GLOBAL CITIES INITIATIVE

A JOINT PROJECT OF BROOKINGS AND JPMORGAN CHASE

EXPORT PLANNING

MARKET ASSESSMENT GUIDE

The market assessment is the foundation of a metropolitan export plan. It should demonstrate how exports benefit the region and its workers, describe how a focus on international trade enhances or supplements existing regional initiatives, and assess the region's standing on key indicators relative to the nation and peer metro areas. The market assessment should be a written document that:

- Assembles information from Brookings and federal datasets, local survey and interview findings, and supplementary reports and research
- Combines and summarizes these components to tell a clear, compelling story about the region's export economy and its performance and potential (this should not be a list of findings without a narrative)
- Uses the story and key findings to directly inform and shape the export plan's goals, objectives, and strategies

This guide focuses on the first two elements above (the third is covered in the "Writing the Export Plan" guide). The guidance and examples in this document are limited to the data-related aspects of the market assessment because the interview and survey results and methodology will vary by region. Specifically, this guide is designed to:

- Provide an outline of the structure and contents of the market assessment document
- Illustrate how to integrate and analyze data from a variety of sources, and
- Catalog key sources of export data and describe how each can contribute to a regional assessment

The market assessment may be published as a standalone document, or it can function primarily as a planning device for the core team and steering committee. Most published market assessments should be approximately 15 pages in length, though in some cases a significantly more in-depth report may be appropriate. In either case, a set of key findings, selected data, and quotes will be published in the metro export plan. For further information, examples, and tools, consult the Global Cities Exchange web page, which contains materials such as survey templates, interview forms, example policy memos, current metropolitan export plans, and links to data.

A FRAMEWORK FOR THE MARKET ASSESSMENT

The following is an outline of the structure and content of a market assessment. The order in which the sections are presented has proved to result in a logical and compelling analysis in numerous metro areas, but this structure need not be rigidly adhered to as long as key data is included. Similarly, the data examples following selected sections are representative of the level of detail that is appropriate in the market assessment document, but are not exhaustive. Note that while the Chicago metro area is used throughout as a primary example, this document is not related to Chicago's export plan.

CONTENTS OF A MARKET ASSESSMENT

1. Key Findings Summary
2. Rationale for Exports
3. Regional Economy and Performance
4. Regional Industries, Clusters, and Anchor Institutions
5. U.S. and Top 100 Metro Export Trends
6. Regional Export Economy and Performance
7. Regional Export Industries
8. Regional Export Markets
9. Local Export Players

INTERVIEWS AND SURVEYS

While this guide focuses on secondary data, findings from surveys and interviews should be incorporated throughout the market assessment to ensure that it reflects the needs, experiences, and insights of businesses—both exporters and non-exporters. Additionally, export service providers, such as local U.S. Export Assistance Centers and state export offices, can provide essential intelligence about regional trends and the barriers faced by firms. Where appropriate, the use of quotes from surveys to support key points in the market assessment is encouraged. Quotes do not have to provide the name or organization of the person interviewed, but could reflect the industry or size of the responding firm for context. Templates are available on the **Global Cities Exchange** web page. Further guidance is available in the Brookings guide, **Ten Steps to Delivering a Successful Metro Export Plan**.

While a metro area should tailor the survey and interview process to their local needs, the following guidelines apply to most regions.

Survey: Core teams should aim for at least 150 survey responses, and should plan to keep their surveys open a minimum of three weeks and be flexible in extending the deadline to gain sufficient responses. In distributing the survey, there are two major considerations: the size of the sample and the degree to which it is representative of the region's economy. To maximize sample size, metro areas such as San Diego have sought to tap into the core team's extensive network of clients and partner organizations. To ensure that the survey is somewhat representative of the region's firms, it is important to not only target businesses with which economic development organizations and export service providers have relationships, as those firms are pre-disposed to be interested in and/or capable of exporting.

Interview: Core teams should conduct at least 25 one-on-one business interviews, though aiming for approximately 40 is highly encouraged, as interviews offer an opportunity to build engagement among regional firms (some of which may ultimately serve on the steering committee).

1. KEY FINDINGS SUMMARY

Provide a two to three page summary of the most important takeaways from the market assessment. Examples of how to approach this can be found in the early sections of the four pilot metropolitan export plans, under the heading, Key Findings from the Market Assessment. This section serves as the summary of the critical points that directly support the resulting export plan.

2. RATIONALE FOR EXPORTS

Describe why it is essential that the region focuses on exports by identifying how firms and workers benefit and why a metropolitan export initiative is critical to success in the 21st century economy. Outline how an export strategy relates to regional economic development plans and contributes to the region's existing vision and goals.

EXPORT FAST FACTS

The following key facts have proven useful in clearly and simply establishing the rationale for focusing on exports. Many of these sources are updated regularly, so check for new data before publishing these figures.

- 83 percent of global GDP growth is projected to occur outside the U.S. between 2013 and 2018.
  Source: World Economic Outlook, International Monetary Fund, 2013

- The U.S. accounted for 20.3 percent of global middle class consumption in 2010, but is projected to account for just 4.5 percent by 2040.
  Source: Homi Kharas, "The Emerging Middle Class in Developing Countries," OECD Development Center, 2010

- Only 4 percent of U.S. employer firms export, and 58 percent of exporters only sell to one foreign market.
  Source: International Trade Administration and U.S. Census Bureau

- Exports accounted for 37 percent of GDP growth in the U.S. from 2009 to 2012, and 54 percent of GDP growth in the 100 largest metro areas over the same time period.
  Source: Brookings, Export Nation 2013

- Every billion dollars of exports supports 5,590 U.S. jobs.
  Source: International Trade Administration, "Jobs Supported by Exports 2013: An Update," 2014

- From 2005-2009, U.S. manufacturers that exported saw revenues grow by 37 percent, while those that did not export saw revenues fall by 7 percent.
  Source: U.S. International Trade Commission, "Small and Medium-Sized Enterprises: Characteristics and Performance," 2010

- Compared to non-exporters, U.S. business services exporters have 100 percent higher sales, 70 percent higher employment, and 20 percent higher wages.
  Source: J Bradford Jensen, "Global Trade in Services: Fear, Facts, and Offshoring," Petersen Institute for International Economics, 2011

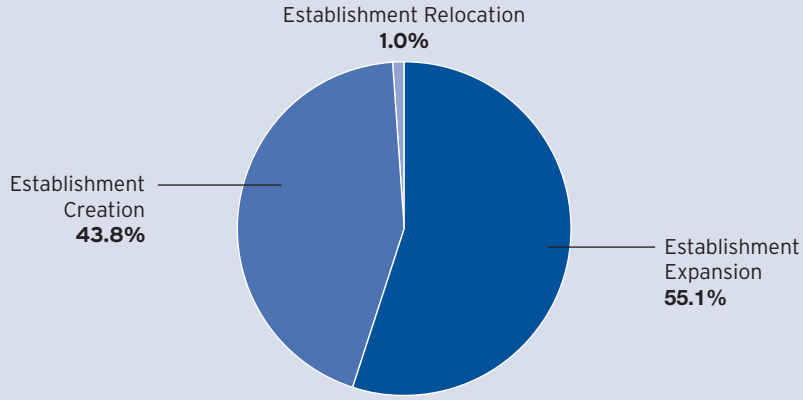
ADVANCED METHODS FOR DEMONSTRATING RATIONALE

There are several resources that allow a region to describe the rationale for exporting using more localized data.

National Establishment Time Series (NETS) data, available at youreconomy.org, tracks the performance of 52 million U.S. businesses from 1995 through 2012. This establishment-level data allows researchers to examine regional trends in the movement and creation of different types of firms (categorized by employment size, headquarters location, and traded/non-traded sector), as well as job and sales growth associated with these different types of firms. While this data doesn't directly address exports, it touches on two points that can help establish the rationale for an export plan, especially in contrast to traditional economic development approaches:

- The number of firms (and share of job and sales growth) created in the region from the expansion of existing firms, establishment of new firms, and firms that moved into the region. In most regions, over any time period, less than 10 percent of job growth comes from new firms moving into the region – the rest comes from expansion of existing firms or new startups. This data helps make the case for devoting resources to helping existing firms grow through exports, as opposed to focusing the region's resources on attracting outside firms.

Chicago Job Creation by Source, 2003 to 2012

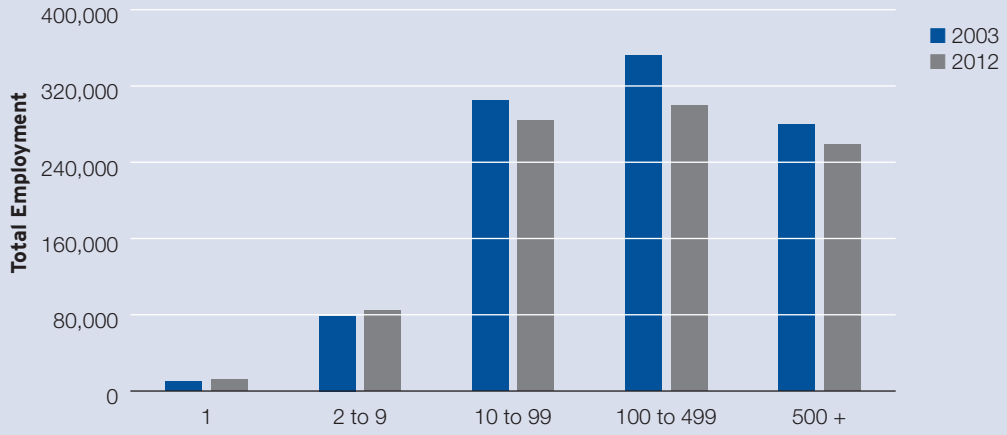


Source: Brookings analysis of NETS data at youreconomy.org

SAMPLE TEXT "Most job creation does not come from new firms moving to a region, despite the resources and attention devoted to business attraction. In the U.S. from 1992 to 2006, less than 2 percent of job creation came from firms moving between states, while 56 percent came from new firm creation and 42 percent came from the expansion of existing firms. The story is similar in Chicago, where from 2003 to 2012, only 1 percent of net job creation – 7,000 jobs total – came from firms moving into the metro area. An export plan focused on connecting small- and mid-sized firms to growing markets represents one way to refocus resources and attention on the primary source of job creation – the growth of firms that are already in the Chicago region."

- Trends in firms whose industries primarily sell goods and services outside the metro area. While not all firms in these sectors trade internationally, this data allows researchers to assess the health and size of the region's traded sectors and count the number of firms in the region that have the potential to export. This data could either emphasize the importance of the traded sector in the region's economy by documenting its size and growth, or highlight the deterioration of the traded sector to emphasize the importance of investing resources in an export strategy.

Employment in Chicago Traded Sector Firms by Firm Size, 2003-2012



Source: Brookings analysis of NETS data at youreconomy.org

SAMPLE TEXT "Mirroring national trends, from 2003 to 2012, Chicago's employment became significantly more skewed towards non-traded sectors. This is a troubling trend because traded sectors drive job growth in the rest of the economy – nearly three local jobs are created for every traded sector job. Traded sector jobs also pay significantly more on average than local-serving jobs.

From 2003 to 2012, Chicago lost 85,000 traded sector jobs, compared to a gain of 785,000 jobs in the non-traded sector. The traded sector fell from 20 percent of total Chicago employment in 2003 to 16 percent in 2012.

The decline in traded sector employment came entirely from firms of more than 10 employees. Job losses were concentrated in traded sector firms with between 100 and 499 employees, which lost over 50,000 jobs. Firms with 2 to 9 employees added over 5,000 jobs during the same time period. These trends underscore the importance of sustaining growth in small traded sector firms while also attending to the needs of firms with more than 10 employees, which account for more than 90 percent of Chicago's traded sector employment."

A more advanced analysis of a region's traded sector can yield additional insights into the benefits of a strong traded sector for a metro area's workers. This approach is exemplified by the Portland region's Value of Jobs campaign, which produced a 2012 report entitled Portland-Metro's Traded Sector. By identifying regional industries that are traded (using a methodology referenced in the report) and analyzing traits of workers in those industries using Census data, researchers can highlight the benefits of growing jobs in traded sectors.

Portland and U.S. Traded and Local Sector Employment Data, 2010

	Portland		U.S.	
	Traded	Local	Traded	Local
Median Annual Income	$39,000	$27,000	$36,000	$25,000
Share Full-Time	70%	56%	72%	59%
Median Hourly Wage	$20.59	$16.56	$19.31	$14.71
Share with College Degree	40%	31%	33%	26%

Source: ECONorthwest analysis of IPUMS USA, U.S. Census, and American Community Survey data; published in "Portland-Metro's Traded Sector," Portland Business Alliance, 2012.

SAMPLE TEXT "Workers in Portland's traded sector earn, on average, $12,000 more per year than those that work in the non-traded sector (a premium of approximately $4 per hour), and are much more likely to work full time and have a college degree. Portland's traded sector workforce also exceeds the U.S. average on all of these measures, except for share of full-time workers. There is room for improvement, however – Portland's traded sector workers earn less than their peers in Seattle and Denver. Focusing on growth in the traded sector, in part through connecting firms to global markets, will create more high-quality job opportunities for skilled and unskilled workers alike."

3. REGIONAL ECONOMY AND PERFORMANCE

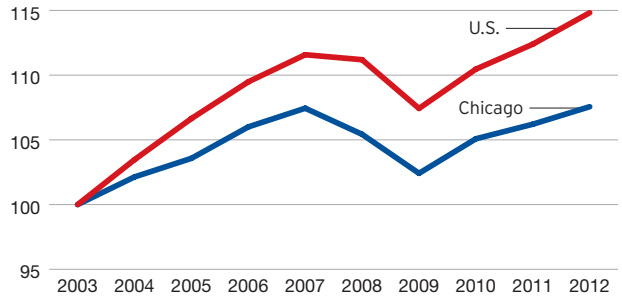
Provide an overview of the region's recent economic performance relative to the nation and the top 100 metro areas. This section should establish current economic conditions in the region, highlighting areas of underperformance that an export plan could address. This can be accomplished using basic indicators such as:

- Gross metropolitan product (GMP) size, growth, and U.S. rank
- Population size, growth, and U.S. rank
- Employment and change
- Unemployment rate and change

For metro areas participating in the Global Cities Exchange, the market scan provided by Brookings contains much of the information needed for this section.

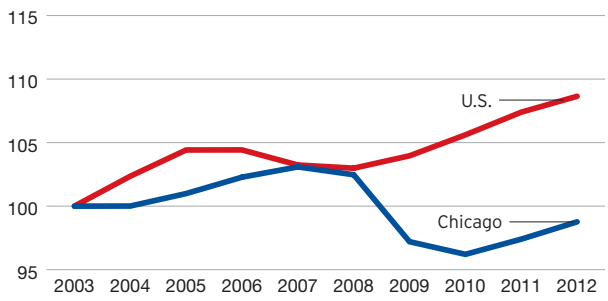
DATA EXAMPLE – METRO AREA ECONOMY AND PERFORMANCE

GDP Growth, 2003-2012 (2003=100)



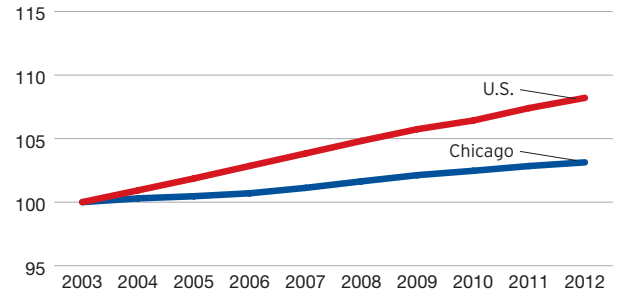
Source: Bureau of Economic Analysis

Employment Growth, 2003-2012 (2003=100)



Source: Bureau of Labor Statistics

Population Growth, 2003-2012 (2003=100)



Source: U.S. Census Bureau

Recession Performance - Peak to Current, Q2 2013

Employment	Unemployment
62nd Peak: Q1 2008 Change, peak-to-current: -3.5%	98th Peak: Q3 2006 Change, peak-to-current: +5.0 pts.
Output (GDP)	**House Prices**
57th Peak: Q1 2007 Change, peak-to-current: +1.2%	78th Peak: Q4 2006 Change, peak-to-current: -36.3%

Source: Brookings, MetroMonitor

SAMPLE TEXT "The Chicago metro area has underperformed the U.S. and the 100 largest metro areas on core measures of economic growth since 2003. Chicago's GMP grew only 0.8 percent annually from 2003 to 2012, compared to 1.5 percent growth in U.S. GDP. Despite relatively slow population growth in the Chicago region, employment failed to keep pace. Regional employment grew modestly from 2003 to 2007 before falling sharply during the recession, and in 2012 remained slightly below 2003 levels.

The region's recovery from the Great Recession has been particularly lackluster. Among the 100 largest metro areas, Chicago's recovery from its pre-recession peaks on key indicators ranks middling or worse: most striking is that unemployment in the Chicago region has increased 5 percentage points since 2006, reaching 9.4 percent in mid-2013, the third highest rise in unemployment in the 100 largest metro areas."

4. REGIONAL INDUSTRIES, CLUSTERS, AND ANCHOR INSTITUTIONS

Provide a summary of the drivers of the local economy, independent of export activity. The purpose of including this data is to demonstrate how overall economic dynamics described in the previous section have affected particular industries (and vice versa), and to highlight key sectors that contribute to employment and growth, or pay high wages. This section is critical for setting up the later analysis of how key regional industries and clusters have performed in terms of exports. It should cover:

- Largest industries or clusters, by size and growth
- Industry or cluster employment concentration/share/location quotient
- Anchor institutions (e.g., universities, large headquarters, non-profits)

Typically, this data should be found in existing regional economic plans. If clusters and other industry data is not already available in an existing plan (or if the plan is not up-to-date), sources for this analysis include private data providers such as Moody's, Census County Business Patterns data, and the Cluster Mapping Project at Harvard University's Institute for Strategy and Competitiveness.

5. U.S. AND TOP 100 METRO EXPORT TRENDS

Provide a summary of the key trends in the U.S. export economy, including overall performance and largest and fastest-growing industries and markets. This section further establishes the rationale for a metropolitan export plan by demonstrating the contribution of metro areas to U.S. exports, and by illustrating the growth trends in exports relative to the economy as a whole. Be sure to include analysis of both goods and services industries, and different time periods.

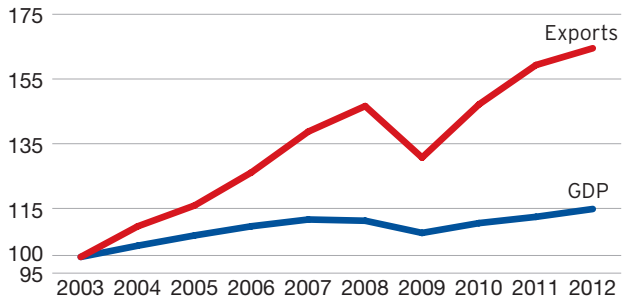
DATA EXAMPLE - U.S. AND TOP 100 METRO EXPORT TRENDS

U.S. and Top 100 Metro Exports and Output Totals, 2012 ($, Millions)

Geography	Services Exports	Goods Exports	Total Exports	Total Output
U.S.	600,171	1,463,316	2,063,487	15,577,417
Top 100 Metros	450,908	866,331	1,317,239	11,022,854
(Top 100 Share of U.S.)	75.1%	59.2%	63.8%	70.8%

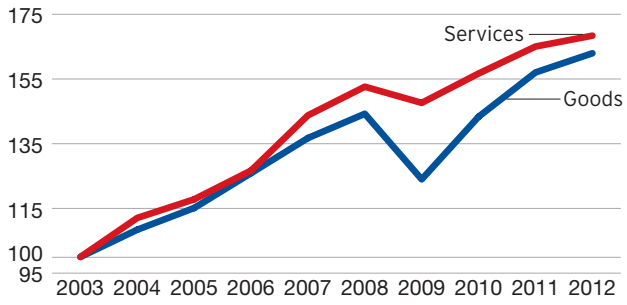
Source: Brookings, Export Nation 2013

U.S. GDP and Export Growth, 2003-2012 (2003=100)



Source: Brookings, Export Nation 2013

U.S. Goods and Services Export Growth, 2003-2012 (2003=100)



Source: Brookings, Export Nation 2013

SAMPLE TEXT "Total U.S. exports in 2012 exceeded $2 trillion for the second consecutive year. Exports were 70 percent goods, at nearly $1.5 trillion, and 30 percent services, at $600 billion. Export growth has significantly outpaced overall economic growth over the past decade and accounted for 37 percent of the U.S recovery from 2009 to 2012. Exports grew at an average annual rate of 11.9 percent from 2009 to 2012, compared to 2.2 percent GDP growth during the same period. Growth in U.S. services exports have slightly outpaced growth of goods exports since 2003, though goods exports have rebounded strongly from a slump in 2009, contributing over three-quarters of post-recession export growth in the 100 largest metros. The largest 100 metro areas produce the bulk of U.S. exports, including nearly two-thirds of total exports and over three-quarters of services exports."

Largest Export Industries, 2012, Top 100 Metros

Industry	Value ($, Millions)
Computers & Electronics	157,372
Transportation Equipment	154,851
Chemicals	127,428
Travel & Tourism	117,355
Royalties	93,456
Machinery	91,185
Petroleum & Coal Products	71,598
Financial Services	56,012
Medical Equipment, Sporting Goods	50,452
Primary Metal	46,936

Source: Brookings, Export Nation 2013

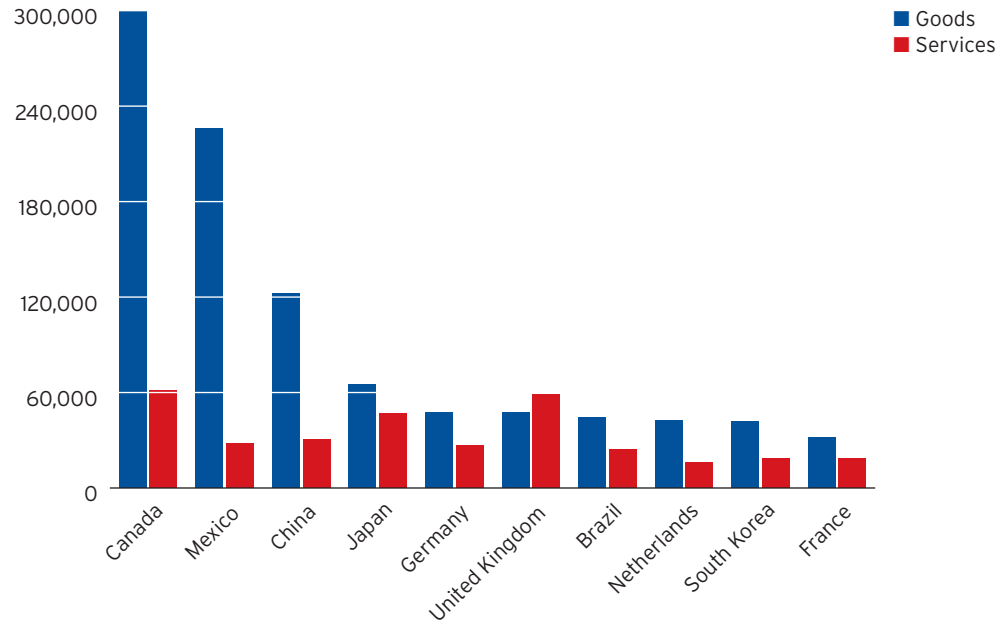
Fastest Growing Export Industries Pre- and Post-Recession, Top 100 Metros

Industry	Top 100 Metro Growth Rate, 2003-2008	Industry	Top 100 Metro Growth Rate, 2009-2012
Software Products	19.9%	Primary Metal	15.5%
Petroleum & Coal Products	18.8%	Beverage & Tobacco Products	14.4%
Support Services	14.3%	Petroleum & Coal Products	12.9%
Financial Services	13.9%	Leather & Allied Products	12.7%
Insurance Services	13.9%	Furniture & Related Products	11.2%
Medical Equipment, Sporting Goods	13.5%	Fabricated Metal Products	11.0%
Mining	13.5%	Machinery	11.0%
Management & Legal Services	11.7%	Electrical Equipment	11.0%
Oil & Gas Extraction	10.9%	Mining	10.3%
Engineering Services	10.1%	Computers & Electronics	10.3%

Source: Brookings, Export Nation 2013

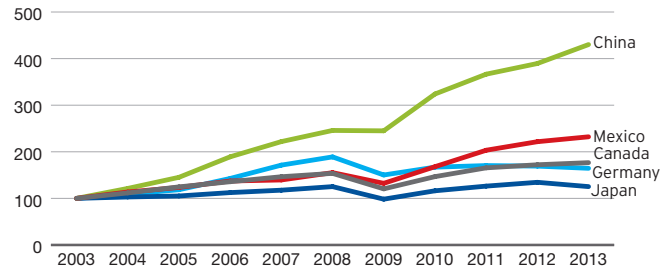
SAMPLE TEXT "The largest U.S. export industries in 2012 were in the manufacturing sector: computers and electronics, transportation equipment, and chemicals. Travel and tourism, royalties, and financial services are the largest services exports. While manufacturing industries are the largest and drove post-recession export growth, five of the 10 fastest-growing industries from 2003 to 2012 were in the services sector. However, most of the growth in services exports occurred prior to the recession. The fastest-growing service industry from 2009 to 2012 was engineering services, at 8.5 percent, not high enough to crack the top ten."

Largest U.S. Export Markets, 2012 ($, Millions)



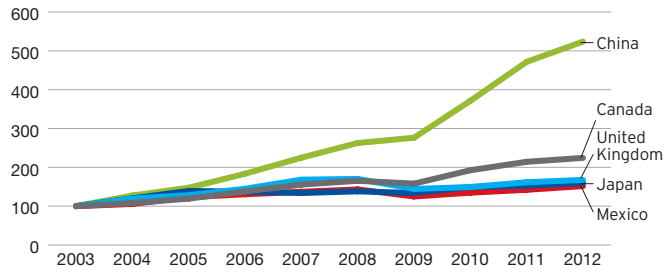
Source: U.S. Census Bureau, USA Trade Online; Bureau of Economic Analysis

Goods Export Growth, Largest Goods Export Markets, 2003-2013



Source: U.S. Census Bureau, USA Trade Online

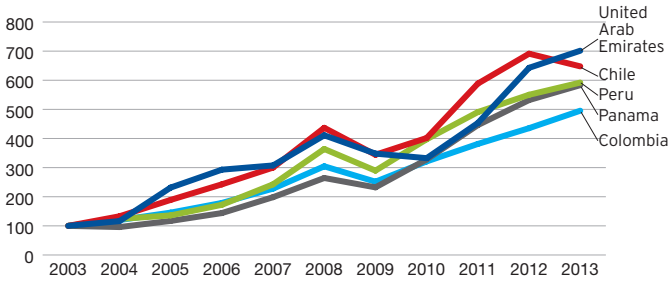
Services Export Growth, Largest Services Export Markets, 2003-2012



Source: Bureau of Economic Analysis

Goods Export Growth, Fastest Growing Goods Export Markets, 2003-2013

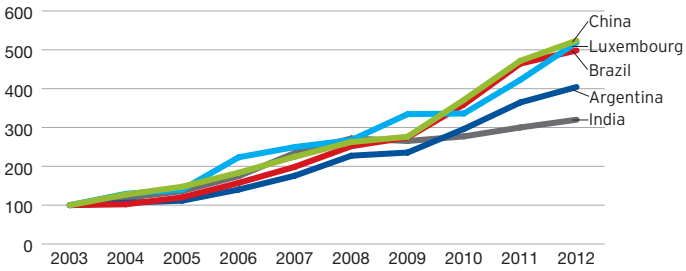
(Analysis limited to markets with total U.S. goods exports of $10 billion in 2013)



Source: U.S. Census Bureau, USA Trade Online

Services Export Growth, Fastest Growing Services Export Markets, 2003-2012

(Analysis limited to markets with total U.S. services exports of $5 billion in 2013)



Source: Bureau of Economic Analysis

SAMPLE TEXT "Canada and Mexico are the largest U.S. export markets, together accounting for nearly 40 percent of total U.S. exports. China, Japan, and the United Kingdom round out the top five markets.

Of the top U.S. destinations for goods exports, the emerging markets of China and Mexico have grown fastest since 2003, with exports to China accelerating dramatically beginning in 2009. Goods exports to Canada and Germany have kept pace with overall export growth, while sales to Japan have stagnated. The fastest growth has been seen in the UAE and Central and South American countries with which the U.S. has free trade agreements.

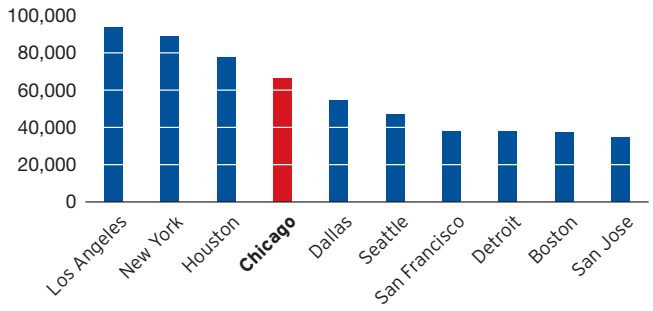
In services, sales to China have accelerated dramatically, Canada has grown robustly, and the other top markets have roughly tracked overall U.S. export growth rates. As with goods exports, China is the only market in the five largest and fastest-growing for services exports. Otherwise, the fastest-growing markets are – as with goods exports – largely in South America. Services exports to India (generally thought of as an exporter of services to the U.S) more than tripled since 2003."

6. REGIONAL EXPORT ECONOMY AND PERFORMANCE

This section should describe the region's current export performance and position. It should clarify the size, intensity, growth, and goods and services share of the region's export economy. It may be helpful to describe the region's performance relative to peer metro areas, either those that the region routinely benchmarks itself against or a group that is similar in terms of export volume. Most of the data in this section can be found in Brookings Export Nation data and presented without further manipulation.

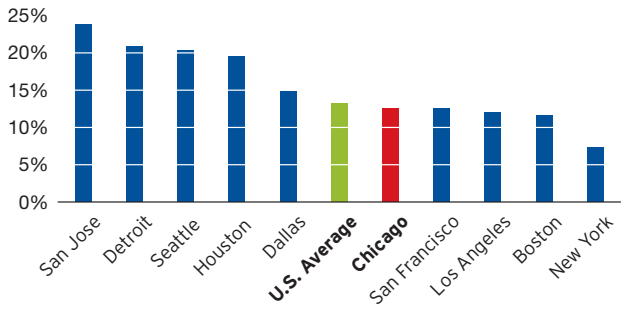
DATA EXAMPLE – REGIONAL EXPORT ECONOMY

Chicago and Peer Metro Total Export Value, 2012 ($, Millions)



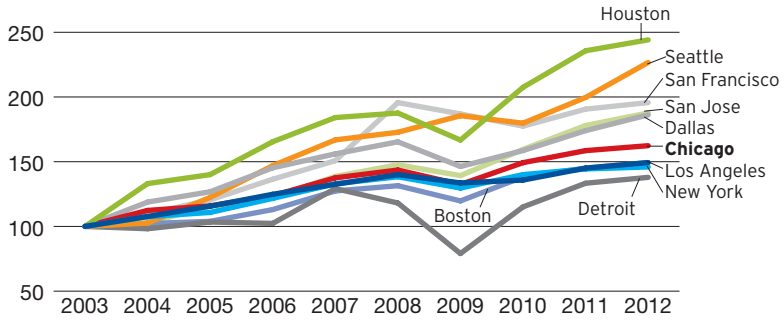
Source: Brookings, Export Nation 2013

Chicago and Peer Metro Export Intensity, 2012



Source: Brookings, Export Nation 2013

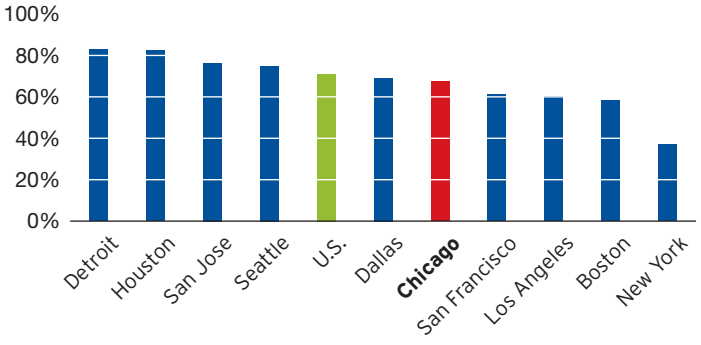
Chicago and Peer Metro Export Growth, 2003-2012 (2003=100)



Source: Brookings, Export Nation 2013

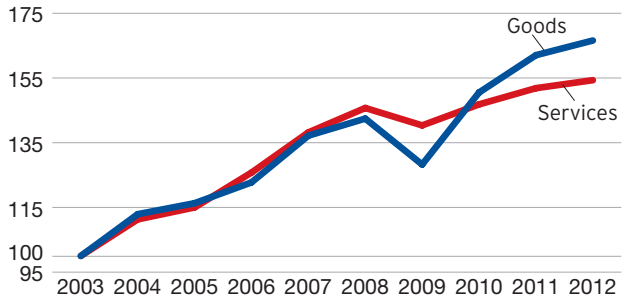
SAMPLE TEXT "The third largest U.S. metro economy overall, Chicago ranks fourth in total exports with $66.2 billion in 2012. Its export intensity is 12.6 percent, ranking it 39th of the 100 largest metros and slightly below the national rate of 13.2 percent. Its export growth since 2003 places it in the middle of the 10 largest markets. While Chicago's export performance has been middling compared to its peers, exports have nevertheless been a bright spot in Chicago's economy, growing over four times as fast as GMP since 2009."

Chicago and Peer Metro Goods Share of Exports, 2012



Source: Brookings, Export Nation 2013

Chicago Goods and Services Export Growth, 2003-2012 (2003=100)



Source: Brookings, Export Nation 2013

SAMPLE TEXT "Goods industries produced over two-thirds of Chicago's exports in 2012, making the metro area slightly less goods-oriented than the nation as a whole. Since 2003, Chicago's goods exports have grown 5.8 percent annually, approximately the same rate as U.S. goods exports. Though the region's exports are more services-oriented than the U.S., Chicago's services export growth of 4.9 percent has lagged the U.S. rate of 6 percent over the past decade, suggesting that Chicago is slowly losing ground in key services industries."

7. REGIONAL EXPORT INDUSTRIES

This section provides information about the export performance of industries and clusters, highlighting those with the greatest potential to contribute to the region's export growth. This industry analysis is critical to identifying potential target industries and firms. It is important to include different time periods in this analysis (especially comparing pre- and post-recession trends), and to look at broad sectors (such as 2- or 3-digit NAICS industries) and specific industries (4-digit NAICS or higher). Individual firms that are critical to the region's export economy can also be highlighted in this section.

DATA EXAMPLE – REGIONAL EXPORTING INDUSTRIES

Largest Chicago Export Industries (3- and 4-Digit NAICS) and Share of Total, 2012

Major Industry (3-Digit NAICS)	Export Value ($, Millions)	Share of Metro Total	Detailed Industry (4-Digit NAICS)	Export Value ($, Millions)	Share of Major Industry Total
Machinery	9,539	14%	Engine & Power Equipment	2,932	31%
			Misc. General Purpose Machinery	2,903	30%
			Agri., Constr., Mining Machinery	1,185	12%
Travel & Tourism	5,921	9%	Air Transportation Services	1,514	26%
			Entertainment Services	1,128	19%
			Food & Drink Services	898	15%
Chemicals	5,811	9%	Pharmaceuticals	2,009	35%
			Basic Chemicals	1,558	27%
			Cleaning Products	742	13%
Primary Metal	4,780	7%	Iron & Steel Products	3,645	76%
			Nonferrous Metal Products	976	20%
			Aluminum Products	105	2%
Computers & Electronics	4,061	6%	Precision Instruments	1,243	31%
			Communications Equipment	1,143	28%
			Semiconductors	916	23%

Source: Brookings, Export Nation 2013

SAMPLE TEXT "Chicago's ten largest export industries account for nearly 70 percent of total metro export volume. The machinery industry is Chicago's largest major industry by a large margin, accounting for 14 percent of total metro export output. The industry is composed primarily of engine and power equipment and miscellaneous machinery, each responsible for nearly $3 billion of export output in 2012. Travel and tourism and chemicals round out the top three major industries, each responsible for nearly $6 billion in export value in 2012. The iron and steel products industry, part of the broader primary metal industry, is another major industry with over $3.5 billion in 2012 exports."

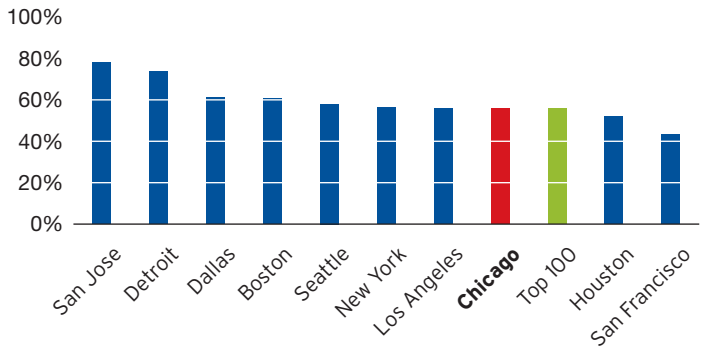
Fastest-Growing Chicago Industries, 2003-2012 and 2009-2012

Industry (4-Digit NAICS)	Annual Growth, 2003-2012	Industry (4-Digit NAICS)	Annual Growth, 2009-2012
Petroleum & Coal Products	14.0%	Motor Vehicles	38.0%
Motor Vehicles	13.0%	Motor Vehicle Parts	16.0%
Engine & Power Equipment	10.9%	Nonferrous Metal Products	16.0%
Insurance Services	10.0%	Jewelry, Sporting Goods	14.1%
Jewelry, Sporting Goods	9.4%	Iron & Steel Products	13.0%
Industrial Machinery	9.2%	Engine & Power Equipment	11.1%
Medical Equipment & Supplies	8.5%	Misc. General Purpose Machinery	10.6%
Chemical Manufacturing Royalties	8.4%	Misc. Electrical Equipment	10.5%
Iron & Steel Products	7.7%	Misc. Fabricated Metal Products	10.3%
Accommodation Services	7.5%	Metalworking Machinery	10.2%

Source: Brookings, Export Nation 2013

SAMPLE TEXT "Since 2003, Chicago's fastest growing export industries have been petroleum and coal products, motor vehicles, engine and power equipment, and insurance services. Of the 10 fastest growing industries from 2003 to 2012, eight were part of the region's 10 largest sectors. Engine and power equipment stands out as a leader both in terms of size and growth. As the region recovers from the recession, motor vehicles (and parts) and nonferrous metal products have grown most quickly, while no services industries made the top ten, reflecting the slower recovery of services industries nationally."

Chicago and Peer Metro Advanced Industries Share of Trade (Domestic and International), 2010



Source: Brookings, Metro Freight

SAMPLE TEXT "Advanced industries are high value engineering and R&D-intensive industries (aerospace, automotive, electronics, machinery, pharmaceuticals, and precision instruments) that represent the future of U.S. industrial activity. They offer wages nearly double those of the economy as a whole and drive a disproportionately large share of U.S. exports.

Advanced industries account for 56 percent of Chicago's total trade flows, slightly below many of its peer metros. The region's trade in advanced industries is led by chemicals and plastics, followed by machinery and tools and electronics."

Chicago Trade Balances by Commodity

Commodity Type	International Trade Balance ($, Millions)	Domestic Trade Balance ($, Millions)	Location Quotient (LQ)	GDP ($, Millions)
Precision Instruments	726	-4,782	1.10	5,172
Metals	540	11,602	1.72	3,998
Chemicals / Plastics	278	31,193	0.91	9,612
Mixed Freight	0	5,435	1.09	30,131
Stones / Ores	-257	-1,229	0.11	92
Wood Products	-277	-4,408	0.93	5,732
Furniture	-847	-321	0.73	653
Agricultural Products	-1,156	-6,209	0.47	5,794
Machinery / Tools	-1,917	8,577	1.50	14,670
Transportation Equipment	-2,520	8,275	0.17	977
Textiles	-4,378	-8,118	0.36	389
Electronics	-5,033	9,214	0.90	6,418
Energy Products	-11,276	-23,303	0.48	4,641

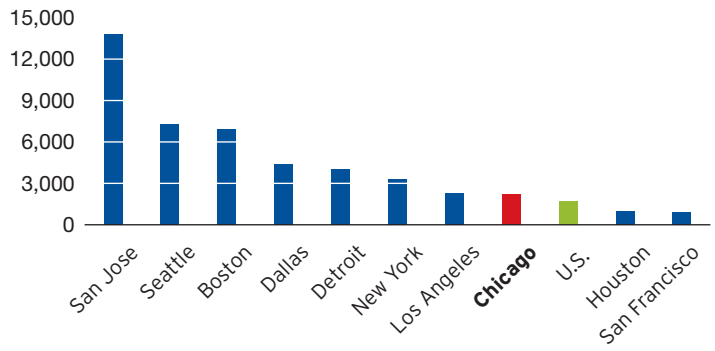
Source: Brookings, Metro Freight

SAMPLE TEXT "Data on domestic and international trade balances by commodity reveal more detail about Chicago's role in global goods trade. (Note that these trade balances do not directly capture the region's trade in services, which provides the necessary income to buy goods from external markets).

Chicago's advantage in metals and chemicals and plastics is evident in its overall trade surpluses, coupled with its significant concentration of employment and large annual output. While Chicago runs international trade deficits in machinery and electronics production, the region's strengths in domestic trade, employment, and GDP suggest that Chicago could expand its exports in these industries as it forges stronger economic ties and infrastructure connections over time.

The data on precision instruments and transportation equipment demonstrate that trade balances alone cannot explain how an industry trades with the country and world. For example, Chicago runs a large overall goods trade deficit in precision instruments. Yet Chicago also boasts a high employment LQ and GDP in the industry, suggesting that the metro area's precision instruments firms are focused on services rather than manufacturing. On the other hand, Chicago has a sizeable overall goods trade surplus in transportation equipment, but a low employment LQ and GDP. This suggests that while Chicago is a critical hub in the global movement of transportation equipment, it is not a critical regional industry in terms of the production of tradable goods and services."

Chicago and Peer Metro Goods Exports Value per Ton, 2010



Source: Brookings, Metro Freight

SAMPLE TEXT "Chicago's ranking on goods exports value per ton is indicative of the region's highly diversified industrial base and massive scale of production in both advanced industries and lower-valued goods, as well as its role as a major transportation hub for a wide variety of goods including agricultural and energy products. Its role as a center of goods movement is bolstered by its extensive infrastructure assets, including major airports, railroads, and warehousing operations."

8. REGIONAL EXPORT MARKETS

This section should examine the top international markets for key industries identified in the previous section, primarily using detailed data available produced by the Census Bureau. This detailed data is only available at the national level, so it does not necessarily reflect the metro area's exports, but it does indicate which regions on which the metro area might want to focus its efforts. Data on services industries is not available at this level of detail, so metro areas may need to rely on surveys and interviews to gain further insight.

DATA EXAMPLE – REGIONAL EXPORTING INDUSTRIES

Note: This section examines two key Chicago industries (as outlined in the previous section) in greater detail. The two specific (5-digit NAICS) industries outlined below are the largest components of the broader (4-digit NAICS) engine and power equipment and chemicals industries.

Top U.S. Markets for Engine and Power Equipment* by Value (2013)

Country	Value	Annual Growth	Share of Total U.S. Industry Exports
Mexico	5,245,875	8.9%	18.8%
Canada	4,248,550	0.9%	15.3%
China	1,699,704	23.5%	6.1%
Brazil	1,259,415	17.6%	4.5%
United Kingdom	1,059,625	3.4%	3.8%

**NAICS 33361 - Engines, Turbines, and Power Transmission Equipment*

Top U.S. Markets for Engine and Power Equipment* by Growth (2003-2013)

Country	Value	Annual Growth	Share of Total U.S. Industry Exports
Russia	229,887	41.1%	0.8%
Algeria	309,806	40.2%	1.1%
Hungary	360,801	29.0%	1.3%
Egypt	144,738	24.5%	0.5%
China	964,035	23.5%	3.5%

**NAICS 33361 - Engines, Turbines, and Power Transmission Equipment*

Source: U.S. Census Bureau, USA Trade Online

SAMPLE TEXT "The largest U.S. markets for engine and power equipment closely match the largest U.S. markets for exports overall. Mexico and Canada are the largest purchasers, accounting for more than a third of total U.S. exports of engine and power equipment. Over the past decade, a set of emerging markets that make up a small portion of total exports have been the fastest-growing, led by Russia, Algeria, and Hungary."

Top U.S. Markets for Pharmaceuticals and Medicines* by Value (2013)

Country	2013 Value ($, Millions)	Annual Growth	Share of Total U.S. Industry Exports
Belgium	4,784,831	8.7%	9.4%
Canada	4,393,450	4.1%	8.6%
Netherlands	4,005,008	4.4%	7.9%
Italy	3,856,567	13.8%	7.6%
Japan	3,649,832	9.1%	7.2%

**NAICS 32541 – Pharmaceuticals and Medicines*

Top U.S. Markets for Pharmaceuticals and Medicines* by Growth (2003-2013)

Country	2013 Value ($, Millions)	Annual Growth	Share of Total U.S. Industry Exports
Venezuela	312,065	24.4%	0.6%
China	1,755,098	24.2%	3.5%
Austria	1,147,606	22.0%	2.3%
Spain	2,147,375	20.6%	4.2%
Russia	182,410	20.2%	0.4%

**NAICS 32541 – Pharmaceuticals and Medicines*

Source: U.S. Census Bureau, USA Trade Online

SAMPLE TEXT "The largest U.S. markets for pharmaceuticals are significantly different from those for engine and power equipment. The largest markets are all advanced economies, including smaller markets in terms of overall U.S. exports such as Belgium and Italy. Several of the fastest-growing markets (to which exports have grown more than 20 percent annually since 2003) are also advanced economies (Austria and Spain), joined by China, Venezuela, and Russia."

HOW TO IDENTIFY COMPETITIVE MARKETS FOR INDUSTRIES USING CENSUS DATA

Even greater industry detail can be accessed through Census data on USA Trade Online (see appendix for more detail on this source). The largest and fastest-growing markets are important for the metro as a whole, but will not always be the right choice for any given firm interested in exporting for the first time or expanding to new markets. Data on price per unit by country for highly specific goods (10-digit HS) can further narrow down the list of foreign markets in which a firm can be competitive, based on their knowledge of their unit costs of production.

U.S. Exports of Electric Motors Under 18.65W (HS 8501104080) to selected European Countries, 2013

Country	Value of U.S. exports ($)	Quantity of U.S. exports	Unit Price ($) of U.S. exports
Finland	4,614	20	230.7
Sweden	271,779	2,779	97.8
France	534,948	8,387	63.8
Netherlands	200,008	3,225	62.0
Italy	169,957	3,421	49.7
Norway	26,714	555	48.1
United Kingdom	710,126	19,042	37.3
Germany	330,769	8,980	36.8
Ireland	60,864	1,750	34.8
Austria	6,000	204	29.4
Hungary	21,856	744	29.4
Luxembourg	83,358	2,838	29.4
Belgium	56,995	2,211	25.8
Poland	44,976	3,200	14.1

Source: U.S. Census Bureau, USA Trade Online

SAMPLE TEXT "While the United Kingdom is the largest European market for U.S. exports of power and engine equipment, it may not be the ideal market for producers at either end of the value spectrum. Several other European nations – notably Sweden, France, Netherlands, and Italy – import significant quantities of U.S.-produced small electric motors at a much higher price per unit. Therefore, U.S. firms that specialize in higher-end, innovative products in this industry may want to target those nations. Meanwhile, producers who instead primarily compete on cost and produce less advanced products may want to target other large markets such as Ireland, Luxembourg, Belgium, and Poland."

METRO TO METRO TRADE

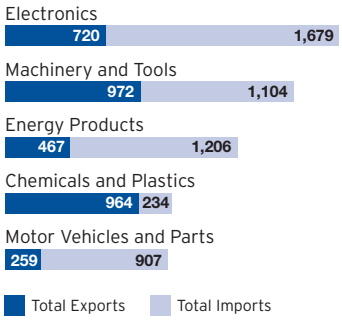
Typically data on trade flows between specific geographies is only available at the national level. Brookings' Metro North America data is the only public data that tracks metro-to-metro trade flows between U.S., Canadian, and Mexican metro areas. While limited to North America, this data likely covers a significant portion of any metro area's export activity, as Canada and Mexico account for nearly 40 percent of U.S. exports. Note, however, that this data is only available for goods industries (at the 2-digit SCTG level) and only for 2010.

Focusing on trade flows between metro areas may reveal opportunities for cooperation on issues of strategic importance between regions with shared specializations or that are closely linked by supply chains. See, for example, the **Chicago-Mexico City Global Cities Economic Partnership**, and the Metro North America report for other illustrations of international metro relationships.

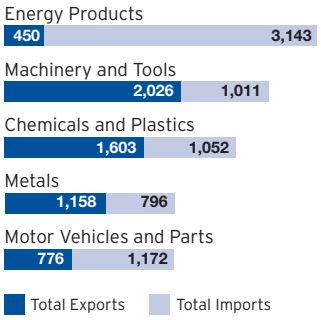
Chicago Trade with North America, and Top Traded Commodities by Country

Total Trade with North America	
$28,300 (millions USD)	Total Trade Rank: **3**
Value Per Ton **$1,212**	Total VPT Rank: **75**
North American Share of Metro's Global Trade **29%**	Share of Trade Rank: **39**
Total Trade with Canada **$17,125** (millions USD)	Total Trade with Mexico **$11,175** (millions USD)

Top Commodities, Mexico (millions USD)



Top Commodities, Canada (millions USD)



Source: Brookings, Metro North America

Chicago's Top Trading Partners by Country

Top Metro Trading Partners, Mexico

Rank	Metropolitan Area	Total Bilateral Trade ($ Mil)
1	Mexico City	$1,727
2	Monterrey	$1,199
3	Guadalajara	$605
4	Juárez	$426
5	Tijuana	$364
6	Puebla-Tiaxcala	$363
7	Reynosa-Río Bravo	$296
8	Toluca	$260
9	Chihuahua	$245
10	Saltillo	$240

Top Metro Trading Partners, Mexico

Rank	Metropolitan Area	Total Bilateral Trade ($ Mil)
1	Toronto	$2,876
2	Montréal	$1,443
3	Calgary	$1,280
4	Edmonton	$647
5	Vancouver	$454
6	Kitchener-Cambridge-Waterloo	$446
7	London	$379
8	Saint John	$347
9	Hamilton	$339
10	Windsor	$329

Source: Brookings, Metro North America

SAMPLE TEXT "Chicago's trade with Canada and Mexico is, at over $28 billion, the third highest of the 100 largest U.S. metros. Key industries that drive the trading relationship include machinery, chemicals and plastics, metals, and motor vehicles. Chicago's trade balance with Canada and Mexico is particularly high in the chemicals and plastics industries.

Major trading partners with over $1 billion in annual bilateral trade include Mexico City, Monterrey, Toronto, Montreal, and Calgary."

Chicago International Aviation Trends and Top Metro Areas by Total Passenger Flow, 2003-2011

	2003	2011	Change, 2003-2011
Number of Passengers	**5,802,730** **5th of 90**	**7,138,074** **5th of 90**	**23%** **30th of 90**

International Metro Area (Origin/Destination)	2003 Passenger Total	2011 Passenger Total	Change, 2003-2011
Toronto, Canada	315,605	392,777	24.5%
London, United Kingdom	350,664	377,523	7.7%
Cancun, Mexico	286,331	344,076	20.2%
Mexico City, Mexico	294,146	289,182	-1.7%
Guadalajara, Mexico	195,970	225,094	14.9%
Tokyo, Japan	83,284	211,731	154.2%
Seoul-Inchon, South Korea	72,097	175,691	143.7%
Paris, France	136,417	174,785	28.1%
Dublin, Ireland	91,354	144,258	57.9%
Montreal Canada	137,390	135,174	-1.6%

Source: Brookings, Global Gateways

SAMPLE TEXT "Global aviation flows are one indicator of exports of business services and tourism. Chicago is a major international aviation hub, with the 5th highest passenger total of all major U.S. metro areas in 2011, but its growth was only ranked 30th of 90 U.S. metro hubs. Chicago's largest destinations are Toronto, London, Cancun, and Mexico City. Passenger flows to Tokyo and Seoul more than doubled between 2003 and 2011."

9. LOCAL EXPORT PLAYERS

Describe the key local players (federal, state, and local) involved in the provision of export services for companies and what they do. For an example of how to map the roles and responsibilities of regional export service providers, see the Minneapolis-St. Paul Export Resources Guide. This section should rely heavily on surveys and interviews, addressing firm awareness of services, their assessment of the effectiveness and coordination of programs, and gaps in the export services system. This will prove valuable in both developing the plan and establishing local working relationships.

APPENDIX: DATA SOURCES

Core Export Data			
Source	**Export Type**	**Coverage**	**Methodology/Notes/Cautions**
Export Nation	Goods and Services	**Industries:** 3- and 4-digit NAICS industries for goods, 11 major services industries with 34 detailed subcategories **Years:** 2003–2012 **Update:** Annually **Export source geographies:** Counties, metropolitan and micropolitan areas (with indicators for top 100), states – all by point of production **Export destination geographies:** None **Measures:** Total export value (nominal and real), export growth rates, export intensity (share of GDP), export LQs	Export Nation is the only source of data that provides estimates for both goods and services exports, based on point of production, at the county, metro area, and state level. It will therefore be the primary data source for metro area market assessments. Export Nation is designed to show where exported goods and services are produced, in contrast to Census methodology (see below). To estimate export volume by point of production, Brookings allocates national exports by industry to counties, based on county share of national GDP in that industry. For example: if King County (WA) produces 10% of national GDP in transportation equipment, Export Nation data assumes it produces 10% of national exports of transportation equipment. While an estimate, Export Nation is highly correlated with data that tracks actual freight movement of goods. Full description of methodology available in **Export Nation 2012**, and an abridged version in **Export Nation 2013**. Export Nation will be updated annually for the duration of the four-year Global Cities Exchange.
U.S. Census Bureau - USA Trade Online *Note that USA Trade Online is subscription-based: $300 annually, or $75 monthly. Free one-week trials are available	Goods	**Industries:** Up to 10-digit Harmonized System (HS) codes, 4-digit NAICS codes **Years:** 1992–2013 **Update:** Monthly **Export source geographies:** Ports, customs districts, states **Export destination geographies:** All world countries, international organization and trade agreement areas **Measures:** Export value (also by vessel/air/containerized), quantity, unit price (10-digit HS only), trade balance	Census data is collected through forms filled out by firms or freight forwarders for all international shipments over $2,500. Because the data reflects the ports from which goods are shipped (point of movement), regardless of where they are produced, Census data can't be used for a comprehensive metro area analysis. Once focus industries have been identified at the metro level using Export Nation data, Census data allows for in-depth industry analysis at the national level. This is the most specific export data available, with 8,000 product categories and import and export volumes for every U.S. port, customs district, and state with every U.S. trading partner. Census data can help answer the following questions: ➤ Where is a product in demand internationally, and where can a firm compete? ❍ Data on sales volume and price per unit for specific products exported to every U.S. trading partner, allowing a firm to see the markets in which their prices could be competitive. ➤ What are the trends in exports of a product? ❍ Detailed, up-to-date data on U.S. exports by industry and country, with 20 years of data to analyze long-term trends. ➤ How are exported goods shipped out of my metro? ❍ Customs district and port data shows volume of goods shipped internationally by vessel (including containerized portion) and air.

Bureau of Economic Analysis	Services (Goods data also here, but better at USA Trade Online)	**Industries:** All major goods and services industries **Years:** As far back as 1960 for some data, typically mid-1980s to present **Update:** Quarterly **Export source geographies:** National **Export destination geographies:** Most large trading partners, as well as country groupings (i.e., "Other Asia and Pacific") **Measures:** Export value , trade balance	BEA only collects services data through surveys of firms that have international sales of greater than $8 million per year. Therefore, smaller services exporters are omitted from the data. Further, services data is extremely limited compared to goods data, with only 29 industry categories. While most relevant data available through BEA is available elsewhere in a more accessible format (USA Trade Online for goods, and Export Nation for services), the official BEA website can be helpful in several regards: ➤ Frequent updates to national trade data, such as monthly reports on U.S. total exports and trade balance ➤ More recent data than Export Nation (currently updated through 2013 Q3) ➤ Data on U.S. services exports by country and country grouping ➤ Data on imports, foreign direct investment, and other types of international transactions (such as transactions between affiliates)
Supplementary Trade Data			
Source	**Export Type**	**Coverage**	**Methodology/Notes/Cautions**
Metro Freight	Goods	**Industries:** 15 commodity categories, based on Standard Classification of Transported Goods (SCTG) **Years:** 2010 **Update:** None planned, but additional data will be released as part of the series **Export source geographies:** Top 100 metropolitan areas **Export destination geographies:** International vs. domestic **Measures:** Total export and import value (international and domestic), weight of exported goods, value per ton, advanced industries share of trade, trade balances by commodity	Metro Freight assesses goods trade at the metropolitan scale. The data is unique in two respects. ➤ It is an actual measurement of metro goods trade based on freight data from the U.S. Department of Transportation, in contrast to the GDP-based estimates in Export Nation. ➤ It tracks domestic trade (imports and exports), allowing metros to understand their trade relationships within the U.S. marketplace. This data allows for analysis of a metro area's strengths in goods industries, but it has several important limitations: ➤ Only one year of data, preventing trend analysis ➤ Only 15 broad industry groups, no services industries Given these limitations, Metro Freight data is best used as a complement to Export Nation data. Metro Freight provides insight on the value of goods shipped from your metro, the means by which those goods are shipped, and whether domestic industry specializations are reflected in international trade volumes or balances. Metro Freight data and profiles focus on "advanced industries", such as chemicals/plastics, electronics, and precision instruments, that invest heavily in R&D and employ a highly skilled workforce. These industries compose 11 percent of the economy but produce 45 percent of goods exports.

Metro North America	Goods	**Industries:** 2-digit Standard Classification of Transported Goods (SCTG), 43 commodity categories **Years:** 2010 **Update:** None planned **Export source geographies:** Top 100 metropolitan areas **Export destination geographies:** Mexican metropolitan zones (59), Canadian census metropolitan areas (33) **Measures:** Total export and import value (Canada, Mexico, North America), top metro trading partners (Canada and Mexico), top traded commodities (Canada and Mexico), share of global trade with North America, value per ton, advanced industries share of trade	Metro North America, based on the same underlying data as Metro Freight, is the only data source that offers metro-to-metro trade data (though only within North America). Besides its geographical limitation, Metro North America is less detailed than Export Nation in three respects: only goods industries, only large industry categories (15 total), and only one year of data. While limited to North America, 40 percent of U.S. trade is with Canada and Mexico, and 58 percent of that trade is between metro areas, so this data might cover a large portion of any metro's trade flows. Strong metro-to-metro trade linkages may provide the basis for **formalized trade agreements**, cooperation on infrastructure, shared skills initiatives, and so forth. Like Metro Freight, Metro North America also focuses on advanced industries.
Global Gateways: International Aviation in Metropolitan America	Services	**Industries:** Tourism (aviation only) **Years:** 2003 and 2011 **Update:** None planned **Export source geographies:** Top 100 metropolitan areas **Export destination geographies:** International metro areas, countries **Measures:** Number of international passengers, change from 2003-2011, metro area of international passenger origin or destination, common transfer airports	Global Gateways provides data on passenger flows between U.S. and international metro areas. These flows represent tourism exports from the U.S., as well as trade relationships more broadly. This data supplements Export Nation's tourism data by showing actual passenger numbers, as well as the international metro areas through which most passengers travel. These linkages can serve as a starting point for an analysis of which countries or regions could be focus markets.

About the Metropolitan Policy Program at the Brookings Institution

Created in 1996, the Metropolitan Policy Program provides decision-makers with cutting-edge research and policy ideas for improving the health and prosperity of cities and metropolitan areas, including their component cities, suburbs, and rural areas. To learn more, visit **www.brookings.edu/metro**.

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