



**UNITED STATES
INTERNATIONAL TRADE COMMISSION**

**The USITC Remanufacturing Report:
Key Findings, Observations, and Insights**

**The 2013 Remanufacturing Industry Roundtable
April 11, 2013**



Agenda

- About the USITC
- Background
 - Context: trade barriers, negative perceptions, work at the WTO and APEC
 - Principal elements of the study
- Scope and industry coverage
- Main Findings
 - Production, employment, investment
 - Trade
 - Competitive factors affecting remanufacturers
 - Foreign markets and barriers to trade
- Questions



About the USITC

- Independent, nonpartisan, quasi-judicial federal agency with broad investigative powers on matters of trade and tariff issues
 - Not a policy-making agency or trade-agreement negotiating body
- Six commissioners; 360 employees –
 - International trade analysts (investigators and experts in particular industries)
 - International economists, attorneys, and technical support personnel
- USITC's mission
 - Administer U.S. trade remedy laws in fair and objective manner (e.g., AD/CVD injury investigations)
 - Maintain U.S. Harmonized Tariff Schedule
 - Provide President, USTR, and Congress with independent and objective analysis on matters of tariffs, trade, and U.S. competitiveness
- USITC's remanufacturing study falls within the last mission category



Background: Context of USTR's Request

- Trade barriers to U.S. exports of remanufactured goods
 - Import bans
 - Other NTMs (e.g., onerous licensing requirements or regulatory barriers)
 - Used for consumer health/safety reasons or to shield domestic industries
- Negative perceptions of remanufactured goods
 - Not well understood
 - Considered “used” goods or junk
 - NIMBY
- Ongoing work at the WTO (since 2005) and APEC (since 2009)
 - Educating members on the economic value of remanufacturing (not much data)
 - Removing NTMs
 - Negotiating agreed upon definitions



Principal Elements of the USITC's Study

- Specific definition of “Remanufactured Goods” provided by USTR:

Non-agricultural goods that are entirely or partially comprised of parts that (i) have been obtained from the disassembly of used goods; and (ii) have been processed, cleaned, inspected, and tested to the extent necessary to ensure they have been restored to original working condition or better; and for which the remanufacturer has issued a warranty.

- Principal elements of request include:
 - Size and scope of remanufacturing in the United States
 - U.S. market for remanufactured goods
 - U.S. trade in remanufactured goods
 - Factors affecting sales, trade, and investment and recent trends
 - FDI in U.S. remanufacturing; outward FDI by U.S.-based firms
 - Overview of selected foreign markets; estimates of global trade
- Questionnaire-based covering 2009-11
 - Qs mailed to sample of 7,000 firms in 12 industry sectors; 60 percent response rate
 - Results were extrapolated to project activity for all U.S. remanufacturing activity



Scope and Industry Coverage

- USTR's request to focus on remanufacturing-intensive sectors
 - Remanufacturing-intensive is not defined in the request letter
 - Those commercial sectors that remanufacture relatively more than do other sectors
 - USITC focused on firms with > 20 employees (est. ~2,900 remanufacturing firms)
- 12 remanufacturing-intensive sectors identified through industry outreach:
 - Aerospace
 - Consumer products
 - Electrical apparatus
 - Heavy-duty and off-road (HDOR) equipment
 - IT products
 - Locomotives
 - Machinery
 - Medical devices
 - Motor vehicle parts
 - Office furniture
 - Restaurant equipment
 - Retreaded tires



Industry sectors and product examples

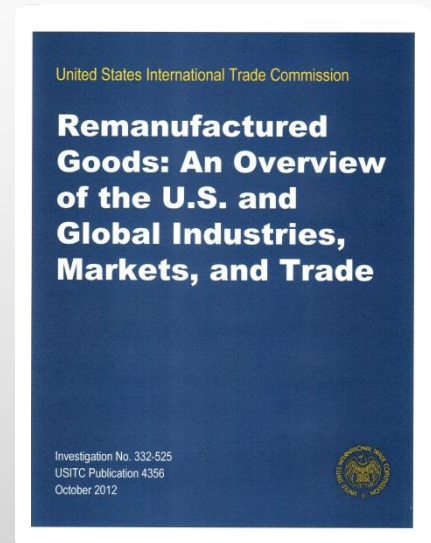
Sector	Product examples
Aerospace	Landing gears, flight surface actuators, engines, fuel systems
Consumer products	Consumer electronics, including mobile phones, cordless phones, smart phones, digital cameras, DVD players, televisions, etc.; and consumer household appliances, including washers, dryers, refrigerators, kitchen appliances
Electrical apparatus	Power distribution conductors, transformers, switch gears and boards
HDOR equipment	Diesel engines, transmissions, differential carriers, starters, brakes
IT products	Desktop computers, laptops, servers, data storage arrays, network switches, routers, modems, base transceiver stations, etc.; and imaging products, including copiers, printers, scanners, fax machines, ink and toner cartridges, fuser assemblies
Locomotives	Locomotive engines, drive motors, axles, other subsystems
Machinery	Industrial valves, turbines, machine tools, textile machinery, compressors, vending machines, HVAC and heating equipment
Medical devices	Diagnostic, surgical, and patient care apparatus; scanners; medical pumps; X-ray equipment
Motor vehicle parts	Starters, alternators, gear boxes, engines, differentials, brakes
Office furniture	Office systems furniture, laminate work surfaces, reupholstered office seating
Restaurant equipment	Ovens, beverage dispensers, food preparation tables
Retreaded tires	Tires for trucks, cars, off-the-road vehicles, airplanes

Industry sectors were mapped to specific NAICS categories (see app. F of report for details)



Main Findings

- U.S. production totaled at least \$43 billion in 2011, supporting 180,000 full-time jobs
- U.S. exports totaled \$11.7 billion, up 50 percent compared with 2009
- About 40 percent of U.S. exports went to FTA partners; Canada and Mexico are important markets
- Foreign remanufacturers invested in the United States account for about one-sixth of trade
- The price and availability of cores are the leading supply-side factors; the relative price of remanufactured goods and consumer perceptions are important demand-side factors
- Regulatory barriers in foreign markets limit U.S. exports of remanufactured goods and cores
- The United States and the EU account for the bulk of global remanufacturing activity; Brazil, India, and China are the fastest growing markets for new aftermarket parts, but restrict trade the most
- FDI in U.S. remanufacturing supported over 22,000 full-time remanufacturing jobs in the United States in 2011.





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U.S. production, employment, and exports are growing, but still small compared with overall sectors

Remanufactured goods production, investment, employment, exports, imports, and remanufacturing intensity, 2011

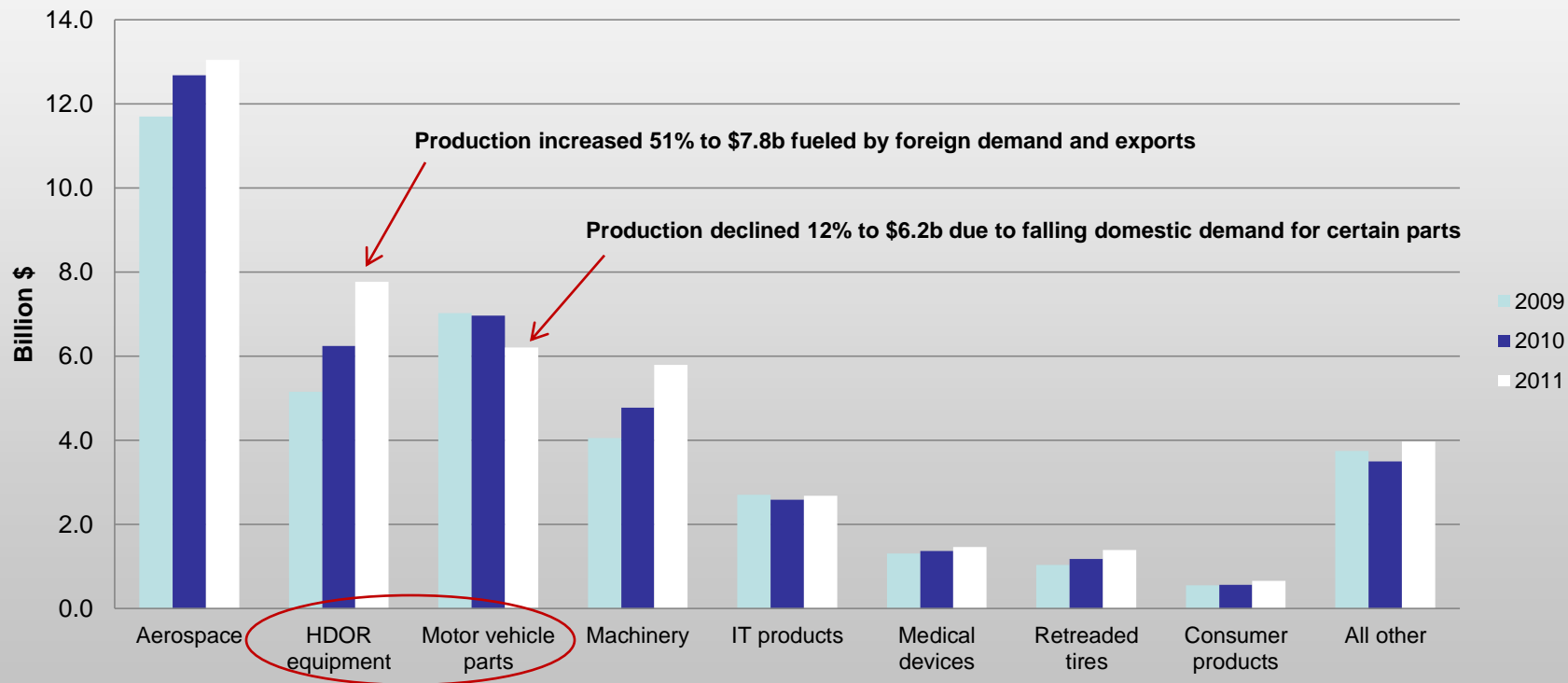
Sector	Production (million \$)	Investment (million \$)	Employment (full-time workers)	Exports (million \$)	Imports (million \$)	Remanufacturing intensity (%) (value of shipments of remanufactured goods to all products in sector)
Aerospace	13,013	90	35,201	2,590	1,870	2.5
HDOR equipment	7,771	163	20,870	2,452	1,489	3.8
Motor vehicle parts	6,212	106	30,653	582	1,482	1.1
Machinery	5,795	711	26,843	1,349	268	1.0
IT products	2,682	18	15,442	260	2,756	0.4
Medical devices	1,463	31	4,117	488	111	0.5
Retreaded tires	1,399	24	4,880	19	11	2.9
Consumer products	659	5	7,613	21	360	0.1
All other	3,974	68	22,999	225	41	1.3
Wholesalers	n/a	8	10,891	3,752	1,874	n/a
Total	43,000	1,223	179,509	11,736	10,263	2.0

MV parts is a large sector, but does not export much directly; reflects regional nature of business



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U.S. production totaled at least \$43 billion in 2011, up from \$39 billion in 2009; production in most sectors grew during the period

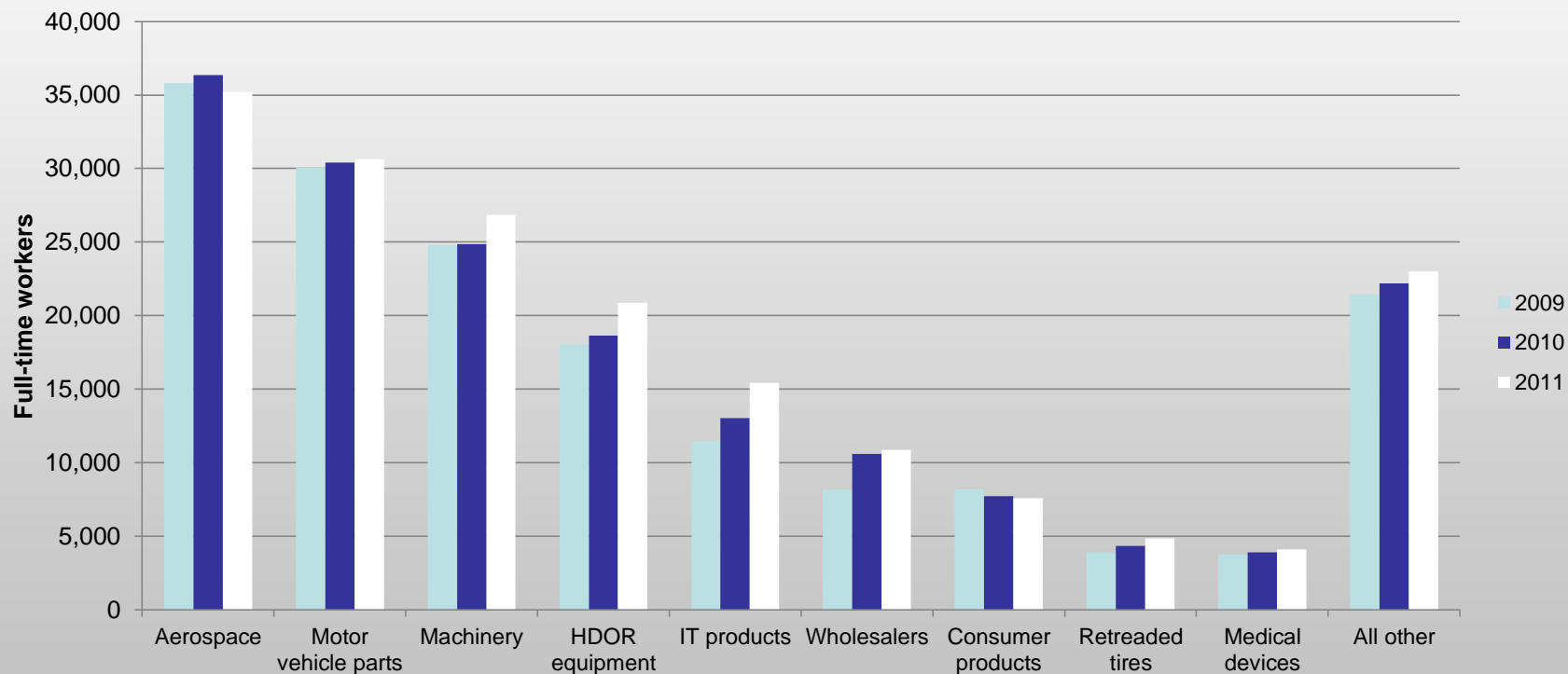


The drop in production of remanufactured MV parts may reflect falling domestic demand for certain parts, such as delayed purchases of power trains by fleet customers, as well as some production moving to Mexico



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U.S. remanufacturing employment increased to 180,000 full-time workers in 2011, up from 166,000 in 2009

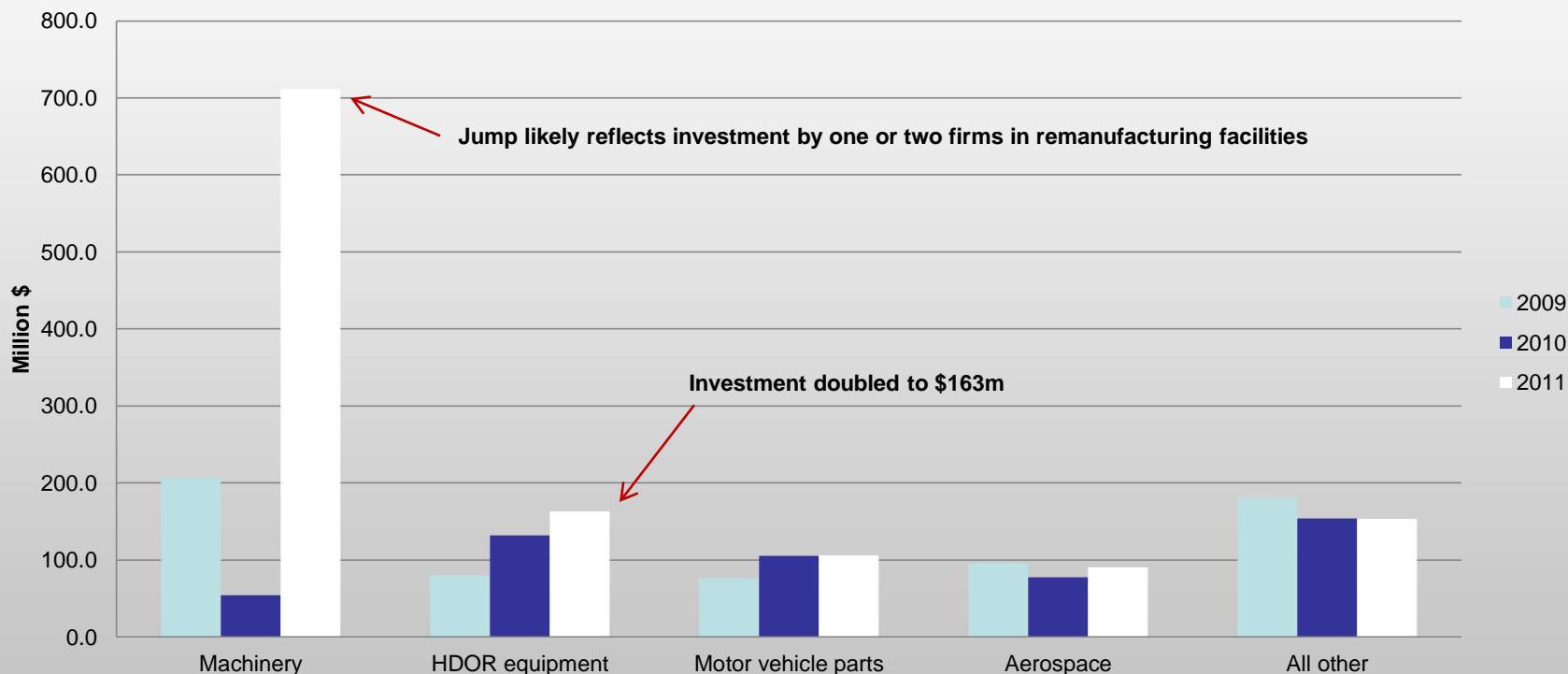


Aerospace, MV parts, and machinery sectors accounted for the greatest share of employment; IT products, wholesalers, and retreaded tires the largest growth



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U.S. remanufacturing investment almost doubled to \$1.2 billion in 2011; investment dominated by the machinery sector

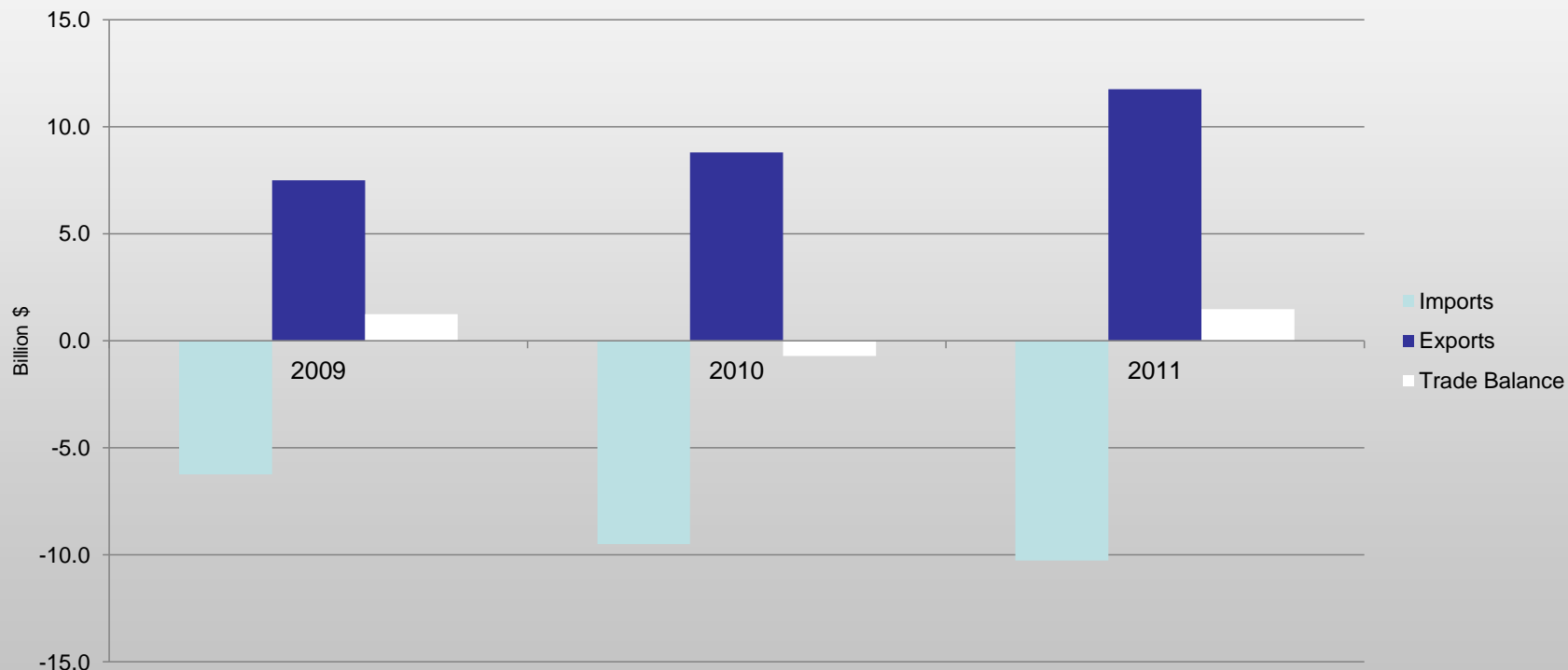


In the HDOR sector, one-third of remanufacturers increased production capacity



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The U.S. is a net exporter of remanufactured goods; U.S. exports totaled \$11.7 billion in 2011, up 50 percent from 2009

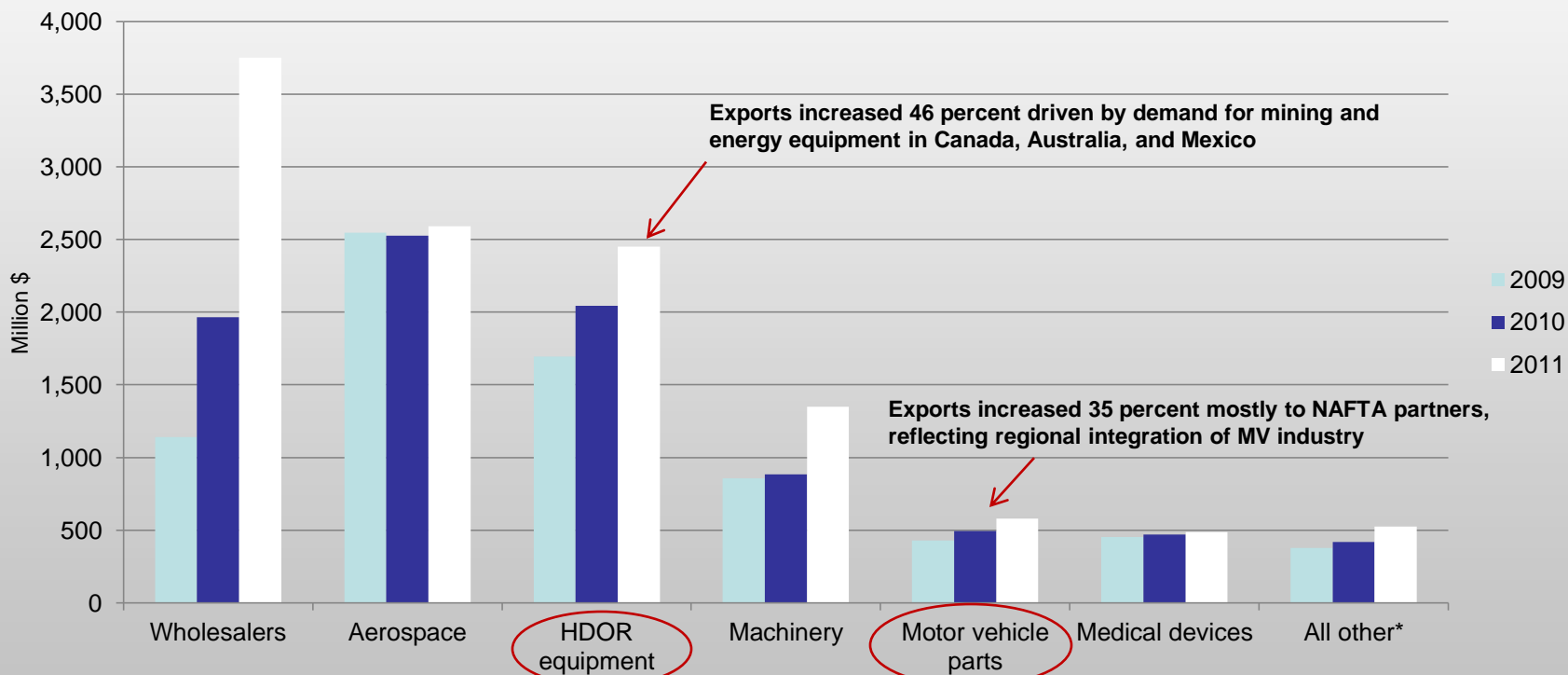


U.S. imports of remanufactured goods totaled \$10.3 billion, up over 60 percent from 2009; the U.S. market is slightly smaller than U.S. production because of net exports



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Overall, the United States exports almost 30 percent of its production of remanufactured goods; big export sectors include wholesalers, aerospace, and HDOR equipment



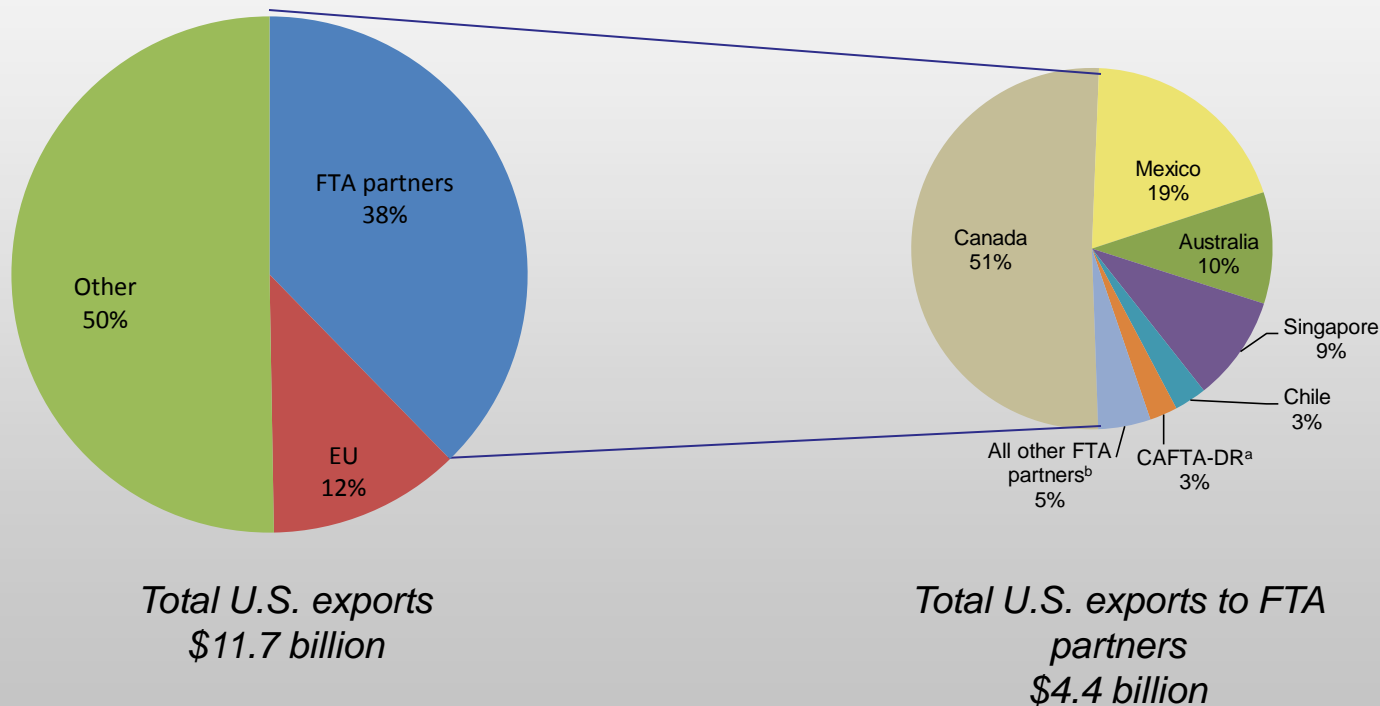
* Includes IT products, consumer products, retreaded tires, electrical apparatus, locomotives, office furniture, and restaurant equipment

Wholesale trade of remanufactured goods includes products from other sectors (e.g., MV parts); most active in MV parts, IT products, aerospace products, and consumer products



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About 40 percent of U.S. exports went to FTA partners in 2011; Canada and Mexico are important markets



The EU is another important export market, primarily for remanufactured aerospace products, IT products, and medical devices



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Trade patterns vary by sector, but Canada, the EU, and Mexico are our largest trading partners for remanufactured goods

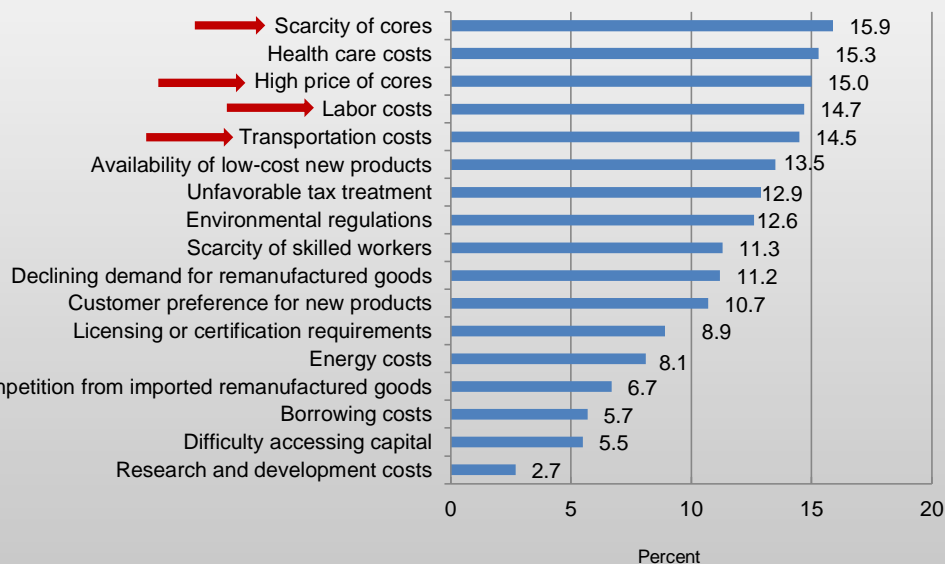
Leading export destinations and import sources for remanufactured goods, 2011 (destinations and sources ranked by value)			
Sector (ranked by production value)	Leading destinations for U.S. exports of remanufactured goods	Leading FTA markets for U.S. exports of remanufactured goods	Leading suppliers of remanufactured goods to the United States
Aerospace	EU Canada Japan	Canada Singapore Mexico	EU Canada Japan
HDOR equipment	Canada Australia Mexico	Canada Australia Mexico	Mexico Canada EU
Motor vehicle parts	Canada Mexico	Canada Mexico	Mexico EU Canada
IT products	EU Canada Hong Kong	Canada Mexico Singapore	Mexico
Medical devices	EU Canada Brazil	Canada Singapore Mexico	EU Mexico Canada
Retreaded tires	Mexico Canada Vietnam	Mexico CAFTA-DR Canada	Canada EU Korea
Other remanufacturing sectors	Mexico EU Canada	Mexico Canada CAFTA-DR	China Mexico

Prevalence of regional processing trade in many sectors (HDOR, MV parts, IT products)

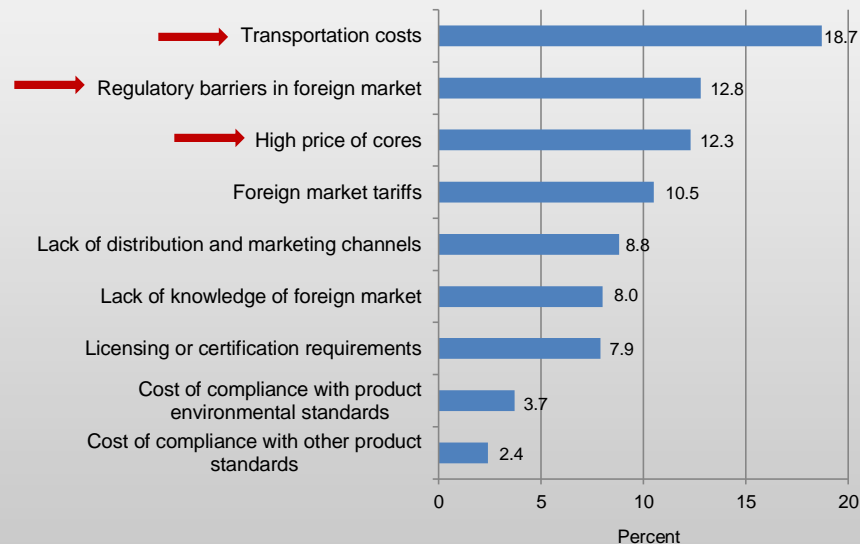


The biggest factors affecting the ability of U.S. remanufacturers to compete in U.S. and foreign markets are the cost and availability of cores, transport costs, labor costs, and regulatory barriers

Competitive factors affecting U.S. remanufacturers in the U.S. market



Competitive factors affecting U.S. remanufacturers in foreign markets



Note: More than one factor could be cited by U.S. remanufacturers as “extremely important.” As a result, shares do not total to 100 percent.

Other important factors include consumer preferences, relative prices, and competition from imports



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Most frequently cited factors affecting the ability of U.S. remanufacturers to compete in U.S. and foreign markets vary by sector

Sector	The U.S. market	Foreign markets
Aerospace	<ol style="list-style-type: none"> 1. Availability of skilled workers 2. Availability of cores 3. Labor costs 	<ol style="list-style-type: none"> 1. Regulatory barriers in foreign markets 2. Licensing or certification requirements 3. Transportation costs
HDOR equipment	<ol style="list-style-type: none"> 1. Transportation costs 2. Environmental regulations 3. Availability of cores 	<ol style="list-style-type: none"> 1. Foreign market tariffs 2. Transportation costs 3. Regulatory barriers in foreign markets
Motor vehicle parts	<ol style="list-style-type: none"> 1. Labor costs 2. Transportation costs 3. Availability of cores 	<ol style="list-style-type: none"> 1. High price of cores 2. Cost of compliance with products' environmental standards 3. Licensing or certification requirements
Machinery	<ol style="list-style-type: none"> 1. Availability of skilled workers 2. Healthcare costs 3. Unfavorable tax treatment 	<ol style="list-style-type: none"> 1. High price of cores 2. Transportation costs 3. Regulatory barriers in foreign markets
IT products	<ol style="list-style-type: none"> 1. High price of cores 2. Customer preferences for new products 3. Availability of low-cost new products 	<ol style="list-style-type: none"> 1. Transportation costs 2. Lack of knowledge of foreign market 3. Foreign market tariffs
Medical devices	<ol style="list-style-type: none"> 1. Unfavorable tax treatment 2. Availability of cores 3. Healthcare costs 	<ol style="list-style-type: none"> 1. Transportation costs 2. Regulatory barriers in foreign markets 3. Lack of distribution or marketing channels
Retreaded tires	<ol style="list-style-type: none"> 1. Availability of cores 2. Energy costs 3. Unfavorable tax treatment 	None cited
Consumer products	<ol style="list-style-type: none"> 1. Availability of low-cost new products 2. Customer preferences for new products 3. Declining demand for remanufactured goods 	<ol style="list-style-type: none"> 1. Lack of knowledge of foreign market 2. Transportation costs 3. Lack of distribution or marketing channels
All other	<ol style="list-style-type: none"> 1. Healthcare costs 2. Availability of cores 3. Unfavorable tax treatment 	<ol style="list-style-type: none"> 1. Transportation costs 2. Foreign market tariffs 3. Lack of distribution or marketing channels
Wholesalers	<ol style="list-style-type: none"> 1. Transportation costs 2. Energy costs 3. Labor costs 	<ol style="list-style-type: none"> 1. Regulatory barriers in foreign markets 2. Transportation costs 3. High price of cores



Remanufacturing and trade in remanufactured goods and cores in foreign markets is limited

- Little data on global trade in remanufactured goods (except retreads)
- Biggest constraint to trade is the lack of an accepted legal definition of remanufactured goods → treatment of reman goods like used goods
- Remanufacturing in the EU is well developed; trade is generally open
- But in developing markets with growing domestic demand for new aftermarket parts (e.g., Brazil, China, India), remanufacturing and trade is more restricted
- In other markets like Korea and Singapore, governments recognize remanufacturing within the context of broader efforts to promote sustainability



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Many countries limit trade in remanufactured goods and cores; no distinction between the two is one of the biggest limiting factors

Barriers to U.S. trade in remanufactured HDOR equipment and motor vehicle parts in selected countries

Country	Trade barrier
Argentina	Bars imports of remanufactured goods, with the exception of remanufactured parts marketed by OEM assemblers to service their own products.
Brazil	Counts cores as used products, and has barriers in place to prevent the importation of used products. Internal barriers to remanufacturing include a vehicle registration system that also requires the engine serial number to be registered. In order to sell remanufactured cores, the producer must convince the person who is the source of the core to go through the process of de-registering his or her old engine.
Chile	Only allows remanufactured goods to be sold on an “outright” basis, without any discount for exchanged cores. U.S. FTA provisions do not address this reported barrier.
China	Restricts remanufactured good imports, and limits domestic remanufacturing. Has allowed some remanufacturing on a “pilot” basis. Allows imports of cores of certain motor vehicle parts into export processing zones (EPZs) for remanufacturing and subsequent export.
India	Does not allow remanufactured products made with cores from other countries to enter its domestic market, but will allow remanufacturing using domestic cores. Allows imports of cores that are intended to be remanufactured domestically and subsequently exported.
Malaysia	Prohibits imports of used automotive parts, including remanufactured goods.
Mexico	Does not include used cores in rules of origin for NAFTA, because they were not included in rules of origin for the original NAFTA agreement.
Russia	Customs regulations make the export of cores difficult.
Turkey	Bars importation of remanufactured products.



Thank you

Questions?

To download the USITC's report, click here:

<http://www.usitc.gov/publications/332/pub4356.pdf>

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Extra Slides

- Comparison with previous estimates
- Limitations of the survey
- U.S. exports of remanufactured MV parts
- U.S. MV core trade



USITC estimates are smaller, but are likely more accurate

- Boston University (1996) – 73,000 firms, \$53 billion sales, 480,000 jobs
 - Survey based; authors acknowledged overstating the size of the industry
 - Sample population based on active association membership lists - inflated
 - Estimates of non-member firms provided by associations also inflated
- OPI (2003 and 2009) – \$49 billion in 2003, \$92 billion in 2009
 - Uses different methodology based on estimates of the % of maintenance and remanufacturing expenditures as a share of asset values in a range of sectors
 - Sectors overlap with BU and USITC sectors
 - % estimates and values based on OPI industry expertise, not on survey analysis; methodology unclear
- USITC (2012) – \$43 billion sales in 2011; 180,000 jobs
 - Estimates are extrapolated based on statistical analysis of survey results
 - Survey responses weighted to project activity onto the U.S. economy as a whole
 - 7,000 firm sample size; 60 percent response rate



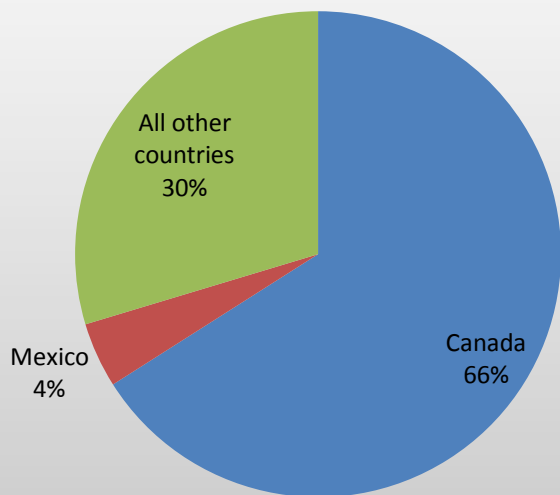
Limitations of the Survey

- Estimates based on statistical analysis; less precise estimates noted throughout the report (see p. 1-3 of the report for details)
 - More difficult to explain trends based on extrapolated results
- Factors that may lead to underestimates (see p. 1-5)
 - Report estimates activity in remanufacturing-intensive sectors, not all industry sectors of the U.S. economy
 - Differences in terminology across industry sectors (e.g., overhaul, rebuild, refurbish)
 - Ambiguity in the definition of remanufactured goods (i.e., services vs. production; extent of disassembly; warranties on internally consumed products)
 - Nonsystematic survey of imports and firms with < 20 employees
- Double counting may lead to overestimates (see p. 2-3 and tables G.10 and 11 in appendix G)
 - Varies by sector, but overall potential double counting of up to \$6.7 billion for production

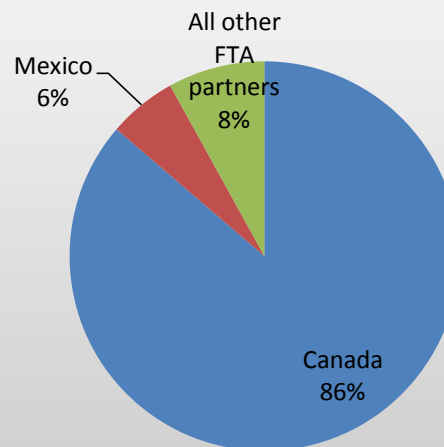


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*U.S. exports of remanufactured MV parts increased by 35 percent during 2009-11;
more than 75 percent go to FTA partners, mostly to Canada*



2011
Total U.S. exports
\$582 million



2011
Total U.S. exports to FTA partners
\$448 million

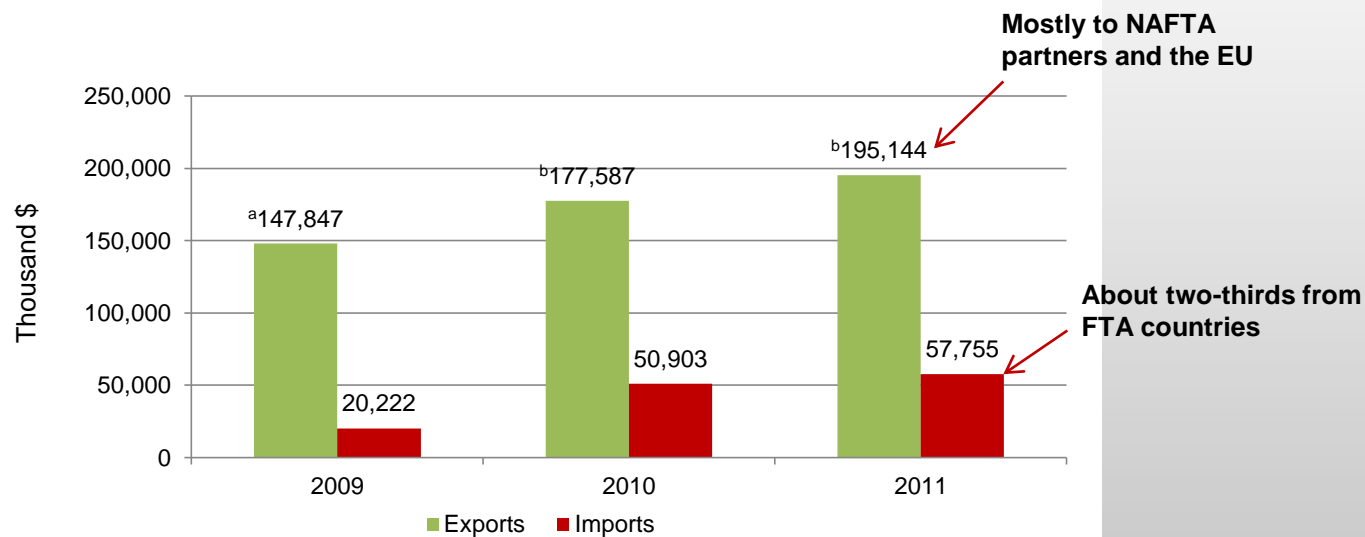
U.S. imports totaled \$1.5 billion in 2011; most imports were from Mexico and the EU, reflecting in part both regional processing trade and European remanufacturers active in the U.S. market



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The U.S. is a net exporter of MV cores; FTA partners, likely Mexico or Canada, account for at least one-third of core exports and reflect regional integration of the North American auto industry

FIGURE 5.1 Motor vehicle parts: U.S. core exports and imports, 2009–11



Source: USITC staff calculations of weighted responses to the Commission questionnaire.

^aLow-precision estimate; RSE below 65 percent.

The EU is an important export market for MV cores too; trade patterns with EU reflect European remanufacturing activity