



Agenzia Nazionale di Valutazione del
sistema Universitario e della Ricerca

National Agency for the Evaluation of
Universities and Research Institutes

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Towards a responsive research

The evaluation of third mission of universities and Public Research Organisations

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Outline

- General principles
- Definition and perimeter of the third mission
- Evaluation approach
- Preliminary evidence on universities
- Future developments

General principles

Evaluation must be *systemic*- i.e. address the complexity of research and higher education in advanced societies (teaching, research, third mission) as well as administrative performance.

Universities and PROs must have the *autonomy* to define the mix of activities according to their own history, competencies, interpretation of the needs of society, and strenghts.

General principles/2

The third mission is an *intentional* (and to a certain extent, planned) set of activities aimed at making the benefits of research and education *accessible* and *usable* to a wider audience and more *targeted* to the needs of economy and society.

The third mission is to be understood at *institutional* level

- research and education are part of the duties of all members of the organisation (e.g. «non active» researchers in VQR)
- third mission, on the contrary, is an institutional duty whose deployment is left to a variable combination of initiatives at organisational (university, PROs), department, team or individual level.

General principles/3

The evaluation of third mission does *not* substitute for the evaluation of quality of research.

The two evaluations cannot compensate each other (e.g. third mission is *not* an argument to be invoked as an explanation for a poor performance in research).

Evaluation criteria and quality indicators must reflect the differences between quality of research and third mission.

Definition and perimeter

Valorisation of research

- Beyond the old model of technology transfer
- There are no such things as «demand» and «supply» of innovation
- *Productive transformation of knowledge*= active creation and maintenance of the set of
 - organisations
 - organisational rules
 - incentives
 - professional norms

that support the transformation of knowledge generated in the research process into knowledge «usable» for purposes of innovation and production

Valorisation of research

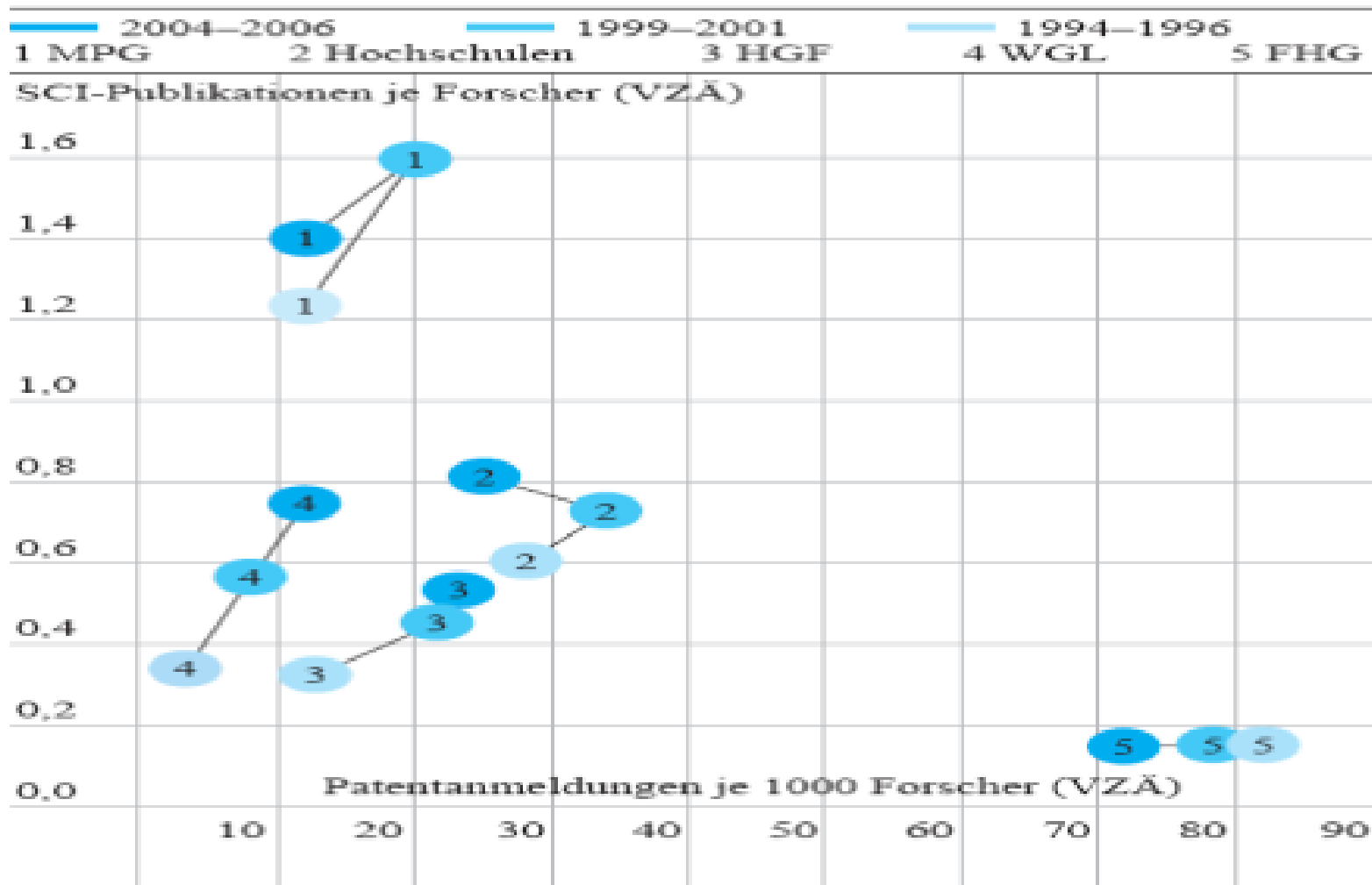
Main processes of productive transformation

Knowledge is:

- circulated and networked within relatively permanent organisations based on public-private collaboration, often at regional/local level (**intermediaries**)
- developed, applied and tested within contractual relations, particularly between industry and academia (**third party research**)
- incapsulated into bundles of Intellectual Property Rights (**patents, plant varieties**)
- embedded into individuals (**spinoff companies**)

Veränderung der Publikations- und Patentintensität der großen Wissenschaftsorganisationen und Hochschulen⁶¹

ABB 03



MPG, HGF, WGL, FhG: siehe Abkürzungsverzeichnis.

Quellen: Fraunhofer ISI, Auswertung aus SCISEARCH (STN) und PATSTAT (EPO). BMBF (2008). StaBA: Fachserie 14, Reihe 3.6, Fachserie 11, Reihe 4.4, Fachserie 22, Reihe 4.5. OECD (2009a). Berechnungen des ZEW.

Production of public goods

Main processes of production of goods that are made accessible to society

- creation and management of cultural heritage (**museums, archaeological sites**)
- design and delivery of education for adult population within a broader concept of Life Long Learning (**permanent education**)
- clinical research and training (**registered clinical experimentation, biobanks, ECM**)
- production of advice, expertise, informed opinion, contributions to controversies, communication of science (**public engagement**)

Evaluation approach

- Preparatory work by a group of experts (Colombo, Lissoni, Geuna, Sobrero + Bucchi, Gavosto, Dotta, Consiglio)
- Publication of an *Evaluation Manual*
- Public consultation on the Manual and description of the accepted/rejected suggestions
- Collection of data
 - Universities- end 30 April 2015
 - PROs- to be started
- Construction of indicators- in progress
- Informed peer review
- Creation of a list of experts upon a public call (n=155)
- Nomination of a panel of experts for the first round of evaluation (2015-2017)
- End point: publication of the *Second report on the state of universities and research in Italy* (2016)

Informed peer review

Definitions, overall framework and evaluation questions defined in the Manual.

Evaluation methods (quantitative vs qualitative, metrics, scores definition and scales, rating or ranking) to be defined by experts on the basis of the available indicators and of deep knowledge of the domain.

Possibility of *hearings* with universities and PROs

Evaluation will take place

- Field by field (n=8)
- Only universities/PROs active in the field will be evaluated
- Decision to miss a field should be simply motivated
- Rating or ranking (if any) will be produced field by field, without any aggregation at university/PRO level

Preliminary evidence

The following slides report the state of the art of data collection at mid-April, i.e. before the end of the SUA_3M procedure (April 30, 2015).

The data must be considered a first approximation and will be reviewed carefully by the Panel of experts.

The full data will be made available with the Report on third mission of universities and Public Research Organisations (2016).

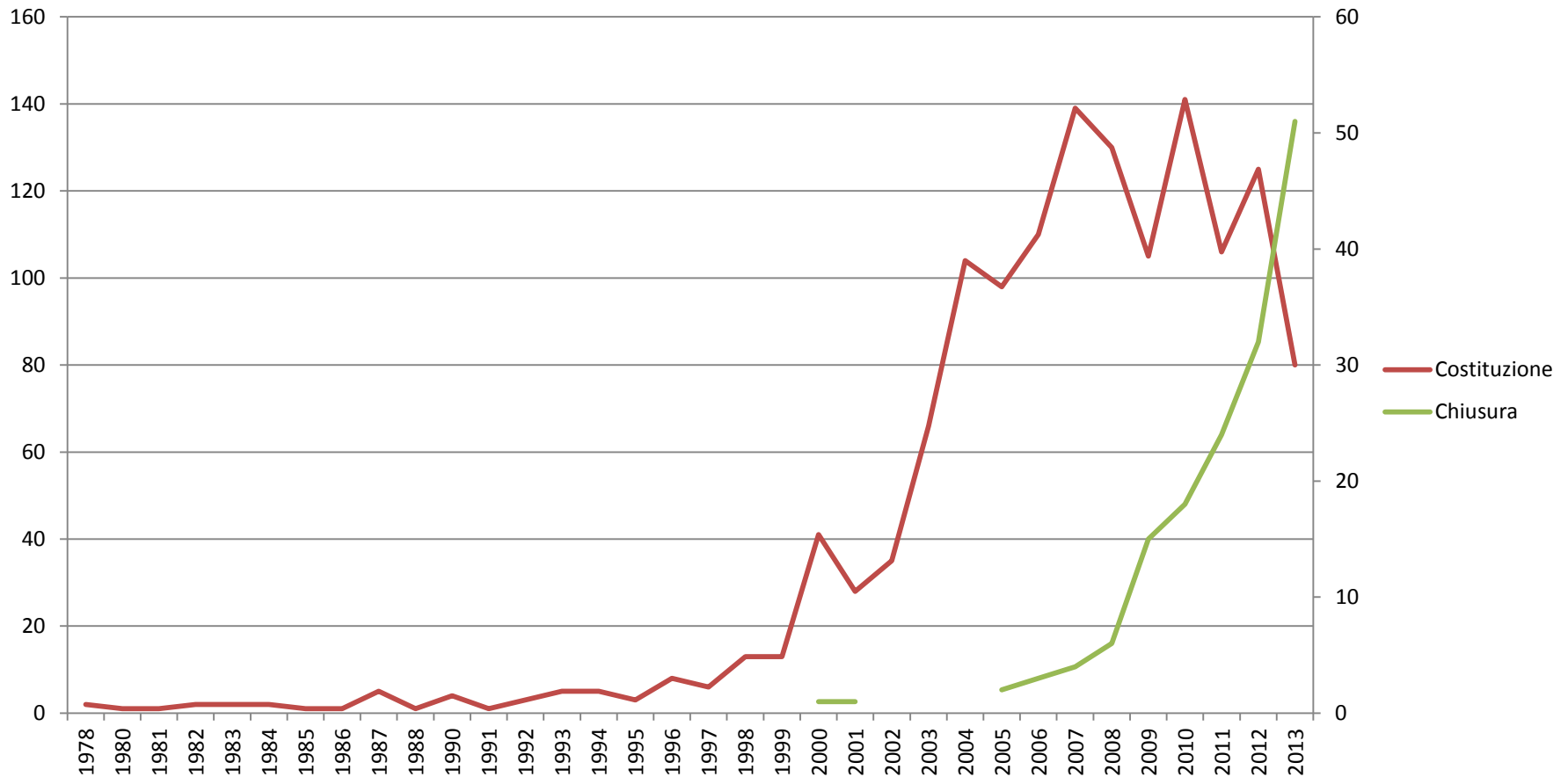
Spinoff companies

Companies active at end 2013 n=1351

Total turnover 351ml € (2013)- slight increase from 336 ml € (2011)

Average number of founders: 4,8 persons + 1,1 companies

Anno di costituzione e chiusura spin-off



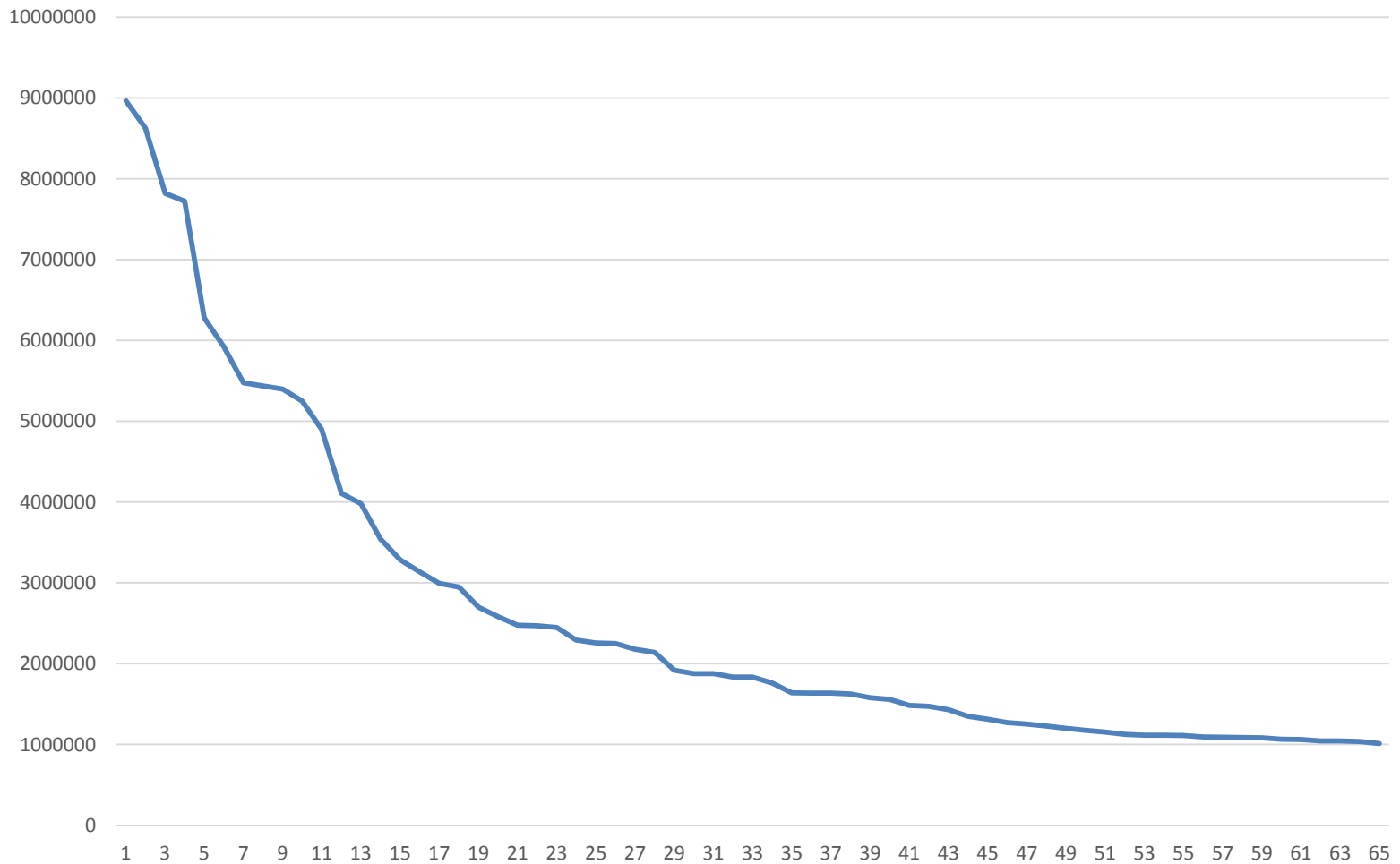
Top 20 universities by number of spinoff companies

Politecnico di MILANO	66
PADOVA	54
Politecnica delle MARCHE	39
PISA	37
Politecnico di TORINO	36
UDINE	36
Scuola Superiore Sant'Anna	35
PERUGIA	34
BOLOGNA	32
della CALABRIA	32
MILANO	31
TORINO	31
SALENTO	27
ROMA "La Sapienza"	26
SIENA	26
MODENA e REGGIO EMILIA	24
PAVIA	23
BARI	22
FIRENZE	22
GENOVA	22

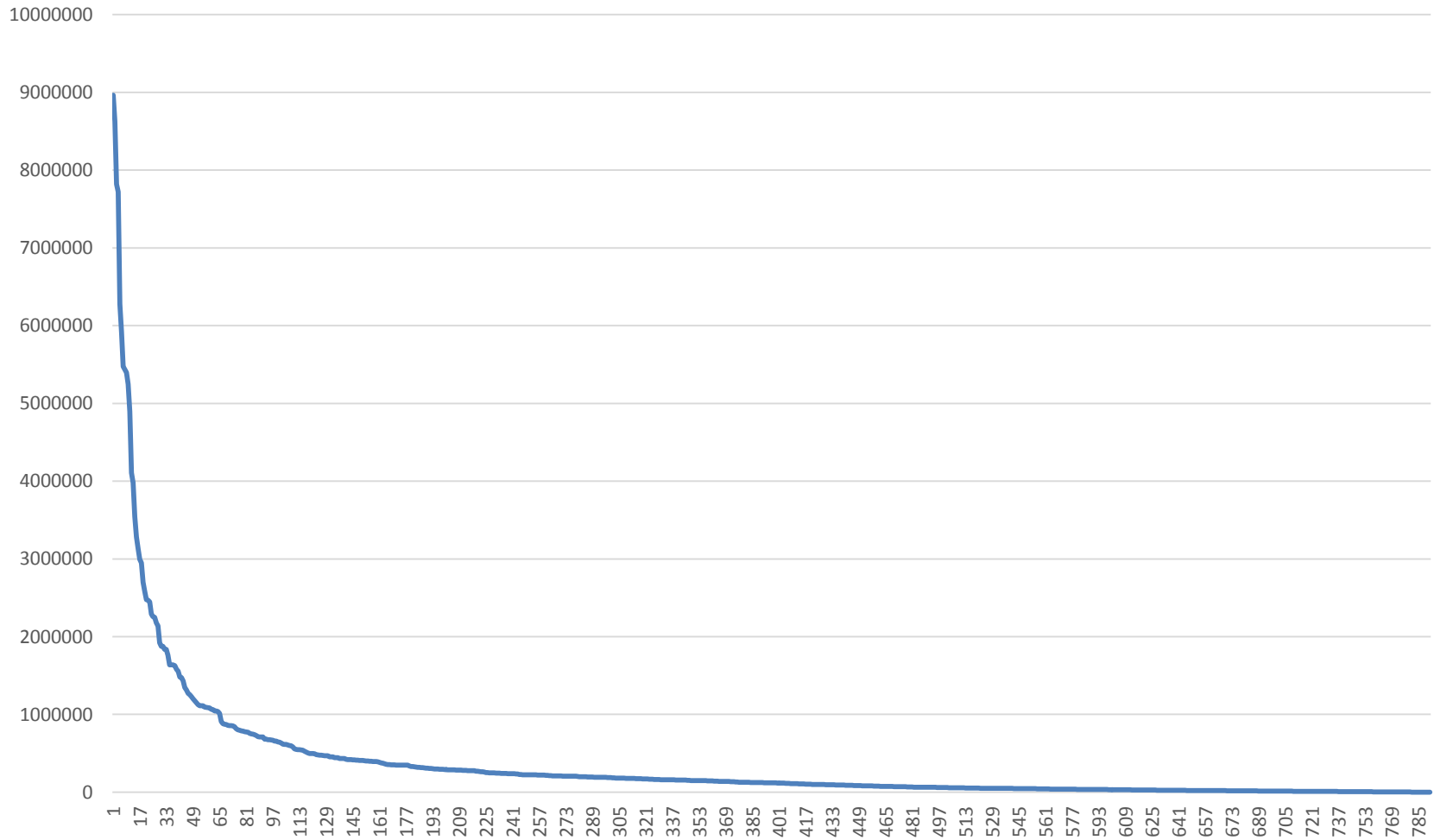
Note. This table is based on updated data. It substitutes for the table shown during the May 4 Workshop

Distribution of turnover.

Spinoff companies 1-10 ml euro. N= 65



Distribution of turnover of spinoff companies. N= 792



Outlier excluded from the graph- One company with turnover Euro 59ml

Incubators

N= 24

Direct staff	92
Budget	5470 k €
Number of startup companies	
Total number end 2013	642
Entered in 2013	242
Turnover of startup companies	
Total turnover	43.029 k €
Average	67.024 €
Employment of startup companies	
Total employees	1312,4
Average	2,04

Patents

Esito validazione:	nr brevetti	% su totale	% su tot. validate
N.R. : non risponde	1986	48.0%	--
No, l'inventore non è un accademico	896	21.7%	41.7%
Si, l'inventore è un accademico	1253	30.3%	58.3%
Totale validate	2149	52.0%	100.0%
Totale	4135	100.0%	

Third party funding

Categorie	Valori in €	%
Attività commerciale	311.061.525	44,23
Entrate finalizzate da attività convenzionate	259.164.871	36,85
Trasferimenti correnti da altri soggetti	62.916.446	8,95
Trasferimenti per investimenti da altri soggetti	70.152.071,8	9,97
Totale	701.202.377	100

Di cui finanziamento imprese ca. 48 ml €

Commercial third party funding

TIPO	Valori in €	%
Entrate ex art. 66 DPR 382/80 (ricerca commissionata)	203.735.325	65,50
Entrate ex. art. 49 del RD 1592/1933 (prestazioni a tariffario)	43.278.629	13,91
Entrate per attività didattica in conto terzi, seminari e convegni	12.213.698	3,93
Altre entrate derivanti da attività commerciale.	51.833.873	16,66
Attività commerciale	311.061.525	100

Museums

243 sites and 94 museums

Average number of days

218

Size

731.190 m square

Internal budget

1.687.611 €

External funding

3.434.308 €

Number of visitors (2013)

832.255

Number of tickets (2013)

514.263

Ticketing/monitoring system

Yes 59

No 32

Future developments

Spinoff companies

Student entrepreneurship

Patents

Valorisation of patents within contractual relations (exclusivity clauses, management of IPRs)

Permanent education

Certification of competencies of adults by universities

Public engagement

New categories/ development of a taxonomy

Interface between individuals and organisations