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UNILATERAL GRANT OF MARKET ECONOMY STATUS TO CHINA WOULD PUT MILLIONS OF EU JOBS AT RISK

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Executive Summary

The European Union is considering whether to formally recognize China as a “market economy,” a move that would fundamentally change the way EU countries handle dumped exports under the World Trade Organization (WTO). With some EU officials reportedly in favor of unilaterally granting market economy status (MES) to China—and with the United States and other countries set to debate the same question—it is useful to examine what the change would mean for the European economy and its workers. According to our analysis, an EU decision to unilaterally grant MES to China would put between 1.7 million and 3.5 million EU jobs at risk by curbing the ability to impose tariffs on dumped goods and thus allowing Chinese companies to undercut domestic production by flooding the EU with cheap goods. Specifically, we project that the increased imports arising from granting MES to China would reduce EU output by between €114.1 billion and €228 billion per year, a 1 percent to 2 percent reduction in EU GDP (relative to base year output in 2011) that translates into 1.7 to 3.5 million potential jobs lost among import-competing industries, their suppliers, and the companies that depend on the wages of displaced workers.

In addition to these direct and indirect jobs at risk, granting MES to China would put up to 2.7 million direct jobs at risk in a group of highly import-sensitive industries. The job losses estimated in this report are above and beyond jobs already lost due to rising EU trade deficits with China, and additional job displacement that will result from trend growth in bilateral trade deficits in the future. Already over the last decade and a half, EU imports from China increased nearly fivefold between 2000 and 2015, rising from €74.6 billion in 2000 to an estimated €359.6 billion in 2015, an increase of 11.1 percent per year.

The estimates in this report are based on the assumption that the decision to grant MES to China would increase manufactured imports from China by between 25 percent and 50 percent from their base level in 2011 (and above trend growth) over the medium term (in the first three to five years after MES is granted). This assumption is highly conservative for reasons outlined in this report. In brief, this study finds that granting MES to China would affect the EU in the following ways:

- Increase EU imports of manufactured commodities by between €71.3 billion and €142.5 billion, or more. The growth of imports would increase EU trade deficits, reducing EU GDP by between €114.1 billion and €228.0 billion (1.0 percent to 2.0 percent of GDP) in the first three to five years after MES is granted, and eliminate 1,745,400 to 3,490,900 EU jobs (0.9 percent to 1.8 percent of total EU employment).
- Put 478,600 to 957,300 jobs directly at risk due to increased imports from China; an additional 537,100 to 1,074,100 jobs indirectly at risk in supplier industries, including manufacturing, commodity, and service industries; and, through the loss of wages supported by these direct and indirect jobs, potentially eliminate an additional 729,800 to 1,459,700 responding jobs throughout the EU economy. These totals could increase due to the threat of increased imports in import-sensitive industries, discussed below.
- Potentially eliminate between 779,300 and 1,558,700 jobs in manufacturing (2.4 percent to 4.8 percent of total manufacturing employment), representing the largest number of jobs at risk of any major industry. Within manufacturing, the largest potential losses would be in textiles and apparel, with 187,000 to 374,000 jobs at risk—7.8 percent to 15.5 percent of total employment in textiles and apparel. Other manufacturing industries with large numbers of jobs at risk would include computer, electronic, and optical products, with 143,900 to 287,900 at-risk jobs, representing 9.2 percent to 18.3 percent of total industry employment; furniture, with 92,500 to 185,000 jobs at risk, representing 4.1 percent to 8.2 percent of total industry employment; and fabricated metal products, with 58,900 jobs to 117,800 jobs at risk, representing 1.6 percent to 3.2 percent of total industry employment.
- Place large numbers of jobs at risk in industries outside of manufacturing, including wholesale and retail trade (252,600 to 505,300 jobs, or 0.9 percent to 1.7 percent of total industry employment); and public, social, and related services (225,000 to 450,000 jobs, or 0.3 percent to 0.6 percent of total industry employment).
- Create the biggest number of potential job losses in the four largest EU economies. Germany has the largest number of jobs at risk (319,700 to 639,200 jobs), followed by Italy (208,100 to 416,200 jobs), the United Kingdom (193,400 to 386,800 jobs), and France (183,300 to 366,800 jobs). These four countries are also hard hit when measured by jobs at risk as a share of total employment, though the rankings shift slightly, with Italy at the top (jobs at risk constituting 0.9 percent to 1.9 percent of total employment), followed by Germany (0.8 percent to 1.7 percent of total employment), France (0.7 percent to 1.5 percent of total employment), and the United Kingdom (0.7 percent to 1.4 percent of total employment). The next four countries, in terms of total jobs at risk, are Poland

(145,100 to 290,100 jobs), Spain (136,600 to 273,300 jobs), Romania (100,100 to 200,100 jobs) and the Netherlands (52,000 to 104,000 jobs).

- Have the biggest impact, in terms of the number of jobs at risk as a share of total employment, in the 10 countries in Central Europe. The top 10 hardest hit when ranked by jobs at risk as a share of total employment are led by Bulgaria (1.3 percent to 2.7 percent of total jobs), Romania (1.2 percent to 2.5 percent of total jobs), and Hungary (1.1 percent to 2.2 percent of total jobs). However, most of those countries are relatively small and have relatively few total jobs at risk. The largest countries in this group are Poland (where the 145,100 to 290,100 jobs at risk constitute 1.0 to 1.9 percent of total employment), Romania (100,100 to 200,100 jobs at risk constituting 1.2 percent to 2.5 percent of jobs), and the Czech Republic (46,900 to 93,900 jobs at risk, constituting 1.0 percent to 2.0 percent of total employment).
- Put an additional 2.7 million workers in a handful of highly vulnerable industries also directly at risk. The list of vulnerable industries includes motor vehicle parts (1.2 million jobs at risk), paper and paper products (647,000 jobs at risk), steel (350,000 jobs at risk), ceramics (338,000 jobs at risk), glass (100,000 jobs at risk), aluminum (80,000 jobs at risk), bicycles and parts (28,000 jobs at risk), and additional jobs in other industries such as chemicals and solar cells, which are at risk due to excess capacity and production in China. Job losses in these industries would also lead to up- and down-stream losses in supplier industries, and to multiplier losses due to the loss of wages. Thus, total job losses if the EU decides to grant MES to China could easily exceed the total of 3.5 million jobs at risk identified above.

Background

The European Union and other members of the WTO—including the United States—are currently considering whether to grant market economy status to China, with some EU officials reportedly leaning in favor of a unilateral grant of MES status to China (Dalton 2015). When China joined the WTO, the terms of its “Protocol of Accession” allowed other WTO members to “ignore Chinese prices and costs in anti-dumping (AD) cases and instead base the calculation of dumping margins using external benchmarks” (Hufbauer and Cimino 2015). Those benchmarks include input prices published by the World Bank, or (in the case of the EU) the costs of a surrogate firm in another country making the same product. This clause effectively allowed other countries to apply to China anti-dumping cases the “nonmarket economy” (NME) methodologies long in place for use in anti-dumping cases against imports from other communist countries. NME methodologies essentially result in much higher duties on Chinese imports in anti-dumping cases than would be assessed if China were treated as a market economy.

While Chinese officials have argued that the provisions of China’s WTO accession agreement require that all member governments accord China market economy status on December 11, 2016, prominent analysts and trade lawyers disagree (Hufbauer and Cimino 2015, O’Connor 2011, Miranda 2014).¹

With MES status, China could avoid effective enforcement of anti-dumping laws in the EU, U.S., and other countries because authorities in anti-dumping investigations would be required to start with the presumption that prices and costs in that country are market determined, resulting in much lower or even zero duties in anti-dumping cases. In addition, if the EU decided to grant MES to China, it would also eliminate the threat that duties could be imposed on tens

of thousands of China-manufactured products that benefit from depressed or subsidized input costs. Thus, Chinese exporters could lower prices substantially without fear of engendering anti-dumping complaints.

China has used extensive subsidies of basic inputs, including energy, raw materials, land, and the cost of capital, to support production and exports in a wide range of industries including steel, paper, glass, and auto parts (Haley 2008, 2009, 2010, and 2012). The Chinese central government and political authorities have maintained extensive controls over the economy through 71 detailed five-year plans, 22 national industrial-sector plans, and provincial and local governments have been extensively involved in implementing these national plans as well as their own local plans (Taube and Schmidkonz 2015). In addition, currency manipulation by China has acted as a subsidy to China's exports to the EU and other countries, and a tax on EU exports to China, and to all other countries where EU products compete with those from China (Scott 2014, 2015a, 2015b).² Currency manipulation adds a wedge between costs and prices in China and those in other countries, and provides a further justification for treatment of China as a nonmarket economy in anti-dumping cases.

These subsidies and support policies, plus rapid growth of planned investments in "leading and pillar" industries in China's five-year development plans (British Chamber of Commerce in China 2011), have led to sustained overproduction and substantial excess capacity in a number of Chinese industries, including steel, aluminum, bicycles and parts, ceramics, glass, motor vehicle parts, paper and paper products, semiconductors, photovoltaic solar cells, and other renewable energy products (such as wind turbines) (Stewart et al. 2014). This has resulted in many anti-dumping and anti-subsidy cases against Chinese manufacturers in countries around the world. At the end of 2014, the EU had 81 anti-dumping measures and 13 anti-subsidy measures in force, and 54 of those measures, or nearly three-fifths of the total, involved products from China (European Commission 2015i). As of September 1, 2015, the United States had 129 active anti-dumping and countervailing duty orders in force against China, more than any other country and well over one-third (39.7 percent) of all orders in place in the U.S. (USITC 2015a). Anti-dumping orders were in force in a much larger share of total cases in both the EU and in the U.S., and anti-subsidy orders were applied to only a small share of products under unfair trade orders in both areas.³ In the United States, a considerable share of orders in force against China likely involve U.S. steel producers, who alone filed more than 40 anti-dumping and countervailing duty cases in 2013 and the first two months of 2014 (Stewart et al. 2014).

A decision to grant MES to China would expose producers in the European Union, United States, and other countries to a flood of cheap products from China. The *Wall Street Journal* reports that, according to industry sources, "Granting China market-economy treatment would leave European manufacturers with few tools to protect themselves." "This is the mother of all trade issues now," a senior official of the European steel industry told the *Journal*. "We would have to function in a constantly depressed price environment," he said (Dalton 2015).

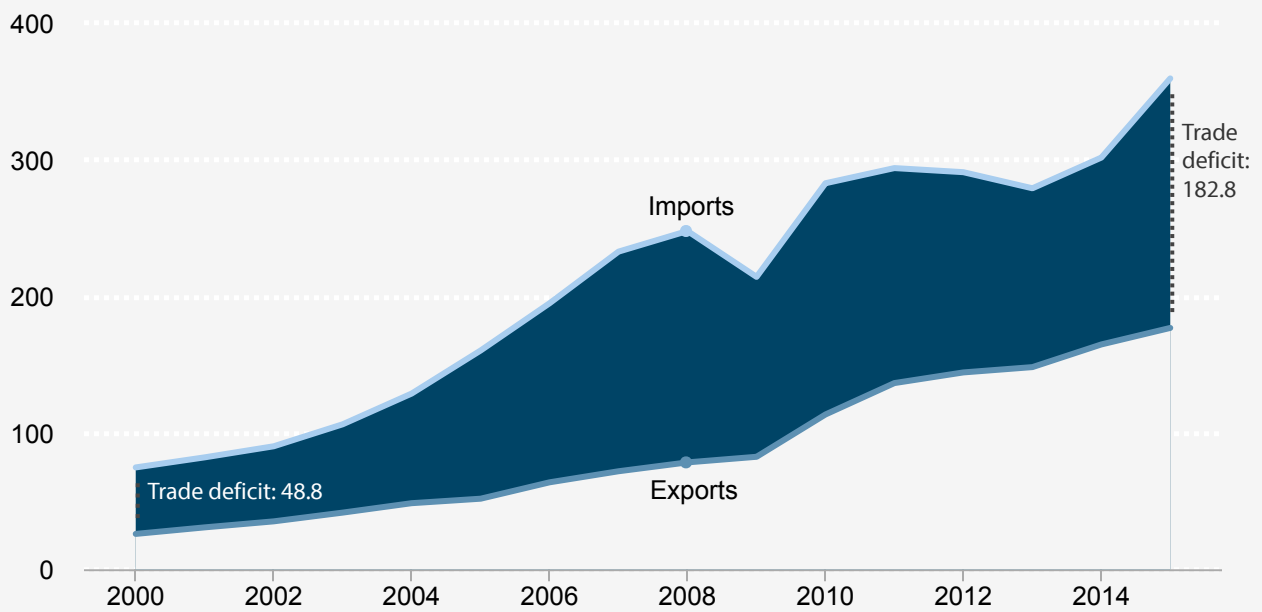
A study for the Swedish National Board of Trade (Detlof and Fridh 2006), found that anti-dumping duties imposed on products of companies that are treated as operating under market economy conditions are nearly 30 percentage points lower on average than duties imposed on products of those that are not. As noted in the study, China is the most often targeted NME in anti-dumping investigations. This difference in margins can be taken as the immediate consequence of granting market status to China: the anti-dumping duties applied to imports from China would fall from around 40 percent to 10 percent or less. Another consequence of the grant of MES would be a certain reduction in the number of

complaints filed and cases opened, due to the increased difficulty of demonstrating dumping based on costs and prices in China (Urdinez and Masiero 2015).

Already, despite the treatment of China as a nonmarket economy under the terms of its accession agreement to the World Trade organization in 2001 (Hufbauer and Cimino 2015), European imports from China have surged dramatically over the past decade and a half, as shown in **Figure A**. Total EU imports rose from €74.6 billion in 2000 to €359.6 billion in 2015, a nearly fivefold increase, of 481.8 percent, or 11.1 percent per year (EU data here and throughout this report are for the 27 EU countries prior to the accession of Croatia in July 2013). Note that EU exports to China also increased rapidly between 2000 and estimated 2015, but from a smaller base. As a result the EU trade deficit with China is projected to reach an all-time peak of €182.8 billion in 2015 (European Commission (2015d)). Clearly, a decision to grant MES status will cause EU imports from China to rise substantially faster than they have since 2000.

FIGURE A

EU trade deficit with China, 2000–2015* (billions of euros)



*2015 estimates based on year-to-date trade flows through June 2015.

Note: Croatia, which joined the EU in 2013, is excluded from the analysis

Source: Authors' analysis of data from the European Commission (2015d)

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The output and employment impacts of an EU decision to grant market economy status to China

China has massive amounts of excess production capacity in a wide range of industries because of the cumulative effects of massive and widespread subsidies and state, provincial, and local capacity-expansion plans designed to support China's export-led growth strategy. As a result, "China is producing too much steel, plate glass, chemicals, solar panels

and other goods for the domestic market, and usually exports the excess at cut-rate prices,” according to the Wall Street Journal’s *China Real Time Report* (Davis 2014). As Anthony DeCarvalho, a senior economist with the Organization for Economic Cooperation and Development, explained in the article, “China is creating a glut of [steel] supply and hurting the profitability of the global industry.” In this context, anti-dumping laws based on the use of nonmarket economy rules to evaluate prices and costs in China and competing markets are the last line of defense against a flood of imports.

As stated earlier, China’s entry into the WTO has already increased average annual EU imports from China by more than 11 percent per year, despite the EU’s treatment of China as a nonmarket economy. Given the existence of widespread supply gluts in China, it is reasonable to assume that an EU decision to grant permanent MES to China would add, to that base increase in imports, an additional 5 to 10 percent annual increase in imports in three to five years.⁴ This incremental increase in imports would result from both an increase in imports of products that are currently subject to anti-dumping measures (because lower duties would make the products cheaper), and an increase in imports of other products in the same sectors and in other key sectors targeted by China’s five-year plans (because the perceived lack of effective trade-defense measures following the grant of MES would lower disincentives to dumping those products).⁵

Therefore, this study assumes that an EU decision to grant MES to China would increase manufactured imports from China by between 25 percent and 50 percent of their base level in 2011 over the medium term (in the three to five years following the decision. These are conservative estimates, based on the implied price impact of eliminating MES (30 percent) and reasonable estimates of import price elasticities.⁶ To emphasize, these amounts are over and above the impacts of trend growth in EU imports from, and the EU trade deficit with, China. This study uses a medium-term macroeconomic model to determine the overall impacts of rising imports on output and employment in the EU over the next three to five years. The distribution of jobs by industry and nation within the European Union was estimated using an EU input-output model and data on employment by industry in each of these countries. The models and data sources used in this study are described in further detail in the **Methodology Appendix** to this report.⁷

The trade impact assumptions used here are conservative for several reasons. First, modest growth in Chinese imports assumed here is lower than the trend rates of growth of EU imports from China over the 2000–2015 period, as noted above (11.1 percent per year). Second, the market penetration of Chinese imports in the EU, which totaled \$408.6 billion (€293.9 billion) in 2011, was substantially below that of the United States, which absorbed \$454.4 billion in that year (11.1 percent more Chinese imports) despite having slightly less total GDP (USITC 2015b).⁸ Thus, if the EU decides to grant MES to China it is likely to become at least as open to Chinese imports as the United States, if not more so, especially given the EU’s application of the WTO-plus “lesser duty rule,” and if the U.S. does not also grant China MES.⁹ Third, dumped and subsidized imports from China will come into the EU at lower prices than similar domestic products that are market-priced. Hence, a euro’s worth of Chinese imports will likely displace substantially more than one euro’s worth of economic output. Our model does not take those pricing differences into account. Finally, the EU economy has been suffering from a recession (in 2013 and 2014), high levels of unemployment, and large output gaps (IMF 2015b). Macroeconomic multipliers (discussed below) assumed here (1.6) are smaller than those estimated at the present time in the EU.¹⁰

The overall macroeconomic impacts of an EU decision to grant MES to China are shown in **Table 1**. The estimates are based on EU manufacturing imports from China in 2011, which totaled €285 billion, and made up 99.2 percent

of all EU imports from China that year (European Commission 2015d). The low- and high-impact scenarios assume that EU manufacturing imports from China increase by 25 percent (€71.3 billion) and 50 percent (€142.5 billion), respectively, over the medium term, merely as a result of the grant of MES (i.e., without considering continued trend growth due to other factors). The growth of imports from China is assumed to increase EU trade deficits, and is treated as a negative shock to EU output, which has a multiplier effect on the EU economies, as the direct loss of jobs and output in traded-goods industries and the indirect loss of jobs in services and other supplier sectors decreases overall wages and other income, which further depresses domestic spending in the EU, leading to further, “responding,” job losses. These macroeconomic impacts are estimated in the model described in the appendix, and result in a decline of between €114.1 billion and €228.0 billion in GDP (between 1.0 percent and 2.0 percent of EU GDP) over the next three to five years.

TABLE 1

Impact if EU grants market economy status (MES) to China

	Scenario*	
	Low impact	High impact
CHANGE IN:		
<i>Manufacturing imports from China (billions of euros)</i>	71.3	142.5
<i>Gross domestic product</i>		
<i>in annual billions of euros</i>	-114.1	-228.0
<i>as a share of projected GDP</i>	-1.0%	-2.0%
Number of jobs at risk (millions)		
<i>Share of total EU employment at risk</i>	0.9%	1.8%

* The low-impact scenario assumes granting MES to China would increase manufacturing imports from China by 25 percent over the next three to five years relative to their base level in 2011; the high-impact scenario assumes a 50 percent increase in imports from China.

Source: Authors’ analysis of Bivens (2014, Table 5), European Commission (2015a, 2015b, 2015c, 2015d, and 2015h). For a more detailed explanation of data sources and computations, see text and the appendix.

The macroeconomic model uses historical relationships between output and employment to estimate the total number of jobs at risk due to the growth of manufacturing imports from China. This model projects that a total of 1.7 million to 3.5 million EU jobs (0.9 to 1.8 percent of total EU employment) would be eliminated if the EU granted MES to China, assuming imports grow 25 to 50 percent, as estimated here. The implications of this decision at the industry and national level are examined below.

Jobs at risk by type

Estimates of the potential growth of EU manufacturing imports from China allow us to estimate jobs at risk overall and at the industry level.

Direct, indirect, and respending jobs at risk are aggregated over all industries and reported in **Table 2**. The jobs that would be eliminated by granting MES to China and thus increasing imports from China include 478,600 to 957,300 direct jobs in import-competing industries; 537,100 to 1,074,100 indirect jobs in supplier industries (including jobs in manufacturing, commodity, and service industries); and 729,800 to 1,459,700 respending jobs no longer supported by the wages of the direct and indirect job holders. Combining direct, indirect, and respending jobs yields a total of 1,745,400 to 3,490,900 jobs at risk due to increased imports if the EU grants MES to China.

TABLE 2

Total jobs at risk if EU grants MES to China

	Low impact*	High impact*
<i>Direct</i>	478,600	957,300
<i>Indirect</i>	537,100	1,074,100
<i>Respending</i>	729,800	1,459,700
<i>Total**</i>	1,745,400	3,490,900

* The low-impact scenario assumes granting MES to China would increase manufacturing imports from China by 25 percent over the next three to five years relative to their base level in 2011; the high-impact scenario assumes a 50 percent increase in imports from China.

** Subtotals may not add up to total due to rounding.

Source: Authors' analysis of Bivens (2014, Table 5), European Commission (2015a, 2015b, 2015c, 2015d, and 2015h). For a more detailed explanation of data sources and computations, see text and the appendix.

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In addition to the 1.7 to 3.5 million jobs threatened by a general surge in imports from China, there are up to 2.7 million jobs in highly import-sensitive manufacturing industries that could also be at risk due to surges of imports in specific industries such as paper, ceramics, steel, motor vehicle parts, and other highly vulnerable manufacturing industries, as shown below.

This paper focuses on the jobs at risk due to increased manufacturing imports from China only, for several reasons. First, a unilateral grant of MES will only affect potential duties on imports, and contains no policy measures designed to directly stimulate exports, unlike trade and investment agreements. Second, any gains due to increased exports of products containing imported components will be more than offset by reductions in the domestic output (value added) of such products for the domestic EU market. In other words, the European Union is, and will remain, the largest market for EU products. Any gains in export markets will come at the expense of reduced output, employment, and production of final products for the EU domestic market. Finally, aside from cyclical fluctuations in macroeconomic variables such as the rate of growth of demand and the value of the euro, the EU trade deficit with China has been trending up for more than a decade, as it has for most other developed countries (Scott 2014).

Jobs at risk by industry

Projected increases in manufacturing imports from China over the next three to five years were used to estimate the distribution of jobs (direct, indirect, and respending) by industry for the 30 unique industries (plus one aggregate sec-

tor: manufacturing) in the European Commission (2015c) sector plan. Our analysis compares jobs at risk with 2011 employment data as a baseline to estimate jobs at risk as a share of industry employment. The breakdown by industry is shown in **Table 3 (tables 3 through 6 are included at the end of this report)**.

Overall, the growth of EU manufacturing imports from China from granting MES to China would eliminate between 779,300 and 1,558,700 jobs in manufacturing (44.7 percent of jobs at risk across all industries), representing the largest number of jobs at risk of any major industry. The manufacturing jobs at risk represent 2.4 percent to 4.8 percent of total manufacturing employment in the European Union. Within manufacturing, the largest losses would occur in textiles and apparel (187,000 to 374,000 jobs, 7.8 percent to 15.5 percent of total industry employment in this sector in 2011). Other manufacturing industries with large numbers of jobs at risk would include computer, electronic, and optical products (143,900 to 287,900 jobs, or 9.2 percent to 18.3 percent of total industry employment); furniture (92,500 to 185,000 jobs, or 4.1 percent to 8.2 percent of total industry employment); and fabricated metal products (58,900 jobs to 117,800 jobs, or 1.6 percent to 3.2 percent of total industry employment).

Major industries with large numbers of jobs at risk outside of manufacturing include wholesale and retail trade (252,600 to 505,300 jobs, or 0.9 percent to 1.7 percent of total industry employment); public, social and related services (225,000 to 450,000 jobs, or 0.3 percent to 0.6 percent of total industry employment); management and other professional services (87,500 to 174,900 jobs, or 0.8 percent to 1.6 percent of total industry employment); transport services (83,600 to 167,300 jobs, or 0.8 percent to 1.6 percent of total industry employment); and agriculture, forestry, and fisheries (75,700 to 151,400 jobs, or 0.8 percent to 1.6 percent of total industry employment).

Job losses in these industries are the net result of projected changes in imports in sectors where the level of imports in 2011 was the highest. It is important to note that these results are based on a simplified translation of highly aggregated Standard International Trade Classification (SITC) trade data. Further research is required to confirm these results.

Jobs at risk by country

Total jobs at risk if the EU grants MES to China, by country, are shown in the next three tables. **Table 4** reports the number of jobs at risk by country due to increased manufacturing imports from China, ranked by jobs at risk as a share of total employment in the country. In this ranking, the 10 hardest-hit countries are in Central Europe, led by Bulgaria (where 1.3 percent to 2.7 percent of total jobs are at risk), Romania (where 1.2 percent to 2.5 percent of total jobs are at risk), and Hungary (where 1.1 percent to 2.2 percent of total jobs are at risk). However, most of those countries are relatively small and have relatively few total jobs at risk. The largest countries in this group are Poland (with 1.0 percent to 1.9 percent of total employment, or 145,100 to 290,100 jobs, at risk), Romania (100,100 to 200,100 jobs at risk), and the Czech Republic (with 1.0 percent to 2.0 percent of total employment, or 46,900 to 93,900 jobs, at risk). Among the four largest EU countries, Italy is hardest hit (with 0.9 percent to 1.9 percent of total employment at risk), followed by Germany (with 0.8 percent to 1.7 percent of total employment at risk), France (with 0.7 percent to 1.5 percent of total employment at risk), and the United Kingdom (with 0.7 percent to 1.4 percent of total employment at risk).

Table 5 reports the total number of jobs at risk by country, ranked by the total number of jobs at risk. This table shows that the “big four” have the largest total number of jobs at risk. This ranking is led by Germany (319,700 to 639,200 jobs), followed by Italy (208,100 to 416,200 jobs), the United Kingdom (193,400 to 386,800 jobs), and France (183,300 to 366,800 jobs). The next four countries, in terms of total jobs at risk are Poland (145,100 to 290,100

jobs), Spain (136,600 to 273,300 jobs), Romania (100,100 to 200,100 jobs), and the Netherlands (52,000 to 104,000 jobs).

Table 6 reports total jobs at risk by country, listing the member countries of the EU prior to Croatia's accession in 2013 alphabetically. Further detailed statistics for jobs at risk by country by industry under the low- and high-impact scenarios are shown in Appendix Tables A1 and A2. These tables include details that focus on jobs at risk in manufacturing, and two other aggregated sectors (resources and services). It is important to note that no data are reported for some industries in many of the smaller countries due to disclosure limitations or lack of data availability. Appendix Table A3 indicates where disclosure limitations restrict data availability, by industry and country. The appendix tables are available at the "Supplementary data" link posted online with the text of this report (<http://www.epi.org/publication/eu-jobs-at-risk>).

Jobs and investment at risk in key industries

Above and beyond the 1.7 million to 3.5 million jobs at risk due to surging imports from China in all industries, millions of additional workers in a handful of highly vulnerable industries are also directly at risk if the EU grants MES status to China. As **Table 7** shows, an additional 2.7 million workers in a selected subset of key industries examined in this report are also directly at risk. The list of vulnerable industries with jobs at risk includes motor vehicle parts (1.2 million jobs), paper and paper products (647,000 jobs), steel (350,000 jobs), ceramics (338,000 jobs), glass (100,000 jobs), aluminum (80,000 jobs), and bicycles and parts (28,000 jobs). These industries are highly at risk due to the potential for large import surges in sectors where China has or is developing substantial excess production capacity and has demonstrated past willingness to engage in illegal subsidies and massive dumping of excess domestic production at prices below cost. They are also industries that are benefiting from anti-dumping protection against unfair imports from China—measures that would be undermined if the EU grants MES to China.

Job losses in these industries would also lead to up- and down-stream losses in supplier industries, and to multiplier losses due to the loss of wages. Declining demand for domestic manufactured goods in the EU due to surging imports from China would also have a depressing effect on manufacturing investment, which is highly capital intensive.¹¹ In addition, manufacturing is also responsible for a large share (more than two-thirds in the United States) of business investment in research and development (Scott 2015c). Thus, total job losses if the EU decides to grant MES to China could easily exceed the total of 1.7 to 3.5 million jobs at risk identified above, and surging imports of dumped Chinese products could have a depressing effect on business investment in capital stock, and on investments in research and development.

TABLE 7

Employment in industries vulnerable to surges of dumped and subsidized imports if the EU grants MES to China, 2011–2012

Sectors	Jobs at risk
<i>Aluminum</i>	80,000
<i>Bicycles and parts*</i>	28,000
<i>Ceramics</i>	338,000
<i>Glass</i>	100,000
<i>Motor vehicle parts</i>	1,200,000
<i>Paper and paper products</i>	647,000
<i>Steel**</i>	350,000
Total	2,743,000

* 2010 employment estimate.

** 2015 employment estimate

Source: EUROFER (2015), European Aluminum Association (2013), European Commission (2015e, 2015f, and 2015g), Library of the European Parliament (2013), and The Council of the European Union (2013)

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Conclusion

Overall imports from China increased at a remarkable 11.1 percent annual rate between 2000 and 2015, increasing nearly fivefold over that period, rising from €74.6 billion in 2000 to €359.6 billion in 2015. If the EU decides to grant market economy status to China, imports from China would increase by between 25 and 50 percent, putting at least 1,745,400 to 3,490,900 EU jobs at risk, and reducing EU output by €114.1 billion to €228.0 billion per year. In addition, up to 2.7 million jobs in highly vulnerable industries subject to periodic waves of dumped and subsidized imports from China are also at special risk if the EU grants MES to China. Declining demand for domestic manufactured goods in the EU due to surging imports could also have a depressing effect on business investment in manufacturing. The EU would be well advised to consider the hundreds of billions of euros of output and millions of jobs that would be at risk before unilaterally offering MES to China.

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Appendix A: Methodology: The hybrid input-output/macroeconomic model

This analysis uses a basic macroeconomic model, based on simple economic multipliers, to estimate the employment impacts of surging Chinese imports on the European Union over the next three to five years. The model uses trade and output data for 2011 as a base year. EU output has been flat to declining in the 2012–2017 period (IMF 2015b). Output (nominal GDP) is not projected to exceed the 2011 level until 2018 (IMF 2015b). Thus, GDP and employment in 2011 is used as a base year for calculating expected changes in output and employment over the three to five years following the granting of MES to China.

The macroeconomic model

The macroeconomic model used to estimate the overall impacts of increasing Chinese manufacturing imports on EU GDP and employment starts with the assumption that Chinese imports would increase by between 25 percent and 50 percent, over the next three to five years (as explained in the body of this report), holding everything else constant (€71.3 billion to €142.5 billion). Increases in Chinese imports are assumed to directly reduce the EU balance of trade.

In our macroeconomic model, reductions in the trade balance would have a multiplier impact on GDP of 1.6, with each euro decrease in the trade balance reducing GDP by €1.6. This is equivalent to the U.S. multiplier for infrastructure spending (Bivens 2014). This is conservative for the EU, which currently has government spending multipliers in the range of 2.0 (Geichert, Hallett, and Rannenberg 2015). Thus, a €100 billion increase in the trade deficit would reduce GDP by an estimated €160 billion in the three- to five- year period after the EU grants MES to China (at some point in 2016 or later), and so on. The model further assumes that each percentage-point reduction in GDP will reduce overall employment in the economy by 0.9 percent (Bivens 2014). Thus, the macro model determines the overall effects of changes in trade on output and employment.

Estimating the impacts of changing trade flows on the distribution of employment

The empirical method for analyzing the employment effects of Chinese manufacturing imports is grounded in an input-output framework. An input-output table is a representation of national accounts, showing the flow of all economic transactions for a given country or region. Similarly, an input-output model is a quantitative economic technique that is used to analyze the impact of a change in final demand, such as net exports and imports. Assuming fixed labor, capital, and interindustry input requirements for production, this model enables us to calculate the economy-wide employment loss due to the home country's or region's surging imports.

A 2011 input-output table for the aggregate 27 EU countries prior to June 2013, when Croatia joined the EU (the EU27), is used to investigate the potential effect of surging Chinese imports on the EU via input-output production linkage between trade and employment. Trade data were obtained from Eurostat (European Commission 2015d). Input-output data were obtained from the European Commission (2015c, Eurostat Symmetric input-output table). Our basic assumption is that manufactured imports from China to the EU27 would increase by between 25 percent and 50 percent if the EU grants the market economy status to China. In our analysis, the 25 percent import increase is regarded as the “low-impact” scenario, whereas the 50 percent increase is the “high-impact” scenario. Using both input-output and trade data, we estimate the distribution of jobs displaced by Chinese imports under these two sce-

narios. The overall number of jobs at risk was estimated from expected changes in trade volumes, treated as an external shock, as described above. The distribution of jobs at risk by industry and by country was then estimated using the level of Chinese imports in 2011, by industry, in the 2011 input-output model. Employment data were obtained from the European Commission (2015a and 2015b).

This analysis is conducted using both so-called “Type I” and “Type II” multipliers. A Type I multiplier addresses both the direct and indirect effects of surging Chinese imports on employment through input-output production linkages. Type I multipliers include the total jobs supported directly by output by industries affected by changes in output (e.g., an increase in imports from China). Type I multipliers also capture the effects of changes in output in other upstream and downstream supplier and processing industries, including those providing natural resource and services inputs (e.g., agricultural products, and accounting and legal services), as well as services supplied in the final distribution of a given manufactured commodity, such as wholesale and retail trade, marketing, and public services.

In addition to these direct and indirect effects are the income-induced (or respending) effects resulting from associated changes in household incomes and expenditures—these effects are captured by Type II multipliers. In calculating Type II multiplier effects, we take into account the effects of wage earners’ expenditures of income on each sector’s outputs in the form of household consumption. Type II multipliers are also otherwise referred to, and referred to here, as “responding” multipliers. In other contexts, they are also known as Keynesian or simple macroeconomic multipliers.

Bilateral trade data between the EU27 and China at the SITC three-digit level were matched to the 63 industries in the EU27 input-output table partly based on a correspondence table provided by The European Commission (2015h). Results for the 63 input-output industries are further aggregated to 30 industries with 2 resource industries, 19 manufacturing industries, and 9 service industries. These data are allocated to their respective input-output industries according to the correspondence table to study their employment effects.

2011 employment data by sector for each EU27 country are used to construct an employment shares table with each row being the national employment shares for each sector. This table is then used to distribute the employment results obtained by running the input-output model basic on EU27 aggregate input-output table across the countries; this produces the by-industry, by-country estimates of jobs at risk due to surging Chinese imports. There are some missing data on employment at the by-country, by-industry level, and they are treated as zeros in the input-output analysis. **Appendix Table A3** indicates the countries and industries with missing employment data with the letter “d.”

Endnotes

1. See also Ruessmann and Beck (2014) and see also references cited in note 6 there.
2. China is one of more than 20 well-known currency manipulators (Scott 2014), most of which are in Asia, and is the largest of those by far. Currency manipulation by China has, in effect, caused other countries in the region to engage in similar currency manipulation practices, simply to remain competitive with their giant neighbor. This can complicate NME analysis in anti-dumping cases if, for example, the surrogate firms chosen to evaluate dumping margins are themselves currency manipulators. The fundamental point is that currency manipulation drives a wedge between fair market and prevailing prices for factors of production such as labor, energy, and materials, which is an issue that should be taken into consideration by countries in the enforcement of anti-dumping laws.
3. These statistics pertain to all orders in force in both the EU and the United States. These data suggest that anti-dumping orders are more effective, or easier to obtain, or both, relative to anti-subsidy measures. However, that is an empirical question which requires further research.
4. In the first year, this would represent an increase in imports from China of approximately €7.5–15 billion. In this regard, note that EU imports of solar modules and cells from China alone increased by more than €7 billion in 2011 (more than 7 percent of all EU imports from China in that year), an increase of about 50 percent from imports in 2010. See Commission Regulation (EU) No 513/2013 of 4 June 2013, OJ 2013 L 152/5, recitals 110 and 113 (The European Commission 2013).
5. Note that with the removal of textile and footwear quotas following China's WTO accession in 2001, EU imports of baby textile products from China shot up 240 percent in the first year alone (Huang 2005). With the grant of MES, all industrial sectors would be affected, and in particular those important sectors such as steel, aluminium, glass, paper, chemicals, etc., which are expressly targeted in China's five-year plans.
6. Tokarick (2010, Table 1) finds that the mean estimates for the import demand elasticity are -1.35 and -1.84 in the short run and long run, respectively (excluding general equilibrium estimates because the EU is not at full employment). These estimates imply that an effective 30 percent decline in the price of Chinese imports would increase demand by between 40.5 percent and 55.2 percent. Thus, our estimate that imports will increase by between 25 and 50 percent is conservative.
7. Combined macro/IO models have also been used by Bivens (2014, Table 1 and Appendix) and Scott (2014, Appendix).
8. U.S. GDP in 2011 was \$15.5 trillion, while total GDP in the EU-27 reached \$16.2 trillion (€11.7 trillion) (IMF 2015a and 2015b).
9. Article 9 of the WTO "establishes the desirability of application a 'lesser duty' rule. Under a lesser duty rule, authorities impose duties at a level lower than the margin of dumping but adequate to remove injury" (WTO 2015).
10. Gechert, Hallet, and Rannenberg (2015) review a large number of EU multiplier studies and estimate that government spending multipliers in the EU were in the range of 2.0 between 2011 and 2013. This study uses a multiplier of 1.6, as noted in the appendix.
11. For example, in the United States, manufacturing generated 13.8 percent of total private-sector output in 2014, but used 21.7 percent of the net stock of private equipment (on a current-cost basis), and the ratio of net capital stock to output was 57.8 percent greater than in the average private-sector industry in that year (BEA 2015a and 2015b).

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TABLE 3

Jobs at risk in EU by industry if EU grants MES to China

Sectors	Low impact*		High impact*	
	Jobs at risk	Jobs at risk as a share of industry employment	Jobs at risk	Jobs at risk as a share of industry employment
<i>Agriculture, forestry, and fisheries</i>	75,700	0.8%	151,400	1.6%
<i>Mining and quarrying</i>	6,600	0.8%	13,000	1.6%
Manufacturing	779,300	2.4%	1,558,700	4.8%
Food products, beverages, and tobacco products	41,600	0.9%	83,200	1.7%
Textiles, wearing apparel, and leather products	187,000	7.8%	374,000	15.5%
Wood and products made of wood and cork, except furniture; articles of straw and plaiting materials	16,000	1.4%	31,900	2.9%
Paper and paper products	7,400	1.1%	14,900	2.3%
Printing and recording services	10,000	1.1%	19,900	2.2%
Coke and refined petroleum products	1,500	0.7%	3,100	1.5%
Chemicals and chemical products	19,600	1.4%	39,100	2.9%
Basic pharmaceutical products and pharmaceutical preparations	4,200	0.5%	8,500	1.1%
Rubber and plastics products	29,000	1.8%	58,000	3.7%
Other nonmetallic mineral products	15,400	1.1%	30,800	2.2%
Basic metals	21,800	1.7%	43,400	3.4%
Fabricated metal products, except machinery and equipment	58,900	1.6%	117,800	3.2%
Computer, electronic, and optical products	143,900	9.2%	287,900	18.3%
Electrical equipment	49,400	3.5%	98,700	7.1%
Machinery and equipment, n.e.c.	44,700	1.5%	89,600	3.1%
Motor vehicles, trailers, and semi-trailers**	17,700	0.6%	35,400	1.2%
Other transport equipment	10,000	1.1%	20,000	2.2%
Furniture; other manufactured goods	92,500	4.1%	185,000	8.2%
Repair and installation services of machinery and equipment	8,700	0.7%	17,500	1.5%
<i>Utilities</i>	29,600	0.9%	59,200	1.8%
<i>Construction and construction works</i>	31,600	0.2%	63,300	0.4%

TABLE 3 (CONTINUED)

Sectors	Low impact*		High impact*	
	Jobs at risk	Jobs at risk as a share of industry employment	Jobs at risk	Jobs at risk as a share of industry employment
<i>Wholesale and retail trade</i>	252,600	0.9%	505,300	1.7%
<i>Transport services</i>	83,600	0.8%	167,300	1.6%
<i>Accommodation and food services, and travel</i>	73,800	0.8%	147,700	1.6%
<i>Communication services</i>	38,200	0.6%	76,400	1.2%
<i>Finance, insurance and real estate</i>	61,900	0.8%	123,700	1.5%
<i>Management, legal, accounting, professional, technical, and employment services</i>	87,500	0.8%	174,900	1.6%
<i>Public, social, personal, and educational services (including households)</i>	225,000	0.3%	450,000	0.6%
Total***	1,745,400	0.8%	3,490,900	1.6%

* The low-impact scenario assumes granting MES to China would increase manufacturing imports from China by 25 percent over the next three to five years relative to their base level in 2011; the high-impact scenario assumes a 50 percent increase in imports from China.

** Includes motor vehicle parts.

*** Subtotals may not add up to totals due to rounding.

Source: Authors' analysis of Bivens (2014, Table 5), European Commission (2015a, 2015b, 2015c, 2015d, and 2015h). For a more detailed explanation of data sources and computations, see text and the appendix.

TABLE 4

Jobs at risk if EU grants MES to China, by country, ranked by share of total country employment at risk

Rank	Country	Low impact*		High impact*	
		Jobs at risk	Jobs at risk as a share of total country employment	Jobs at risk	Jobs at risk as a share of total country employment
1	Bulgaria	38,000	1.3%	76,100	2.7%
2	Romania	100,100	1.2%	200,100	2.5%
3	Hungary	40,500	1.1%	80,900	2.2%
4	Estonia	5,200	1.1%	10,500	2.1%
5	Slovakia	24,400	1.1%	48,800	2.1%
6	Portugal	45,700	1.1%	91,400	2.1%
7	Slovenia	9,000	1.0%	18,000	2.0%
8	Czech Republic	46,900	1.0%	93,900	2.0%
9	Lithuania	11,100	1.0%	22,100	1.9%
10	Poland	145,100	1.0%	290,100	1.9%
11	Italy	208,100	0.9%	416,200	1.9%
12	Malta	1,200	0.9%	2,400	1.8%
13	Germany	319,700	0.8%	639,200	1.7%
14	Latvia	6,300	0.8%	12,600	1.7%
15	Austria	31,900	0.8%	63,700	1.6%
16	Finland	19,400	0.8%	38,900	1.6%
17	Greece	30,700	0.8%	61,300	1.5%
18	Ireland	13,700	0.8%	27,500	1.5%
19	Spain	136,600	0.7%	273,300	1.5%
20	Denmark	18,900	0.7%	37,800	1.5%
21	France	183,300	0.7%	366,800	1.5%
22	Netherlands	52,000	0.7%	104,000	1.4%
23	Belgium	30,700	0.7%	61,300	1.4%
24	United Kingdom	193,400	0.7%	386,800	1.4%
25	Sweden	30,400	0.7%	60,700	1.4%
26	Cyprus	2,400	0.6%	4,800	1.3%
27	Luxembourg	1,000	0.6%	2,000	1.2%

* The low-impact scenario assumes granting MES to China would increase manufacturing imports from China by 25 percent over the next three to five years relative to their base level in 2011; the high-impact scenario assumes a 50 percent increase in imports from China.

Source: Authors' analysis of Bivens (2014, Table 5), European Commission (2015a, 2015b, 2015c, 2015d, and 2015h). For a more detailed explanation of data sources and computations, see text and the appendix.

TABLE 5

Jobs at risk if EU grants MES to China, by country, ranked by number of jobs at risk

Rank	Country	Low impact*		High impact*	
		Jobs at risk	Jobs at risk as a share of total country employment	Jobs at risk	Jobs at risk as a share of total country employment
1	Germany	319,700	0.8%	639,200	1.7%
2	Italy	208,100	0.9%	416,200	1.9%
3	United Kingdom	193,400	0.7%	386,800	1.4%
4	France	183,300	0.7%	366,800	1.5%
5	Poland	145,100	1.0%	290,100	1.9%
6	Spain	136,600	0.7%	273,300	1.5%
7	Romania	100,100	1.2%	200,100	2.5%
8	Netherlands	52,000	0.7%	104,000	1.4%
9	Czech Republic	46,900	1.0%	93,900	2.0%
10	Portugal	45,700	1.1%	91,400	2.1%
11	Hungary	40,500	1.1%	80,900	2.2%
12	Bulgaria	38,000	1.3%	76,100	2.7%
13	Austria	31,900	0.8%	63,700	1.6%
14	Greece	30,700	0.8%	61,300	1.5%
15	Belgium	30,700	0.7%	61,300	1.4%
16	Sweden	30,400	0.7%	60,700	1.4%
17	Slovakia	24,400	1.1%	48,800	2.1%
18	Finland	19,400	0.8%	38,900	1.6%
19	Denmark	18,900	0.7%	37,800	1.5%
20	Ireland	13,700	0.8%	27,500	1.5%
21	Lithuania	11,100	1.0%	22,100	1.9%
22	Slovenia	9,000	1.0%	18,000	2.0%
23	Latvia	6,300	0.8%	12,600	1.7%
24	Estonia	5,200	1.1%	10,500	2.1%
25	Cyprus	2,400	0.6%	4,800	1.3%
26	Malta	1,200	0.9%	2,400	1.8%
27	Luxembourg	1,000	0.6%	2,000	1.2%

* The low-impact scenario assumes granting MES to China would increase manufacturing imports from China by 25 percent over the next three to five years relative to their base level in 2011; the high-impact scenario assumes a 50 percent increase in imports from China.

Source: Authors' analysis of Bivens (2014, Table 5), European Commission (2015a, 2015b, 2015c, 2015d, and 2015h). For a more detailed explanation of data sources and computations, see text and the appendix.

TABLE 6

Jobs at risk if EU grants MES to China, by country, listed alphabetically

Rank	Country	Low impact*		High impact*	
		Jobs at risk	Jobs at risk as a share of total country employment	Jobs at risk	Jobs at risk as a share of total country employment
1	Austria	31,900	0.8%	63,700	1.6%
2	Belgium	30,700	0.7%	61,300	1.4%
3	Bulgaria	38,000	1.3%	76,100	2.7%
4	Cyprus	2,400	0.6%	4,800	1.3%
5	Czech Republic	46,900	1.0%	93,900	2.0%
6	Denmark	18,900	0.7%	37,800	1.5%
7	Estonia	5,200	1.1%	10,500	2.1%
8	Finland	19,400	0.8%	38,900	1.6%
9	France	183,300	0.7%	366,800	1.5%
10	Germany	319,700	0.8%	639,200	1.7%
11	Greece	30,700	0.8%	61,300	1.5%
12	Hungary	40,500	1.1%	80,900	2.2%
13	Ireland	13,700	0.8%	27,500	1.5%
14	Italy	208,100	0.9%	416,200	1.9%
15	Latvia	6,300	0.8%	12,600	1.7%
16	Lithuania	11,100	1.0%	22,100	1.9%
17	Luxembourg	1,000	0.6%	2,000	1.2%
18	Malta	1,200	0.9%	2,400	1.8%
19	Netherlands	52,000	0.7%	104,000	1.4%
20	Poland	145,100	1.0%	290,100	1.9%
21	Portugal	45,700	1.1%	91,400	2.1%
22	Romania	100,100	1.2%	200,100	2.5%
23	Slovakia	24,400	1.1%	48,800	2.1%
24	Slovenia	9,000	1.0%	18,000	2.0%
25	Spain	136,600	0.7%	273,300	1.5%
26	Sweden	30,400	0.7%	60,700	1.4%
27	United Kingdom	193,400	0.7%	386,800	1.4%

* The low-impact scenario assumes granting MES to China would increase manufacturing imports from China by 25 percent over the next three to five years relative to their base level in 2011; the high-impact scenario assumes a 50 percent increase in imports from China.

Source: Authors' analysis of Bivens (2014, Table 5), European Commission (2015a, 2015b, 2015c, 2015d, and 2015h). For a more detailed explanation of data sources and computations, see text and the appendix.