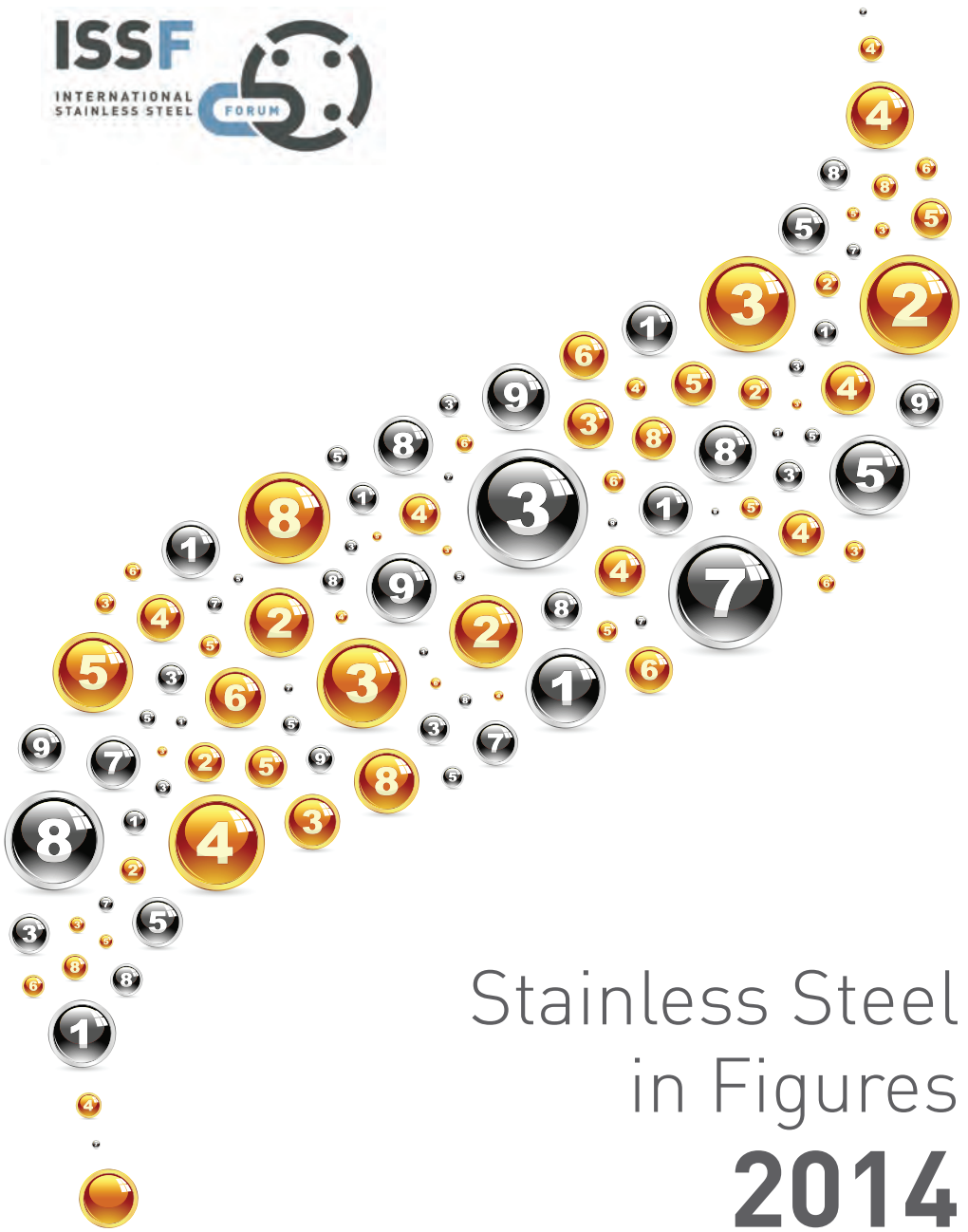


**ISSF**  
INTERNATIONAL  
STAINLESS STEEL



# Stainless Steel in Figures **2014**

# Data Sources

Unless otherwise indicated, all data in this booklet has been provided by the International Stainless Steel Forum (ISSF).

Data has also been provided by:

1. International Monetary Fund (IMF)
2. Yale University: School of Forestry and Environmental Studies (Reck et al.)
3. Vale Inco

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## Extranet

Members can access the worldstainless Extranet at:

<http://extranet.worldstainless.org>

Please note: you must have a valid user ID and password to access this site.

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# Secretary-General's Message

Dear Members

This is the third edition of what has now become firmly established as a regular ISSF publication: *Stainless Steel in Figures*. Several of our members have commented to me that they find its contents useful as a reference source for statistical data regarding our industry. As in previous years, we repeat our request to those of you who may have comments or suggestions for ways in which this publication can be improved, to send me a message.



As I indicated in my preface to last year's edition, our goal is to build our own reliable statistical database, with regular updates and consistent reporting standards, which members can use for their own decision making purposes. We have achieved a lot in our first 17 years and we plan to build on those achievements in the years ahead.

This year we welcome Kai Hasenclever to the ISSF Team, as the successor to Peter Kaumanns, whose research and statistical development work led to the publication of the first edition of this booklet.

Kai brings several years of experience in a variety of fields within the industry to ISSF and he would welcome any ideas or suggestions which our members may have. Kai may be reached by email at [hasenclever@issf.org](mailto:hasenclever@issf.org), but he will also be available throughout the Annual Conference in case anyone would prefer to talk to him directly.

**John Rowe**

Secretary-General,  
International Stainless Steel Forum (ISSF)

Brussels, May 2014



# Section 1: History and Competition

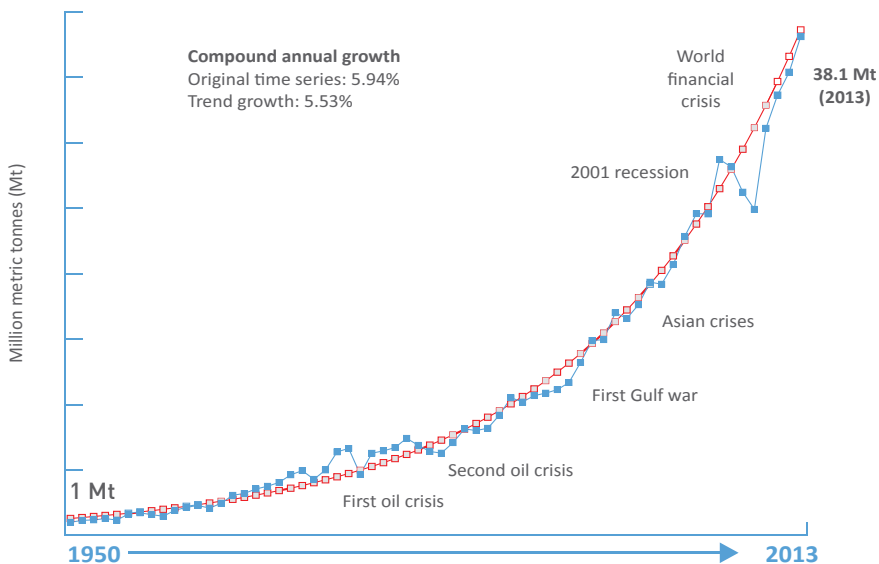


Figure 1: Compound annual growth rate of world stainless melt shop production (slab/ingot equivalent): 1950 – 2013 (in Mt)

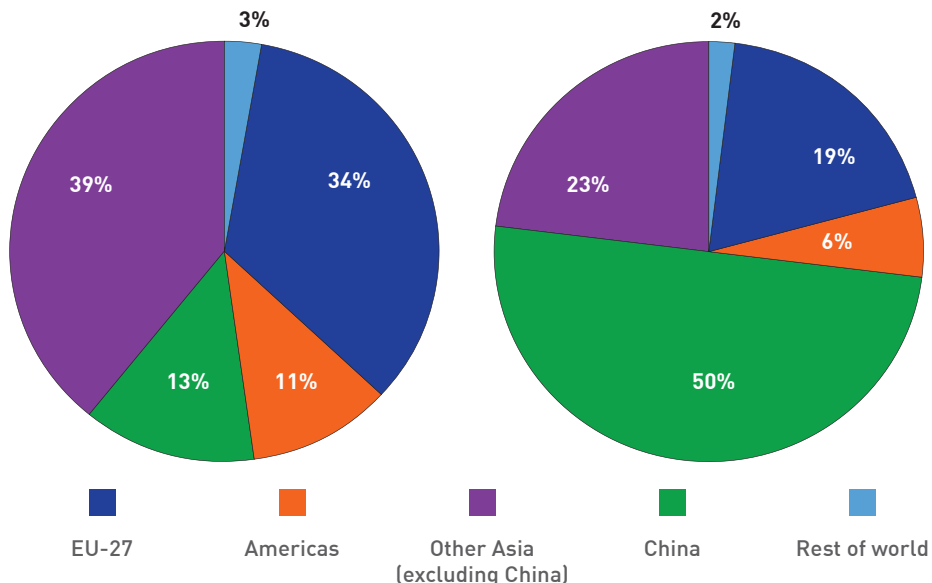


Figure 2: Regional share of stainless steel production: 2005 (left) and 2013 (right)

# 1

## Section 1: History and Competition

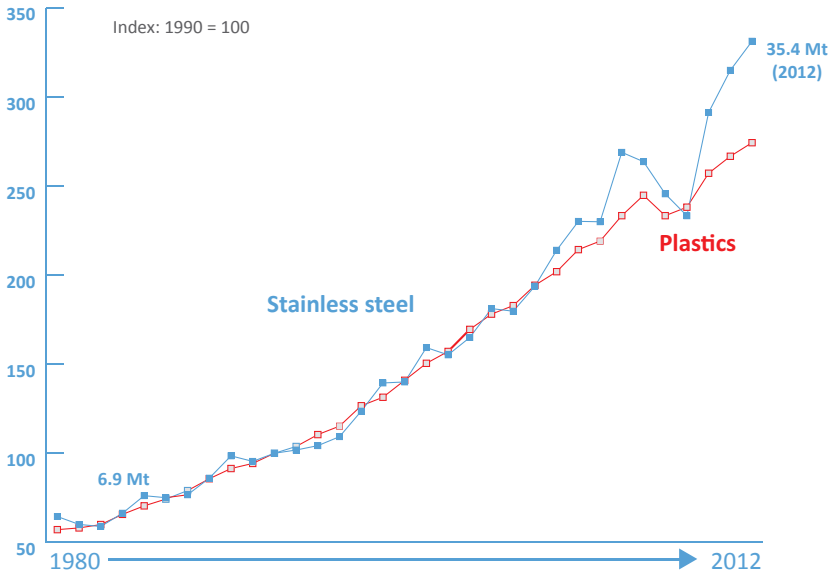


Figure 3: Stainless steel production versus plastics production: 1980–2012. The production evolution of both is similar, though stainless steel is more volatile.

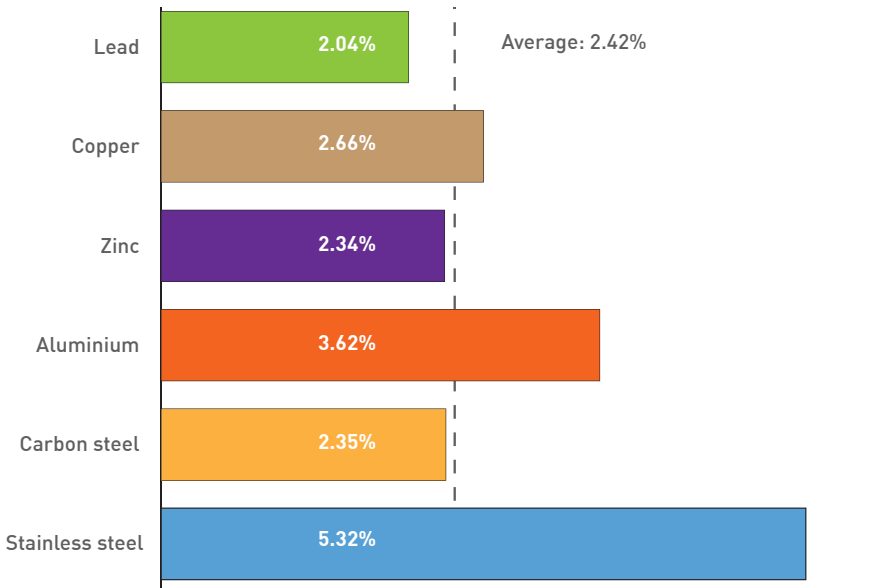


Figure 4: Compound annual growth rate of major metals (%/year): 1980 - 2013



## Section 2: Actual Performance

Country/Region	2007	2008	2009	2010	2011	2012	2013
Belgium	1,521	1,471	1,045	1,306	1,241	1,241	1,298
Finland	975	957	726	998	1,003	1,078	1,080
France	308	297	202	276	300	285	300
Germany	1,505	1,574	1,320	1,509	1,502	1,313	1,091
Italy	1,558	1,471	1,216	1,583	1,602	1,696	1,556
Spain	1,105	998	693	844	807	844	855
Sweden	645	574	445	546	586	510	501
United Kingdom	351	340	224	279	330	294	257
Other EU	148	158	114	152	188	195	211
<b>European Union</b>	<b>8,115</b>	<b>7,838</b>	<b>5,986</b>	<b>7,494</b>	<b>7,559</b>	<b>7,455</b>	<b>7,147</b>
USA	2,171	1,925	1,617	2,201	2,074	1,977	2,030
Brazil	433	390	324	409	413	391	425
<b>Americas</b>	<b>2,604</b>	<b>2,315</b>	<b>1,942</b>	<b>2,609</b>	<b>2,486</b>	<b>2,368</b>	<b>2,454</b>
Japan	3,882	3,567	2,607	3,427	3,247	3,166	3,175
South Korea	1,942	1,660	1,677	2,048	2,157	2,167	2,143
Taiwan, China	1,515	1,297	1,468	1,514	1,203	1,109	1,067
China	7,206	6,943	8,805	11,256	14,091	16,087	18,984
India	1,966	1,832	1,721	2,022	2,163	2,279	2,403
<b>Asia</b>	<b>16,510</b>	<b>15,299</b>	<b>16,277</b>	<b>20,267</b>	<b>22,861</b>	<b>24,807</b>	<b>27,772</b>
South Africa	651	528	546	480	443	503	492
Russia	143	135	86	122	125	112	152
Ukraine	124	104	67	118	147	118	112e
<b>World</b>	<b>28,146</b>	<b>26,218</b>	<b>24,904</b>	<b>31,090</b>	<b>33,621</b>	<b>35,363</b>	<b>38,130</b>

*Table 1: Stainless melt shop production (ingot/slab equivalent) in 1,000 metric tonnes: 2007 – 2013.*

Note: A major correction of Chinese data in 2011 means data from 2011 onwards is not comparable with earlier years.



## Section 2: Actual Performance

		Western Europe/ Africa	Central & Eastern Europe	The Americas	Asia (excluding China)	China	World
Quarter 1	2012	2,211	87	607	2,226	3,790	8,922
	2013	2,157	94	598	2,170	4,575	9,594
	% change	-2.5	7.8	-1.5	-2.5	20.7	7.5
Quarter 2	2012	2,065	98	613	2,236	4,006	9,017
	2013	1,951	114	596	2,149	4,584	9,394
	% change	-5.5	16.5	-2.7	-3.9	14.4	4.2
First half	2012	4,276	184	1,220	4,462	7,796	17,939
	2013	4,108	207	1,195	4,319	9,160	18,988
	% change	-3.9	12.4	-2.1	-3.2	17.5	5.8
Quarter 3	2012	1,756	90	603	2,118	4,015	8,582
	2013	1,576	93	629	2,168	5,016	9,482
	% change	-10.3	3.5	4.4	2.4	24.9	10.5
Quarter 4	2012	1,798	85	545	2,140	4,275	8,843
	2013	1,813	107	630	2,301	4,809	9,660
	% change	0.8	26.8	15.7	7.5	12.5	9.2
Second half	2012	3,553	175	1,148	4,258	8,291	17,424
	2013	3,388	201	1,260	4,469	9,825	19,142
	% change	-4.6	14.8	9.7	5.0	18.5	9.9
Full year	2012	7,829	359	2,368	8,720	16,087	35,363
	2013	7,496	408	2,454	8,788	18,984	38,130
	% change	-4.3	13.6	3.6	0.8	18.0	7.8

Table 2: Stainless melt shop production (slab/ingot equivalent) by quarter in 1,000 metric tonnes: 2012 compared to 2013



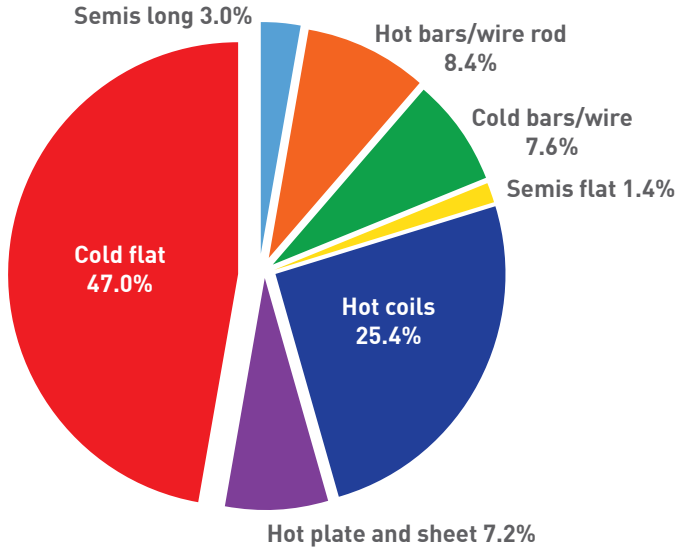


Figure 5a: Stainless steel foreign trade in 2012

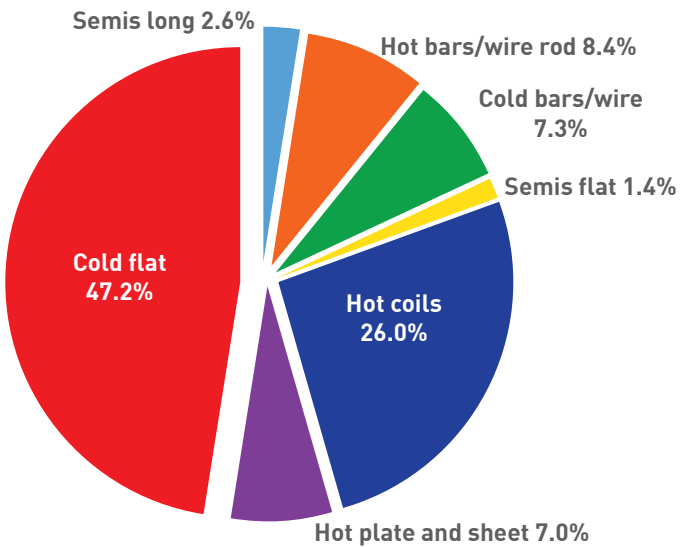


Figure 5b: Stainless steel foreign trade in 2013



## Section 2: Actual Performance

	Destination								Total
	NAFTA	Latin America	Western Europe	Eastern Europe	Middle East	Africa	Asia	Others	
NAFTA	427.5	79.8	148.8	1.5	2.8	1.5	82.8	1.1	<b>745.6</b>
Latin America	37.6	57.7	8.1	0.3	1.5	3.3	10.8	0.1	<b>119.3</b>
Western Europe	846.3	87.3	5,278.3	698.8	63.8	82.7	510.3	22.8	<b>7,590.3</b>
Eastern Europe	13.7	0.8	201.1	156.6	2.7	0.7	6.2	0.0	<b>381.9</b>
Middle East*	4.3	0.3	6.3	0.3	n/a	0.0	7.1	0.4	<b>18.6</b>
Africa	36.6	40.5	88.9	8.2	16.9	6.5	91.9	1.1	<b>290.07</b>
Asia	395.4	155.0	849.0	204.5	145.4	73.4	4,292.5	76.5	<b>6,191.6</b>
Others	0.1	0.0	0.2	0.0	0.0	0.3	1.0	1.1	<b>2.6</b>
<b>Total</b>	<b>1,761.4</b>	<b>421.3</b>	<b>6,580.7</b>	<b>1,070.1</b>	<b>233.1</b>	<b>168.5</b>	<b>5,002.5</b>	<b>103.1</b>	<b>15,340.6</b>

*Table 3a: Foreign trade exports of stainless steel in 2012 (1,000 metric tonnes). Includes feedstock material for further processing.*

	Destination								Total
	NAFTA	Latin America	Western Europe	Eastern Europe	Middle East	Africa	Asia	Others	
NAFTA	488.8	62.0	141.8	0.9	2.9	1.0	66.3	1.1	<b>764.7</b>
Latin America	12.9	48.9	8.8	0.3	1.4	1.7	13.7	0.1	<b>87.8</b>
Western Europe	638.6	68.9	5,258.4	763.9	60.9	78.8	495.6	31.9	<b>7,397.0</b>
Eastern Europe	12.2	1.0	206.9	165.6	0.4	0.5	6.7	0.5	<b>393.8</b>
Middle East*	3.5	0.0	2.3	0.0	0.0	0.0	3.4	0.4	<b>9.7</b>
Africa	26.5	42.7	81.4	17.6	17.3	10.9	98.2	1.1	<b>295.7</b>
Asia	325.0	153.4	1,112.7	222.0	184.5	84.6	4,653.8	76.4	<b>6,812.3</b>
Others	0.4	0.0	0.0	0.0	0.0	0.0	0.6	1.0	<b>2.1</b>
<b>Total</b>	<b>1,507.8</b>	<b>377.0</b>	<b>6,812.3</b>	<b>1,170.3</b>	<b>267.4</b>	<b>177.4</b>	<b>5,338.4</b>	<b>112.5</b>	<b>15,763.1</b>

*Table 3b: Foreign trade exports of stainless steel in 2013 (1,000 metric tonnes). Includes feedstock material for further processing.*

Note: \*Indicates imports from that region.



	Destination								Total
	NAFTA	Latin America	Western Europe	Eastern Europe	Middle East	Africa	Asia	Others	
NAFTA	168.5	1.2	206.5	0.0	0.2	0.1	574.0	0.2	950.6
Latin America	0.2	0.0	49.4	0.0	0.0	0.0	13.2	0.0	62.8
Western Europe	3.3	0.6	2,256.3	112.9	5.7	0.2	471.1	0.0	2,850.1
Eastern Europe	0.0	1.3	423.9	58.7	0.0	0.0	18.4	0.0	502.3
Middle East*	0.1	0.0	31.0	0.0	0.0	0.0	56.5	0.0	87.6
Africa	0.0	0.0	29.5	0.0	0.0	0.0	33.2	0.0	62.6
Asia	1.1	0.0	14.0	0.0	0.5	0.0	563.1	0.0	578.7
Others	0.0	0.0	10.3	0.0	0.0	0.0	35.9	0.0	46.2
<b>Total</b>	<b>173.2</b>	<b>3.1</b>	<b>3,020.8</b>	<b>171.7</b>	<b>6.5</b>	<b>0.3</b>	<b>1,765.1</b>	<b>0.3</b>	<b>5,140.9</b>

Table 4a: Foreign trade exports of stainless steel scrap in 2012 (1,000 metric tonnes).

	Destination								Total
	NAFTA	Latin America	Western Europe	Eastern Europe	Middle East	Africa	Asia	Others	
NAFTA	192.9	1.8	45.5	1.9	0.7	0.5	628.0	0.4	871.6
Latin America	0.2	0.0	41.0	0.0	0.0	0.0	7.2	0.0	48.5
Western Europe	0.9	0.0	2,223.2	105.5	1.2	1.0	375.4	0.0	2,707.2
Eastern Europe	0.0	1.6	346.3	40.2	0.0	0.0	8.3	0.0	396.4
Middle East*	0.0	0.0	14.3	0.0	0.0	0.0	68.1	0.0	82.4
Africa	0.0	0.0	4.7	0.0	0.1	0.0	19.9	0.0	24.7
Asia	0.2	0.0	8.3	0.0	0.2	0.2	548.6	0.0	557.5
Others	0.0	0.0	1.7	0.0	0.0	0.0	39.3	0.1	41.1
<b>Total</b>	<b>194.3</b>	<b>3.4</b>	<b>2,684.9</b>	<b>147.6</b>	<b>2.3</b>	<b>1.7</b>	<b>1,694.7</b>	<b>0.5</b>	<b>4,729.3</b>

Table 4b: Foreign trade exports of stainless steel scrap in 2013 (1,000 metric tonnes).

Note:

\*Indicates imports from that region.



# Section 2: Actual Performance

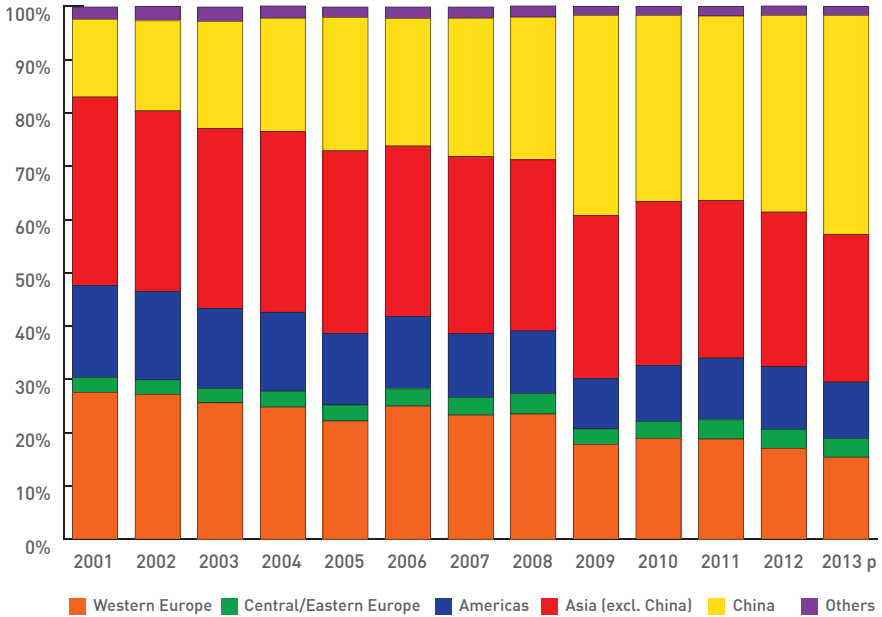


Figure 6: Apparent stainless steel use by region: 2001 - 2013p

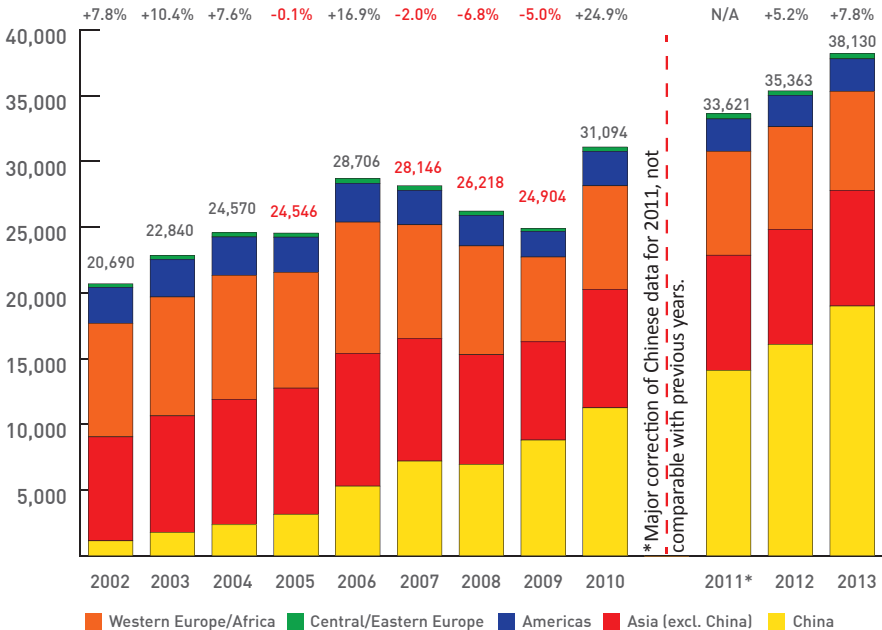


Figure 7: Stainless melt shop production (slab/ingot equivalent) by region: 2002-2013 (in 1,000 metric tonnes)

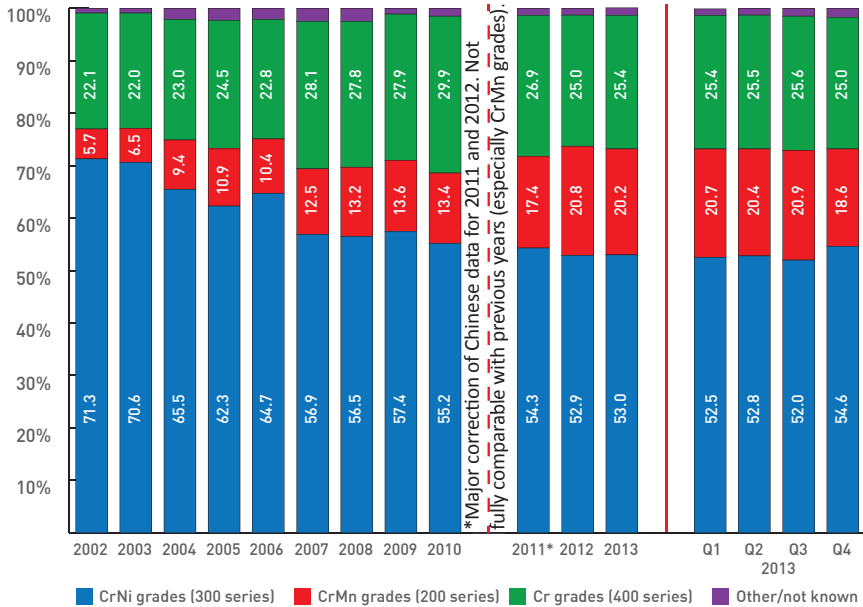


Figure 8: Stainless melt shop production (slab/ingot equivalent) by grade: 2002-2013

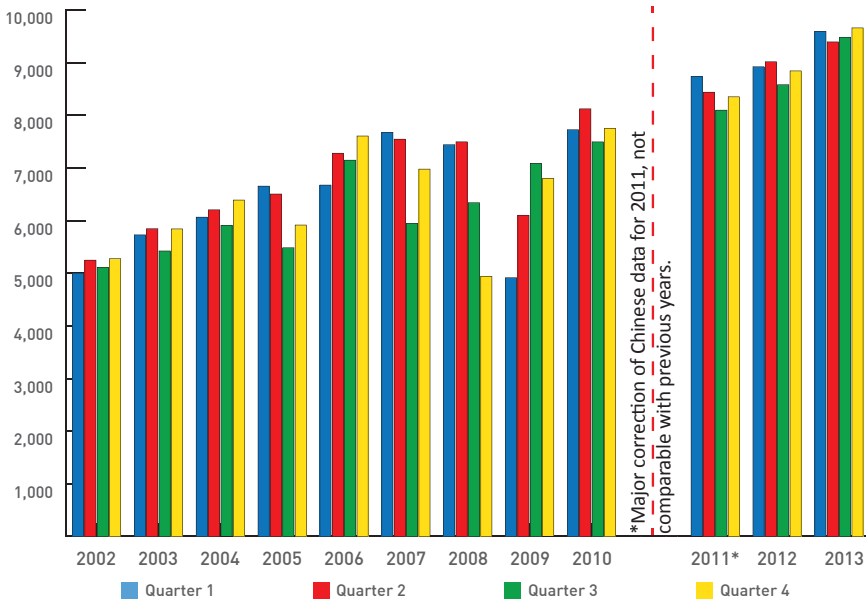


Figure 9: Stainless melt shop production (slab/ingot equivalent) by quarter: 2002-2013 (in 1,000 metric tonnes)



# Section 3: Potential

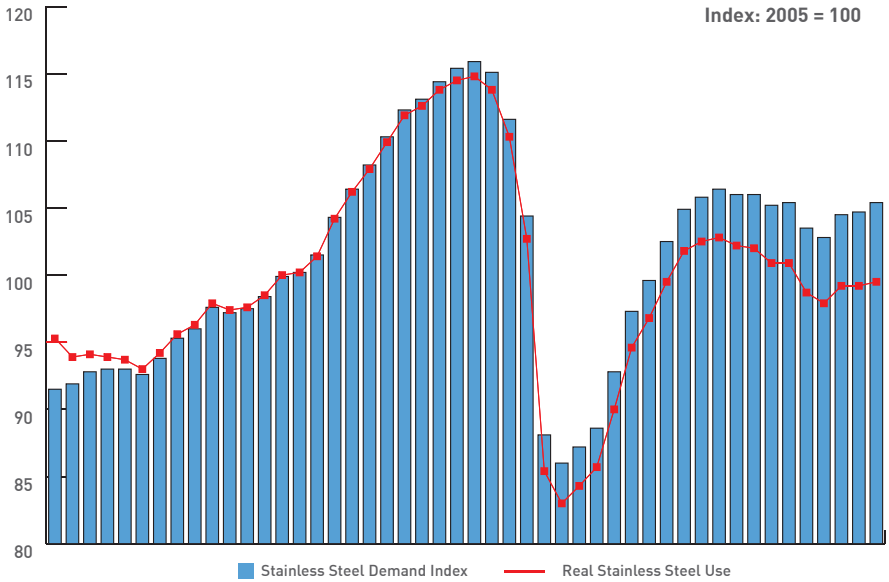


Figure 10: *Stainless steel demand versus real stainless steel use - Europe (Q1 2003 to Q4 2013p)*

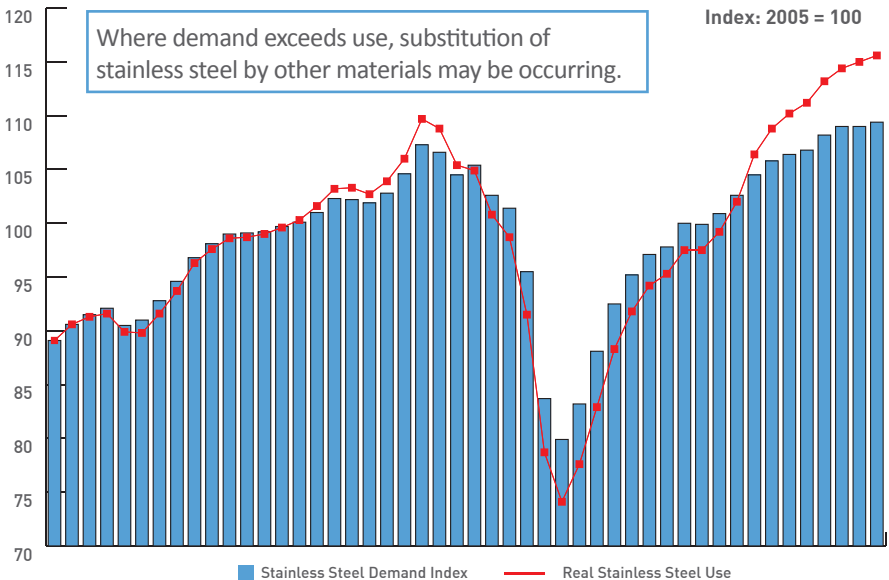


Figure 11: *Stainless steel demand versus real stainless steel use - The Americas (Q1 2003 to Q4 2013p)*

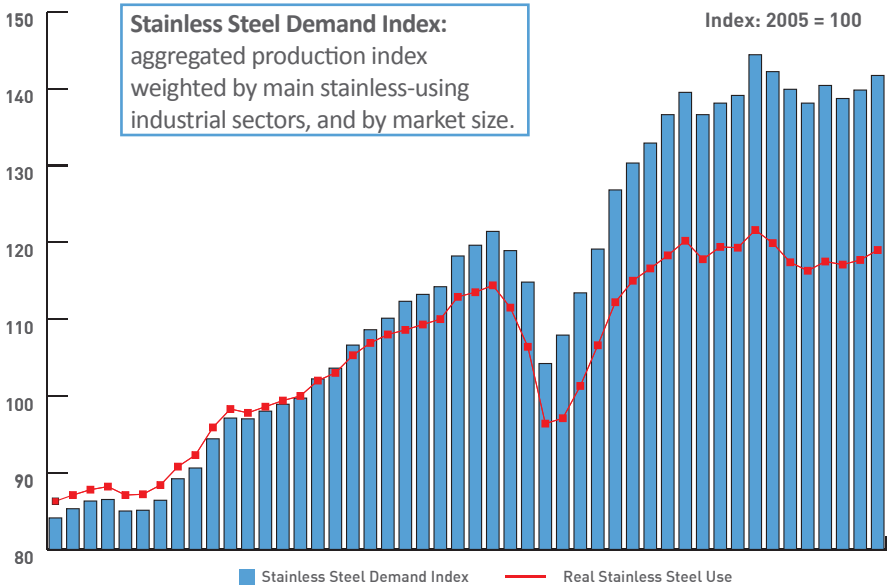


Figure 12: *Stainless steel demand versus real stainless steel use - Asia, excluding China (Q1 2003 to Q4 2013p)*

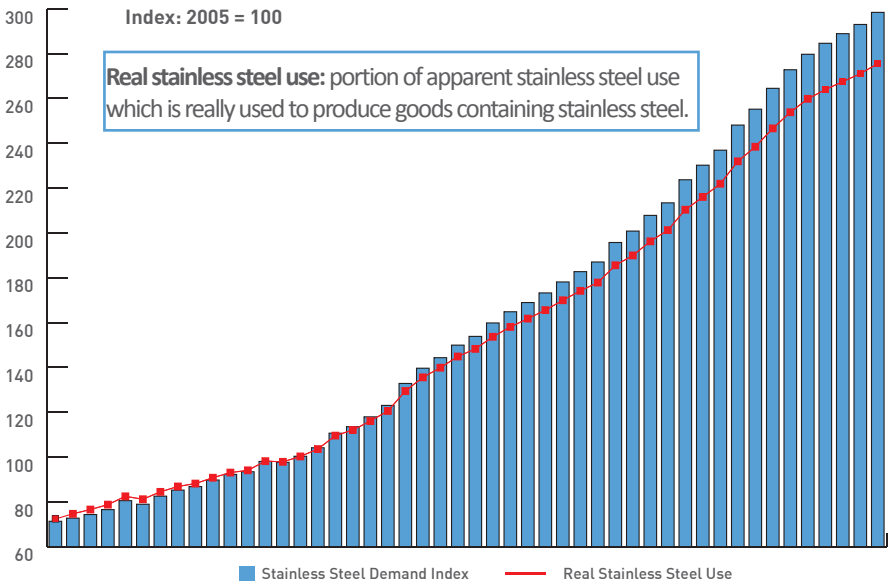


Figure 13: *Stainless steel demand versus real stainless steel use - China (Q1 2003 to Q4 2013p)*

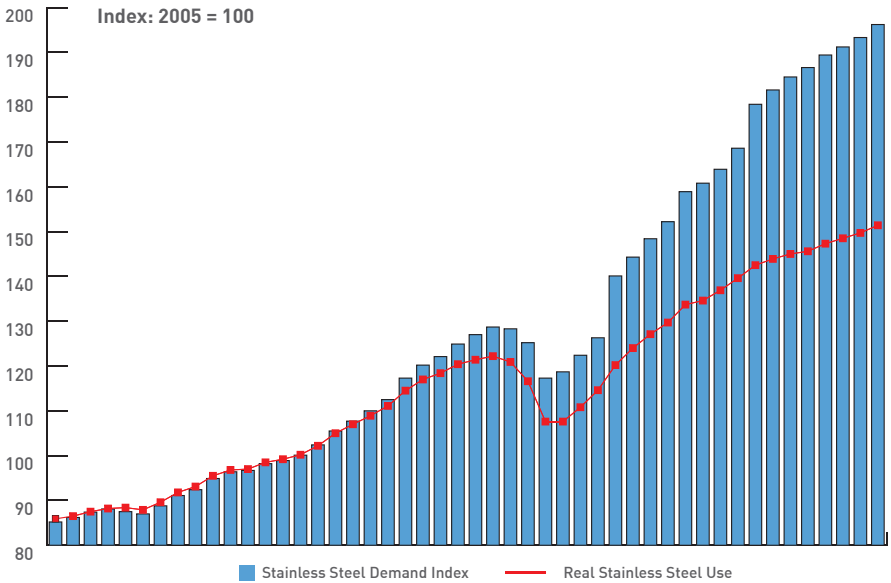


Figure 14: *Stainless steel demand versus real stainless steel use - World (Q1 2003 to Q4 2013p)*

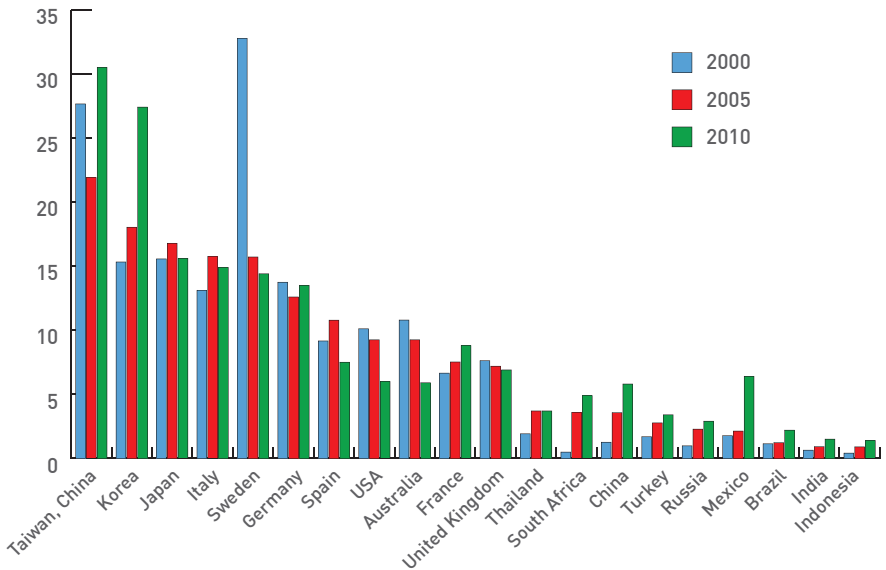


Figure 15: *Comparison of per-capita direct and indirect use of stainless steel - selected countries - 2000, 2005 and 2010 (kg/capita). Source: IMF, Yale.*



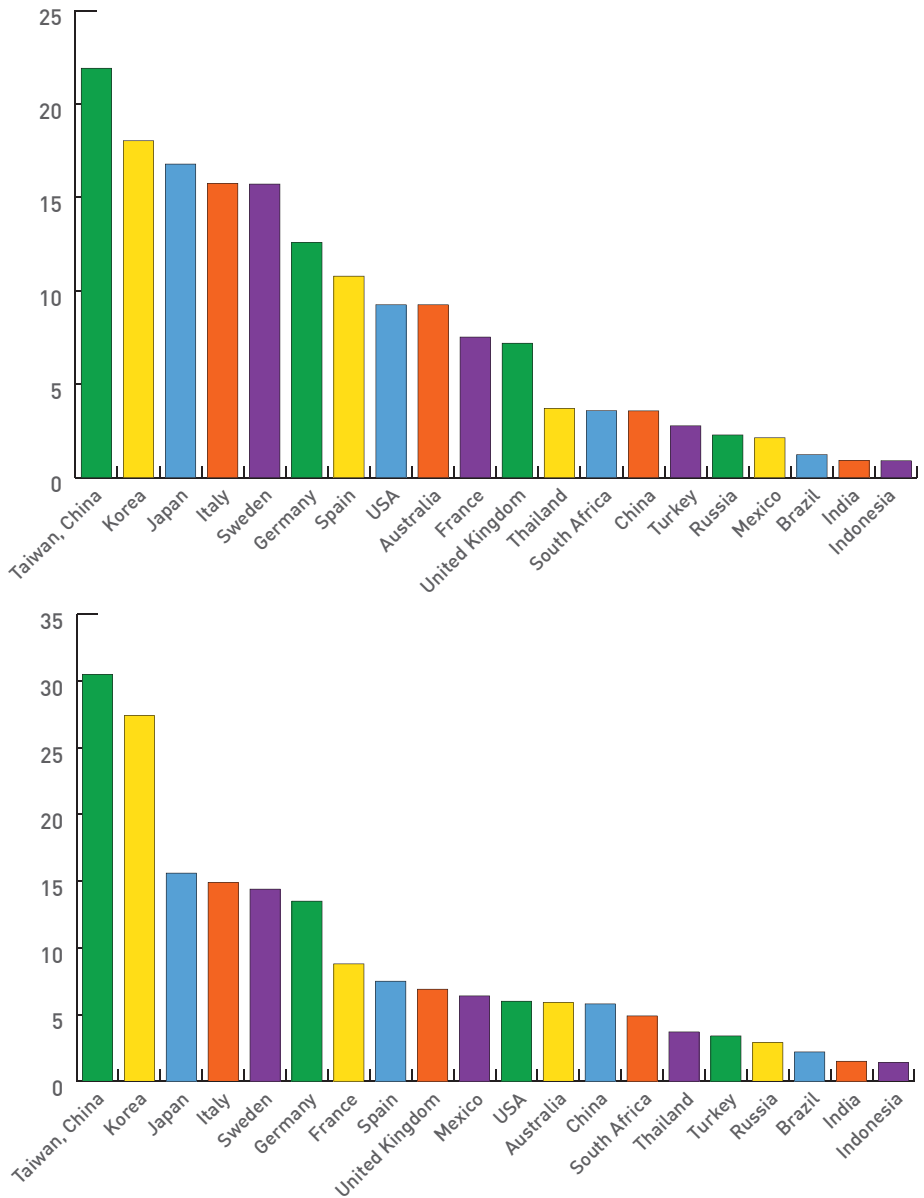


Figure 16: Per-capita direct and indirect use of stainless steel (kg/capita) for selected countries - 2005 (top) and 2010 (bottom). Source: IMF, Yale.

# 3

## Section 3: Potential

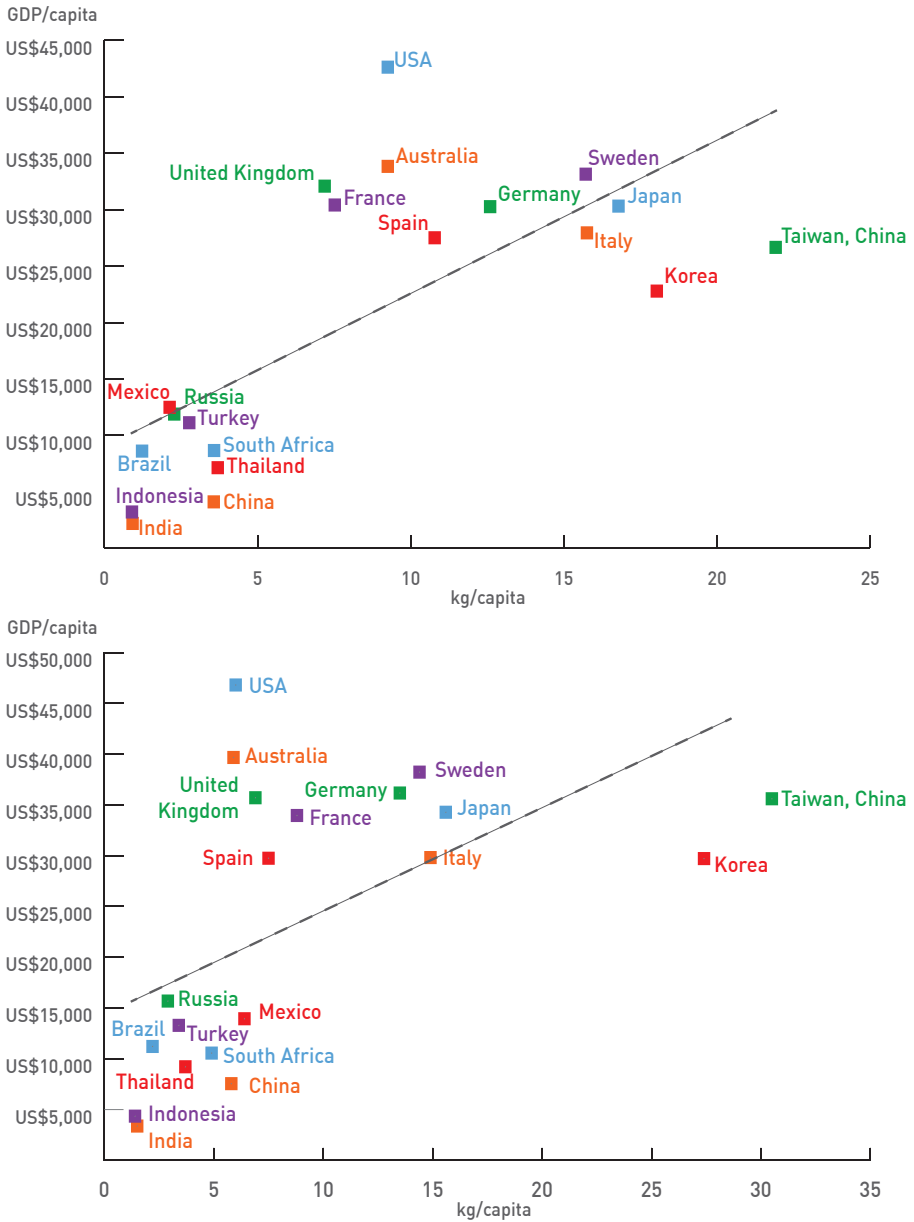


Figure 17: GDP PPP per capita versus stainless steel use per capita in 2005 (top) and 2010 (bottom). Source: IMF, Yale.

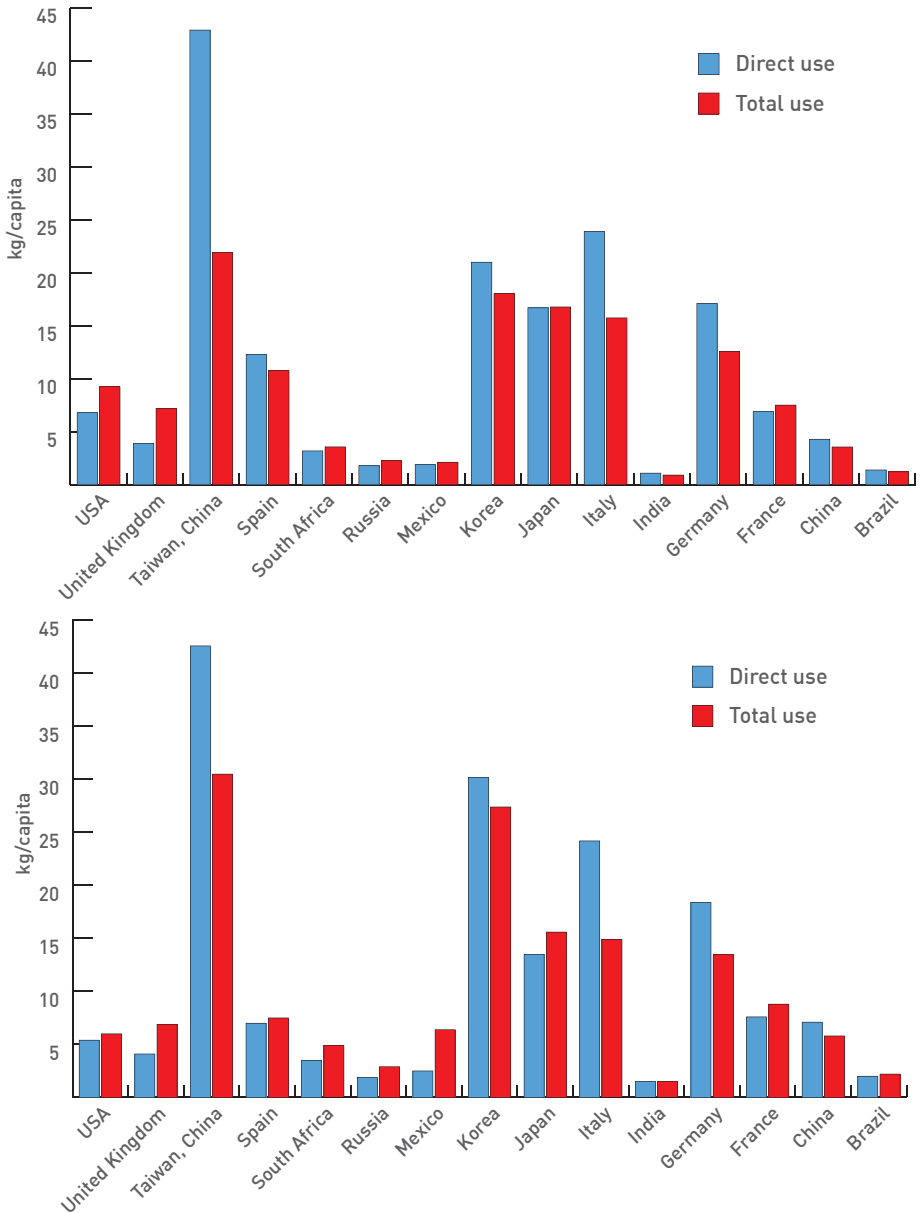


Figure 18: Comparison of direct stainless steel use (mill products) versus total stainless steel use (plus trade balance of stainless containing goods) in 2005 (top) and 2010 (bottom). Source: IMF, Yale, Vale Inco.

[www.worldstainless.org](http://www.worldstainless.org)