed decisively. Chicago chose to reinvent itself following an exodus of some industries from the Midwest and, largely it has succeeded. It has become a global city, perhaps the only Western city with a legacy of heavy industry to make this transition. Today, it regularly ranks in the top ten among listings of global cities, behind New York but on a par with Los Angeles. The Economist devoted a special section to the city, called "A Success Story." Immigrants flow into Chicago. Neighborhoods like Wrigleyville are a magnet for college graduates from all over the Midwest. Increasingly, they are staying in the city even after they get married and have kids. The Loop glistens with new construction, bistros, and chic shops; surrounding it are lofts, universities, and new housing. In the River North area,

digital companies are springing up in and around the 1871 incubator project, run by young innovators who choose to live in the neighborhood. A similar project, centered on life sciences, is opening in Hyde Park, near the University of Chicago.

As to the revival itself, there are many reasons for it, and Chicagoans debate their relative merits. Even at its nadir, the city kept many of its corporate headquarters. and the first Mayor Daley made sure that the Loop stayed solid, even as the rest of Chicago slowed. As a result, a reviving Chicago, unlike many other cities, had a solid downtown core and a cadre of corporate leaders as a basis for rebuilding. Chicago exists because of its location at the foot of Lake Michigan, a natural crossroads of the nation's railways and highways, which remains true. Enhanced by O'Hare Airport, Chicago's role as a transportation hub is invaluable. The LaSalle Street markets remained: its innovations in currency and derivative trading may have been the spark that ignited the city's new economy.

But mostly, as the world discovered Chicago, Chicago discovered the world. Becoming a global city meant that Chicago had to go global. Midwestern food and raw materials remain important imports, but they're no longer so central to the city's industries. Today, parts and processes from around the world power those industries. Midwestern markets still exist, but in a shrunken form. Canada and China are where the export growth lies. The city still tries to lure companies to move from Indiana or Wisconsin, but the serious investment comes from abroad. But, still manufacturing and trade in manufactured goods remain almost as central to the city's economy, and its future, as they ever did.

MANUFACTURING AND TRADE

How Manufacturing Affects Chicago and Illinois's Trade

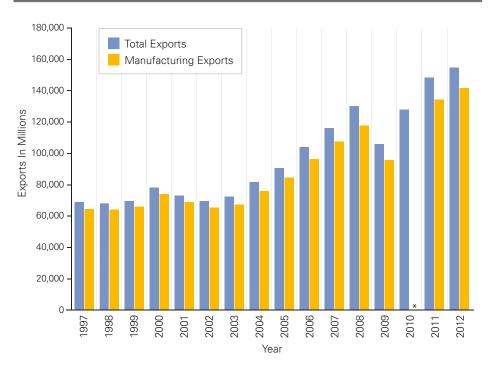
Without anyone much noticing, manufacturing has continued to dominate trade to and from Chicago. If anything, that impact has grown, even as manufacturing's share of total employment – locally and nationally – has declined. Both exports and employment declined in 2008 and 2009, with the onset of the recession. Employment has yet to get back to 2007 levels, but exports recovered swiftly and now are stronger than ever.

Chicago accounts for about two-thirds of the Illinois GRP and about three-fifths of its exports, despite the huge role played by major downstate exporters such as Caterpillar and John Deere. The varying statistics on the Chicago region's trade all tell the same story. The Federal Reserve Bank of Chicago, relying mostly on U.S. Census Bureau reporting, says that, despite the recession-related downturn, total exports from Illinois have more than doubled since 1997, from \$26.4 billion then to \$68 billion in 2012.

Over the years, manufacturing accounted for about 90 percent of Illinois' exports, amounting to \$63.2 billion in 2012. The leading exports were machinery (\$20.1 billion), chemicals (\$7.9 billion), transportation equipment (\$7.3 billion), computers and electronic products (\$6.2 billion), electronic equipment (\$3.3 billion), food products (\$3.1 billion) and fabricated metal products (\$3 billion).

The Brookings Institution, using its own analysis of figures from the Census Bureau and other agencies, puts Illinois' total exports considerably higher, at \$93.4 billion for 2013. This ranks it fourth among states. According to Brookings, the state's leading exports are agriculture, construction and mining





Exports From Chicago Have Steadily Climbed, With The Exception Of Recessions In The Early 2000s And 2009

Source: Provided by the Federal Reserve Bank of Chicago using U.S. Census Bureau data.

machinery (\$8.1 billion), general purpose machinery (\$4.6 billion), petroleum and coal products (\$3.8 billion), engine and power equipment (\$3.5 billion) and financial services (\$3.4 billion).

Brookings does the best job of narrowing this survey to metro areas, including the Chicago-Joliet-Naperville Metropolitan Statistical Area (MSA), a region that

extends into southern Wisconsin and into the steelmaking cities of northwestern Indiana.

The Chicago region exported \$66.2 billion in 2013, according to Brookings, a substantial increase from the \$53.9 billion exported in 2012. This placed it third among the exporting metros, behind Los Angeles and New York.

^{*2010} data for manufacturing exports is not available.

Exports: Chicago-Joliet-Naperville, IL-IN-WI

Exports, Billions, 2012

\$66.2

Rank Top 100 Metros:

4

Exports, Share Of Metro Output, 2003

7.7%

Rank Top 100 Metros:

53

Exports, Share Of Metro Output, 2012

12.6%

Rank Top 100 Metros:

39

Annualized Export Growth Rate, 2003-2008

7.5%

Rank Top 100 Metros:

52

Annualized Export Growth Rate, 2009-2012

7.0%

Rank Top 100 Metros:

40

Annualized Real Output Growth Rate, 2009-2012

1.6%

Rank Top 100 Metros:

54

Top Five Goods Exporting Industries, By Value And Share of Metro Exports, 2012

Petroleum & Coal Products - \$3,758.20 Million - 5.7%

Iron & Steel Products - \$3.645.30 Million - 5.5%

Engine & Power Equipment - \$2,931.80 Million - 4.4%

General Purpose Machinery – \$2,902.80 Million – 4.4%

Jewelry, Sporting Goods – \$2,450.70 Million – 3.7%

Top Five Services Exporting Industries, By Value And Share of Metro Exports, 2012

Financial Services - \$2,808.00 Million - 4.2%

Freight & Port Services - \$1,916.30 Million - 2.9%

Management & Consulting - \$1,906.50 Million - 2.9%

Air Transportation Services - \$1,514.40 Million - 2.3%

IT Royalties - \$1,185.80 Million - 1.8%

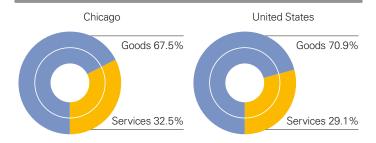
Top Three Gains In Exports, 2009-2012

Iron & Steel Products - \$1,117.5 Million

Jewelry, Sporting Goods - \$799.9 Million

Engine & Power Equipment - \$792.9 Million

Exports Composition, 2012 - Goods And Services



Source: The Brookings Institute analysis of data from Census, BEA, BLS, IRS, Moody's Analytics, and NAFSA

According to Brookings, manufactured goods accounted for two-thirds of the metro region's exports in 2013, valued at \$44.7 billion. The biggest goods were petroleum and coal products (\$3.7 billion), iron and steel products (\$3.6 billion), engine and power equipment (\$2.9 billion), general purpose machinery (\$2.9 billion), and jewelry and sporting goods (\$2.4 billion).

Services, at \$21.5 billion, accounted for

the other one-third of the metro exports in 2013. Financial services led this category, with \$2.8 billion in exports; while most export categories grew in 2013, financial services actually declined, by \$163 million.

Other leading export earners were freight and port services, reflecting the metro's huge logistics and transport facilities, and management and consulting services. Both earned about \$1.9 billion in the year.

In short, exports – especially manufactured exports – account for a major part of the Chicago region's annual income. But comparisons with other metros show that it could be doing better, much better.

Exports accounted for about 12.6 percent of the Chicago metro's annual gross domestic products in 2012, ranking Chicago 39th among the 100 biggest metros.

Chicago and other big cities with diversified

economies will never lead this ranking, which is dominated by places like Wichita, Kansas, where the economy rests on one exported product. Exports account for no less than 28 percent of Wichita's GRP, and aircraft account for 60 percent of that total.

By contrast, Chicago's top export earner machinery – accounts for only 14 percent of its total exports, putting it among the nation's most diversified economies. This diversification is a contentious issue in Chicago. Some critics mistakenly say that the city is doomed eventually to secondclass status in the global economy because it doesn't dominate any one area of that economy as, say, Los Angeles does in entertainment or London and New York do in finance: because of this. Chicago can never be the place to be to do business globally. Chicago's defenders say that this diversity is its strength - that "its niche is no niche." Chicago is better placed to ride out recessions because it has broad economic strengths that keep it afloat. Chicago may have been an industrial behemoth, but it had many other arrows in its guiver - its location, its food and pharmaceutical industries and its business services – that moved in to support the city when much of the heavy industry went.

Additionally, Chicago's export earnings are not growing as fast as those of other major metros. The Brookings figures show that the Chicago metro's exports grew at an annual rate of seven percent in the post-recession years of 2009-2012. Again, not bad. But not so hot on a national listing, where the region ranked barely 40 out of the top 100.

In total exports, Chicago ranks near the top of American cities, according to the Brookings figures. It ranked third in 2012 and fourth in 2013. Houston, the center of the nation's oil industry, ranks first and, so long as oil and chemical exports remain a key to the global economy, shows no sign of being dislodged.

The day is long gone when Chicago traded in pork bellies and slab steel, and this transition from sheer industrial muscle to advanced industries is vividly reflected in the region's trade patterns.

American meatpacking has moved from the Chicago stockyards to the scattered slaughterhouses of the Great Plains. Much of what's left of America's integrated steel industry has shrunk to three giant mills in northwest Indiana, along the southern shore of Lake Michigan and well within Chicago's economic region. However, they specialize in high-grade, light-weight and sophisticated forms of steel, not the mass production of crude steel of yore.

Unlike many other major metro areas, Chicago relies on these advanced industries to keep balanced trade. Indeed, it runs a \$25.3 billion annual surplus in its domestic trade balance – the fifth highest in the nation – largely through its exports of chemical and metals. Internationally, it runs a slight deficit. But that deficit contributes to the city's trading prowess because much of it consists of fuel oil, metallic ores, agricultural products, textiles and wood products – all raw materials for the products that the city makes and ships out.

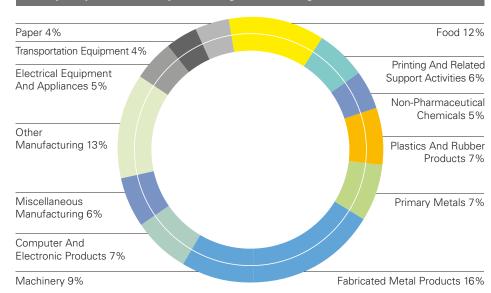
These products lead the list of Chicago exports. The region's trade in

pharmaceuticals accounts for a \$31.5 billion surplus followed by metals, at \$12.1 billion, machinery/tools at \$6.7 billion and transportation equipment, at \$5.8 billion. Many of the companies involved in this trade—Baxter and Abbott Laboratories, Navistar, Illinois Tool Works, Motorola—are both the civic and industrial leaders of the city and the region.

In all, Chicago runs a \$44 billion annual surplus in advanced industry (AI) commodities, second in the nation only to Los Angeles. Brookings Institute sums it up this way:

"A traditional Midwest powerhouse of production, metropolitan Chicago is home to a variety of industries and infrastructure assets that connect it to the global marketplace. Although Chicago serves as an international center of finance and commerce, the metropolitan area maintains strength in advanced manufacturing and freight coordination, developing a colocation that helps contribute more than \$65 billion annually to its gross regional product. The proximity of factories,

Industry Composition Of Metropolitan Chicago Manufacturing Jobs, 2011



Chicago Has A Diverse Manufacturing Industry

Notes: "Transportation equipment" includes all motor vehicles and parts, aerospace, and rail and other transportation equipment.
"Miscellaneous Manufacturing" consists of a variety of industries that are not part of other industry categories. It includes, among other things, some medical devices, jewelry, silverware, toys, signs, and office supplies.

"Other manufacturing" includes furniture, wood products, beverage and tobacco products, pharmaceuticals, petroleum and coal products, nonmetallic mineral products, apparel, textile product mills, and leather.

Source: Author's analysis of Moody's Analytics data.

ports, warehouses, rail lines, and related establishments give Chicago a strategic advantage during the production process, making it easier to add value through specialization, benefit from a large labor pool, and direct access to other markets. With a focus in machinery, metals and chemicals, Chicago operates at an enormous scale of production and is relatively balanced in its goods trade."

It's logical to assume that the nations that lead the list of a city's top trading partners would also be the nations that supply most of that city's foreign direct investment (FDI) – that a leading partner in one area would also be a leading partner in another. In Chicago's case, that's only partly true. FDI in Chicago seems to have more to do with tradition, while trade has more to do with geography.

According to World Business Chicago, the city's leading trade partners in 2013 were:

- 1. Canada, with \$60.1 billion
- 2. China, with \$31.4 billion
- 3. Mexico, with \$19 billion
- 4. Japan, with \$9.9 billion
- 5. Germany, with \$7.7 billion

By contrast, the biggest investor country in Chicago has been Britain.

- 1. Great Britain, with \$2.4 billion
- 2. Canada, with \$353 million
- 3. Japan, with \$276 million
- 4. Ireland, with \$268 million
- 5. France, with \$239 million

Neither China nor Mexico ranked in this FDI listing. This listing reflects the fact that Chicago has long-standing economic ties with Canada, a neighboring nation, and with other developed nations. China and Mexico,

Gross Regional Product (GRP) measures economic output in the region spanning Milwaukee through Michigan City and the four counties of northwestern Indiana.

both developing nations, are more fruitful sources of trade than of FDI. The city is actively courting Chinese capital but most Chinese FDI so far has gone more to Africa, the Mideast and Central Asia than to North America.

As part of his long-range economic strategy, Chicago Mayor Rahm Emanuel has announced a campaign to double exports by the city's small and mediumsized businesses (SMEs) in the next five years. As Emanuel said, only five percent of Chicago's 100,000 small businesses export, "so we are missing an enormous opportunity for our businesses." Doubling their exports, he said, would create nearly 100,000 new jobs, most of them well-paying.

To this end, Emanuel said he wanted to:

- Link an Export Initiative to the city's Sister City Program. Chicago has Sister City relations with 28 cities around the world, and is working now to strengthen those ties and link them to economic cooperation. Until now, though, most of these relationships have been sleepy at best, with little serious attempt to turn the relationship into a basis for business or investment.
- Establish a new partnership with the federal Export-Import Bank, to turn that into a source of increased trade participation by SMEs.

- Break down bureaucratic red tape at City Hall and streamline civic aid to these companies.
- Strengthen the city's export infrastructure.
- Do a better job of training workers for export-intensive industries.

An increase in trade activity by SMEs has been a mantra in Chicago for decades, with little to show for it. Ever since the era of the first Mayor Daley, the city government, its economic development arms and federal trade officials have stressed the need for small business to become more involved in trade. That need is all the more evident now, with the growth of markets in China and other developing countries and the relative stagnation in domestic economic growth.

But the same barriers exist now as then. A major one is psychological: a small company is easily daunted by the challenge of moving out of its domestic comfort zone into the strange new world of global commerce. Many of these companies are managed by an owners who are already working flat out to cope with the demands - of workers, suppliers, customers - facing them. Few have any in-house expertise of foreign markets or the funds to hire this expertise. Most struggle to get bank financing for their domestic operations and doubt they could get the loans necessary to establish a global presence. The government – especially the state of Illinois - has trade offices abroad and regularly runs foreign trips for businessmen, but the average small business can't afford the time to take advantage of these services.

None of this is insurmountable. But these barriers are enough to discourage many business people from even trying to scale them.

THE FUTURE OF MANUFACTURING AND TRADE

Manufacturing's Evolution Through the Technology Revolution

Clearly, given the dominant role that manufactured goods play in Chicago's total exports, the health of that export economy depends on the health of the region's manufacturing. Civic leaders are beginning to focus on this sector. In particular, they are stressing that the huge heavy industrial economy of old must be replaced and renewed by "advanced manufacturing." The trouble is that nobody is quite sure what advanced manufacturing means.

"Advanced manufacturing" is one of the urban economic buzzwords of the day, in Chicago and elsewhere. A paper by World Business Chicago, entitled "A Plan for Economic Growth and Jobs," laid out 10 key strategies at the start of Mayor Emanuel's term. The so-called "Strategy 1" was: "To become a leading hub of advanced manufacturing."

He said:

"Advanced products and processes preserve U.S. manufacturing competitiveness and help create high-quality jobs. Chicago's massive manufacturing base and historical strength in the sector position it well to move into advanced manufacturing, by introducing advanced technologies and processes and developing the right workforce to operate them."

It listed four "key components" of this strategy:

- 1. Accelerate growth in advanced manufacturing industries in which Chicago specializes.
- 2. Help low-growth legacy manufacturers to repurpose assets and adopt advanced technologies.
- 3. Expand workforce training programs to give workers the skills that manufacturers seek (but struggle to find).

4. Make a clear commitment to support the region's manufacturers, in word and deed, through initiatives and more consistent and efficient zoning, permitting, and other business practices.

This would be clear enough, if advanced manufacturing itself was more clearly defined. At the moment, it has so many definitions that it has almost become meaningless, except for an applause line for economic boosters.

Some define "advanced manufacturing" as the making of revolutionary products, such as cell phones. Others see it as the use of high technology, especially robots, to do the jobs that people used to do. For many people, it's any industry more modern than the textile mill featured in "Norma Rae." Ned Hill, an economist at Cleveland State University, quips, "an advanced manufacturer is anyone who survived the recession."

The President's Council of Advisors on Science and Technology defines "advanced manufacturing" as "a family of activities that (a) depend on the use and coordination of information, automation, computation, software, sensing and networking, and/ or (b) make use of cutting edge materials and emerging capabilities enabled by the physical and biological sciences, for example nanotechnology, chemistry, and biology. It involves both new ways to manufacture existing products, and the manufacturing of new products emerging from new advanced technologies."

World Business Chicago, in its "Plan for Economic Growth and Jobs" appended a footnote that is probably as useful as any:

"Advanced manufacturing is neither an industry nor a cluster: industries and clusters are not 'advanced:' the technologies and production processes they use are. Also, the 'advanced' imperative is not the same for all industries and firms: different industries have different opportunities to become more advanced, and not all can adapt technologies to increase productivity sufficiently to remain competitive domestically. Finally, 'advanced' means different things for different metropolitan areas depending on their position in the value chain. Not all metropolitan areas make semiconductors. medical devices and airplanes, but what they do make is still important to global supply chains and has the potential to be produced in more advanced ways."

This is a definition that probably plays better in Chicago than in San Jose. Chicago makes machinery, not semiconductors. After all its post-industrial sorting out, it still relies on traditional industries, such as metalworking and chemicals. These industries remain as central to the Chicago economy as they did in the first half of the 20th century, but their incarnations today bear no more resemblance to the old smokestack industries than a roomful of automated looms bears to the textile mill of "Norma Rae." As World Business Chicago says, an "advanced industry" in Chicago is not a brand new industry, but simply one that has adopted different processes and technologies.

"We see it as an entire ecosystem, rather than as individual industries," one World Business Chicago analyst said. Another definition tries to categorize high-technology industries as "very high technology," which are industries where science and engineering occupations as a percentage of total industry employment are at least five times the national average, and "moderately high technology," where these occupations are between two and five times the national average. Very high technology industries, according to a Brookings paper called "Locating American Manufacturing," are computer and electronic product manufacturing, pharmaceutical and medicine manufacturing and aerospace product and parts manufacturing. In each, according to Brookings, science and engineering occupations make up at least 30 percent of the workforce. "Moderately high technology" industries include petroleum and coal manufacturing, chemical manufacturing, transportation equipment manufacturing other than cars and car parts, and aerospace, machinery manufacturing and electrical equipment.

By this ranking, the Chicago region specializes in "moderately high technology" manufacturing, except for pharmaceuticals. The Center for Urban Economic Development at the University of Illinois at Chicago, in a paper by Howard Wial, said that the region's specialization in "very high technology," as measured by the percentage of its jobs compared to the national average, was below average, at only 0.77 percent of this national average: jobs in "moderately high technology" industries, by contrast, got a 1.21 rating, above the national average.

The region's leading industrial employers, Wial said, are fabricated metal products (with 16 percent of the region's manufacturing jobs), followed by food, machinery, primary metals, plastics and rubber product, computer and electric products and printing.

These rankings are based on the number of jobs they provide - no small factor, considering the pressure on the governments of the city and region to create and keep the kind of well-paying jobs often found in industry. Manufacturing

Goods Trade: Chicago-Joliet-Naperville, IL-IN-WI

How Much Does The Metro Trade?

Total Goods Trade

\$657.7 billion

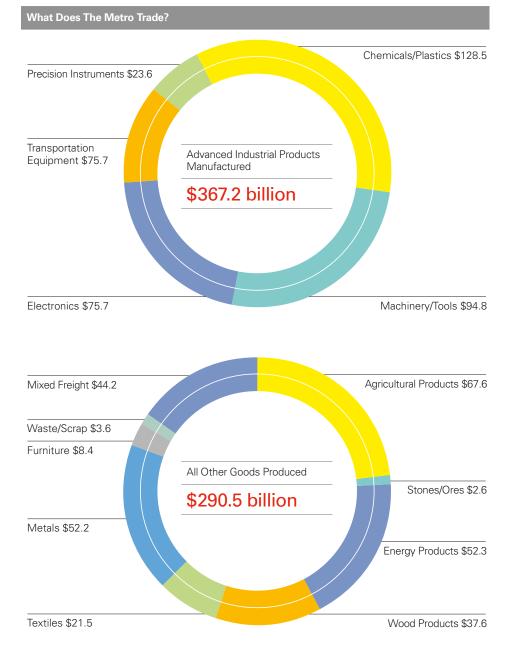
Rank Across 100 Metros: 3

Where Does The Metro Trade?

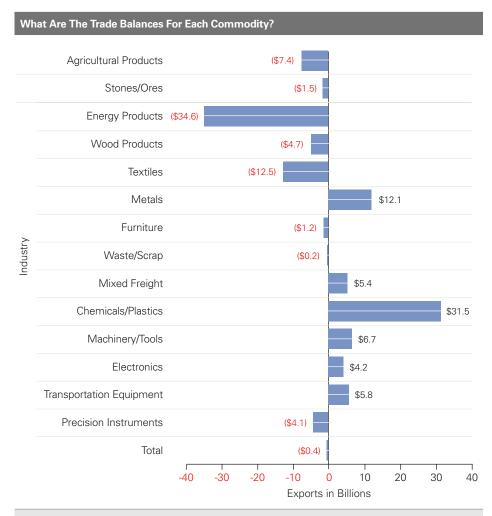
Internation Trade Share

14.9%

Rank Across 100 Metros: 40

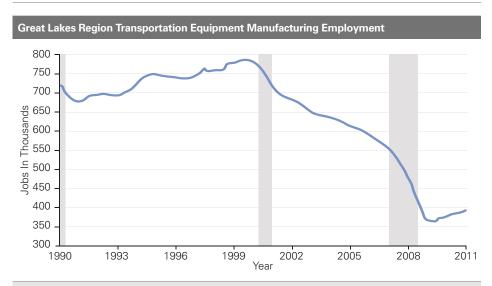


Source: The Brookings Institute analysis of data from Census, BEA, BLS, IRS, Moody's Analytics, and NAFSA



Chicago's Export Clout Would Be Insignificant Without Manufacturing

Source: The Brookings Institute analysis of data from Census, BEA, BLS, IRS, Moody's Analytics, and NAFSA



Employment Decreases As Technology Makes Processes More Efficient

Source: Provided by the Federal Reserve Bank of Chicago using Bureau of Labor Statistics and Haver Analytics data. Gray areas indicate periods of economic recession.

is a real and growing force in the region's economy that cannot be solely judged by its performance in jobs.

The city's export clout would be insignificant without manufacturing. Locally, manufacturing adds \$53.9 billion annually to the region's gross product, according to World Business Chicago; transportation and logistics add another \$17 billion to the RGP. If manufacturing is a major factor nationally, accounting for some 12 percent of the U.S. GDP, it is even more significant in Chicago and the Midwest. Manufacturing here has a Location Quotient (LQ) of 1.58 and transportation and logistics has an LQ of 1.44; this means that both are about half again as important to the Chicago economy as they are to the national economy.

In addition, Wial says, each manufacturing job accounts for a "spin-off" of another 2.2 jobs in the economy. This includes jobs in locally based suppliers and in business services, such as accountants, that serve these industries.

In short, manufacturing is the new agriculture. A century ago, both farming and industry powered the Midwestern economy, with small farms and big factories creating the jobs that underpinned the region's towns and cities. Manufacturing employment kept rising past mid-century, but farm employment has been declining steadily over the decades. As technology enabled individual farmers to till ever more acreage, the size of the average Midwestern farm has doubled about every generation, and agriculture now employs only two percent of the region's workers. Farming remains a force in the Midwestern economy, largely through exports.

The same is true for manufacturing. One cannot judge the importance of manufacturing to the Midwestern and Chicago economies by the number of people it employs. That employment figure is going down, and will probably keep going down, even as manufacturing itself becomes ever more important.

One reason for the job decline, of course, is that same force that has undermined farm jobs – technology. As advanced machinery took over jobs done by humans, assembly line employment naturally dwindled. But this decline was an uneven one, steep at times, flat at others, subject to external pressures that had little or nothing to do with technology.

William Testa, the vice president and director of regional research for the Federal Reserve Bank of Chicago, has charted this decline. During the 1970s, he says, various recessions caused sharp declines, but these were followed by recoveries that restored employment almost to previous levels. With each downturn, the dip became a little lower and the recovery not quite so high.

The recession in the early '80s eliminated more than a million Midwestern manufacturing jobs, or more than 20 percent of the total. The subsequent recovery restored a couple hundred thousand jobs. As Testa has written, there was more going on than just a recession:

- An increase in the value of the U.S. dollar hurt exports.
- International competition (especially from Japan) hit such industries as steel, auto, construction machinery and TV/ radio hard.
- The farm economy suffered its debt crisis in the early '80s, killing demand for the farm machinery that the region produces.
- The move of industry especially autos and auto parts – from the Rust Belt to the Sun Belt, which began in the 1960s, continued.

In the 1990s, manufacturing turned in a robust performance but employment stayed flat, never returning to its 1980s levels, Testa said.

Off-shoring of assembly line work and commodity manufacturing hit the Midwest where it was fat, and the jobs – in cars,

auto parts, steel, and other major industries – simply evaporated. The Great Recession, starting in 2008, removed hundreds of thousands of jobs, but this only continued a downhill slide that began in 1999.

In 1998-2010, manufacturing in the Great Lakes region shed fully one-third of all its jobs, tumbling from a 1998 peak of 4.2 million jobs to only 2.7 million by 2010. A slight recovery since then has added some jobs, but nowhere near enough to make up for the losses over the previous decade.

There is some anecdotal evidence of manufacturing and manufacturing jobs being re-shored from abroad. As the Boston Consulting Group (BCG) has reported, a number of factors – rising Chinese wages, transportation costs, quality control problems – are leading manufacturers to bring some manufacturing back to the U.S. The BCG predicts this trend will create 2.5 to five million jobs in this country by 2020 – many of them presumably in the old industrial cities of the Midwest.

So far, this seems exaggerated. If some manufacturing is coming back, most manufacturing jobs aren't. The fact is that reshoring manufacturers are returning to a very different country than the one they left. Highly-skilled workers are leading manufacturing's growth now; the old commodity manufacturers employing legions of workers are gone.

Of particular importance to this report is the indication – inconclusive, so far – that much of the reshoring involves manufacturing for the domestic market. The global trend now appears to be leading manufacturers to set up production facilities as close as possible to their markets. When American manufacturers first off-shored their production, all their production – both domestic and export-driven – was affected. So far, it appears that manufacturing for the overseas market will stay overseas: factories in China will continue to produce

for the Chinese market. But some production for the U.S. or North American market may be returning. Employment and production by U.S. automakers has been growing, but mostly for the American market. Thomas Klier, the automotive expert at the Chicago Federal Reserve Bank, notes that most of the actual reshoring of car-making is going to Mexico, which now accounts for 19 percent of the North American car market, three times its share in 1990.

As Testa wrote: "The reshoring of manufacturing activities to the U.S. has been highly touted over the past two years, even though the evidence for it has been scarce. As skeptical analysts and journalists alike have indicated, if reshoring were taking place on a large scale, we would expect to see improvements in the U.S. balance of trade in manufactured goods with the rest of the world." In fact, the U.S. balance of trade in 2013 did shrink, but mostly because of oil exports: the trade deficit in manufactured goods actually grew.

The pattern in Chicago and its region resembles that for the Midwest as a whole. In 2001, there were 329,229 manufacturing jobs in Cook County, which includes Chicago. No other single industry employed so many. By 2012, this had shrunk to 194,189 jobs, and other areas of the economy, such as health and social administration, retail trade or tourism, far surpassed it.

While manufacturing provides fewer jobs, those that are left tend to be good jobs. Even in its shrunken state, manufacturing pumped \$6.4 billion into the six-county region in direct wages. Only one other category – professional, scientific, and technical jobs – had a bigger total payroll, and these are largely jobs for college graduates and pay nearly twice as much as factory jobs.

MANUFACTURING'S STRENGTHS

Manufacturing Will Thrive if the Focus Switches to New Priorities

What is the outlook for manufacturing and manufacturing exports in Chicago and its region? In the short run, the region could do a lot better. In the longer run, the prospects are surprisingly bright, provided Chicago plays its cards right.

William Testa, one of the region's most respected economists, said the growth of the global economy portends continued growth in Chicago-area manufactured exports. The reason, he said, is that developed countries always trade actively with each other. Traditionally, America's leading trading partners have been developed countries such as Canada or the West Europeans. As Asian and Latin American economies boom and modernize, they too will be more active trading partners with the United States, Testa said. As one of the nation's leading exporting cities, Chicago stands to benefit from this trend, he said.

In addition, he said, Chicago will gain from its new status as a global city and host to a meeting of the global minds. In the old days, he said, coal and corn used to be sent to Chicago in freight cars for processing. These days ideas come here for processing, carried by global CEOs and experts, making the region a hub for innovation. More global headquarters and major branch offices will come to the city, Testa said, to be near its business services, airport and entertainment. Testa cited the recent decision by Archer Daniels Midland, the giant agribusiness firm, to move its headquarters to Chicago while keeping the center of its manufacturing operations - for

Ideas come here for processing, carried by global CEOs and experts, making the region a hub for innovation. Chicago remains the world's leading repository of sophisticated knowledge on manufacturing.

now – in Decatur, a small city 180 miles to the south.

Reshoring will continue, Testa said, adding manufacturing clout if not jobs. Apart from the shrinking wage gap and quality problems, he cited the convoluted politics in many countries, including China and India, which make it hard for American companies to repatriate funds.

Howard Wial agreed that manufacturing will remain strong in the Chicago region, if only because it's growing now. If the rest of the nation is shedding manufacturing jobs, Wial said, Chicago is holding on to more than most. Manufacturing's percentage of all metropolitan Chicago jobs rose from 1.08 times the national percentage in 2001 to 1.11 times that percentage ten years later, he said.

George Erickcek of the Upjohn Institute cited other factors that should keep Midwestern manufacturing and manufactured exports strong. One is the sheer size of the American market. Another is the transport web centered on Chicago, which has always lived off its location. That location isn't going to go away, for either goods or services. Goods need the massive transport logistics of Chicago's road/rail/air complex, and services tend to focus in Chicago, as in other global cities, because its giant O'Hare International Airport and location make it a natural venue for the face-to-face meetings that the global economy generates.

One other factor that experts mention is the energy revolution in the U.S. From North

Dakota to Pennsylvania, new production of inexpensive shale oil and natural gas is transforming the manufacturing picture, by slashing costs for industries with big energy bills. The Chicago region is in the middle of this transformation, geographically and economically.

Much of manufacturing's future depends not on the broad backs of the factory hands of old but on the minds and talents of today's researchers. If manufacturing is going to thrive, it will be on the strength of its R&D creating new processes and methods for the 21st century.

Michigan and its much-maligned auto industry is an example. As employment on the assembly lines there has declined, employment in labs has soared. No less than 22 percent of Michigan's auto employment is in R&D. According to the Chicago Fed, the R&D intensity of automotive manufacturing as a share of the industry's value added is 15.3 percent, compared to 9.2 percent for all manufacturing and only 1.7 percent for all private industry. If Michigan doesn't make as many cars as it used to, it still knows cars and is building on that historical knowledge.

The same holds true for Chicago. It remains perhaps the world's leading repository of sophisticated knowledge on manufacturing, and intends to leverage that advantage. This is one reason for the city's rapturous reception of the news that it had been chosen as the site for one of the manufacturing institutes being established across the country by the Obama administration. The institute, to be called the Digital Manufacturing and Design Institute, is backed by \$70 million in federal money and some \$250 million in corporate and university investments - 23 universities and 40 corporations, so far. Its purpose is to be an idea factory for advanced manufacturing, by building on the city's historical manufacturing base.

The name of the new game is innovation, which is one reason it will be located on Goose Island, and practically next door to 1871, the River North incubator for digital startups. It is dawning on Chicago that it is a center of innovation, a prosaic, but profitable source. Old manufacturing companies such as Caterpillar and Illinois Tool Works generate as much innovation and as many patents as most computer companies, and that's how they stay in business. A recent survey by Crain's Chicago Business listed companies, many of them startups, that are thriving on the basis of inventions aimed to help manufacturing or pharmaceuticals. One such company creates new supports for buried telecom cables. Another makes magnets to help heat buildings. Another made a better, safer football helmet.

Chicago's expertise in manufacturing, especially in manufacturing exports, may lie in the depth and experience of its business services. As William Testa has written, services have risen from 20 percent of American exports in 1979 to about 30 percent today, according to the Bureau of Economic Analysis. Although service exports statistics are admittedly imprecise (see appendix), the trend seems clear: service exports are now more than \$500 billion per year and rising.

"The U.S. has tended to specialize in manufacturing industries that are also skill intensive, such as capital goods machinery and aerospace," Testa wrote. "As many developing countries continue to grow, they are likely to need just such skill-intensive services." Chicago, in particular, is well placed to take advantage of this "because of its strong position and linkages in business and professional services, its corporate headquarters of multinational companies, and its worldleading risk contract exchanges and clearing operations."

Export Snapshot: Ingredion Inc.

So long as the world needs sweeteners and starches, they will flow into global markets from Illinois based Ingredion Inc. The company has been at it for more than a century.

Ingredion is a global corporation making sweeteners, starches, syrups, dextrose, and similar products destined to become ingredients in the products - food, pharmaceutical, industrial – of other companies. For most of its 108-year history, it was known as Corn Products Refining Co., later Corn Products. The name change two years ago, to Ingredion, reflected the fact that it used products other than corn, and that it makes ingredients for others to use.

Many ingredients that Ingredion sells abroad are made abroad, in facilities in 15 countries. But it also is a major exporter. Company officials say that Ingredion exported more than 10 percent of its American output in 2013. Of this, more than half was produced in the Chicago region and shipped from there. The ratio rises to more than three-quarters if production from its Indianapolis facility is included.

Altogether, Ingredion has customers in more than forty countries. Its major non-U.S. markets are Mexico, Canada, and Brazil, but it has facilities in other nations.

Many exports go to countries where there is insufficient demand to justify local manufacturing, the officials said, possibly an emerging market where the middle class is just growing. Exports to such a country would meet local demand. More importantly, it could stimulate demand and perhaps grow the market to the point where an Ingredion manufacturing facility would be justified.

Ingredion does not ship blind into these markets, the officials said. In such places, so-called "application groups," mostly technical people with an educational function, collaborate with customers on how to incorporate Ingredion's products into their own products.

Ingredion's market in China is growing, the officials said, especially since 2010, when it bought National Starch, a Dutch-owned firm with a presence in China.

Ingredion, a publicly-owned company, is based in suburban Westchester. It has been led since 2009 by Ilene Gordon, one of the few women leading a Fortune 500 company. Since taking over, Gordon has doubled Ingredion's market cap to more than \$5 billion, with sales last year of \$6.3 billion. For the past eight years, it has belonged on the Fortune list of World's Most Admired Companies.

Ingredion exports from Chicago, especially from its suburban Bedford Park facility, by rail, truck, and intermodal transport. The officials said this involves the company in the notorious rail congestion in Chicago, where goods meant to be sped to foreign markets spend hours and days crawling through the city's transport maze. Many suggestions have been made to unsnarl this traffic, but it remains.

The officials also praised trade pacts with other counties as "extremely helpful" and even "essential." The North American Free Trade Agreement and the recent pacts with Colombia and Central America are examples. But they stressed that these pacts, once signed, need to be enforced, to ensure that free trade remains fair.

CONCLUSION: A CITY'S TO-DO LIST

Chicago's Path to Future Growth

The future for Chicago's manufacturing sector and for its manufacturing exports appears bright. In a competitive world, there still is much the city needs to do to make this future happen.

Much depends on the success of focused innovation efforts, such as 1871 and the digital manufacturing laboratory. Chicago's community college system is being reformed to put a new emphasis on vocational and skills training for industry.

Testa and others have stressed the need for new international trade agreements, and enforcement of those agreements, to overcome barriers to service trade in many emerging countries, such as China, India and Indonesia. These barriers include occupational standards and licensing procurement favoritism and violations of intellectual property. Testa quotes an assessment by the Council of Economic Advisors that these barriers equal a 60

Most of all, the Chicago region – and the Midwest itself – needs to take an integrated regional approach to its global future.

percent tariff on service exports to some countries. In this context, the outcome of current negotiations on the Transatlantic Trade and Investment Partnership (TTIP) and the Trans-Pacific Partnership (TPP) will be crucial.

Given the apparent importance of services exports, it would be useful to know just how big these exports are and what they contribute to the economy. Chicago and its congressional delegations could push

for more funding for the Census Bureau and other government agencies that track trade.

Finance, both for manufacturing and for trade, also is vital. The Chicago region's fund of venture capital is growing, but still lags far behind that on the two coasts. This being the case, the city needs banks with a mission to finance manufacturing, especially advanced manufacturing and start-ups, and manufacturing trade.

Most of all, the Chicago region – and the Midwest itself – needs to take an integrated regional approach to its global future. The eight states in the upper Midwestern region – even the four states that share the single economic region around the foot of Lake Michigan – battle each other constantly to lure companies from each other, instead of leveraging their economic and intellectual assets to strengthen the region as a whole.

APPENDIX

A note of caution: all trade statistics need to be seen with a skeptic's eye. Scholars working on trade all complain about the paucity and unreliability of trade figures, including figures issued by the federal government. Consistent methodology can portray trends and relative trade flows with some reliability, but statistics cited in official releases and scholarly reports, including this one, cannot be assumed to be exact.

As one World Business Chicago expert said: "There's a whole lot going on that we don't measure very well."

There are several reasons for this. One is the sheer super-charged flow of goods through the global economy - what is called the global value chain. Workers in a dozen nations may be involved in the production of a computer, a car or a backhoe. Each nation provides value added to the product. The size of this value added will be reflected in that nation's export figures, which may (or may not) be rigorously sourced and may (or may not) jibe with the export calculations of the next nation down the value chain. Often, the export figures reflect the total value of the product, even though much of that value may have originated in other nations along the chain.

"Traditional measures of trade record gross flows of goods and services each and every time they cross borders leading to what many describe as a 'multiple' counting of trade, may lead to misguided policy measures," Nadim Ahmad, head of the trade and productivity section in the statistical directorate of the Organization on Economic Cooperation and Development (OECD), has written.

In short, trade is global but accounting is national. The way we measure trade dates from an earlier era. Ahmad said he was issuing "a clarion call to statistics agencies that the world is increasingly interconnected and that conventional approaches used to understand how economies work can no longer rely solely on national statistics."

The OECD and the World Trade Organization (WTO) have begun work to develop a global database, but this doesn't exist yet.

This statistical confusion is as much of a problem in the United States as in other countries. Susan Houseman, senior economist at the Upjohn Institute in Kalamazoo, Michigan., is a leading critic of the problem. Many American exports, she notes, are the result of the assembly of imports imported from other countries,

which may or may not be accurately counted. She cites the fact that diamonds are the single leading export from New York state, even though no diamonds are mined there: the export values owes everything to the diamond cutters on West 47th Street. Closer to home, she notes that many of Chicago's exports were made elsewhere in the Midwest and sent to Chicago to be exported: "the value added for Chicago is its transportation facilities, and that's it," she says.

The export of business services is another vague area – one that may be undercounted, instead of over-counted. By their nature, many business services are hard to quantify: a useful phone call from a Chicago consultant to a Canadian client may or may not end up in the figures. Most scholars say that services account for about 25 or 30 percent of manufacturing exports, but this is an estimate.

The Brookings Institution issues what are perhaps the best trade statistics for American cities and metro areas. The federal Bureau of Economic Analysis (BEA) issues national trade statistics, the Census Bureau of the Commerce Department, together with the International Trade Administration, issues exports from metro areas. Brookings uses these statistics

but says it reinterprets those statistics to provide a more realistic picture. The Census Bureau, it says, based its export figures on "origin of movement," meaning that exports are imputed to the place from which they ultimately leave the country. Brookings says this ignores the fact that many of these exports may have come from elsewhere, as so many Midwestern products come to Chicago to be exported. Brookings says it "allocates national export values by industry based on county output in that industry." If Austin, Texas produces five percent of the nation's electronics output, it says, "it is assumed that the Austin metropolitan area also produces five percent of the nation's exports of electronics." As Brookings concedes, this is an "assumption," but many scholars feel it comes closer to the real situation.

This can make a huge difference. The Census Bureau reported that Chicago ranked seventh among American metros in exports, behind Houston, New York, Los Angeles, Detroit, Seattle, and Miami, all coastal or border cites. By Brookings ranking, Chicago advanced to third place nationally, behind Houston and Los Angeles, reflecting the fact that relatively more of what the city exports is actually made here.

Houseman and many others say it's going to take more than some tweaking of the data to correct this problem. What it's going to take, they say, is money - that is, a new willingness by Congress to fund the number crunchers at the BEA and the Census Bureau. The European Union, recognizing the inconsistencies in its trade figures, is moving to rationalize them: this job is made easier by the fact that trade policy and trade negotiations for all 28 EU nations are centralized in Brussels. Congress never has funded this function properly, and the sequestration of funds by a budget-cutting Congress has only made the situation worse.

European history also encourages the EU to give this data more attention. Europe historically is a continent of relatively small neighboring nations that have always traded with each other, while the United States could rely on its huge continental market. As a result, trade between countries has always accounted for more of the Europeans' GDP; until recently, the U.S. barely ranked as a major trading nation. This is one reason why the social safety net in most European countries is stronger than in the United States, and it explains Congress' general disinterest in knowing exactly where American goods go to and come from.

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