

European biotechnology:
Critical I's 2006
comparative study

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European biotechnology 2004 – the executive summary

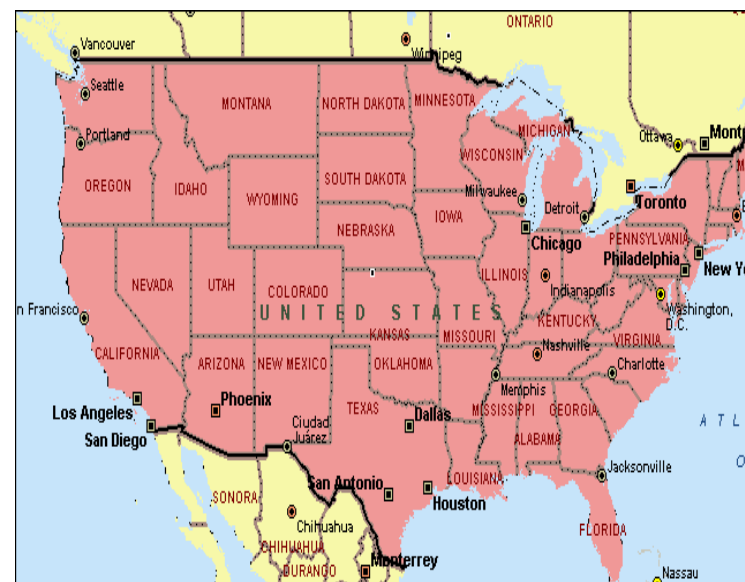
Measure	2004		2003
Companies	2150	▼	2200
Employed	96500	▲	96000
... In R&D	42500	▲	41000
R&D Spend	€7.6 bn	≡	€7.6 bn
Revenue	€21.5 bn	▲	€20.5 bn
VC	€1.1 bn	▲	€0.8 bn
Equity fin.	€2.1 bn	▲	€1.5 bn
Debt finance	€1.8 bn	▲	€1.0 bn
New firms	119	▼	132



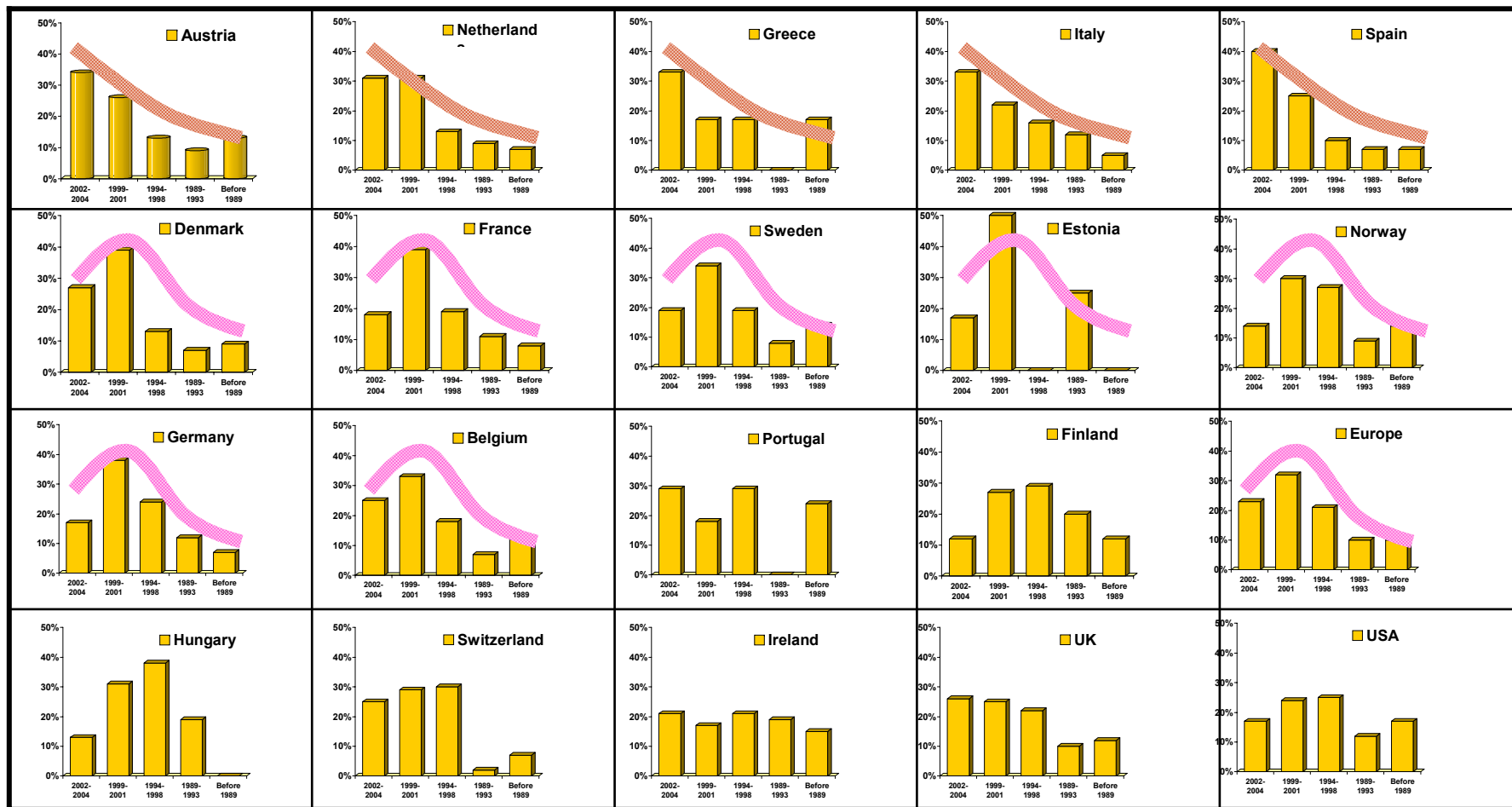
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Europe in 2004 compared with the USA

Measure	Europe	Ratio	USA
Companies	2150	1:1	1991
Employed	96500	1:2	190,500
... In R&D	42500	1:2	79,500
R&D Spend	€7.6 bn	1:3	€21 bn
Revenue	€21.5 bn	1:2	€41.5 bn
VC	€1.1 bn	1:2.5	€2.5 bn
Equity fin.	€2.1 bn	1:4.5	€9.6 bn
Debt finance	€1.8 bn	1:3.5	€6.6 bn
New firms	119	3:2	78



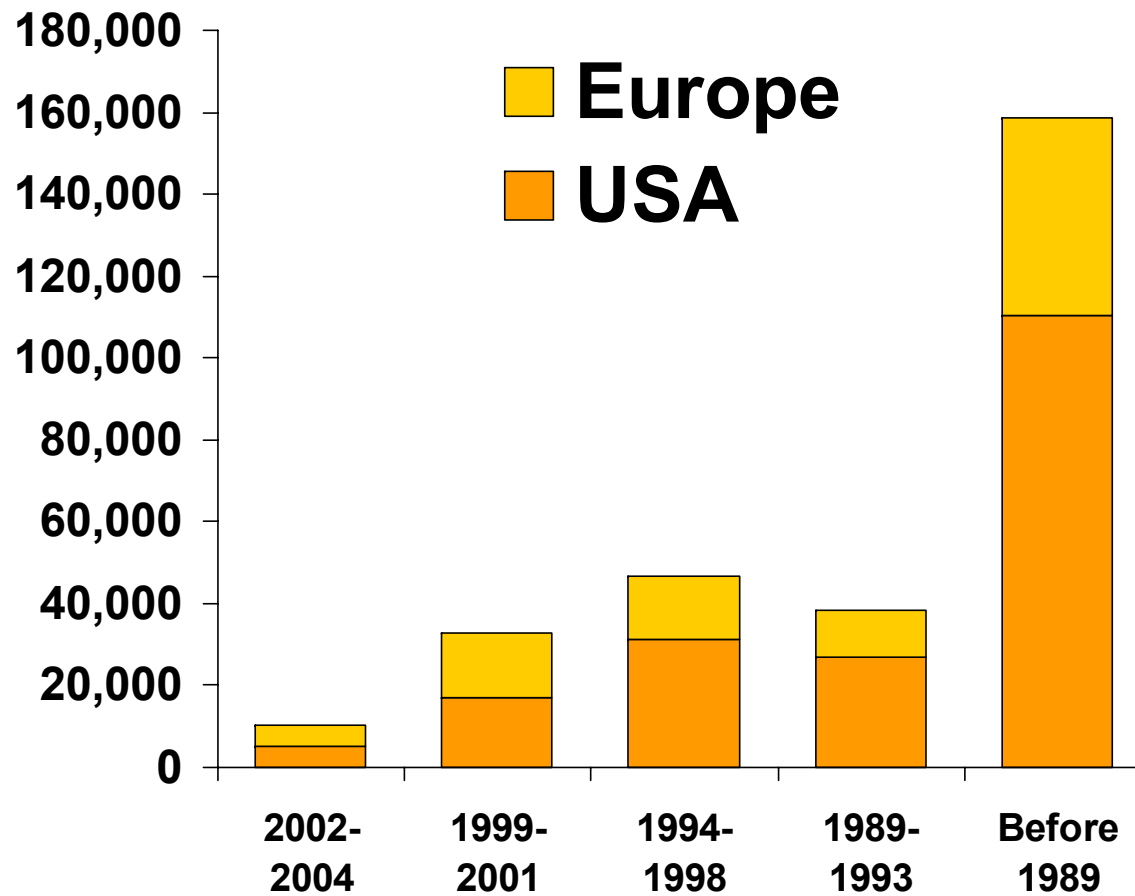
European biotechnology's generations



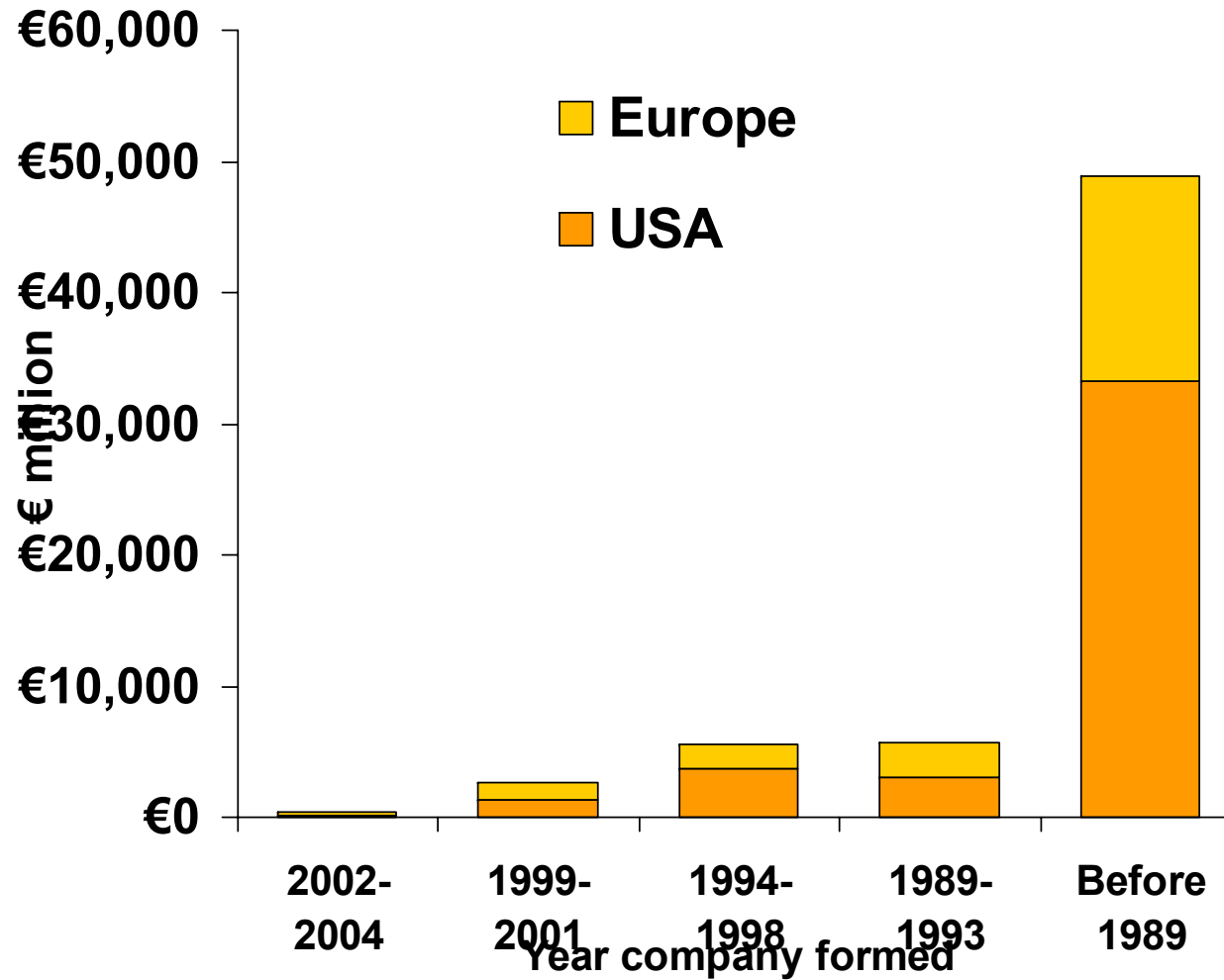
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What sort of companies does
Europe want?

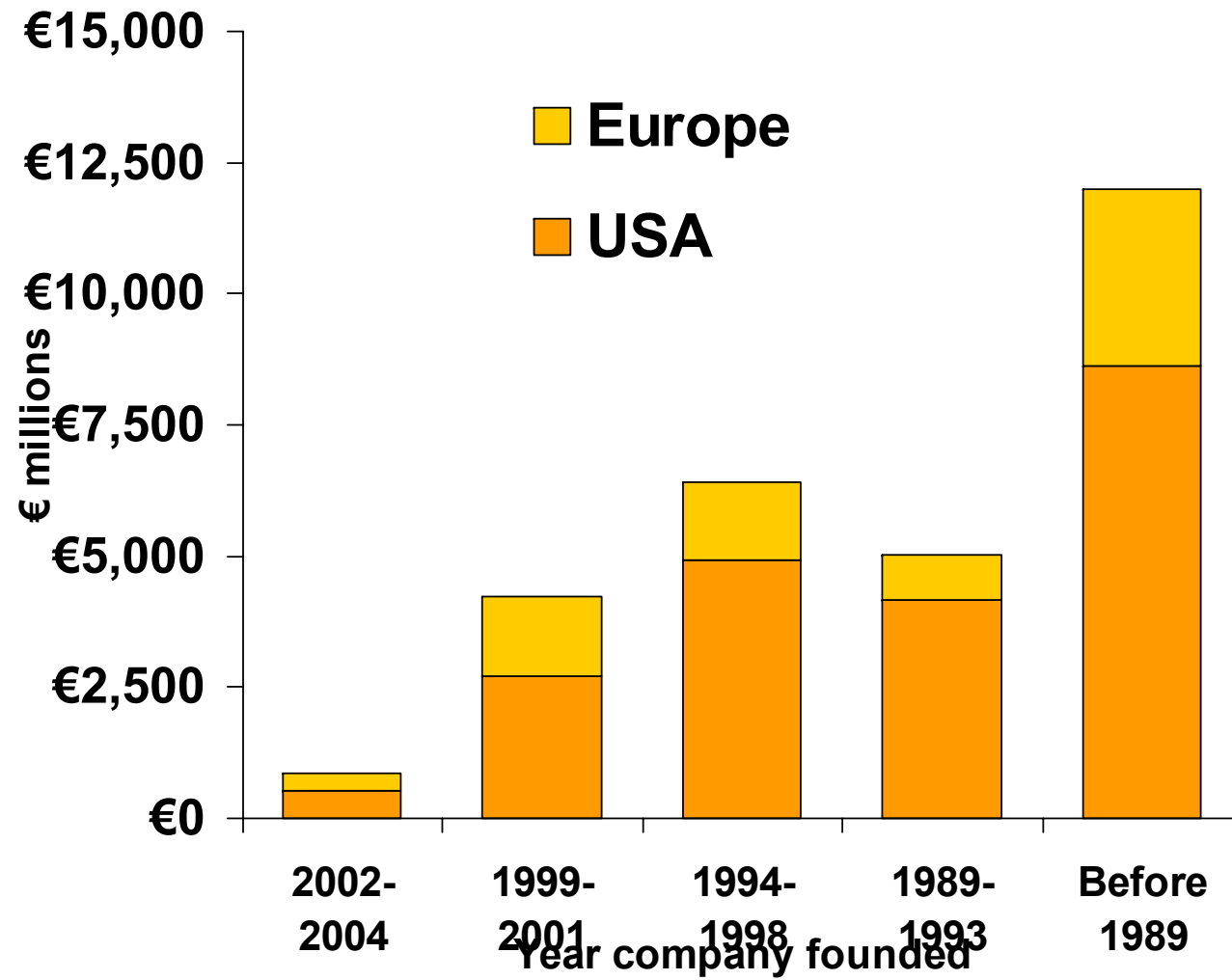
Companies which employ people



Companies that make money

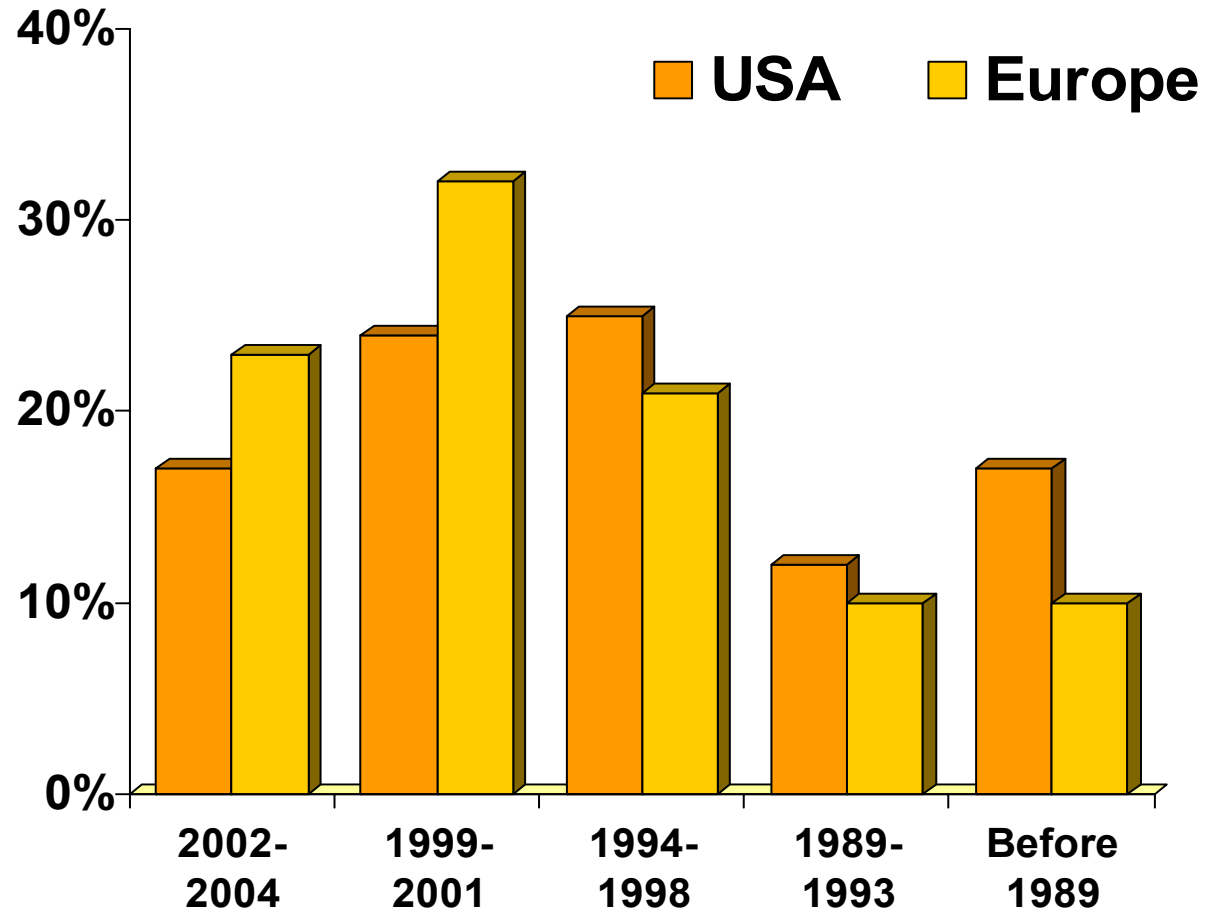


Companies that invest in R&D

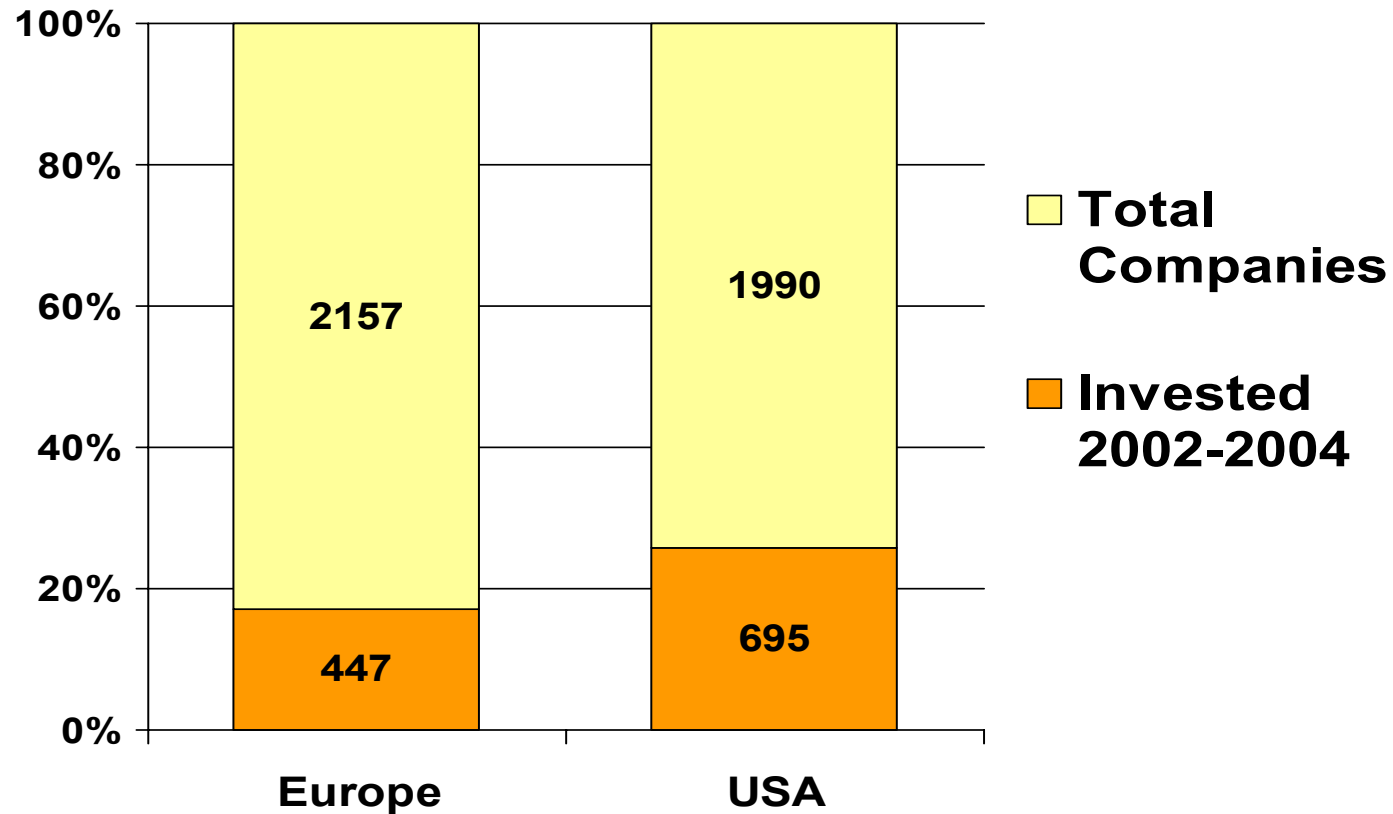


What sort of companies does
Europe have?

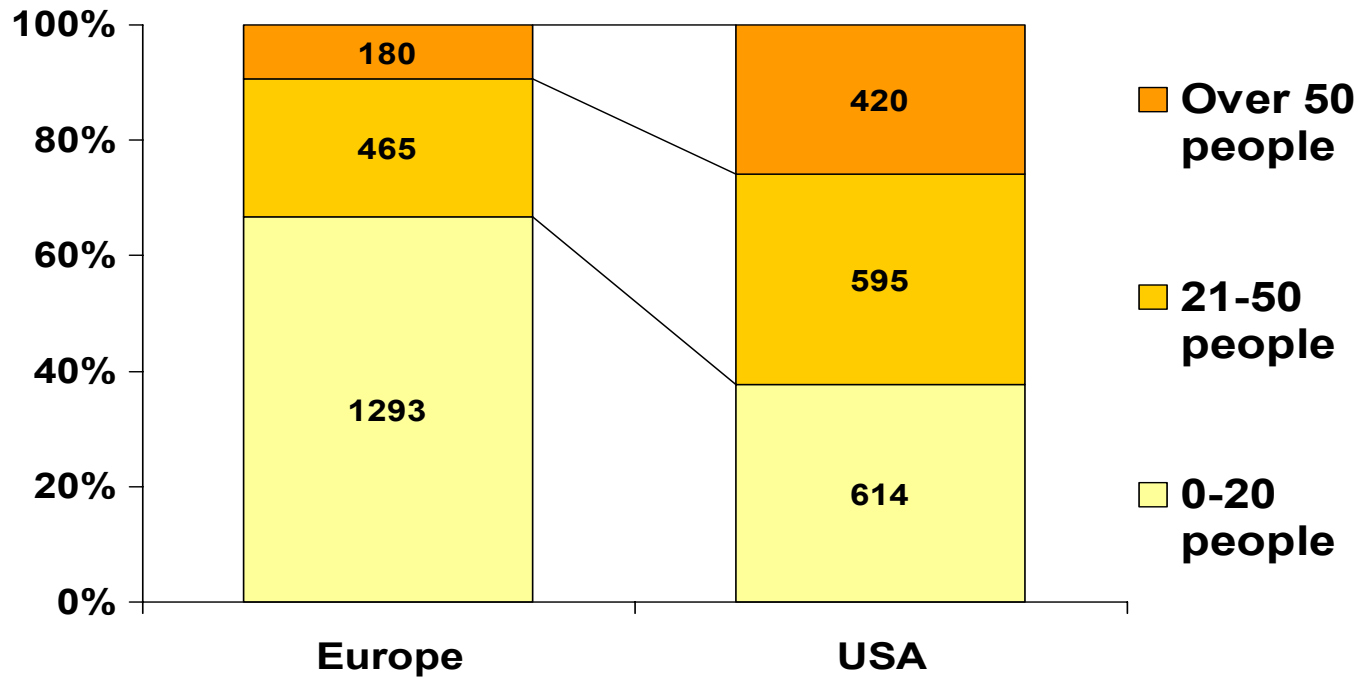
Europe has a higher proportion of younger companies



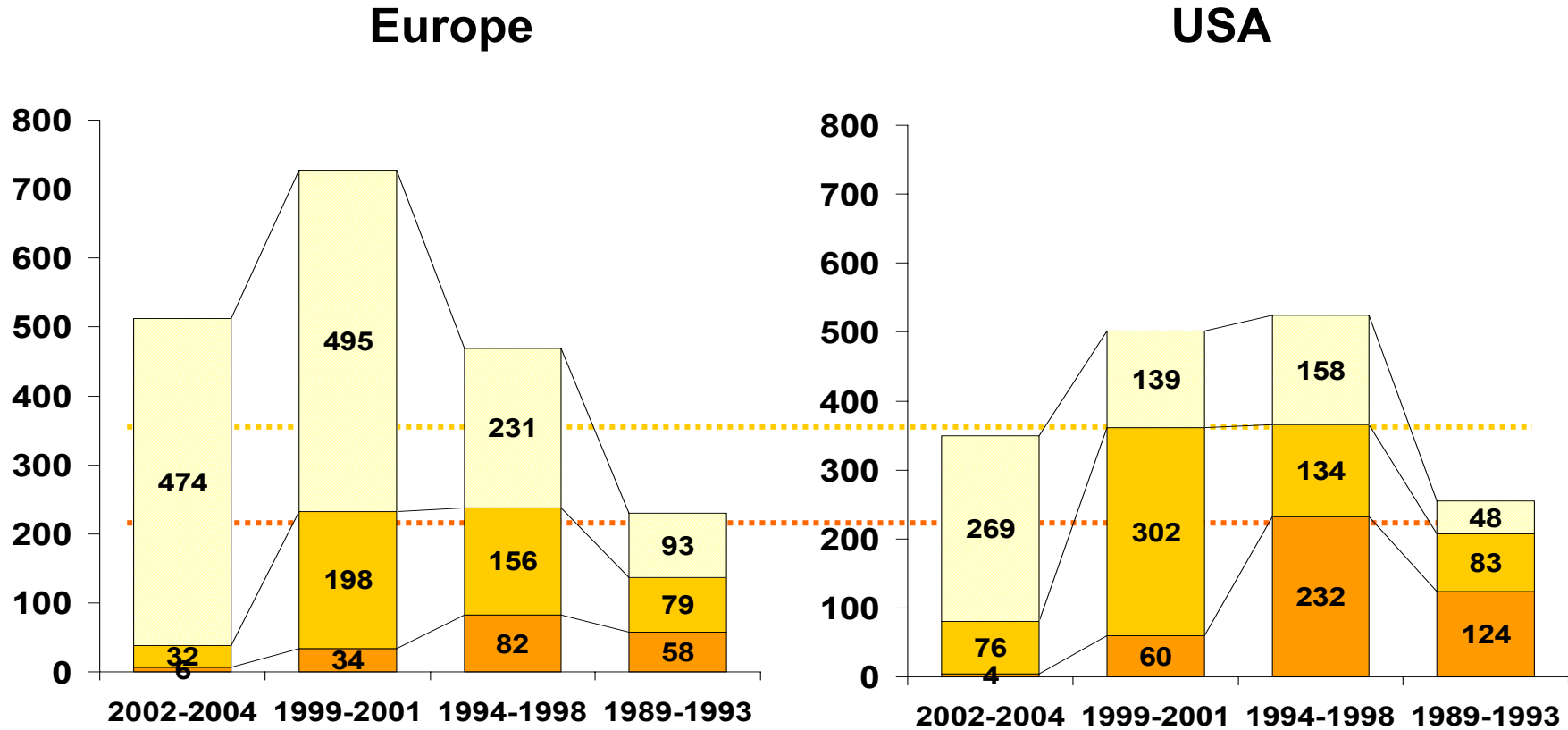
Under 20% of European companies received external financing 2002-2004



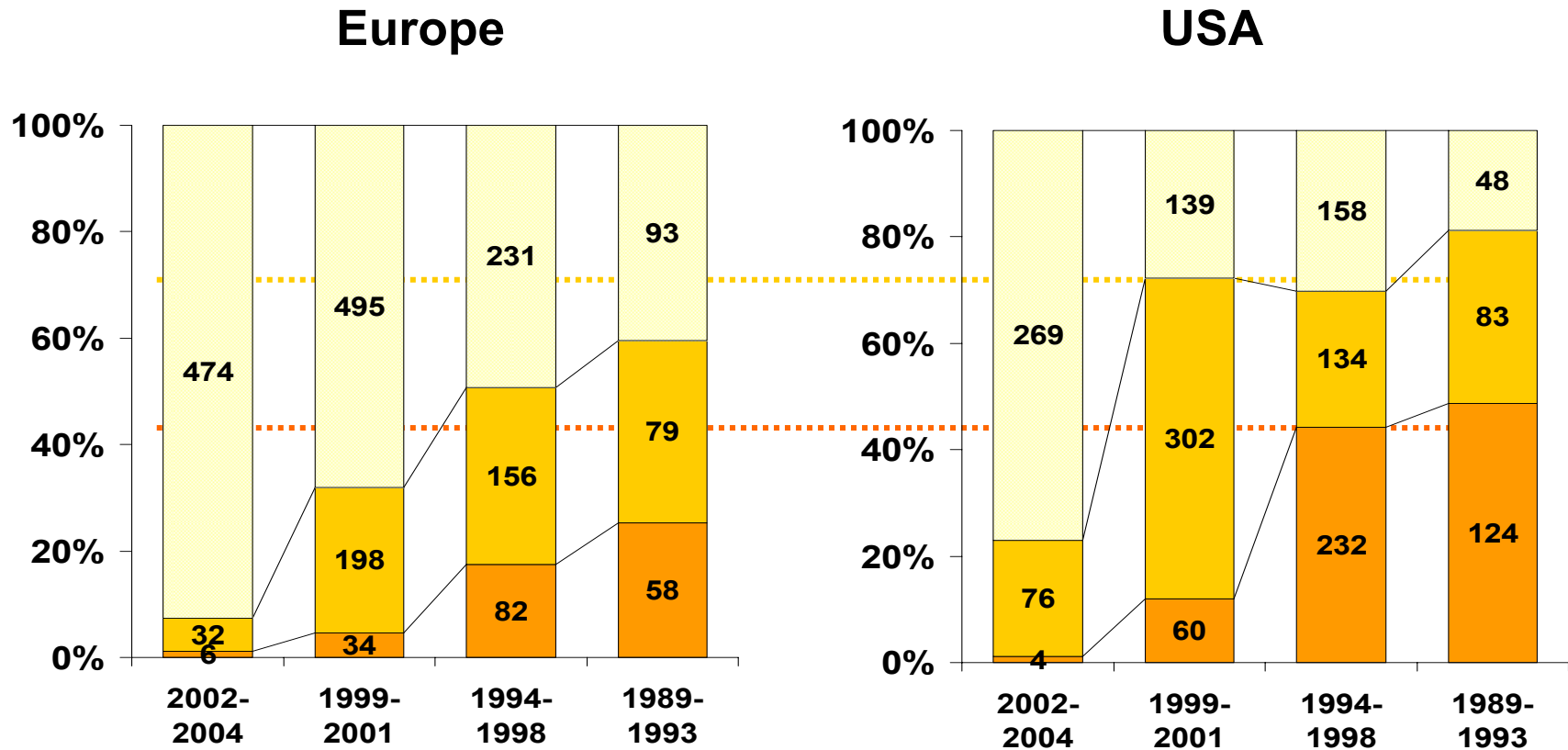
Two-thirds of European employ under 20 people



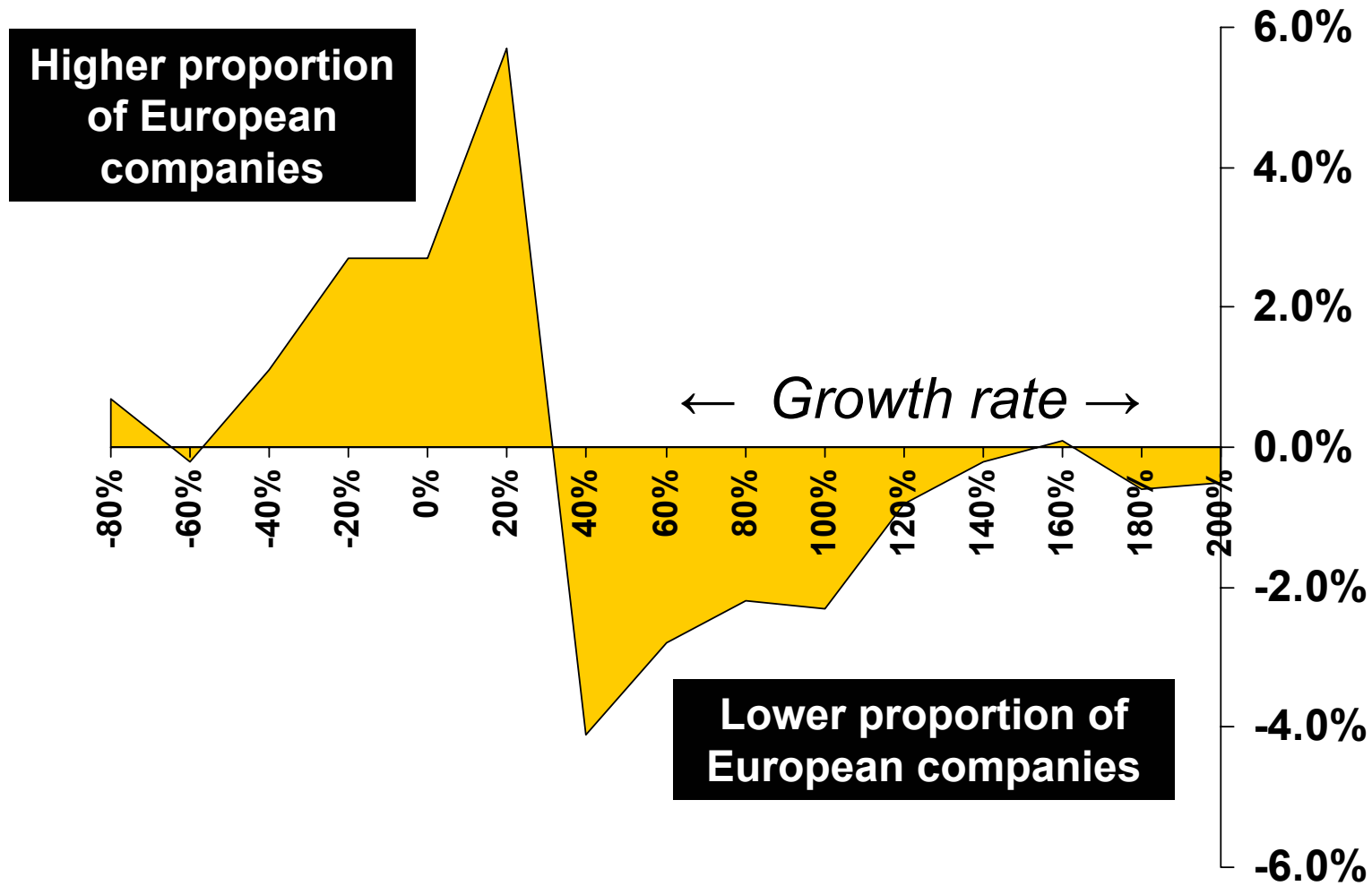
Europe's small companies tend to stay small ...



... hence a higher proportion of small companies regardless of age

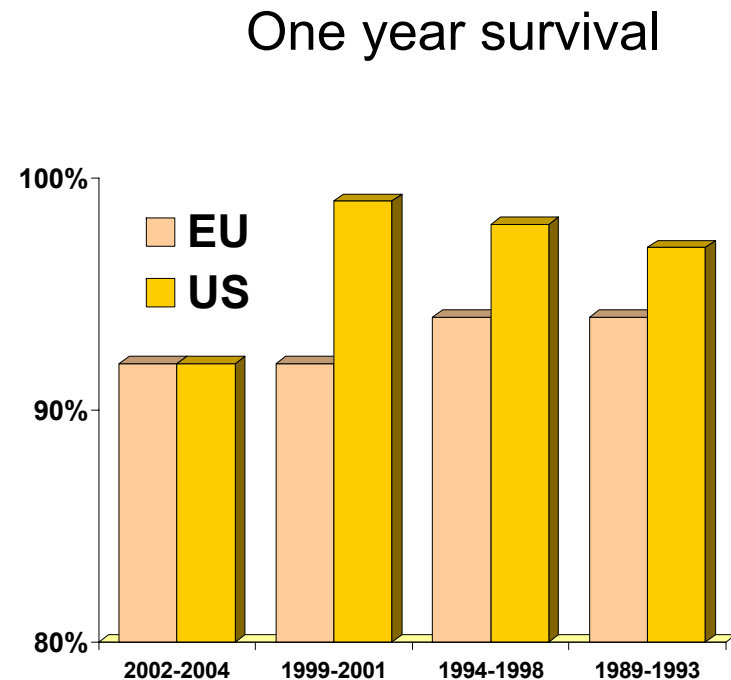


More US companies grow at faster rates



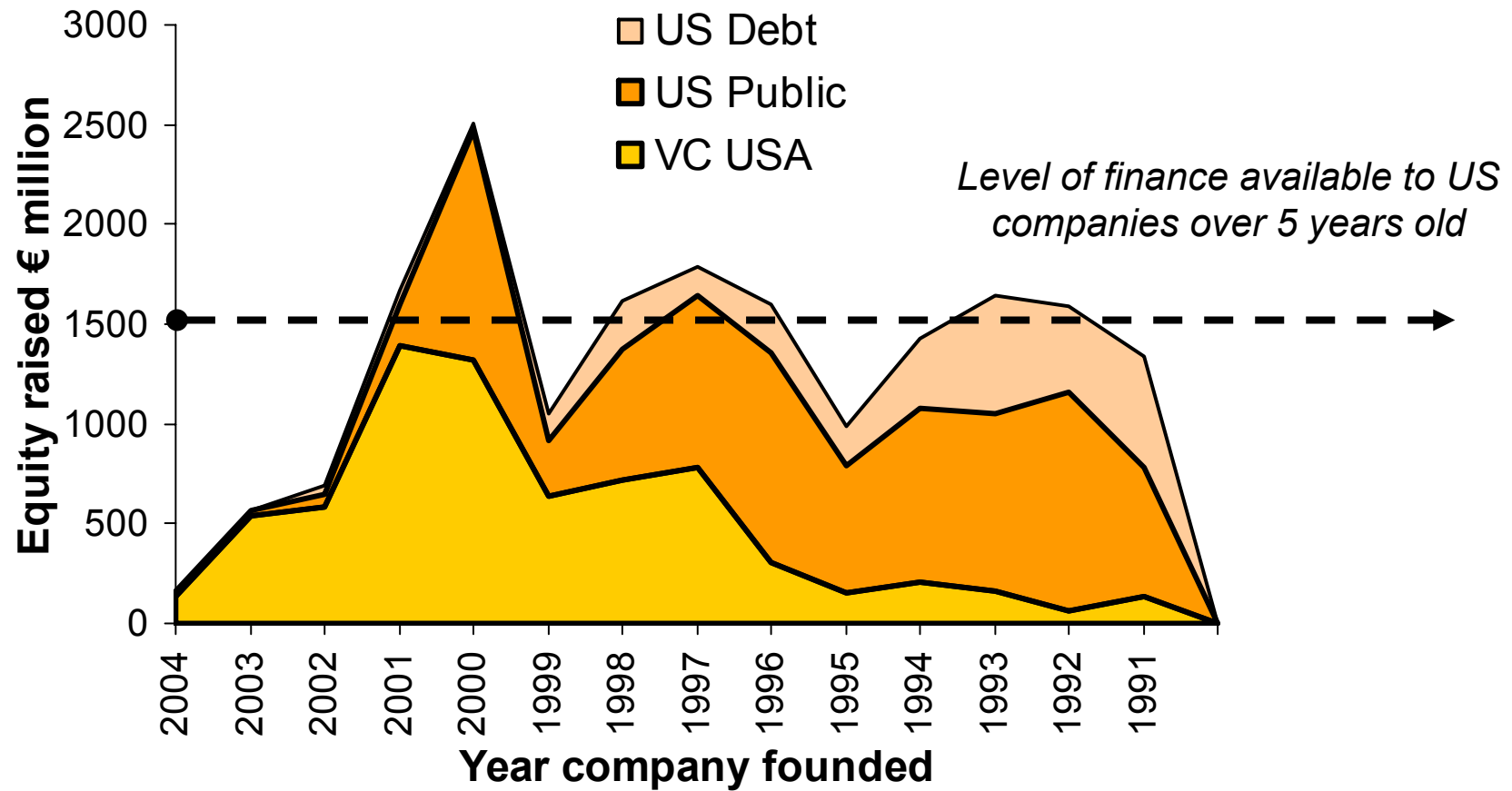
Smaller, slower and less likely to survive

- Europe's companies transition to the next level much more slowly
- Europe has more companies ...
 - That don't make large revenues
 - That don't employ many people
 - That don't spend much on R&D
- And its companies are less likely to survive until the next year ►

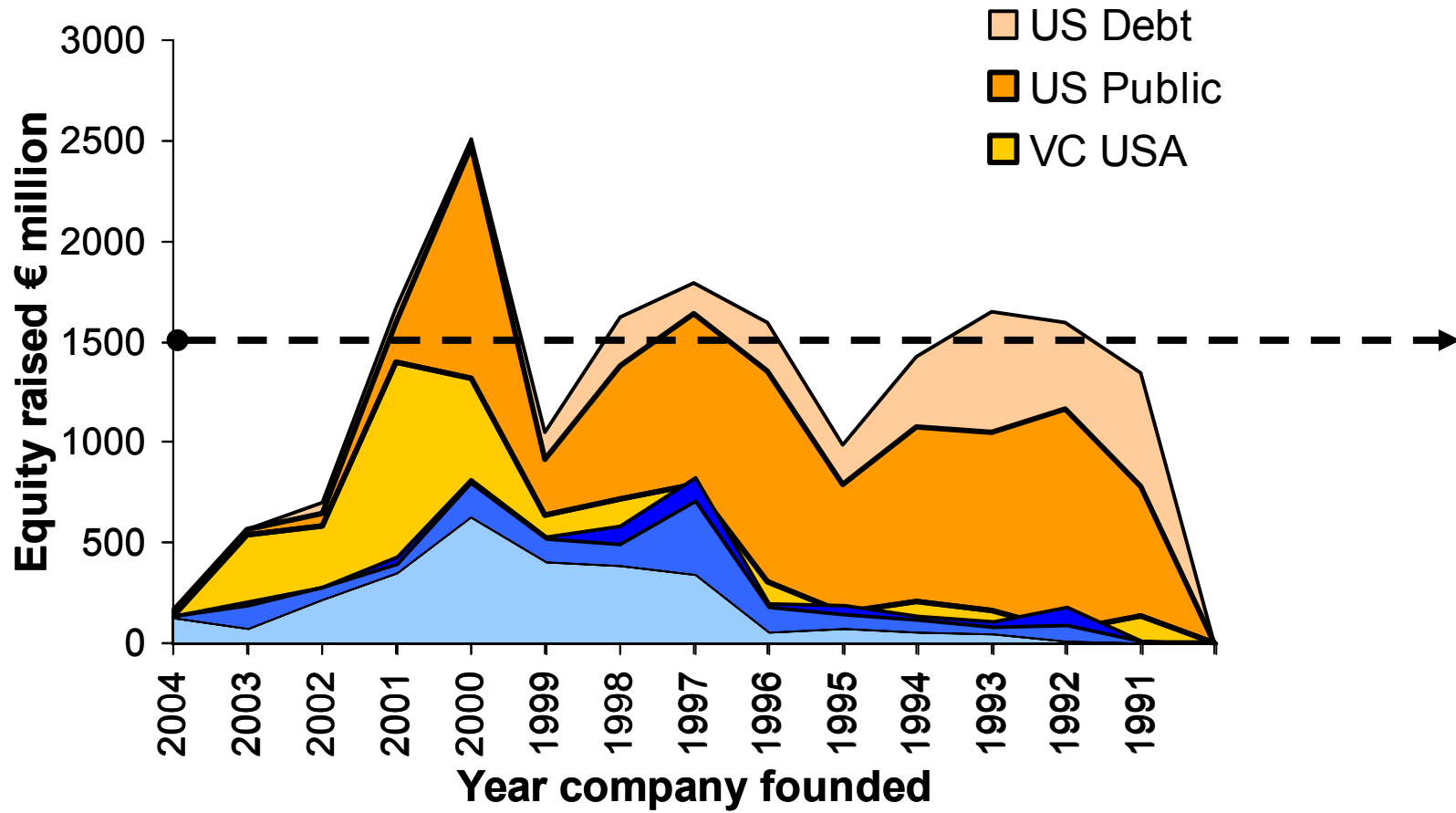


Is finance the explanation?

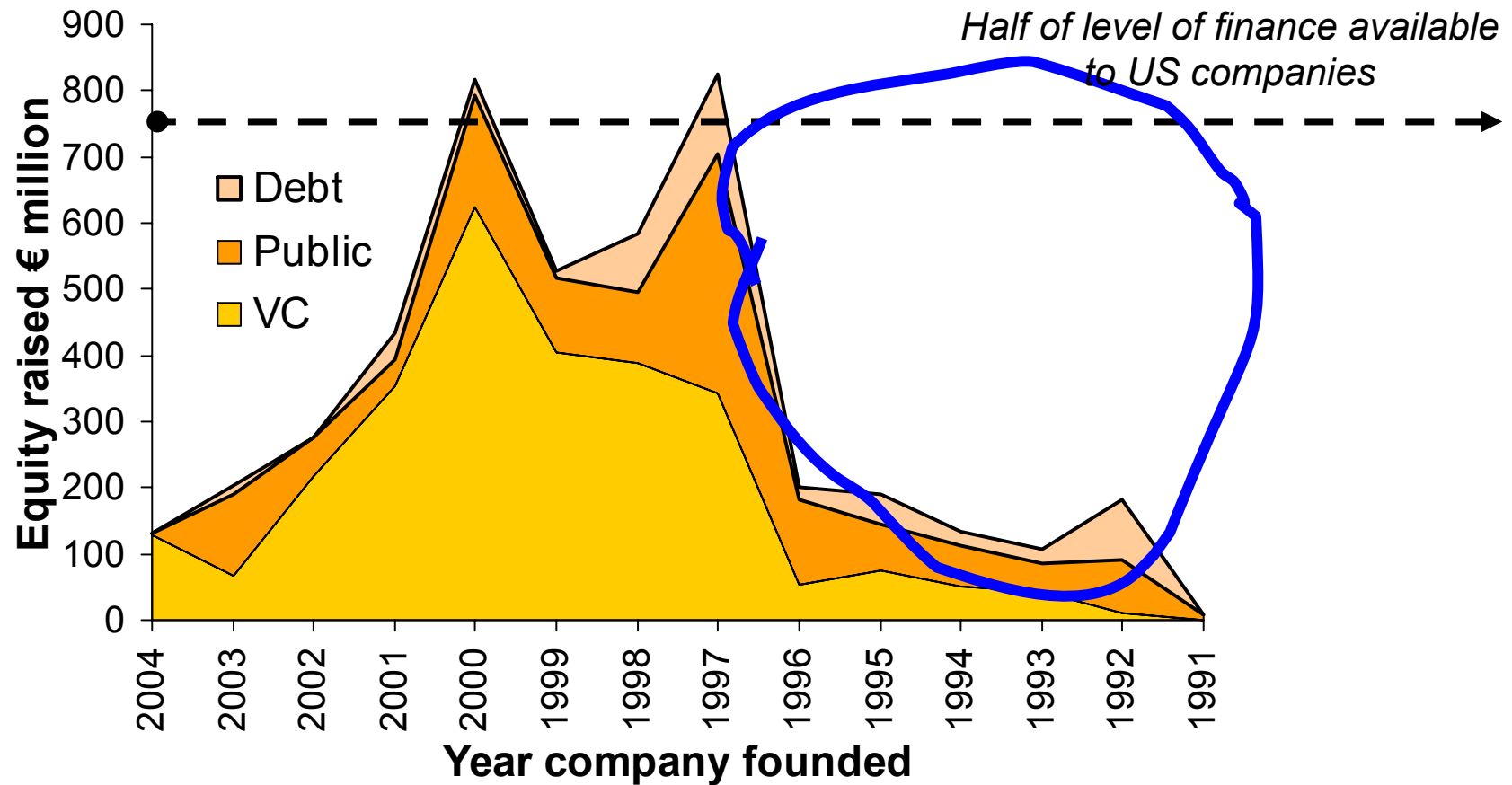
The gold standard - US finance arrives in waves



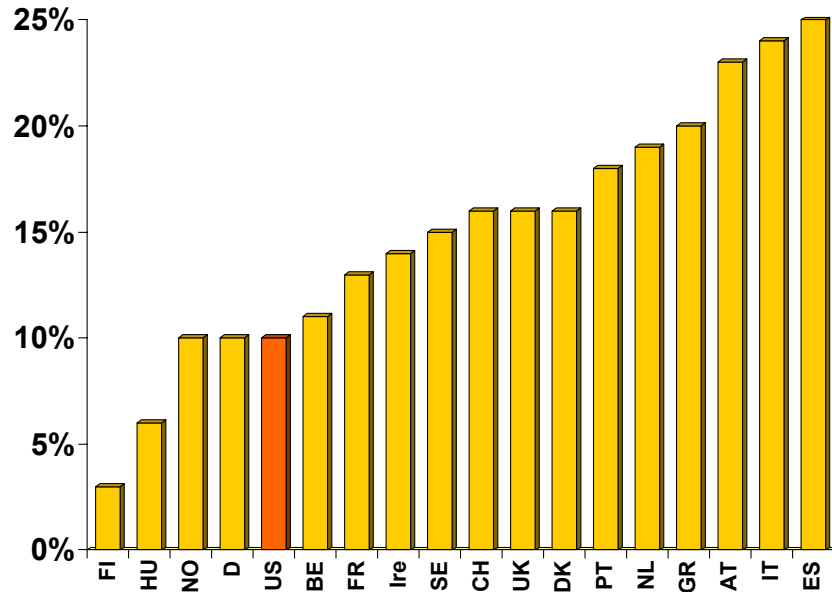
European financing in the context of US financing



Zooming in on European finance



Starting new companies can only be part of the strategy



▲ % of firms formed in 2003 or 2004

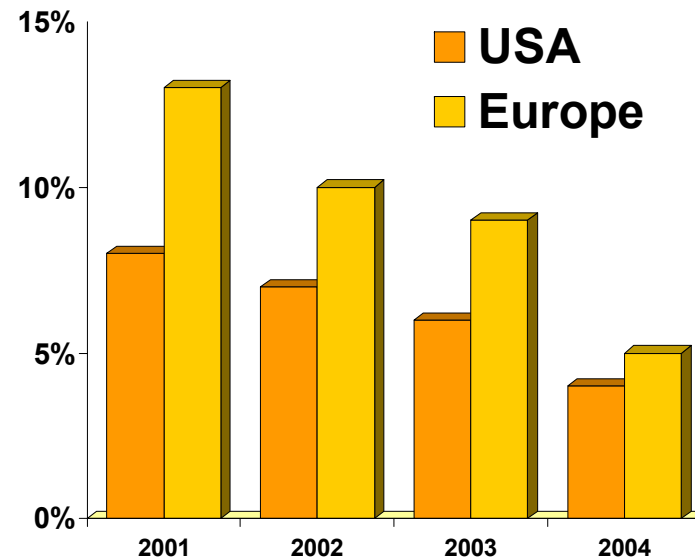
Locations of firms formed 2000-2004 ►



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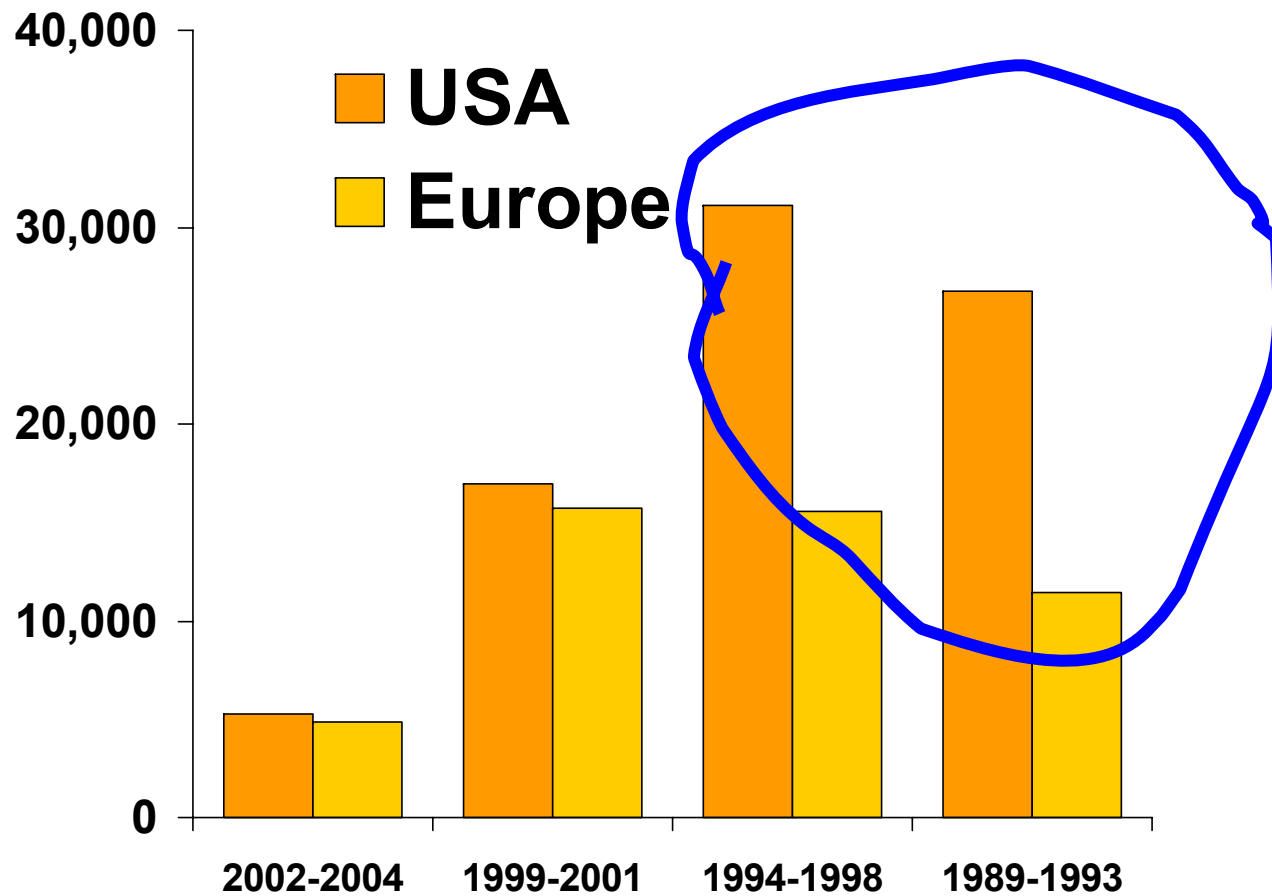
The spirit of European entrepreneurialism is alive

- Even though the rate of formation is slowing, ► more than 130 new European companies formed in 2004
- Over 600 new companies formed since 2000

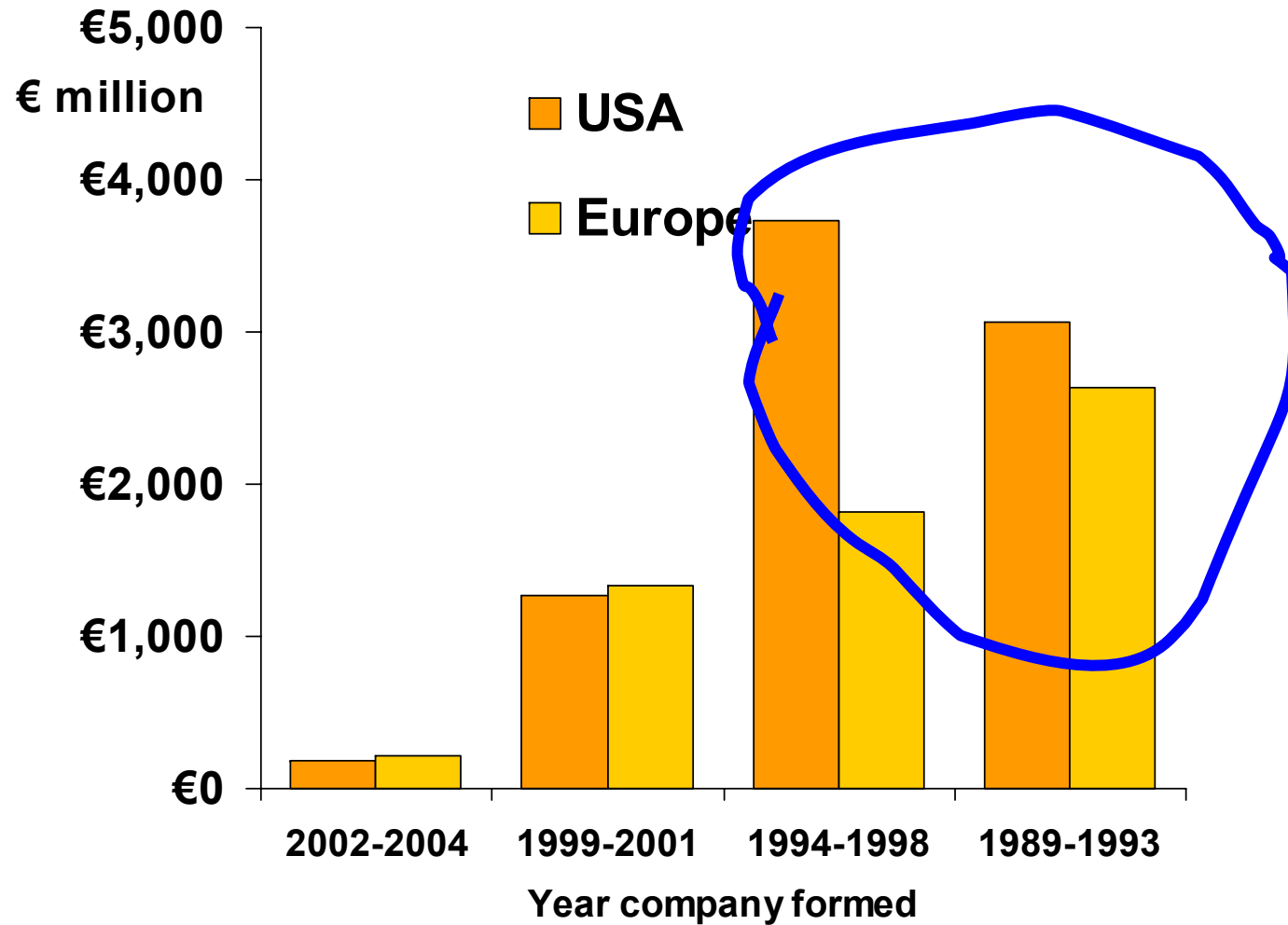


**Start-up formed between
2001 and 2004 as % of
2004 total**

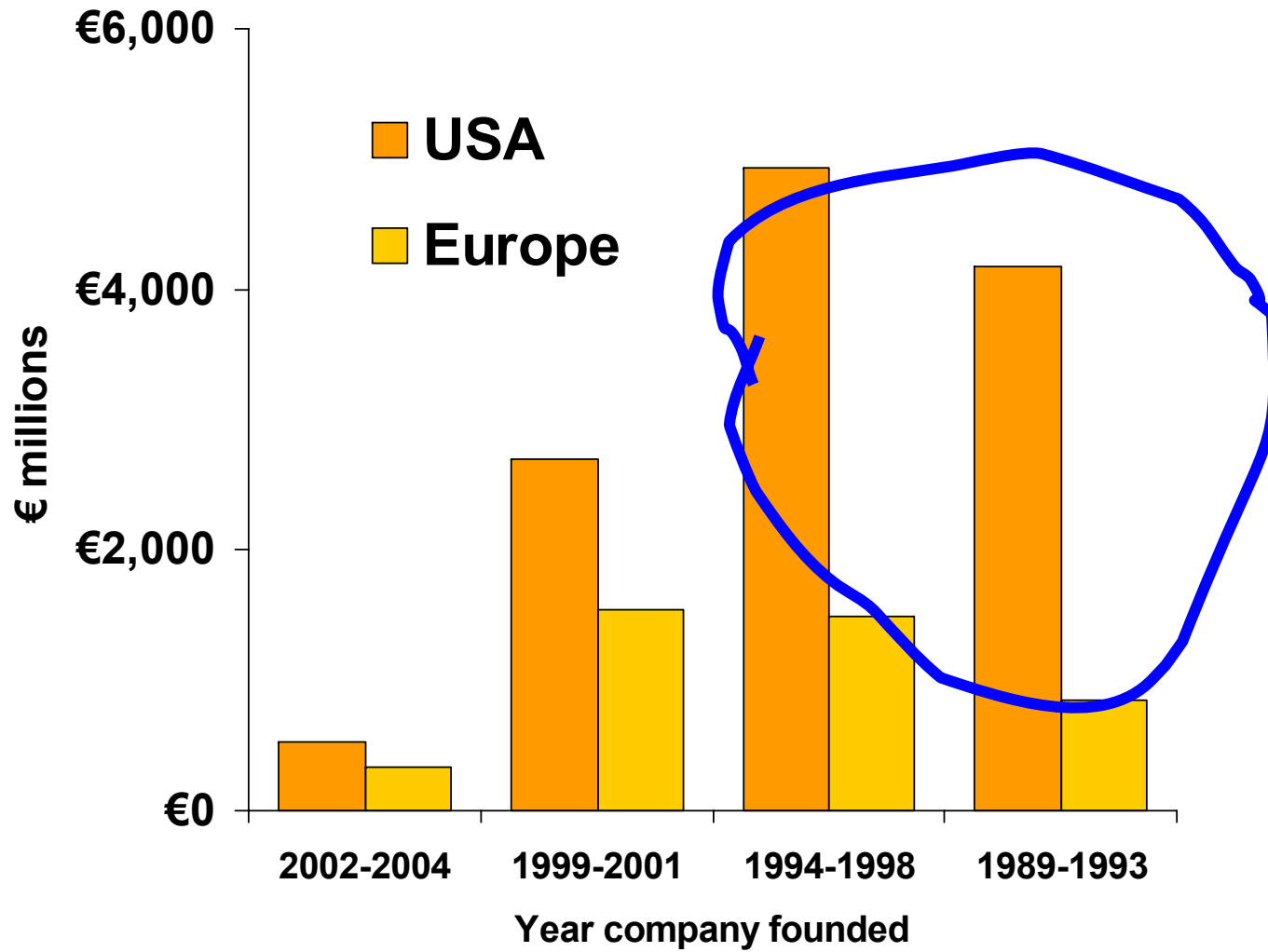
.. But the older companies need finance, too



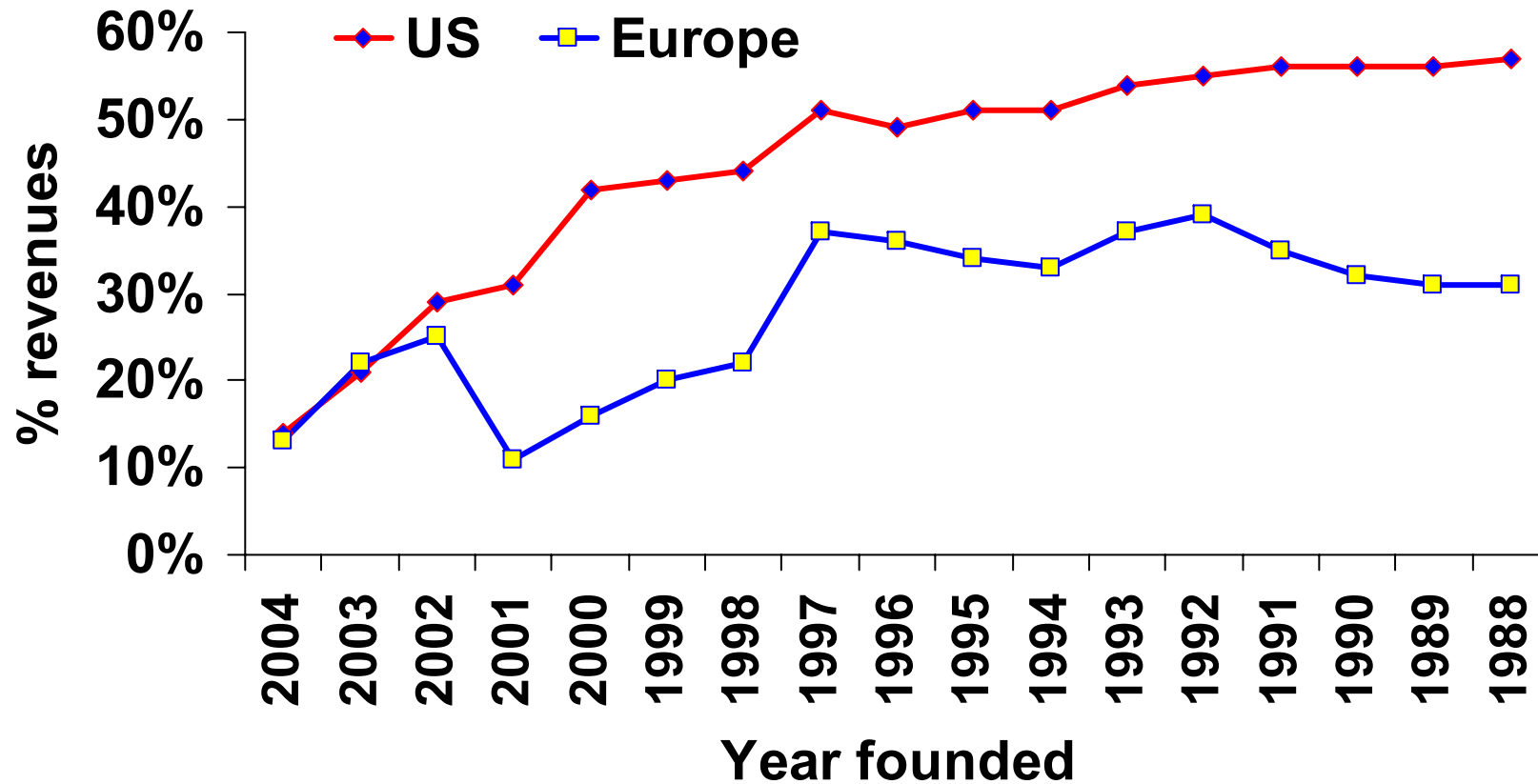
... these are also the revenue generating companies



... and the ones which invest most in R&D



European “financed” companies contribute lower proportion of revenue



European companies will find their own solutions

	Company	Details
1999	BioVex (UK)	Moved HQ to US; U.K. R&D operations retained in UK
1996	Cyclacel (UK)	Reverse merger into Xcyte Therapies (USA); R&D kept in UK; raised €45 million in US placement
2000	Domantis (UK)	Will create Inc. in 2006, keeping R&D facility in UK
2000	Lorantis (UK)	Acquired by Celldex (US), two-thirds UK R&D facility retained
1999	Microscience (UK)	Acquired by Emergent BioSolutions (USA); UK R&D facility retained
1998	Solexa (UK)	Reverse merger Lynx (USA): filed \$100 million shelf registration
1993	Micromet (D)	Reversed into CancerVax (USA): retained German R&D; filed US Shelf registration
1997	GPC (D)	Raised €36 million in placement to fund product development
1999	Genmab (DK)	Raised DKr 845 million in follow-on public offering
1996	Nicox (F)	Raised €45 million in follow-on (85% from US investors)
1993	IDM (F)	Reversed in Epimmune: plans to raise finance in US

Conclusions

- Europe is a greenhouse for R&D intense biotechnology firms
 - Many companies are established, some unsustainable
 - Most European firms meet the Young Innovative Company definitions
- Cultivating fully grown companies is hardly permitted because
 - European companies grow more slowly than US counterparts
 - They cannot or do not raise sufficient venture capital backing
 - European firms face a “finance precipice” after 7-10 years of growth

Conclusions II

- Investors apply a global standard in making investments
- As they age, European companies receive proportionally less of the investment cake because fewer of them meet the investment standard
- Adequately VC-funded European companies (a minority) can compete with US cos, but cannot access public equity or debt finance in Europe
- European firms “Americanise” to access US finance markets though
 - Merger and acquisition (reversing into US vehicle)
 - Relocation of operations or HQ
 - Attracting US investors

Policy thoughts

- National
 - Don't adopt a “national biotech sector” mind-set
 - Reconsider policies encouraging only the formation of start-ups
 - Put IP into biotech-experience economic environment
- European
 - Encourage cross-border IP bundling
 - Harmonise financial market rules in order to provide liquidity (this will attract US investors, *inter alia*)

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