



TOOLING INDUSTRIES: a global view

Eduardo Beira

ISTMA, general manager
Professor, University of Minho

(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

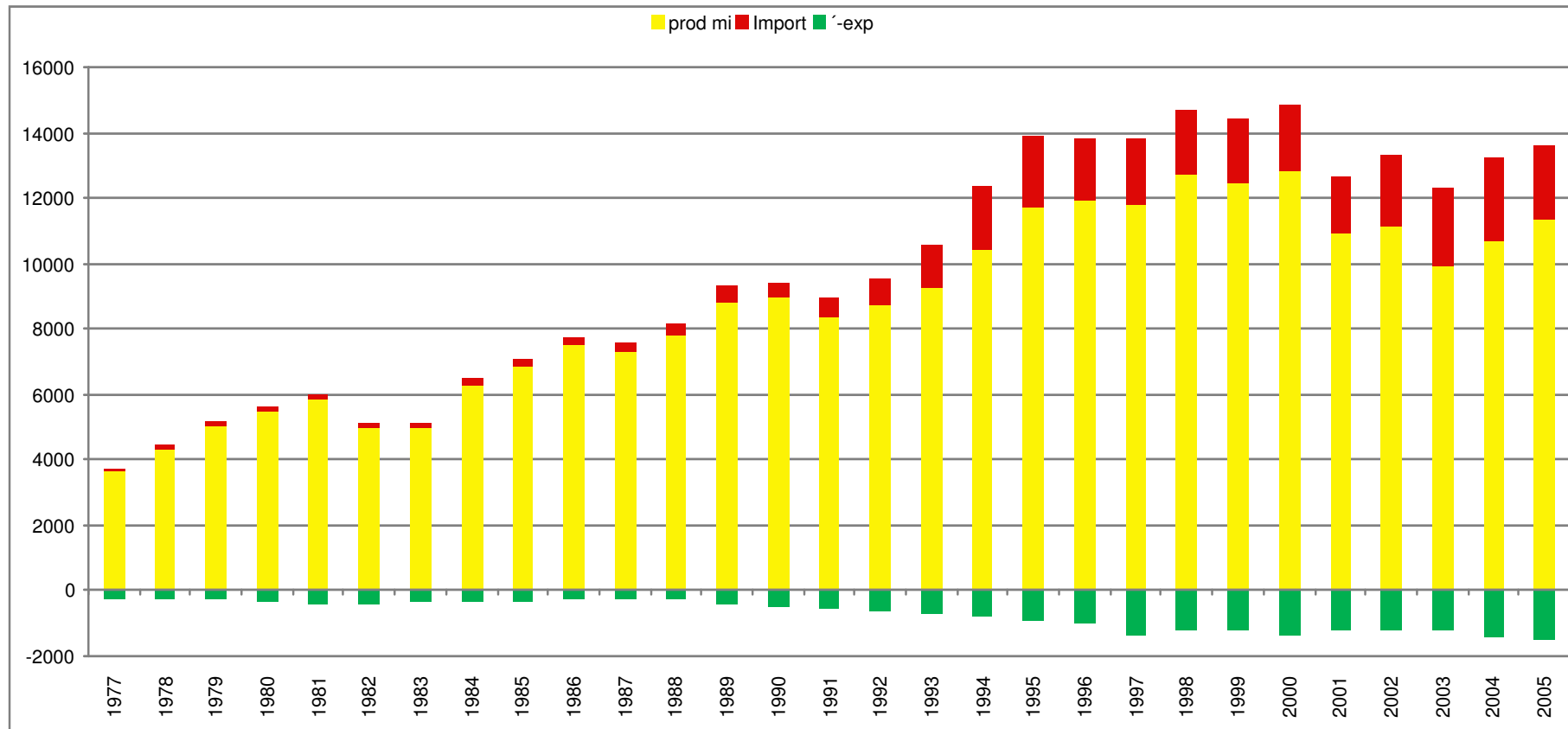
This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

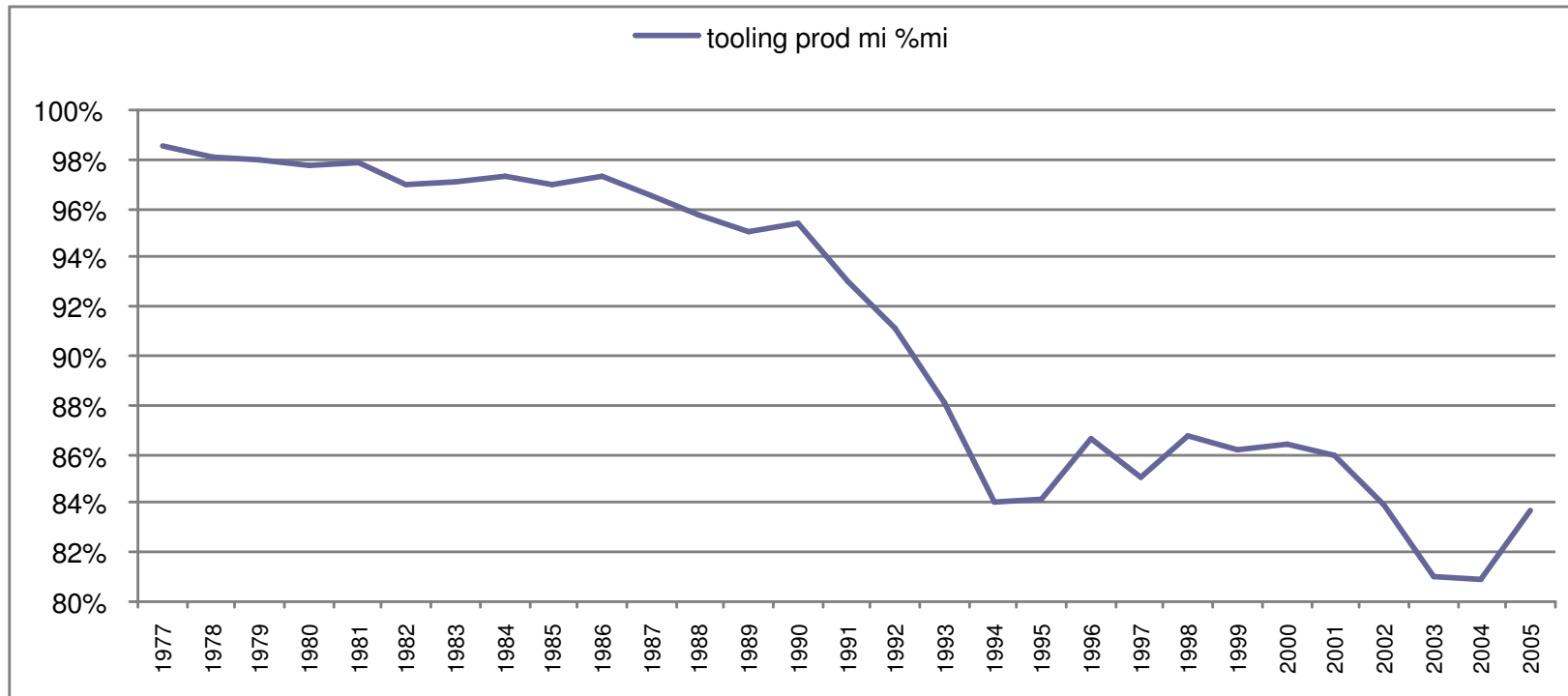


Types of tooling: tools, dies and industrial moulds

- **Industrial moulds**
 - Moulds for plastics and rubber
 - Injection
 - Others
 - Moulds for metals
 - Injection
 - Others
 - Moulds for glass
 - Moulds for ceramics, ...
- Press and stamping **tools**
- Cutting and extruding **dies**

USA, 1997 to 2005

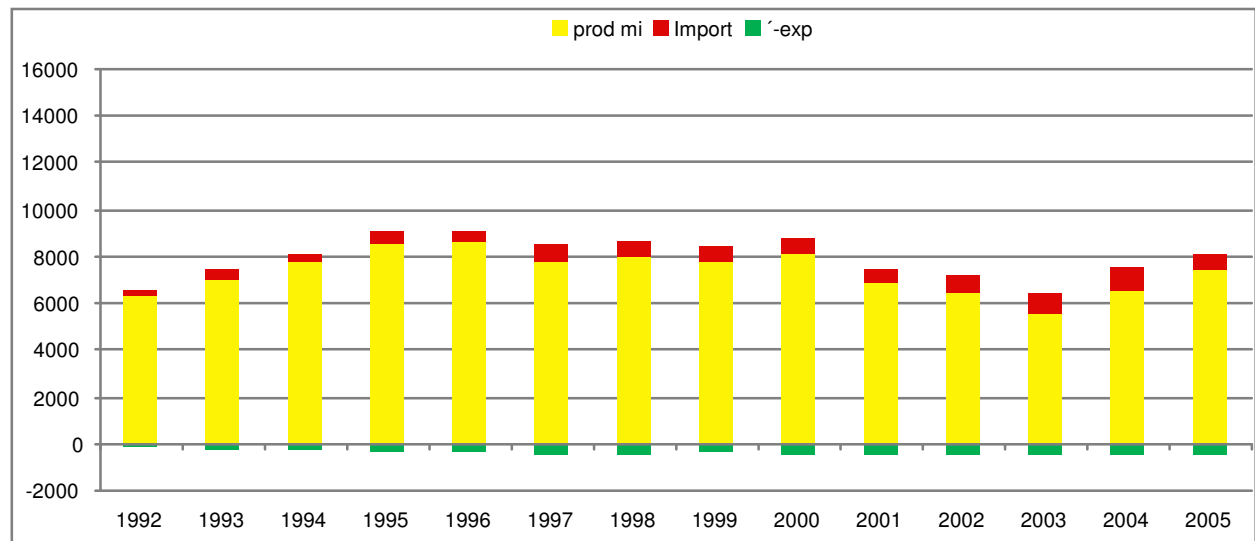
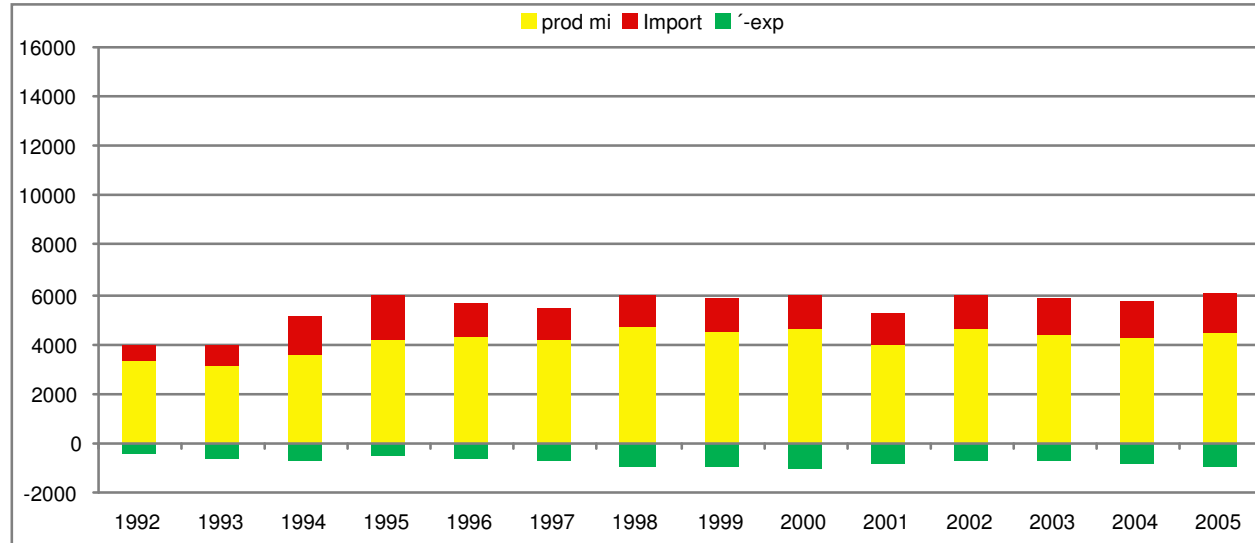






USA: ind molds and sp.tools&dies 1997 to 2005

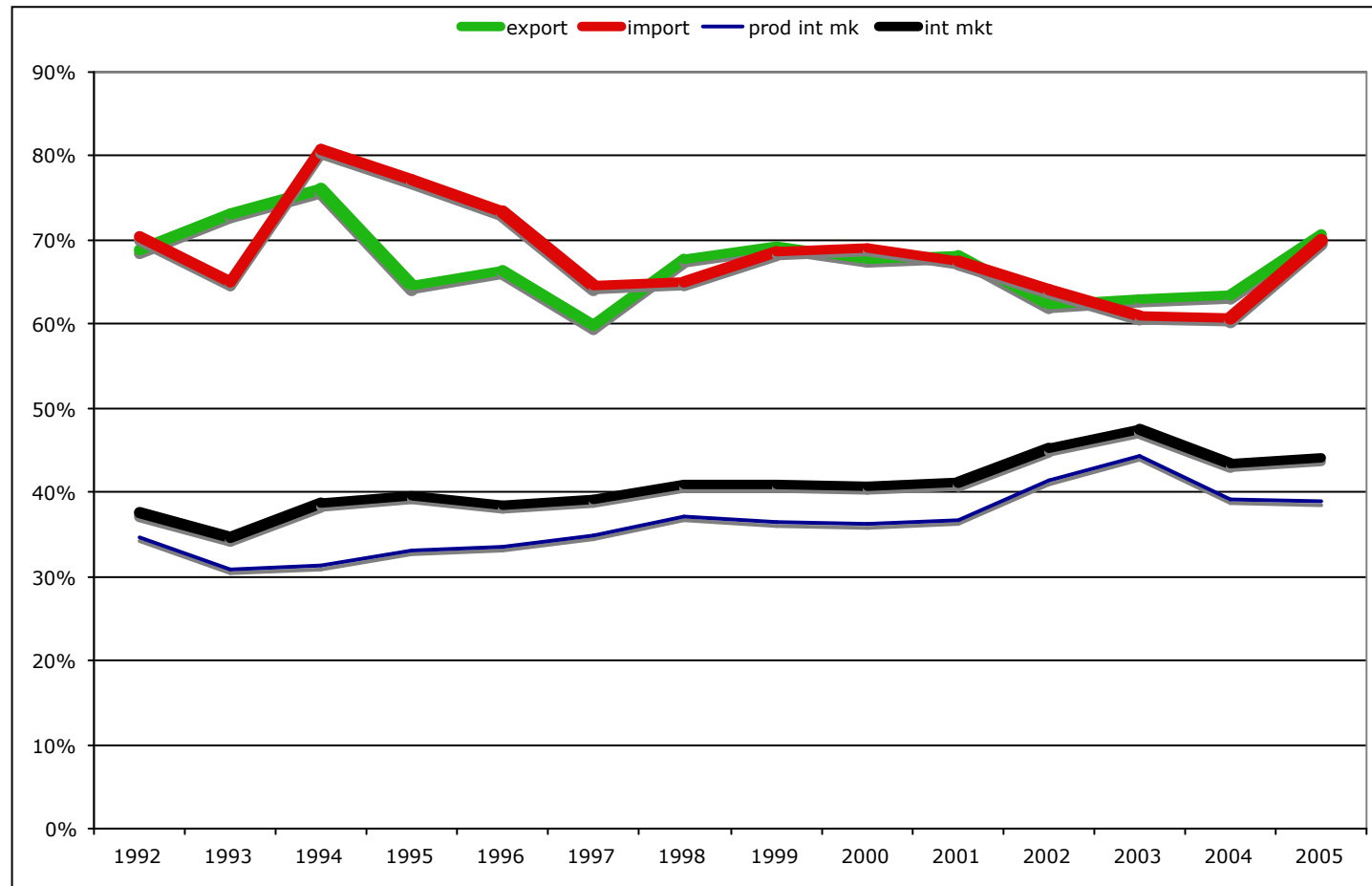
Internal market and exports



(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008



% industrial molds USA, 1992-2005

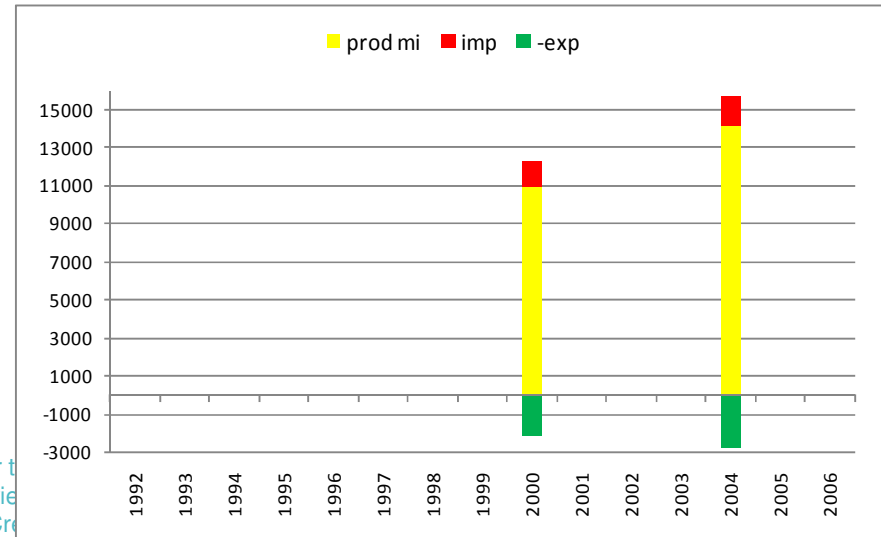
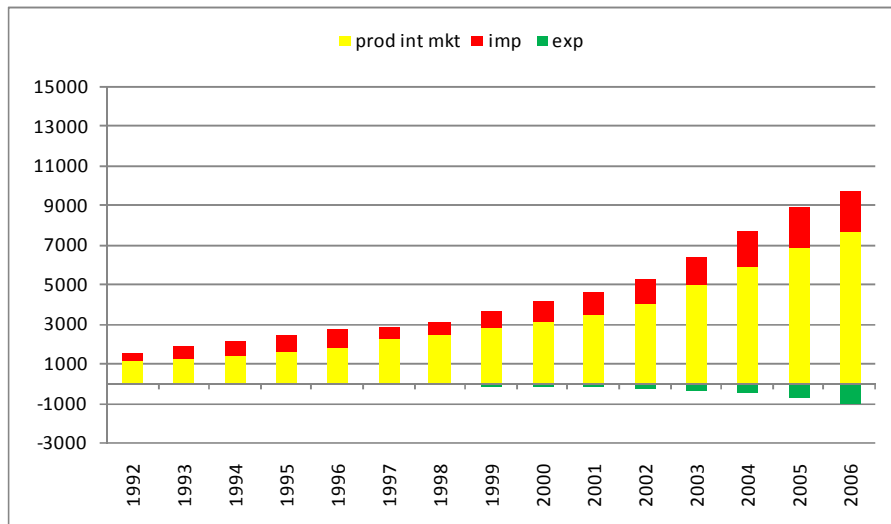
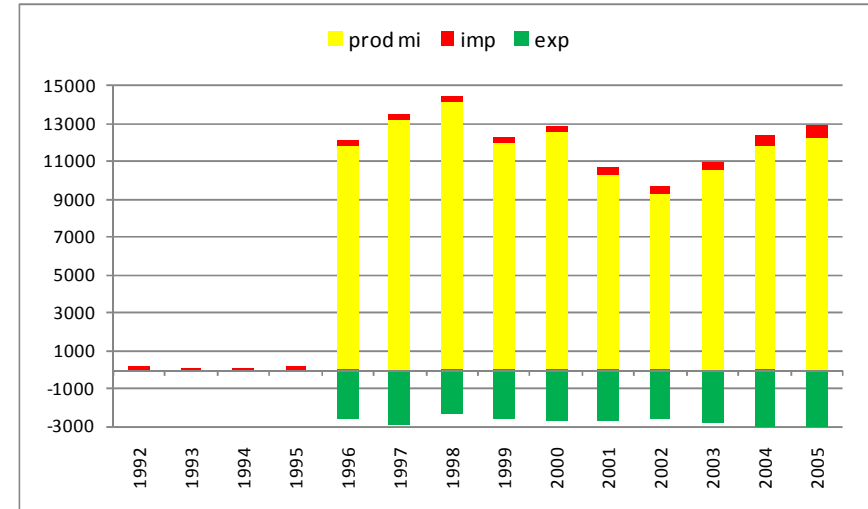
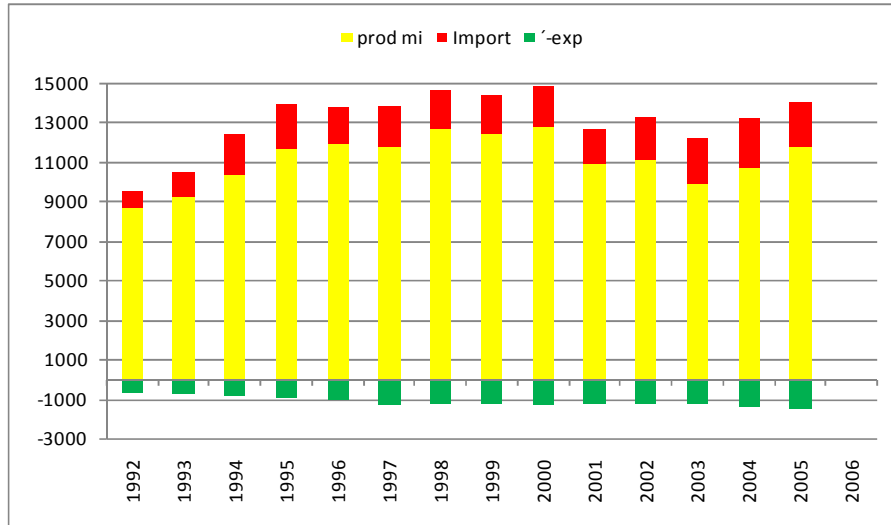


(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

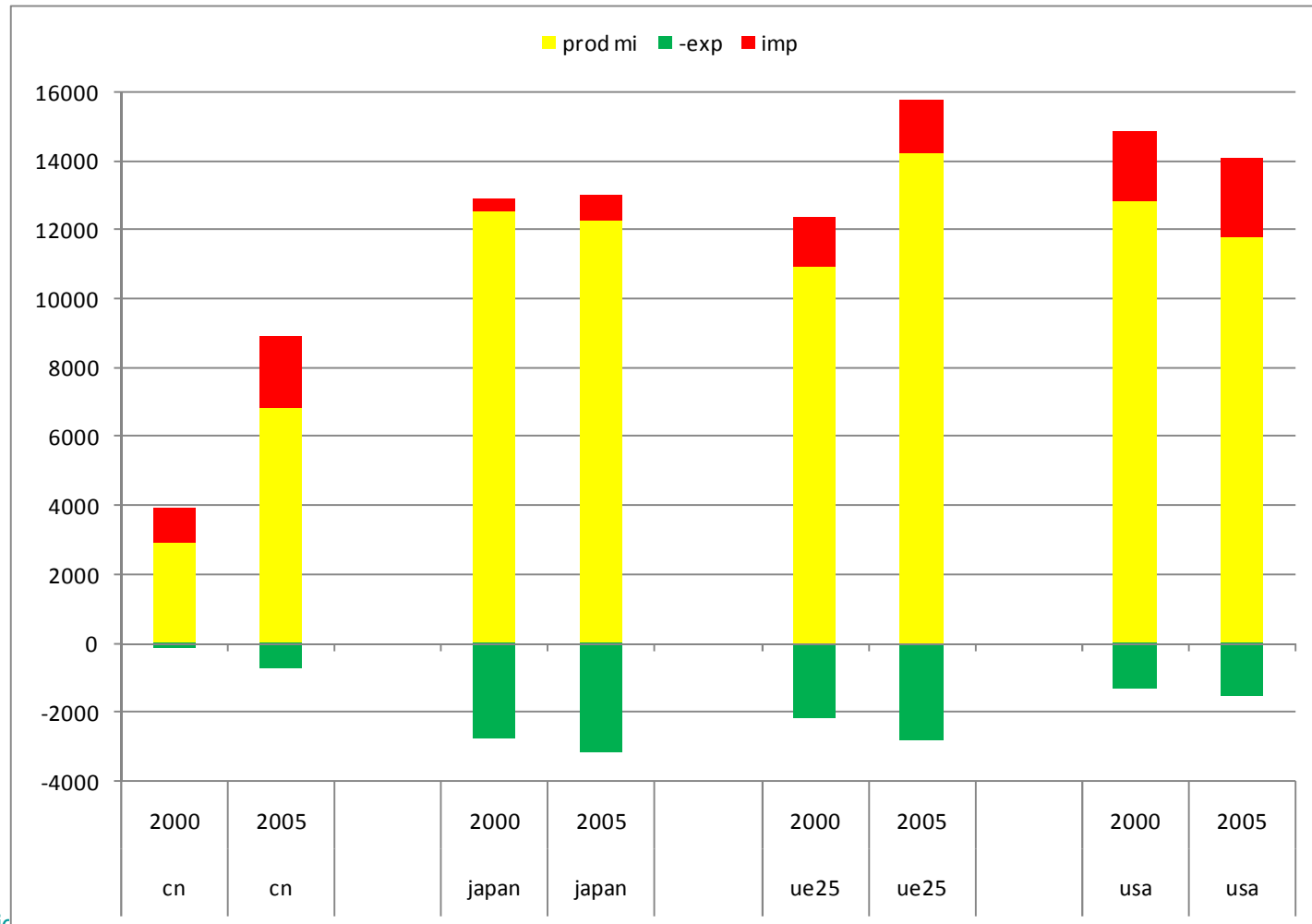


USA, China, Japan, UE 1992-2006





2000 vs 2005

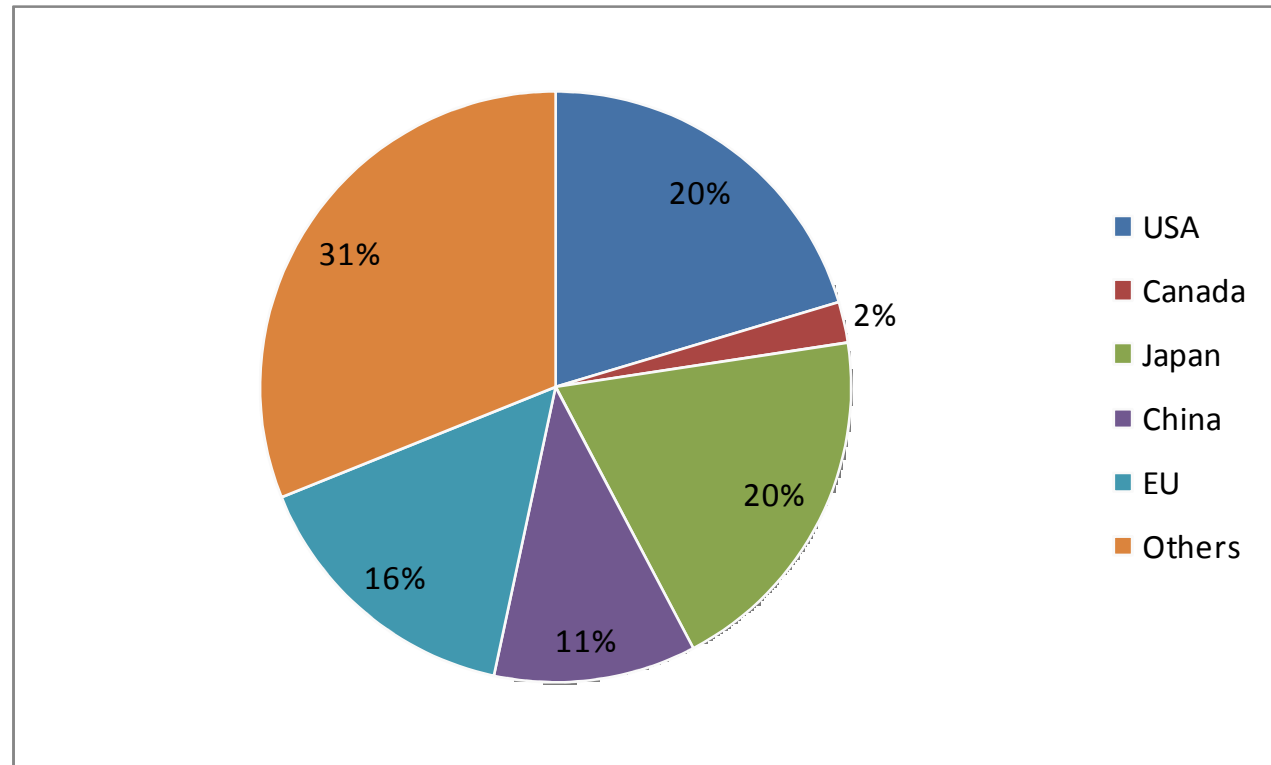


(C) Eduardo Beira. All rights reserved.
 2008 NTMA Convention
 St Petersburg, 5 February 2008

This work is licensed under the Creative Commons Attribution-NonCommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

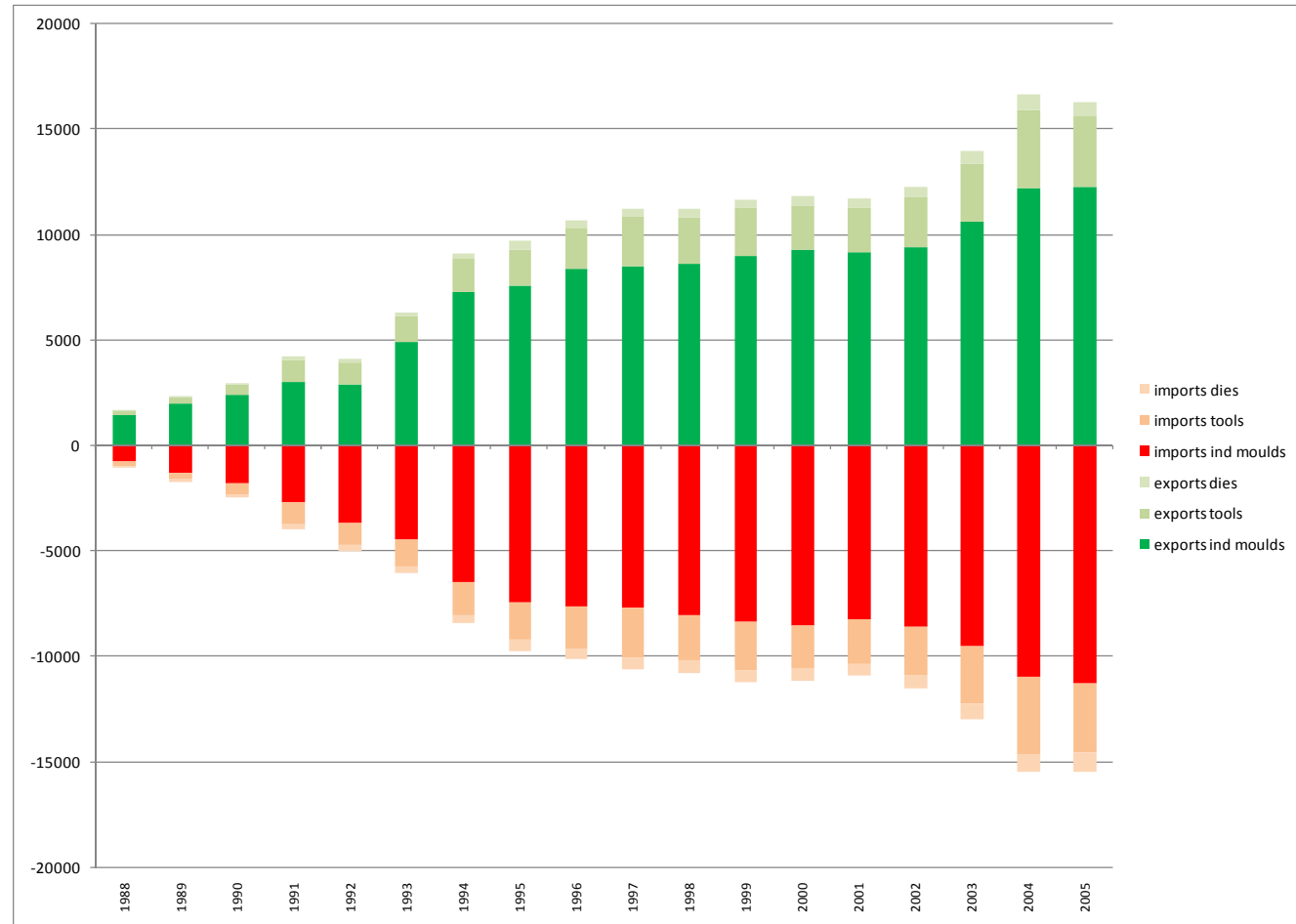


Estimated world demand dtm = 65 b.USD 2005



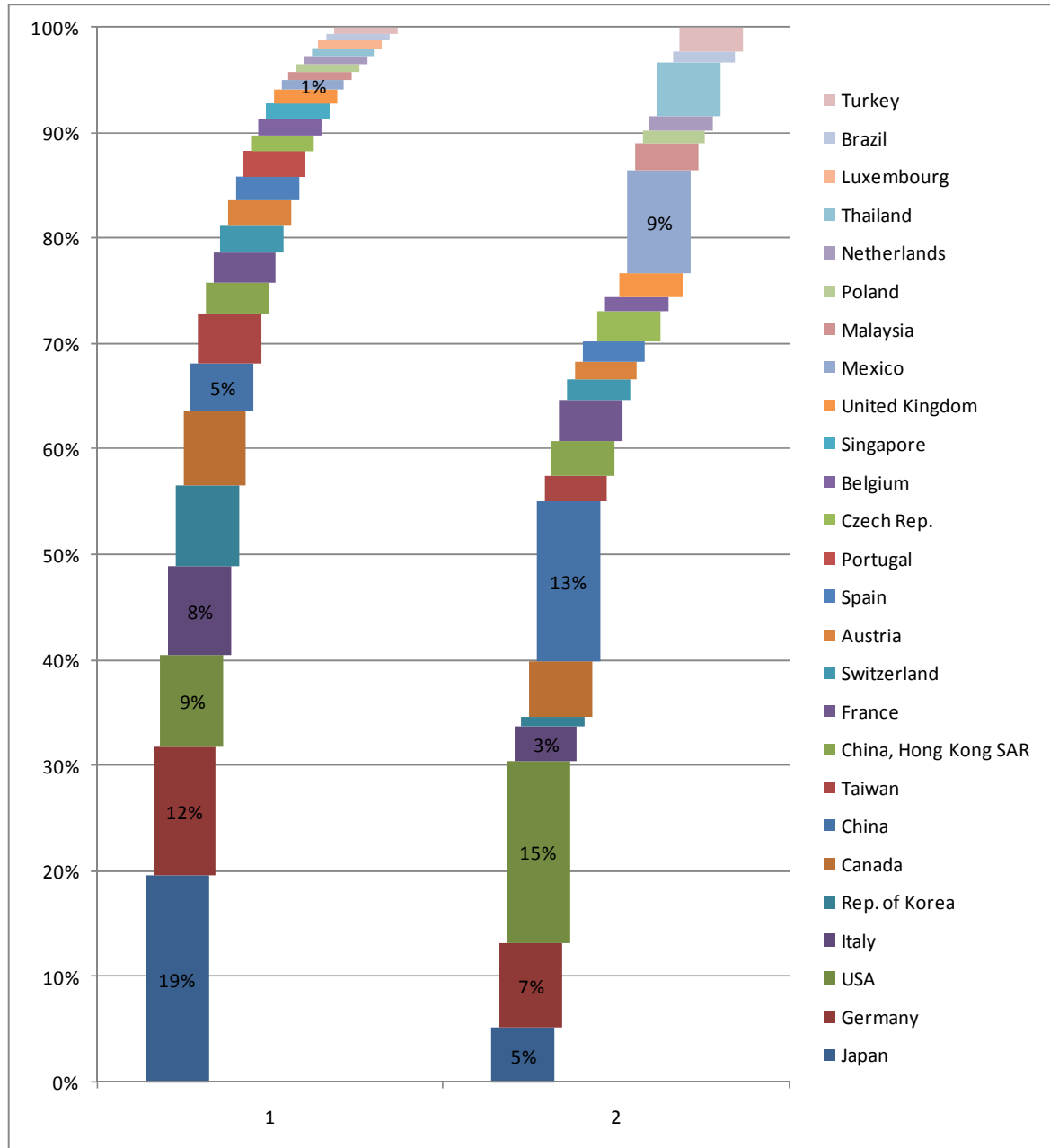


World tooling trade, by type 2005: 16 b.USD (25% consumption)



(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

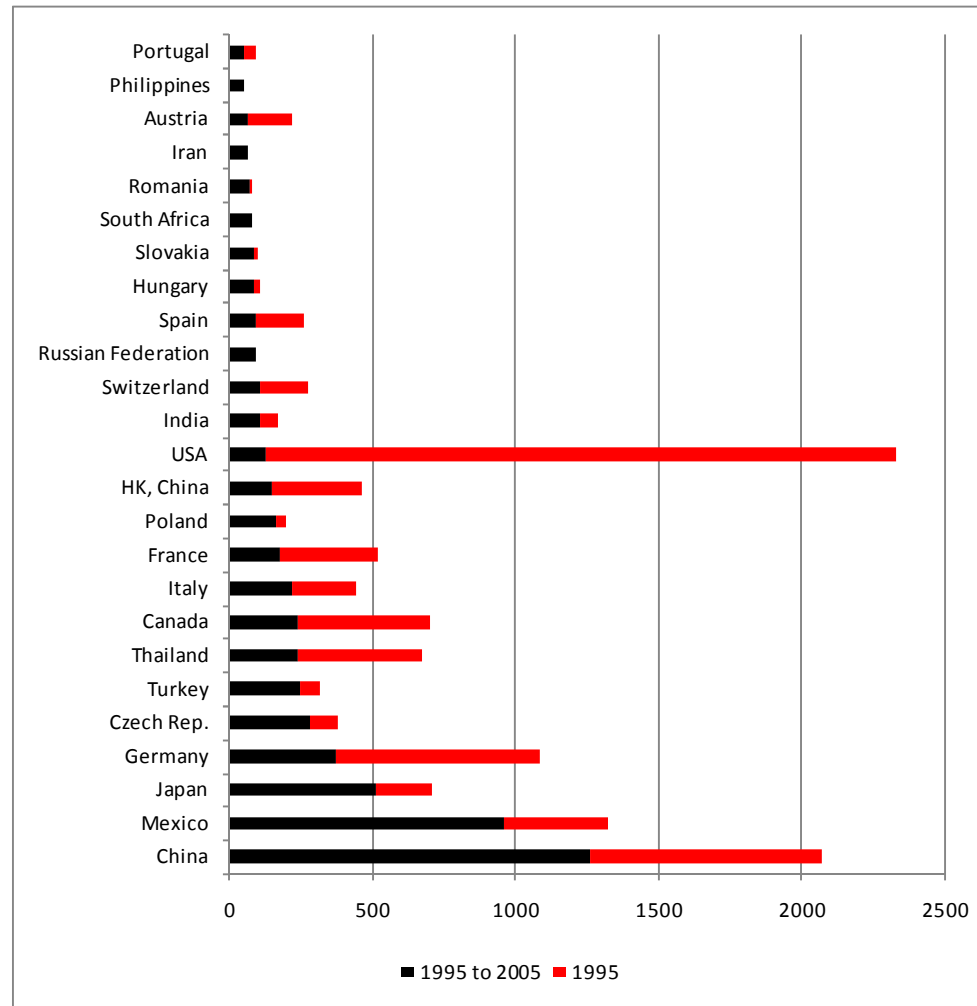
This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.



(C) Eduardo Beira. All rights.
 2008 NTMA Convention
 St Petersburg, 5 February 2008

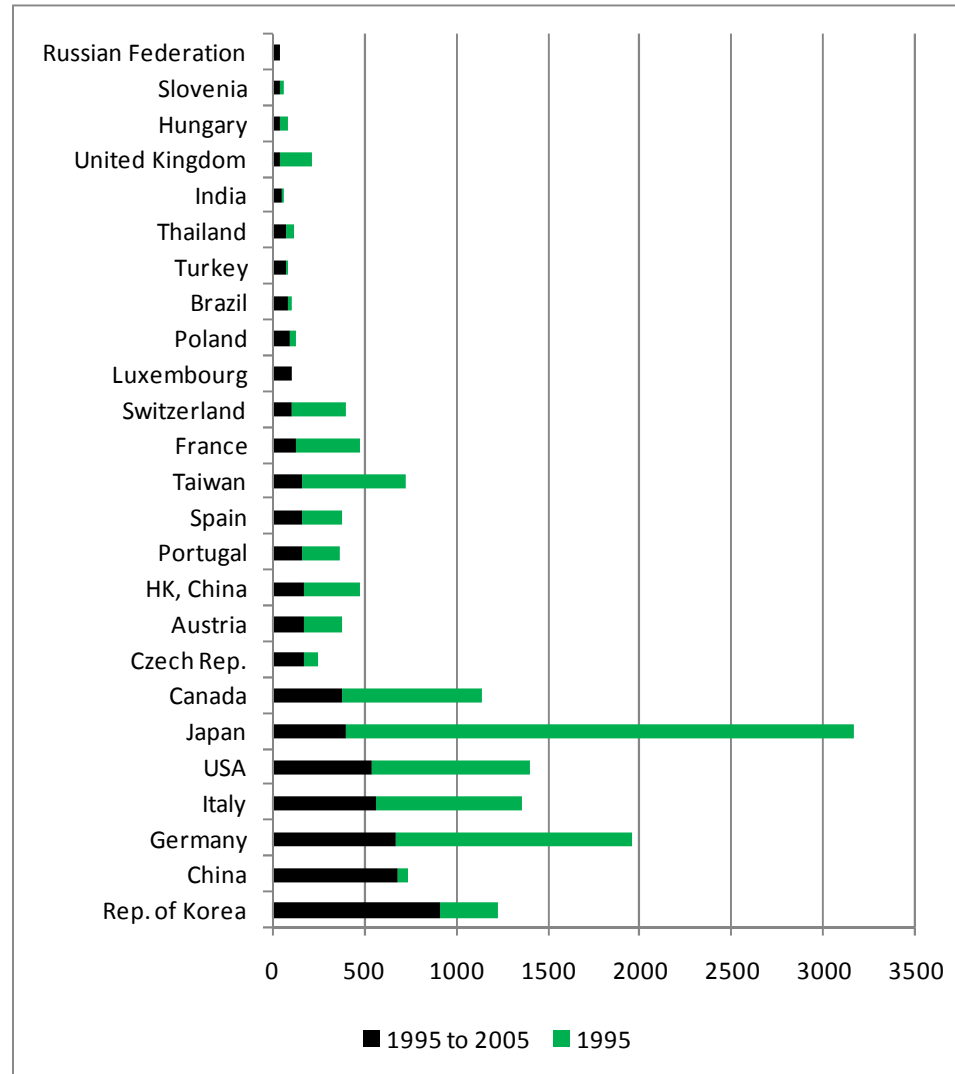
3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

World top importers





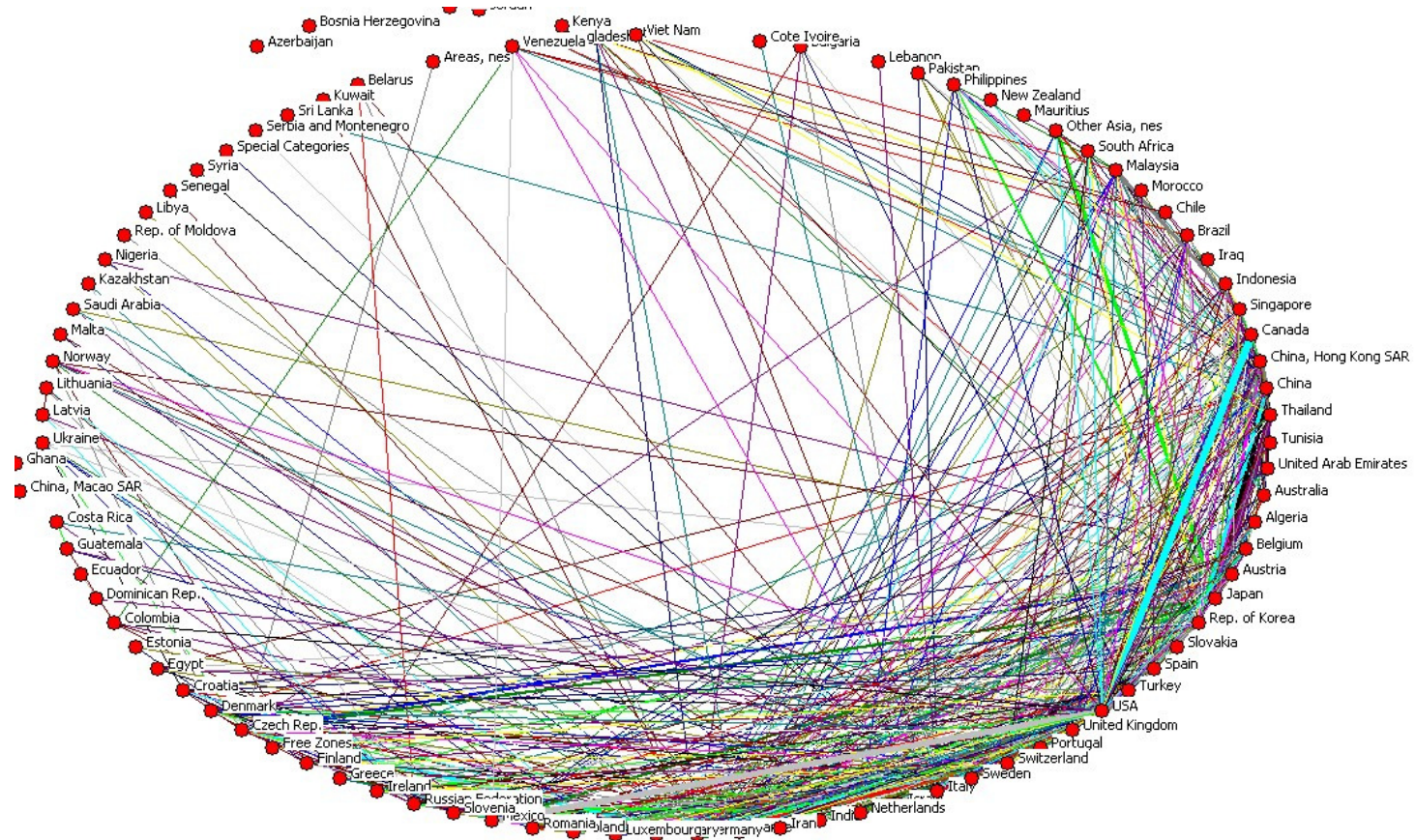
World top exporters



(C) Eduardo Beira. All rights.
 2008 NTMA Convention
 St Petersburg, 5 February 2008

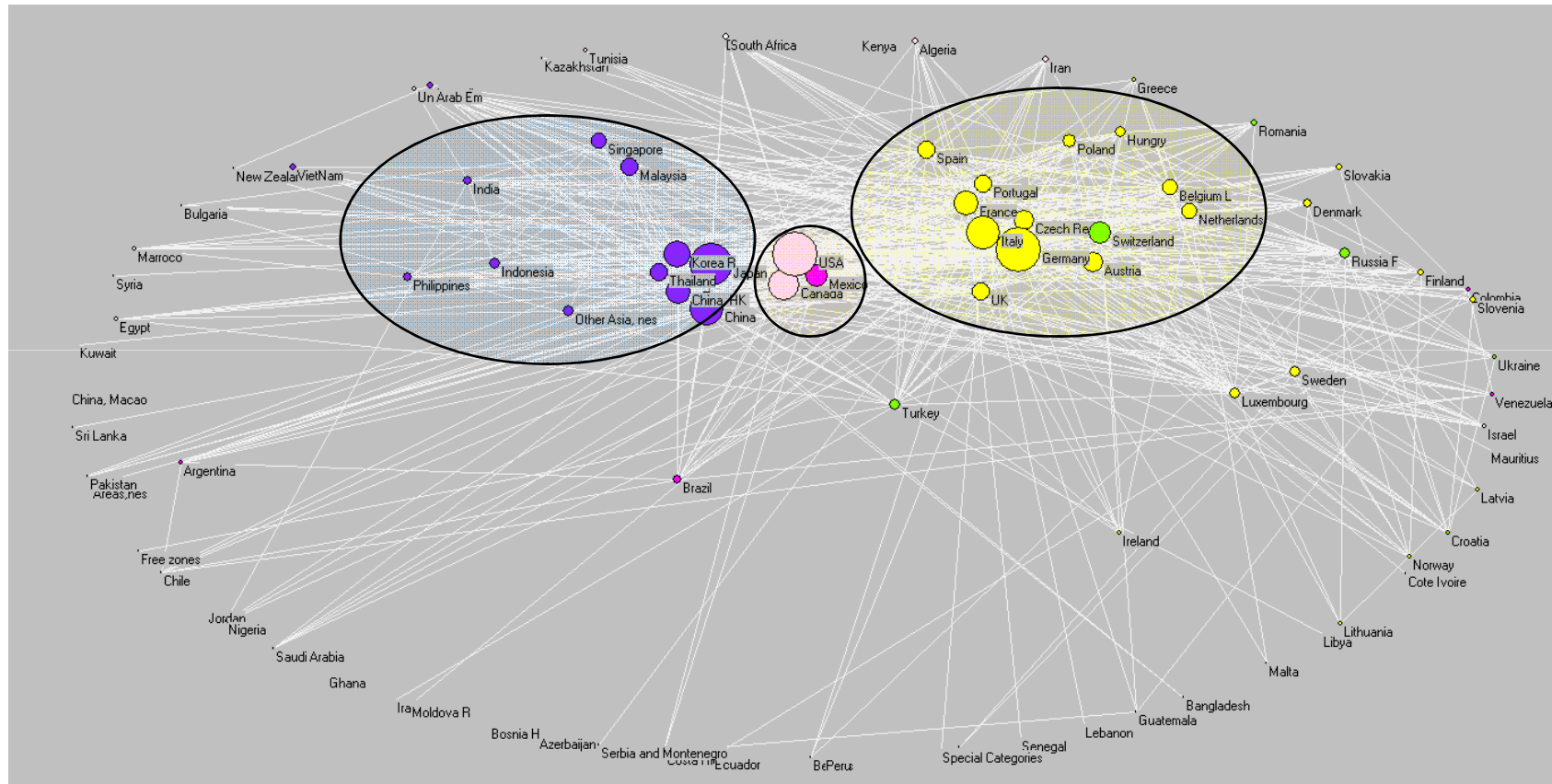
California, 94105, USA.

Derivative Works
<https://creativecommons.org/licenses/by-nc-sa/4.0/>
 San Francisco,



(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

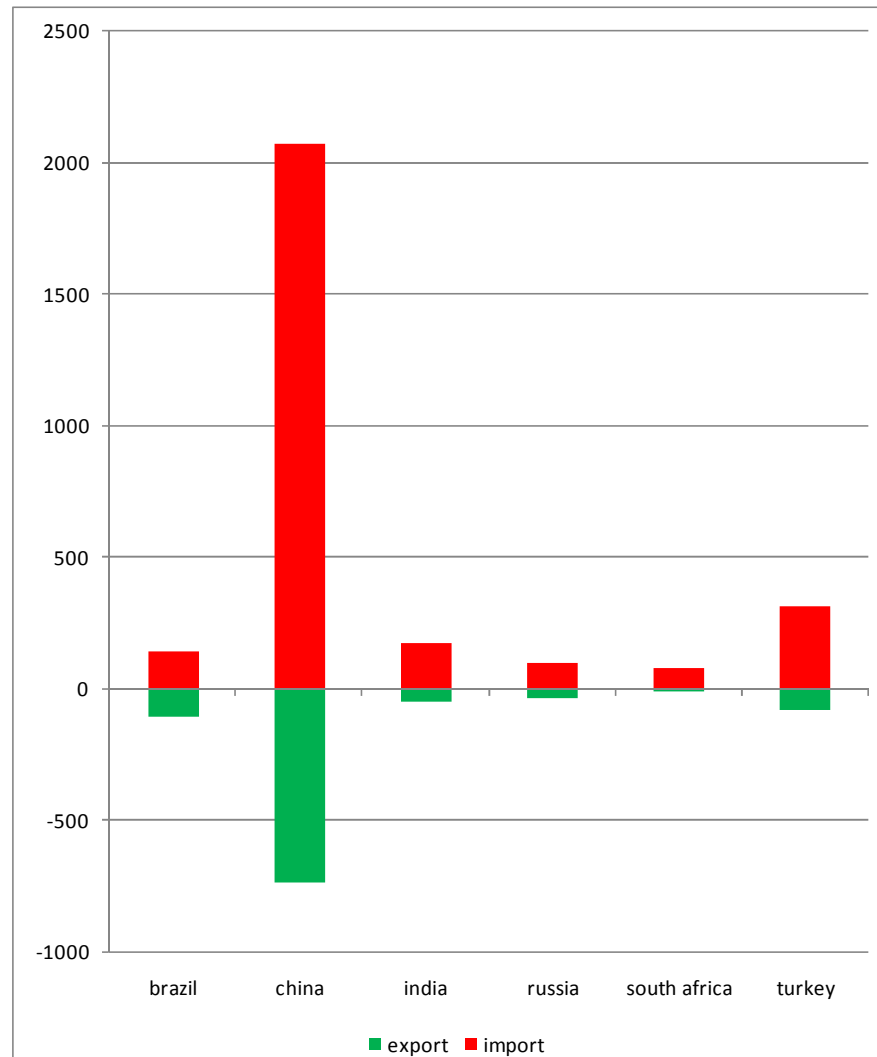


(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.



BRICS tooling trade (2005)

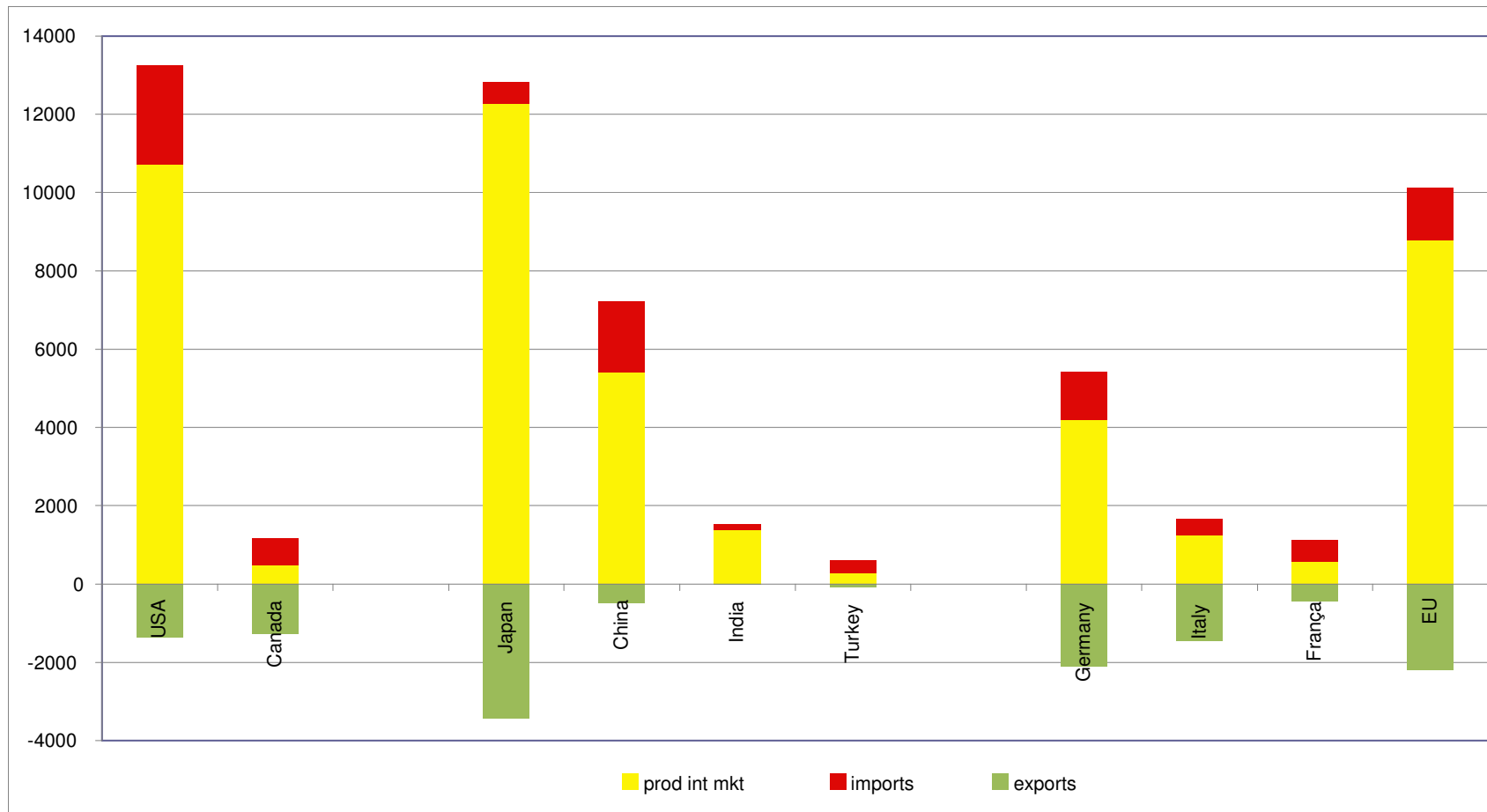


(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

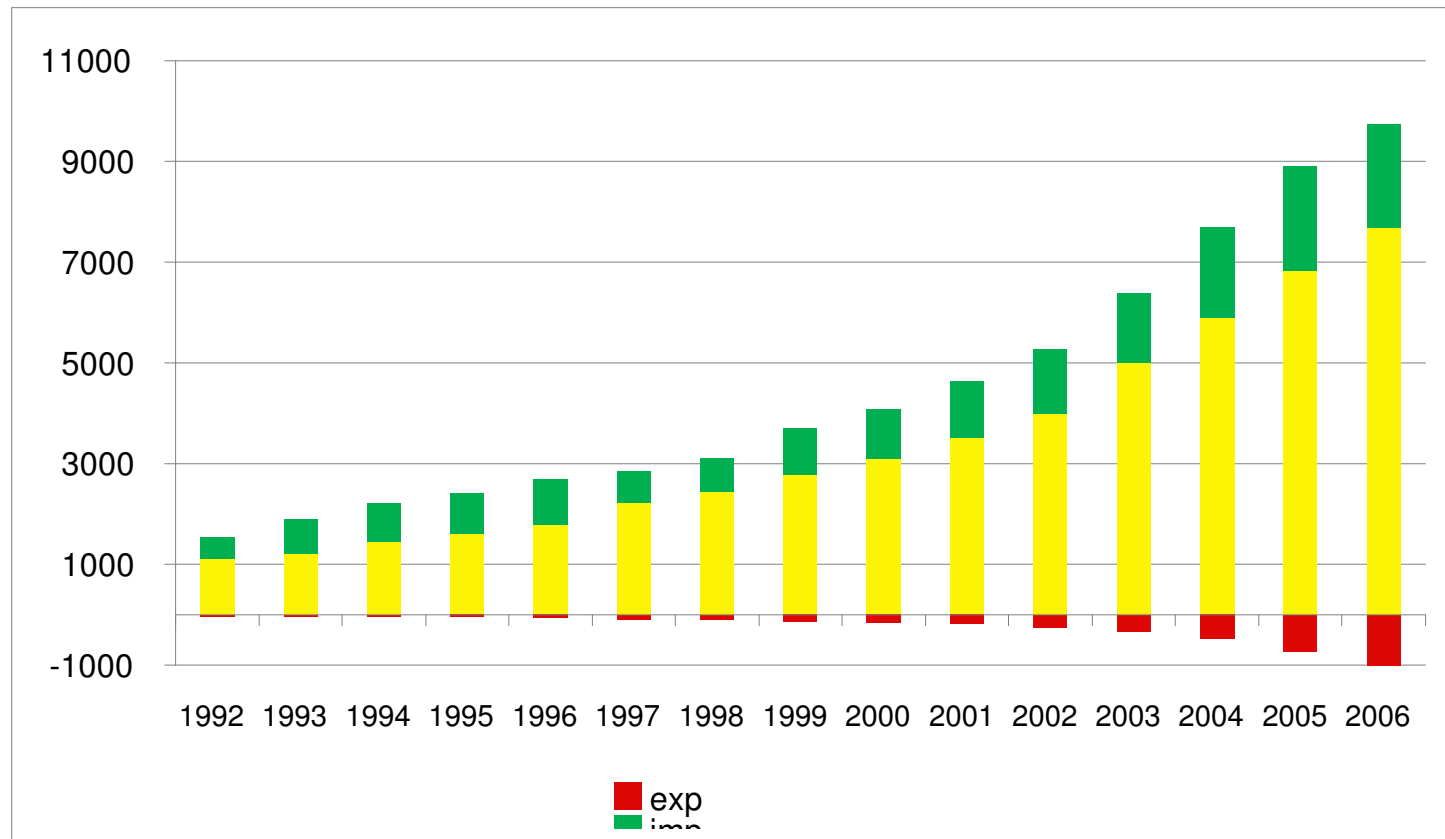
California, 94105, USA.

Noncommercial-No Derivative Works
creativecommons.org/licenses/by-nc-nd/4.0/
St, Suite 300, San Francisco,

4Big and BRICS (2005)

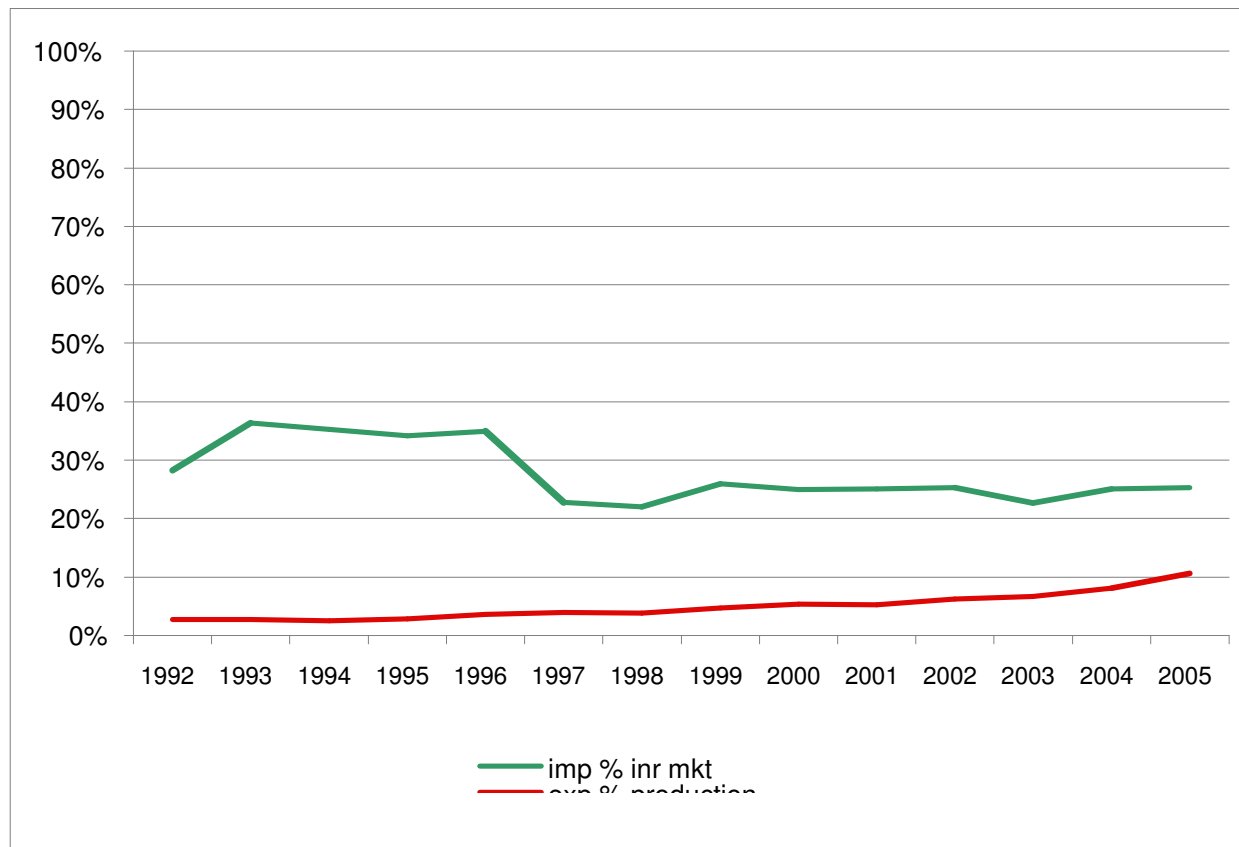


China





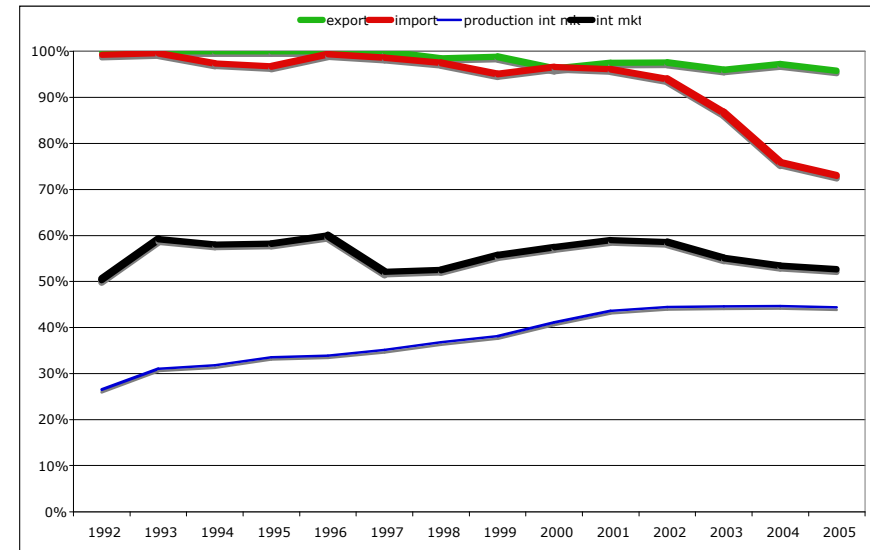
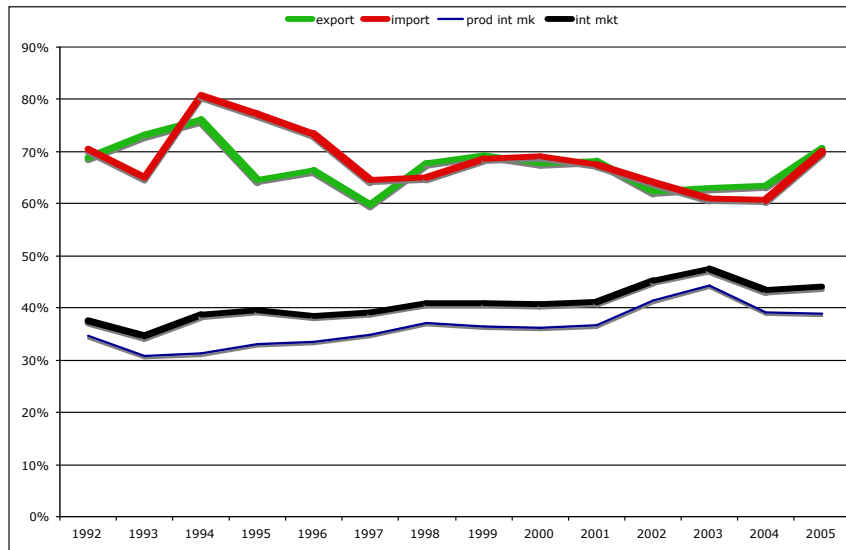
China: imports % int mkt, exp % production (2005)



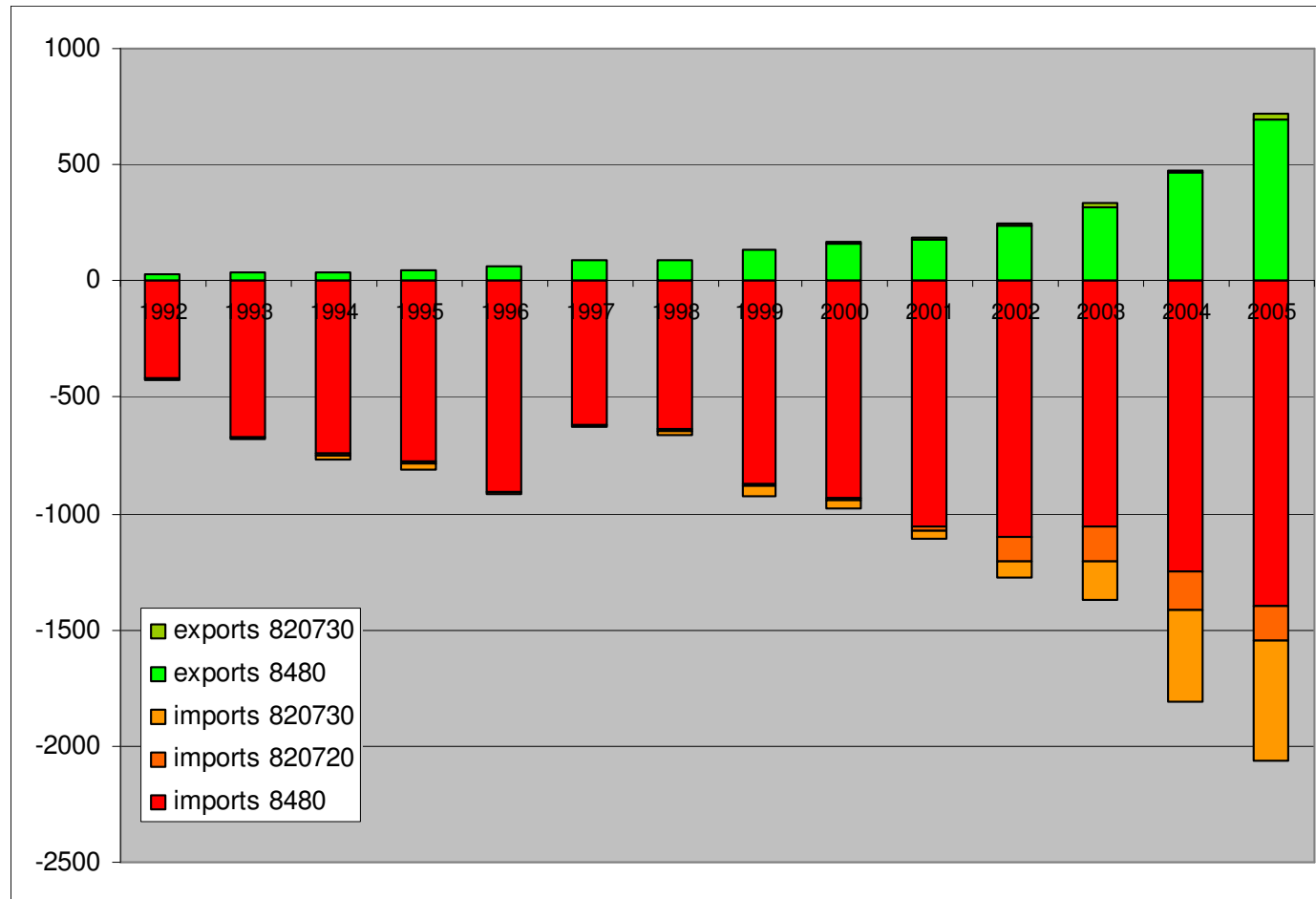
(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

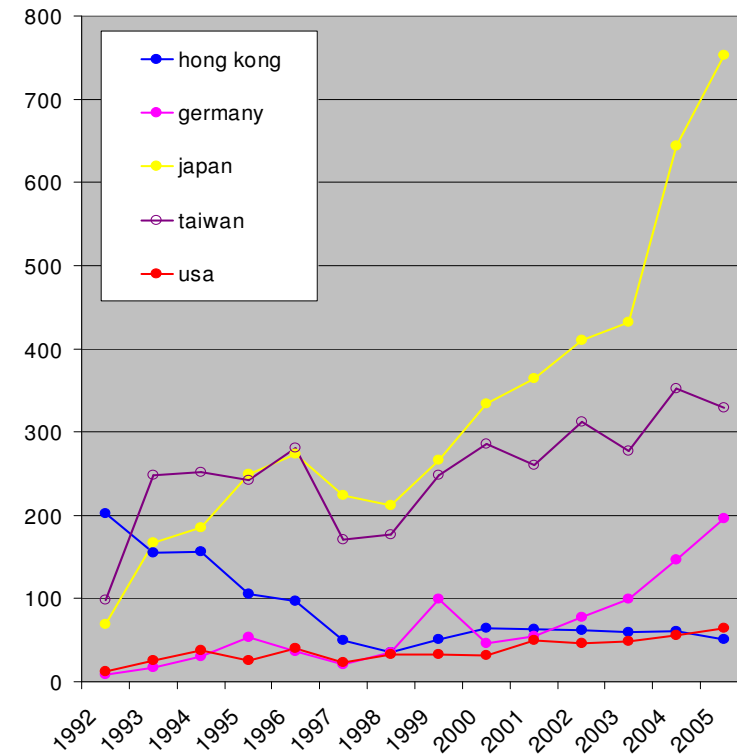
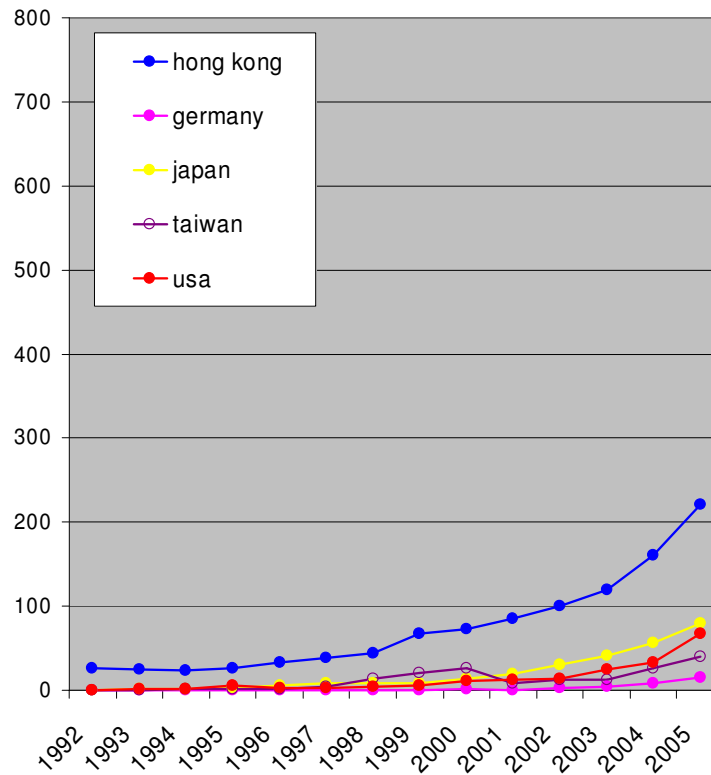
USA, China: % industrial moulds 1992-2005



China trade (1992-2005)

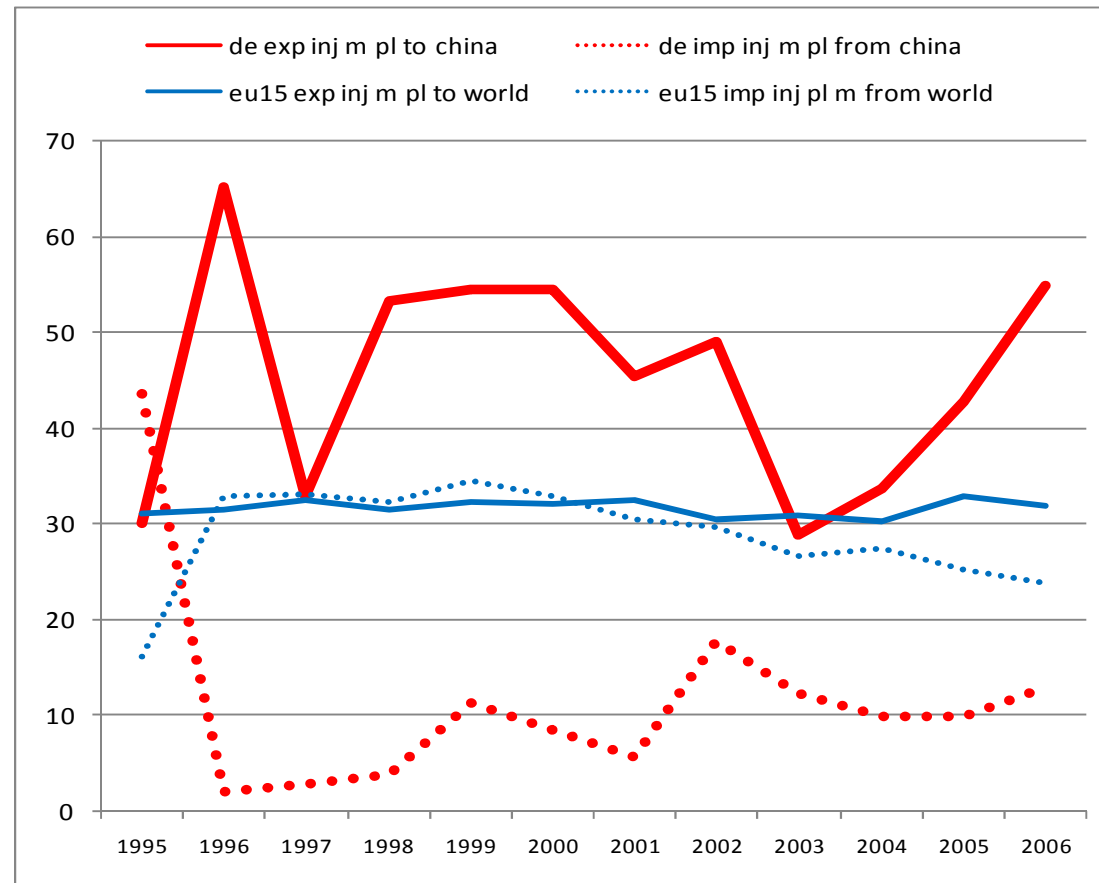


China trade: partners





Germany / China trade: prices (moulds for injection of plastics)



(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.



Tooling world: a small world, but changing fast...

But tooling business is changing.
And some of its big customers are in trouble ...

Toolmakers business model is changing



Customers are changing ...

- A new geography of manufacturing
 - Asia deslocalization
 - Economies of proximity
 - Growth of markets is now in Asia
 - New landscape of demand
- A concentration trend
 - Larger and more powerful customers
 - Less number of (large) customers
- A reorganization of OEMs corporate structure
 - Separation of design and manufacturing
 - Procurement versus engineering



Automotive industry is changing ...

- Fragmentation of model variety
- shorter life cycles
- smaller production runs
- higher demand for flexible and modular design and manufacturing

- “An industry reinventing itself”
 - The Economist, 2004

- Will the aggressive client / supplier procurement model prevail?
 - GM / Ford vs Chrysler / Honda

- Will a more cooperative and concurrent approach emerge?
 - Trust will be critical.

- The modular approach versus the pragmatic approach



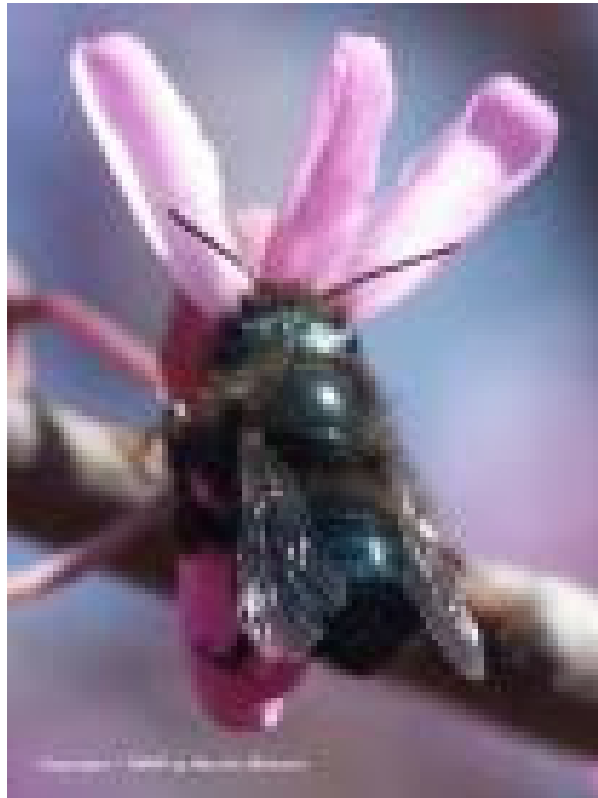
Challenge #1 ...

- The more important changes for the present and next years will be in the service components of the business
- **Managing complexity**
 - In project management
 - In supply chain management
 - Pre and post sales service / CRM
 - Commercial skills in the international market

Challenge # 2 ...

- **Financial
innovation**

- **PAYMENT TERMS ARE BECOMING IMPOSSIBLE FOR SMES**
- **A NEW WAY TO PRICE TOOLS / TOOL OWNERSHIP IS NEEDED**

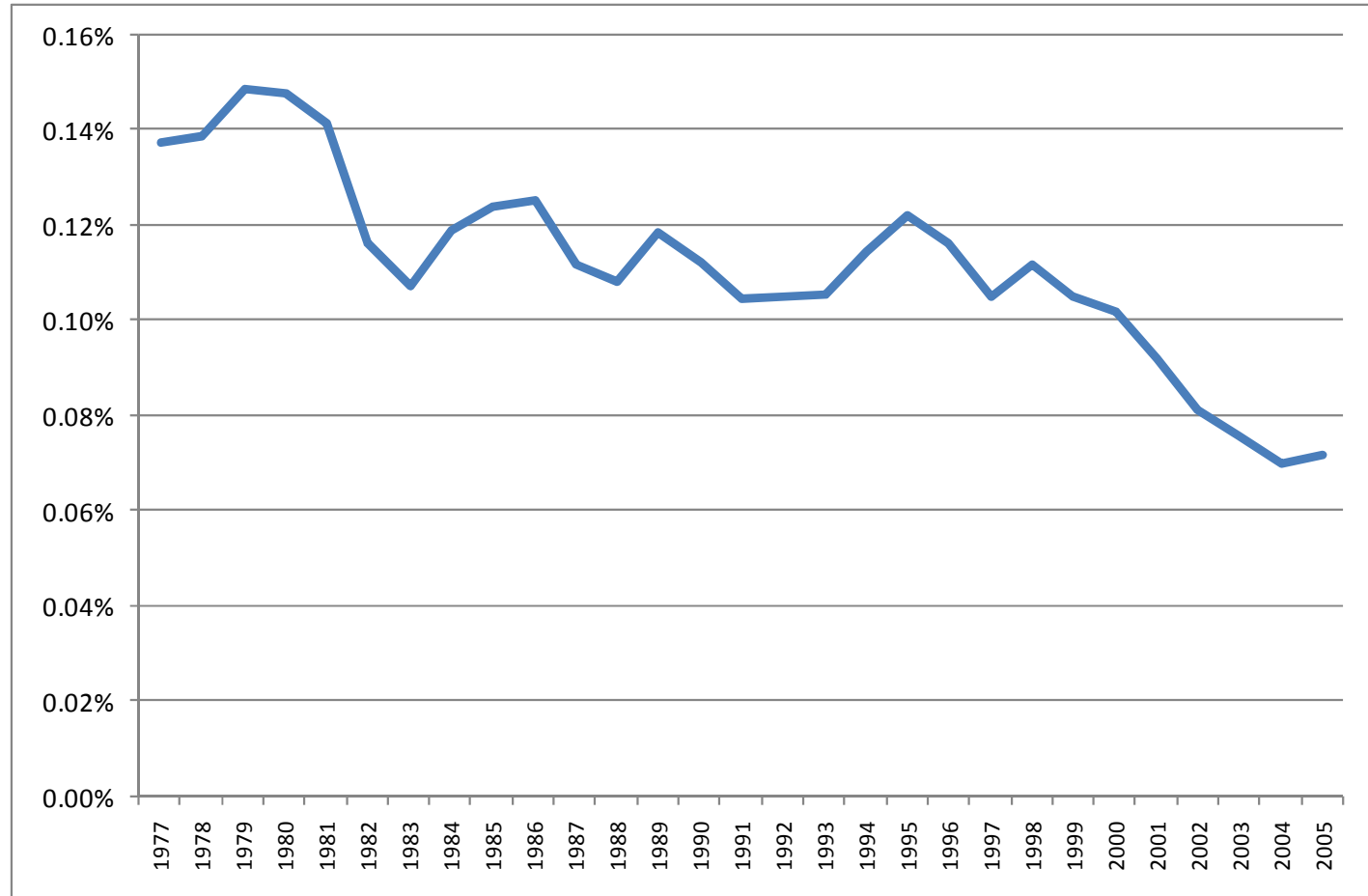


(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.



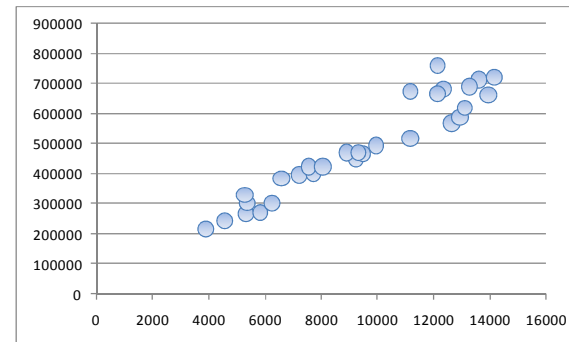
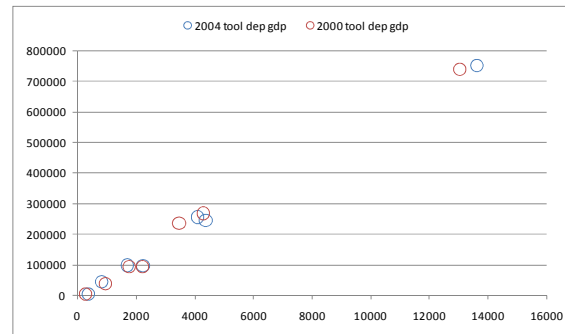
USA: tooling is less than 0.1% GDP (1977-2005)



(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.

1 to 100



Added value of tool dep ind relative to production of tooling

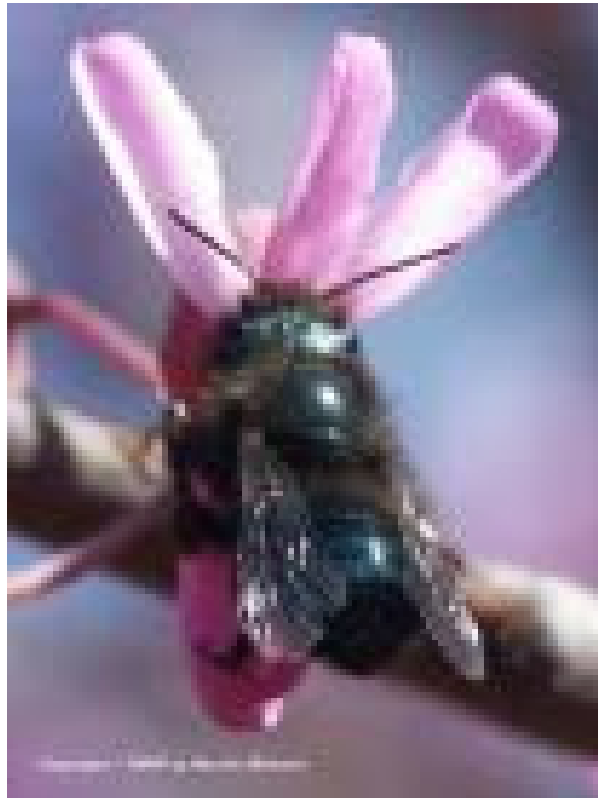
UE	56,3	54,1	58,4	2000+2004
USA	51,7	49,8	55,6	1977-2005

Added value / shipments ratio (USA, 2004)

tooling	67%
manufacturing	48%
tool dep sectors	51%



The bees of the industrial ecosystems?



(C) Eduardo Beira. All rights.
2008 NTMA Convention
St Petersburg, 5 February 2008

This work is licensed under the Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 Unported License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/> or send a letter to Creative Commons, 171 Second Street, Suite 300, San Francisco, California, 94105, USA.



Thanks very much for your attention!

www.istma.org