

COINVEST

www.coinvest.org.uk

**COINVEST:
Competitiveness, Innovation and Intangible Investment in Europe**

Harmonising and Improving Measurement Methods of Intangibles for France, Sweden and UK

Vincent Delbecque

Harald Edquist

Annarosa Pesole

*Project funded by the European Commission under the Seventh
Framework Programme
Grant No 217512*

Website : www.coinvest.org.uk

Email: coinvest@qmul.ac.uk



Overview (1)

- Intangible measurement is a very delicate task
- Improve already-implemented methods (CHS, HMA)
 - 50% of design industry output
 - 10-30% of financial industry output
- Common items but different measures
 - Different data availability
 - Different levels of detail and accessibility in National Accounts
- Need for closer harmonisation especially for « new » items
 - Architecture and Engineering design
 - Financial Innovation

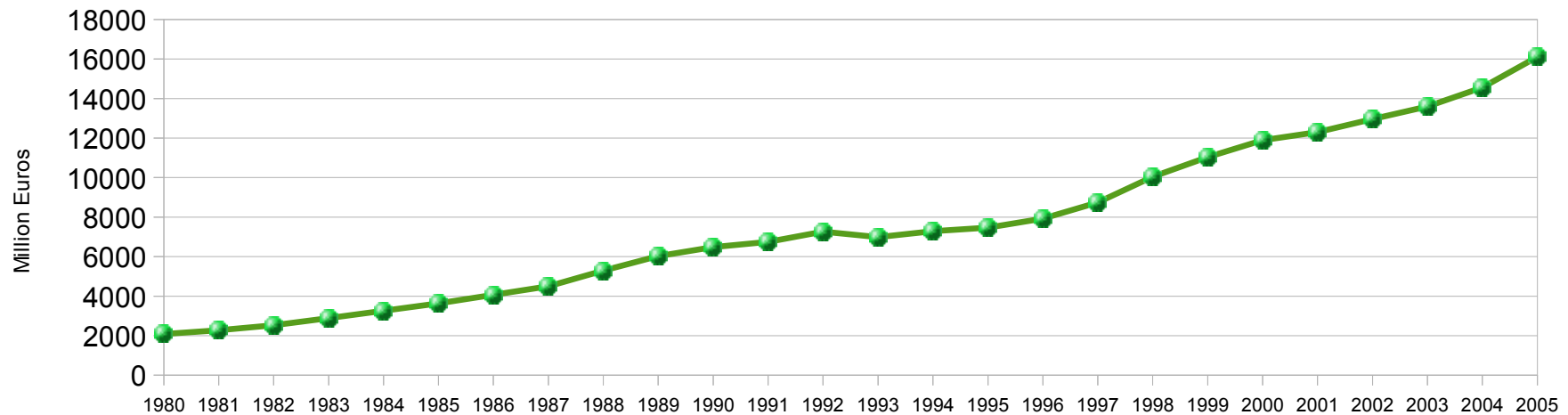
Overview (2)

- Measuring own-account intangible production has some background:
 - Own-account software. Labour cost based evaluation
- Proposition to use employment data
 - Several countries do have employer-employee databases
 - When available, data are highly informative
- Issues
 - Classifications
 - Assumptions

Architecture and Engineering Design (1)

- The French case
 - Purchased AED is already recorded as GFCF in the French NA
 - Estimated through I/O tables, includes:
 - All purchases from NAF 74.2A and 74.2B (NACE 74.2)
 - Only a part of NAF 74.2C (NACE 74.2)

Market Sector AED GFCF
based on I/O tables



Architecture and Engineering Design (2)

- The Swedish case
 - Purchased AED is not recorded as GFCF in the NA
 - Proposition of an estimation method based on employment data:
 - $\text{Purchase AED} = \text{AED occ. in AED indus} / \text{all occ. in AED indus.} \times \text{turnover in AED indus.}$
 - “Design content” of AED production
 - Own account AED is also estimated using employment data:
 - $\text{OA AED} = \text{purchased AED} / \text{AED wage bill in AED indus.} \times \text{wage bill of AED occ. in other industries}$
 - Design production capacity of a design unit input.
 - 50% percent of this production could be considered as GFCF.

Architecture and Engineering Design (3)

- The Swedish case (cntd')
 - AED occupations retained:
 - Architects and town planners, Civil engineers, Electrical engineers, Electronics and telecommunication engineers, Mechanical engineers, Chemical engineers, Designers, Decorators and commercial designers.
 - Some are already accounted for in the R&D item
 - Results in 2004:
 - Purchased AED = 0.8bn€
 - Own account AED = 2.3bn€

Architecture and Engineering Design (4)

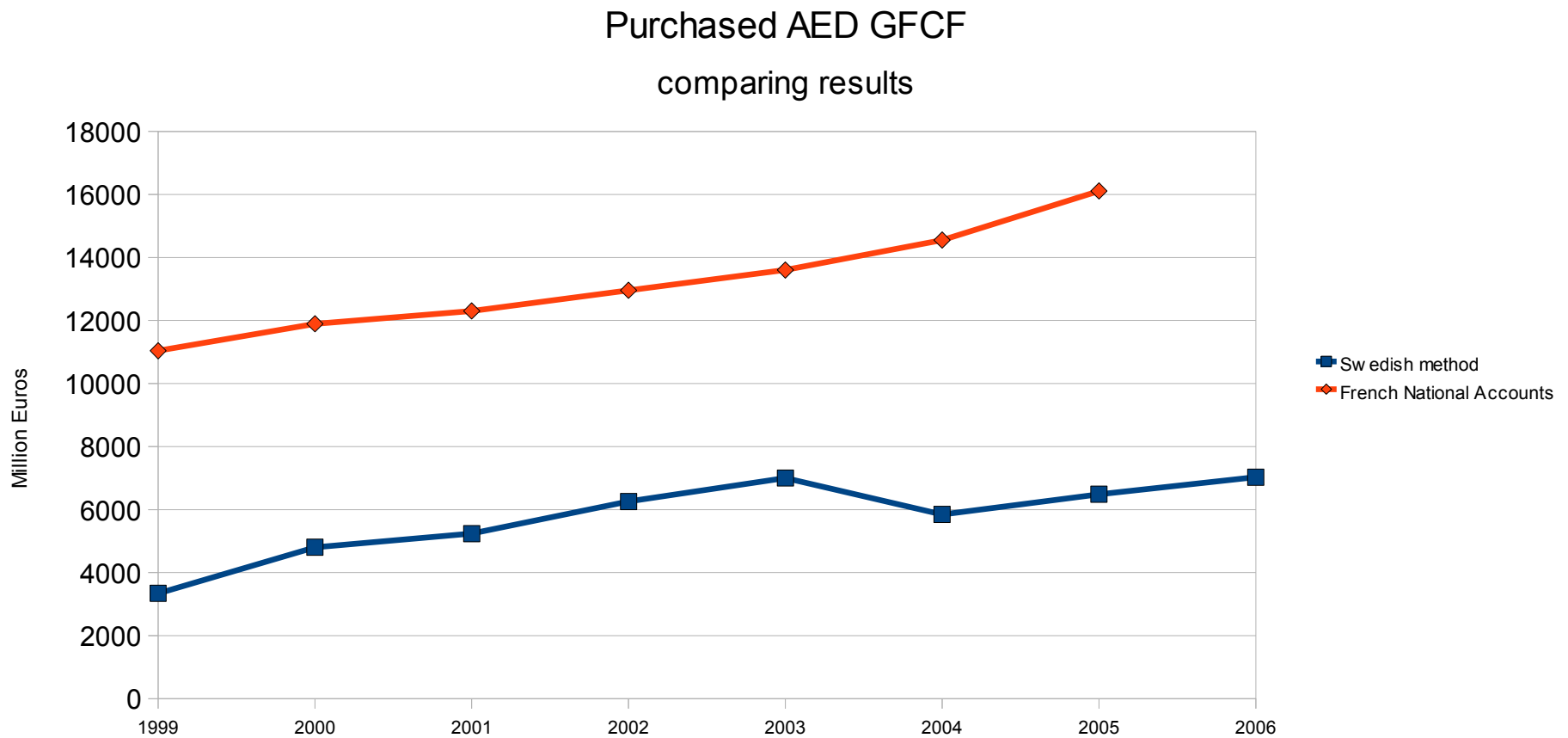
- Applying Swedish method to French data
 - Occupations retained:
 - Designers, architects, civil and public building engineers, electronics and electrical engineers, mechanical engineers, transformation industry engineers
 - Industries retained:
 - AED industries: NAF74.2A, B and C (NACE 74.2)
 - Other industries: all but NAF73 R&D (NACE73) and non market sector
 - Results in 2004:
 - Purchased AED = 5.8 bn€
 - Own Account AED = 17.1 bn€
 - Recorded purchased AED GFCF in the French NA amounted to 14.6 bn€ in 2004

Architecture and Engineering Design (5)

- Alternative method for own account AED
 - Employment-based method used for own-account software:
 - Estimate gross wage bill of AED occupations outside AED industries
 - Excluding non market sector and R&D firms (double-counting)
 - Assumptions:
 - Designers spend 50% of their time creating new designs
 - Overhead costs equal 80% of employment costs
 - Social contributions equal 50% of net wage
 - Results in 2004:
 - Own Account AED = 13.4 bn€ GFCF

Architecture and Engineering Design (6)

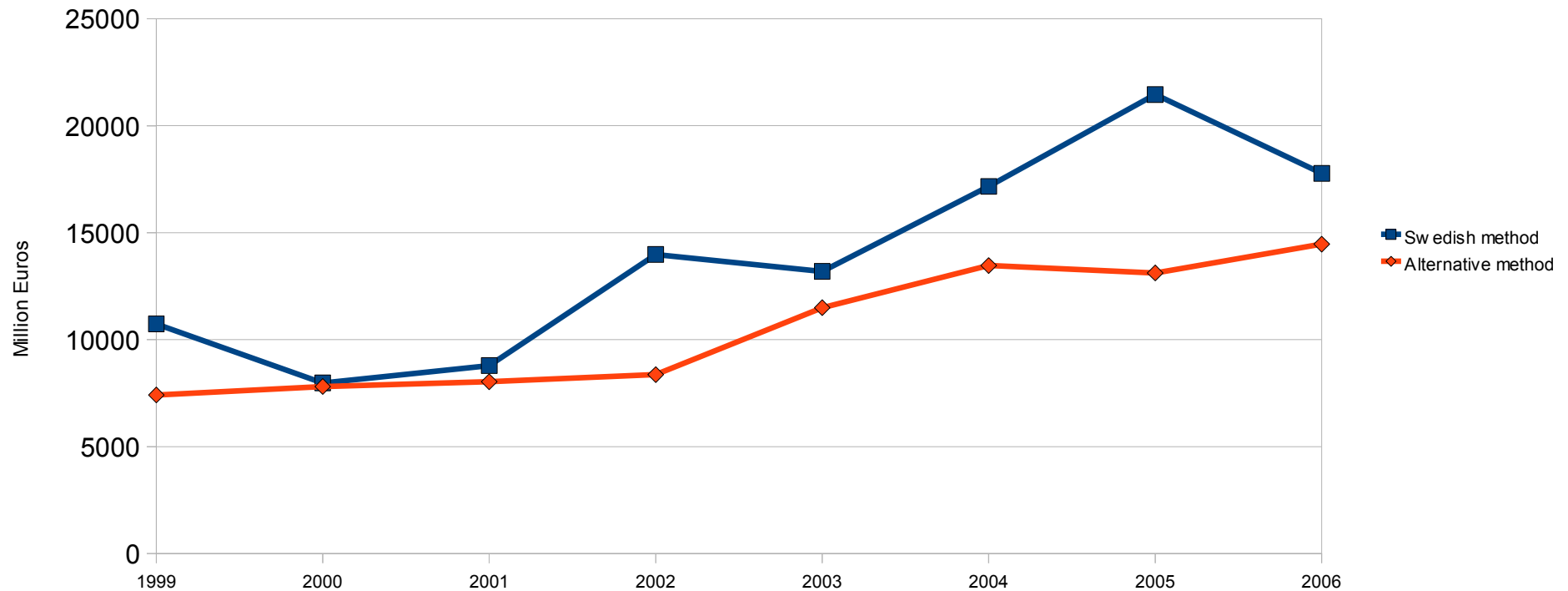
- Time series



Architecture and Engineering Design (7)

- Time series

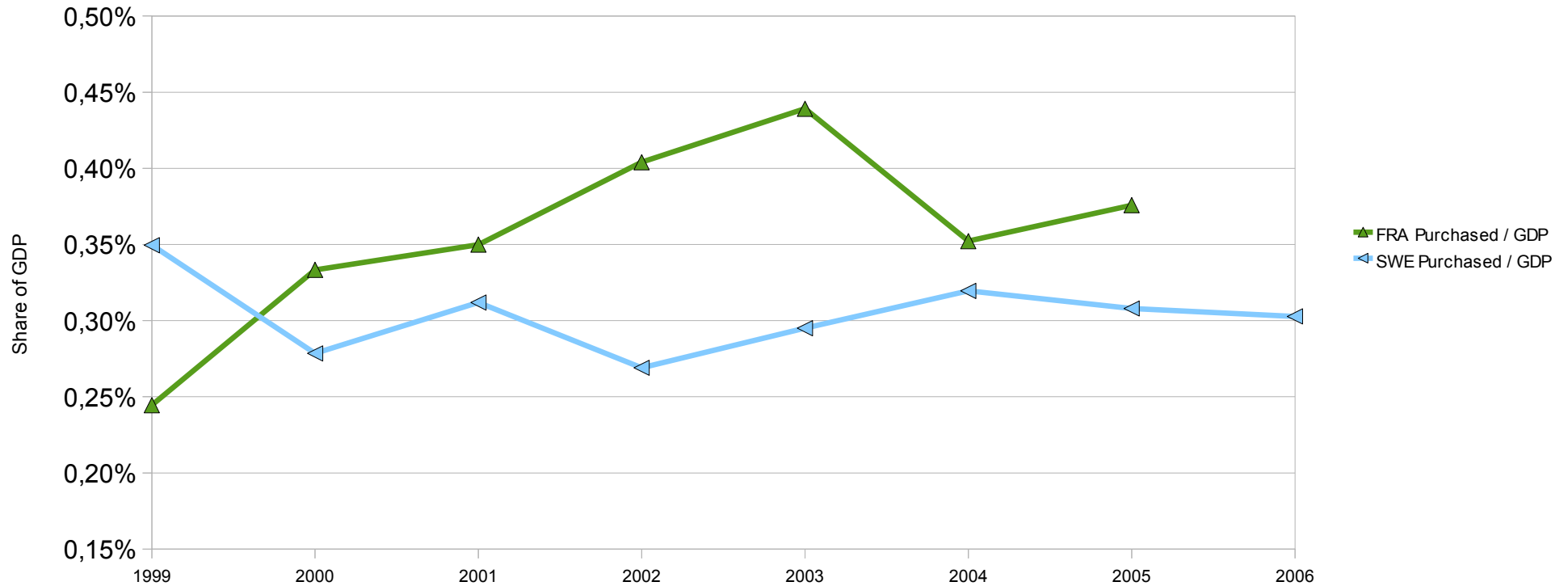
Own account AED GFCF
Comparing results



Architecture and Engineering Design (8)

- Time series

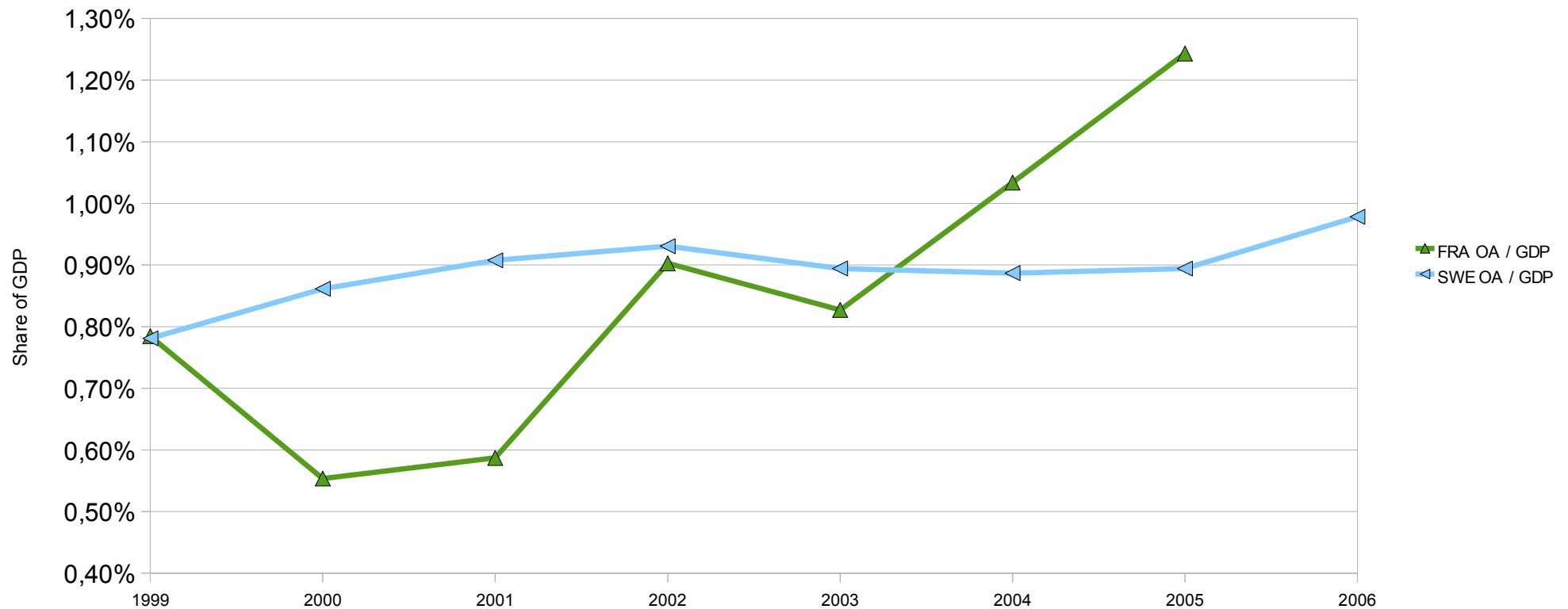
Purchased AED / GDP
comparing France and Sweden



Architecture and Engineering Design (9)

- Time series

Own account AED / GDP
comparing France and Sweden



Financial Innovation (1)

- Estimate Financial Innovation through research employment in financial industries (Hunt, 2008)
 - Occupations retained:
 - Economic, financial and commercial engineers; Quantity surveyors; Electrical and electronic engineer; Planning and quality control engineers; biological scientists and biochemists
 - Exclude designers, advertisers (50% of research occ. in fin. industry) (double-counting)
 - Industries retained:
 - Banks, insurance and financial services (NACE 65, 66 and 67)
 - Assumptions:
 - Researchers spend 50% of their time doing innovation
 - Overhead costs equal 80% of labour costs (60% in the UK)
 - Social contributions equal 50% of net wages.

Financial Innovation (2)

- Results

- France in 2004:

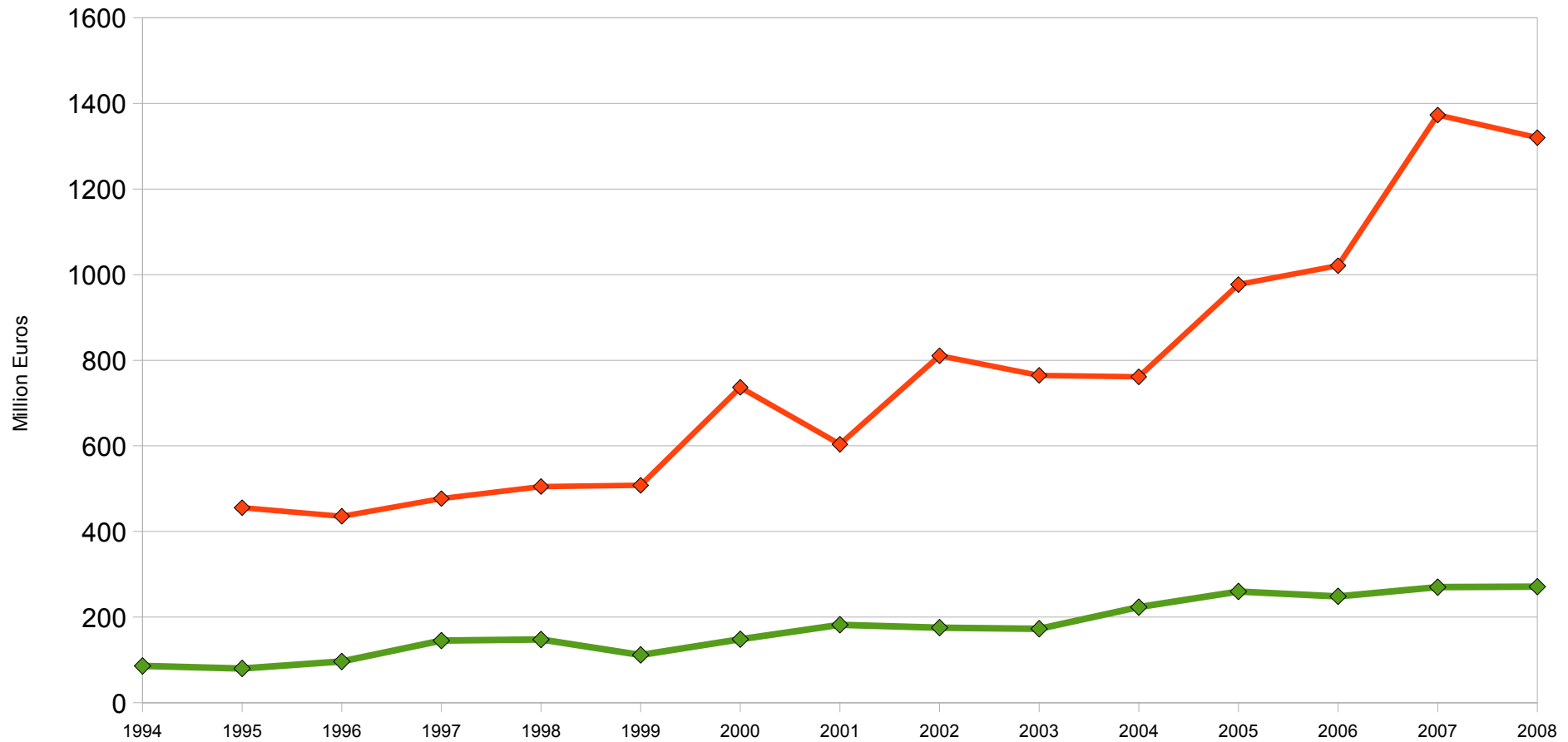
- Number of « research employees » = 4137
 - Monthly average gross wage = 6345€
 - Total financial innovation GFCF = 223 million €
 - Fin. innov / Fin output = 0.20%

- UK in 2004:

- Number of « research employees » = 21200
 - Monthly average gross wage = 5300€
 - Total financial innovation = 761 million €
 - Fin inno. / fin output = 0.43%

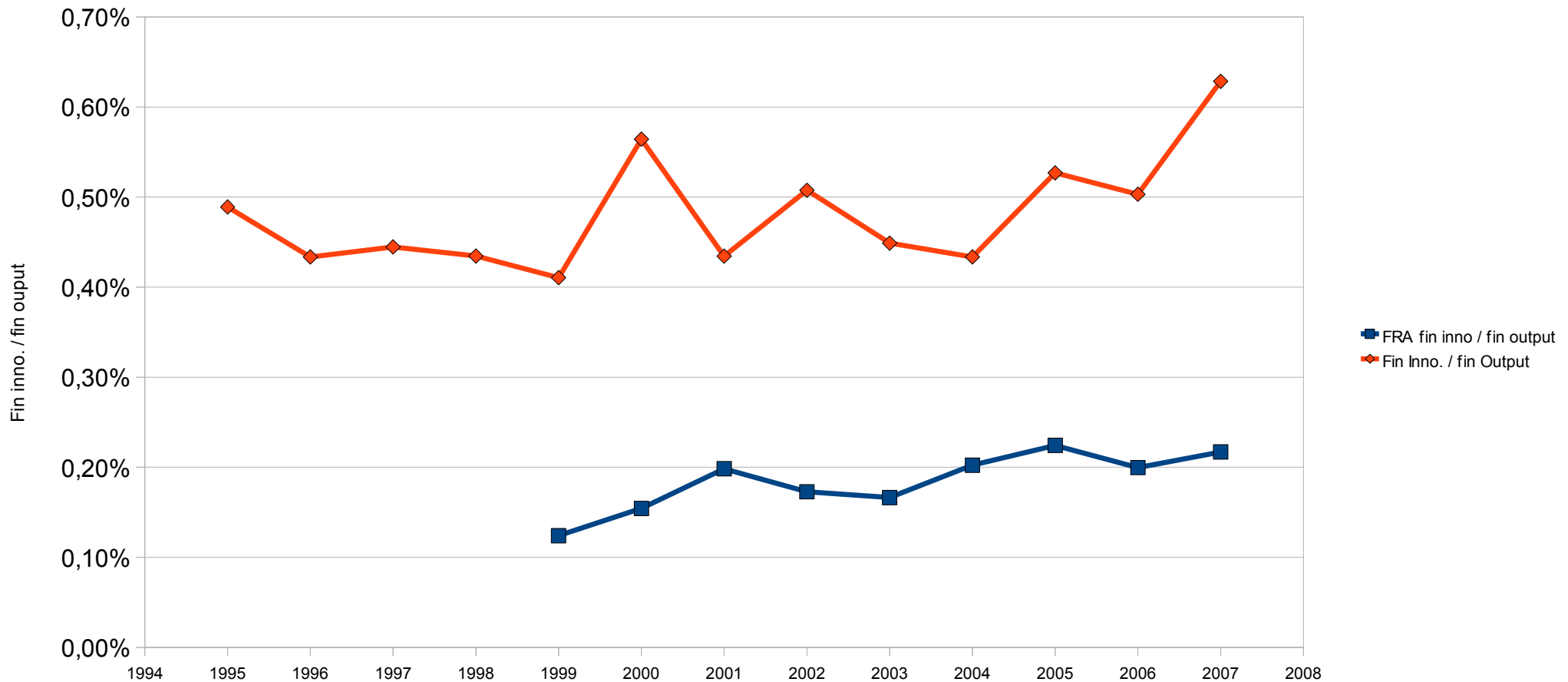
Financial Innovation (3)

- Financial innovation time series UK / France



Financial Innovation (4)

- Financial innovation / fin. output time series



Conclusion

- Be careful with the data
- Back to basics
- Some core issues have not been tackled yet
- New estimates of « new intangibles »:
 - More accurate
 - Estimate investment from inputs (mainly employment)
- Extend to more countries