



Used Electronic Products: An Examination of U.S. Exports

Global E-Waste Management Network

3rd Annual Meeting

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Presentation Outline:

- USTR's request
- Product scope of the investigation
- Major themes
- Questionnaire
- Key findings



International Trade Commission

- Small, independent, fact-finding agency
- ITC is not a policy-making agency
- ITC provides information on trade and related topics to other U.S. government agencies



USTR's Request

- How much is exported
- Where it goes
- What types of products, and in what condition
- Types of exporting and importing enterprises
- Factors affecting trade in UEPs



Product Scope of the Investigation

- Computers and parts, computer peripherals, CRTs
- Mobile phones and other telecom equipment
- Televisions and other video equipment
- Audio equipment
- Office imaging equipment
- Medical imaging equipment

Not included:

- Stand alone batteries (car batteries, AA batteries)
- Auto parts
- White goods/home appliances



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Important Themes throughout the Report

- Highly complex industry and supply chain (see handout)
- Industry (and study) split into two primary segments
 - Refurbish/repair products for reuse
 - Recycle/disassemble products for materials recovery
 - Some disposal of material, which usually imposes a cost
- Some exporting activity raises concerns
- OECD vs. non-OECD
- Role of industry certification programs (R2 and e-stewards)



What Gets Exported

- Refurbished goods or parts, tested and working
- Whole products or parts, not tested/working
 - Intended for repair and resale abroad
 - Possibly destined for manual disassembly or disposal abroad
- Electronics-related goods removed from whole products, such as circuit boards or CRTs
- Scrap materials from disassembled electronics
 - Ferrous and non-ferrous metals
 - Plastics
 - Glass



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Industry Questionnaire

- 2011 data only (no trend data)
- Stratified random sample of potential exporters in 6 industry segments (industry names chosen to match NAICS definitions):
 - waste management and remediation;
 - smelting of nonferrous materials;
 - electronic products manufacturing;
 - wholesaling and brokering of electronic products and of recyclable materials;
 - repair and refurbishing of electronic products; and
 - other services, such as IT asset management



Questionnaire & Results

- 5200 questionnaires sent to firms with >10 employees
- Total response rate: 57%
- Number of exporters: 1370 (weighted estimate)
- RSEs used to measure precision of data
- Results extrapolated to industry population
- Double counting:
 - Likely to have some double counting in domestic sales
 - Less likely to have double counting in exports



Data collection: value vs. volume vs. weight

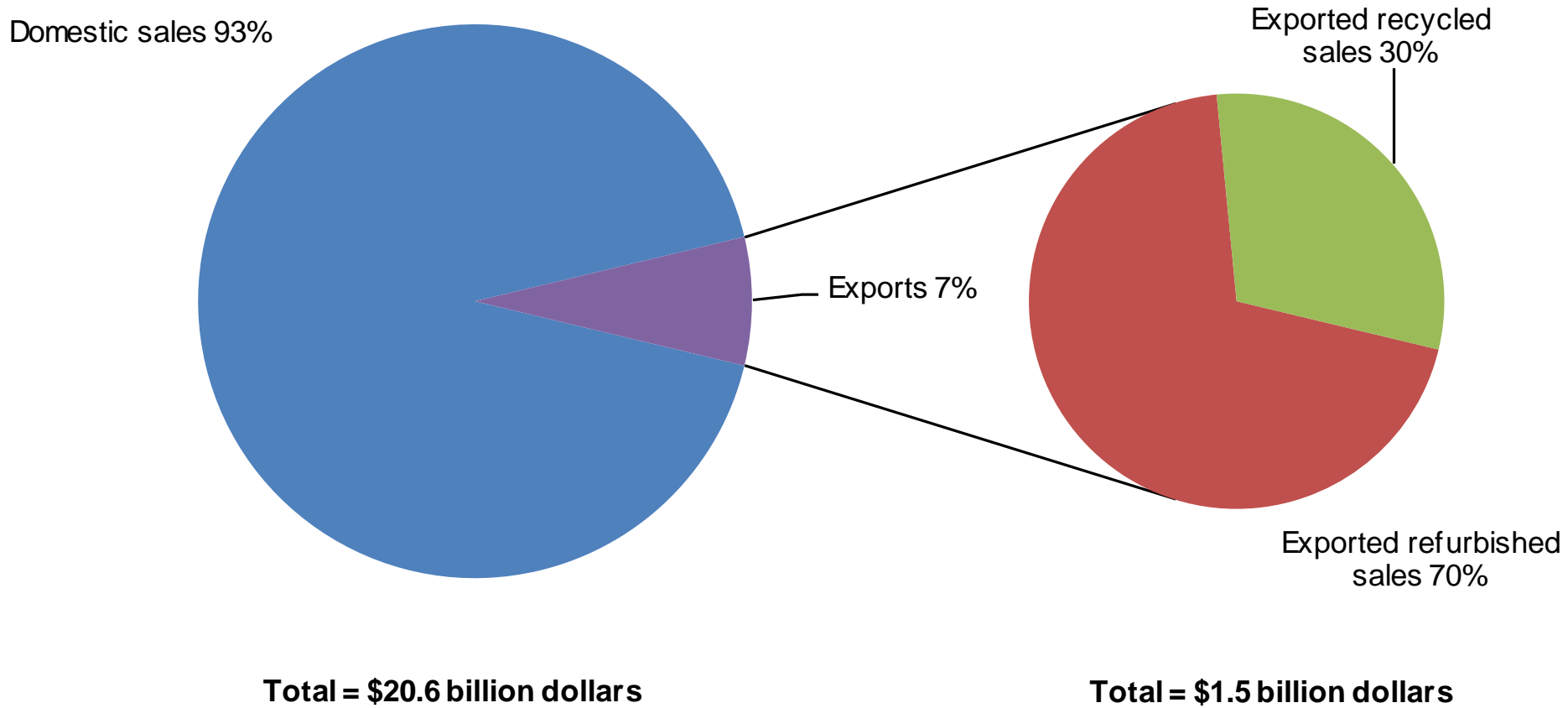
UEP activity	Export data presented in the questionnaire			
	Weight (tons) (estimated)	Sales value (\$)	Number of units	Disposal cost (\$)
Refurbishing or repair	X	X	X	
Recycling	X	X		
Recycling or disposal	X			X



KEY FINDINGS



FIGURE ES-2 Exports were 7% of UEP sales in 2011



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



Principal Findings

- By value, largest share of exports: Whole equipment and parts for reuse (\$1.0 billion or 70%)
 - Tested and working products were 88% of U.S. exports of whole UEPs; 12% was exported for repair/refurbishment
- By weight, largest share of exports: Commodity materials intended for materials processing (smelting or refining) (324,000 tons or 43%).
- Recycled/disassembled materials by weight:
 - Metals, plastics, & glass: 64%
 - Circuit boards (whole and shredded): 17%
 - CRT monitors and TVs: 6%



TABLE ES.4 Estimated U.S. exports of UEPs, by end use, 2011

End use	Export weight Short tons	Percent
Materials processing (smelting, refining, sorting)	323,772	42.7
Recycling or disassembly	^a 84,941	11.2
Resale of whole equipment or working parts with further processing (recycle, repair, refurbish, etc.)	^a 58,021	7.7
Resale of whole equipment or working parts without further processing (tested/working in the United States)	47,071	6.2
Final disposal	^a 5,768	0.8
Charitable donation (operational goods)	^a 27	^(b)
Other	102,295	13.5
Unknown	135,826	17.9
Total	757,721	100

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

Note: The data presented here represent exporters' estimates of the end use of their exported products at the export destination. These data are available only on the basis of weight, not value. Data presented elsewhere in the report, and in this executive summary, represent exporters' characterizations of their exported products. Totals and breakdowns from the two sets of data are not comparable.

^aLow-precision estimates, with RSE above 50 percent.

^bLess than 0.5 percent.



TABLE ES.5 Estimated U.S exports of UEPs, by type of receiving enterprise, 2011

Foreign enterprise type	Export weight (Short tons)	Percent
Smelter/metal foundry	255,240	33.7
Refurbisher/remanufacturer	217,622	28.7
Plastics reprocessor	50,833	6.7
Recycler of used electronics	50,087	6.6
Reseller/broker	34,811	4.6
Original equipment mfr (OEM)/Original device mfr (ODM)	11,744	1.5
Nonprofit organization/charity	^a 29	^(b)
Other	41,406	5.5
Unknown	^a 95,949	12.7
Total	757,721	100.0

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

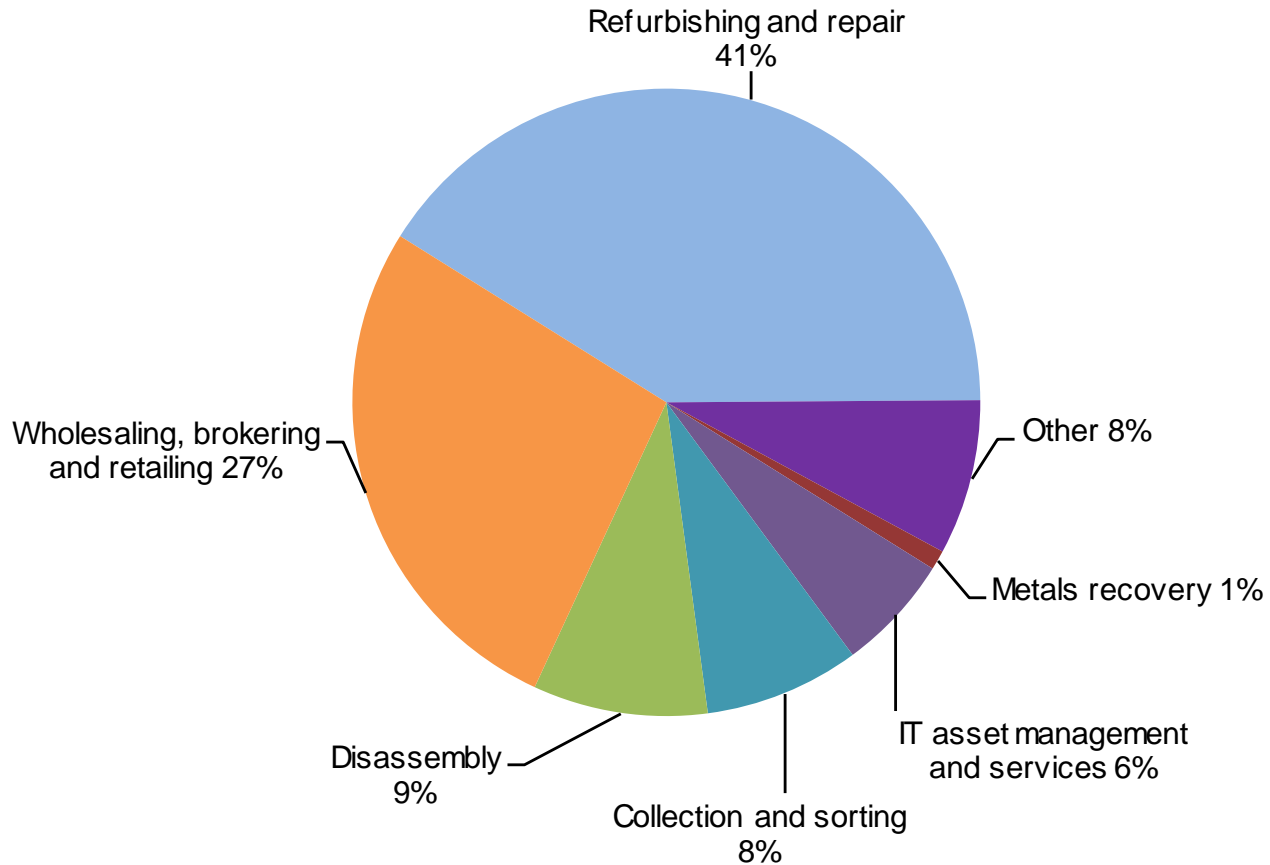
Note: The data presented here represent exporters' estimates of the type of enterprises that received their export shipments. These data are available only on the basis of weight, not value. Data presented elsewhere in the report, and in this executive summary, represent exporters' characterizations of their exported products. Totals and breakdowns from the two sets of data are not comparable.

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^bLess than 0.5 percent.



FIGURE 4.1 Share of UEP-exporting entities by primary activity, 2011



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



TABLE 4.3 Non-exporting UEP handlers that reported indirect exports, by primary activity, 2011

Primary activity	Share of total UEP industry made up of non-exporters that believe some portion of their output is exported by another organization (percent)
Metals recovery	54
Disassembly	49
IT asset management and services	37
Collection and sorting	36
Wholesaling, brokering, and retailing	25
Refurbishing and repair	20
All non-exporting UEP handlers	27

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



Factors affecting exports (based on questionnaire data)

Factors encouraging exports (exporters)

- Foreign market demand
- Commodity prices
- Knowledge of foreign markets
- Foreign labor costs
- Foreign connections

Factors discouraging exports (non-exporters)

- Environmental concerns
- Commitment to keeping work in the United States
- Certification requirements
- Transportation Costs
- Knowledge of foreign markets



Additional factors affecting exports (not based on questionnaire data)

- Regulations in 28 U.S. states tend to reduce exports by changing the cost structure of the local UEP industry.
- Certification programs have become a significant factor in the industry, and likely serve to limit UEP exports.
- There is demand for UEPs exported from the United States in developing countries, but a number of developing countries limit imports of nonworking UEPs, including through their implementation of the Basel Convention's prior notification and consent system.



Export data from U.S. Census Bureau

- Shipment-level data on exports of certain specific electronic products
- Separate from questionnaire data (aggregated product categories)
- Data not available elsewhere
- Used goods not identified, so we use the proxy of low average unit values (AUVs)
- Six products analyzed: Cell phones, laptops, desktops, CRTs, hard drives, flat screen monitors



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Census data example: Cell phones

TABLE 2.5 Summary of U.S. Census export data, cell phones

Schedule B export codes: 8517120020, 8517120050

		Unit value	No. of shipments	No. of units	Value of shipments	% of total value	% shipments to OECD countries	% shipments to non-OECD countries
		(Dollars)			(\$ millions)			
Total exports	avg.	123.48	56,064	45,380,982	5,603.4	100	27.6	72.4
Lowest 50%	≤	184.06	28,032	38,463,820	3,012.9	54	37.0	63.0
Lowest 25%	≤	104.16	14,016	26,816,231	1,391.9	25	20.5	79.5
Lowest 10%	≤	50.00	5,631	13,331,185	321.9	6	8.0	92.0

Source: U.S. Census Bureau, unpublished export data, 2011.



Census data example: Cell phones

TABLE 2.6 Cell phones: U.S. exports with unit values in lowest 10 percent of shipments, 2011^a

	AUV	No. of units	No. of shipments	Export value (US \$)	Share of total value (percent)
Hong Kong	17.32	3,492,517	1,265	60,495,597	19
Venezuela	34.09	1,049,706	172	35,781,308	11
Paraguay	30.31	1,161,230	776	35,196,305	11
Mexico	23.28	1,329,494	255	30,944,120	10
Haiti	19.10	1,308,554	102	24,992,331	8
El Salvador	25.49	488,538	167	12,453,270	4
Dominican Republic	35.26	348,058	176	12,271,154	4
Honduras	26.09	430,716	120	11,237,325	3
Jamaica	24.69	448,855	82	11,083,478	3
Philippines	(b)	(b)	(b)	(b)	(b)
All other	(b)	(b)	(b)	(b)	(b)
OECD countries	23.42	1,514,503	453	35,476,753	11
Developing countries	24.24	11,816,682	5,718	286,422,050	89
Total	24.15	13,331,185	5,631	321,898,803	100

Source: USITC staff calculations based on U.S. Census Bureau, unpublished export data, 2011 (Schedule B codes 8517120020 and 8517120050).



Full Report Available Online at:

<http://www.usitc.gov/publications/332/pub4379.pdf>



Thank You

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