

**Online Workshop on the commercialisation of Centres of Excellences’  
and Centres of Competences’ projects results**

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Brno, 12-13.11.2020

## Session 2. Commercialisation of technologies and capitalisation on projects' results

- Forms of commercialisation and cooperation with industry.
- Setting up a technology transfer environment – opportunities and obstacles the centres have to face as being part of a university as well as of the regional and European ecosystem.
- Consequences of the way State aid rules were incorporated into operational programmes.



EVROPSKÁ UNIE  
EVROPSKÝ FOND PRO REGIONÁLNÍ ROZVOJ  
INVESTICE DO VAŠÍ BUDOUCNOSTI



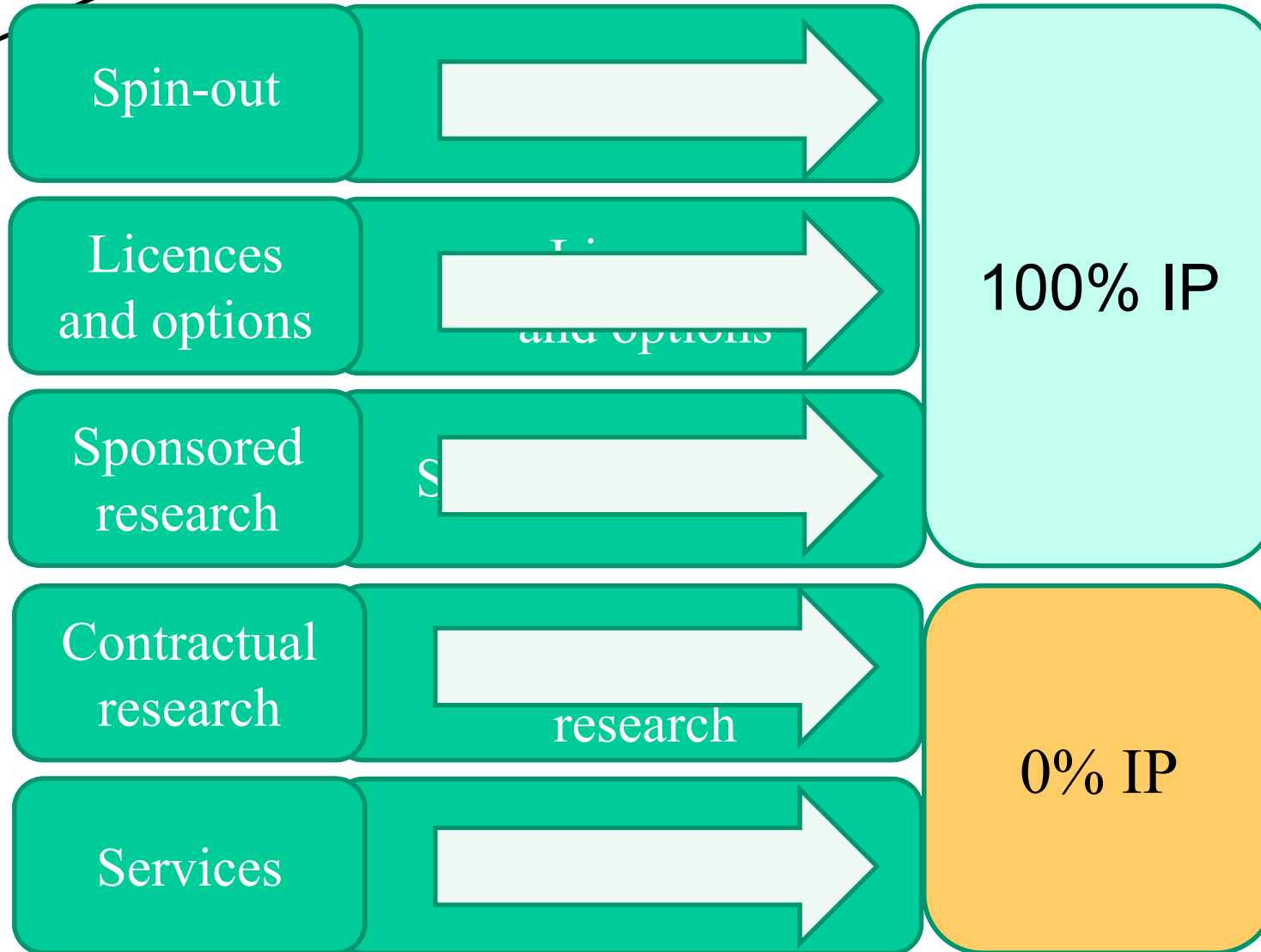
# Theory and reality of the technology transfer at the Czech universities environment

Pavel Krečmer / Director of TT at  
The University of Pardubice



What?

# University Technology (and knowledge) Transfer



# 1. Spin out

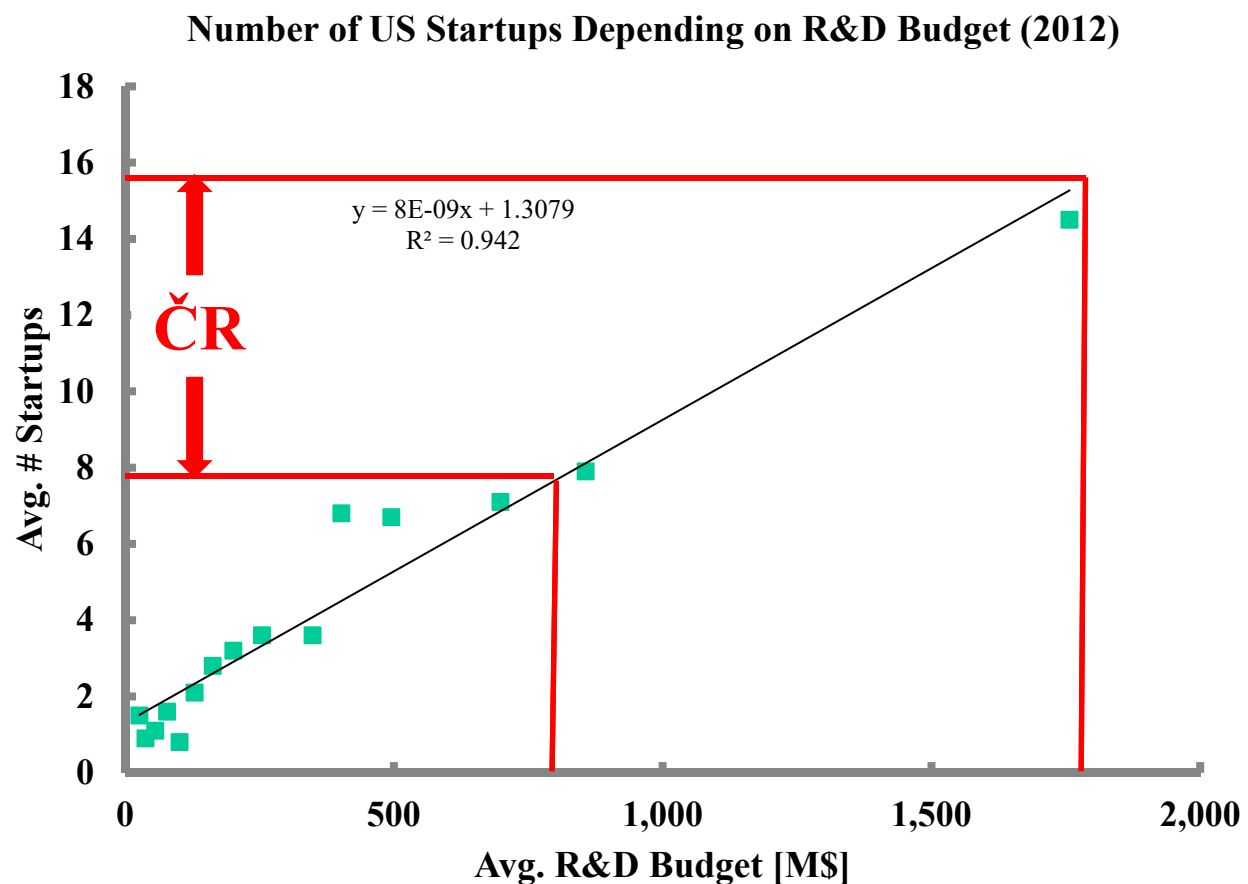
Case study – USA 2012

705 new spin outs and start ups in 2012 (+5.1%)  
from university (642) a institutional (63) R&D

4002 „university“ startups towards the end of  
2012

Stanford Uni 2005 - \$336M for Google

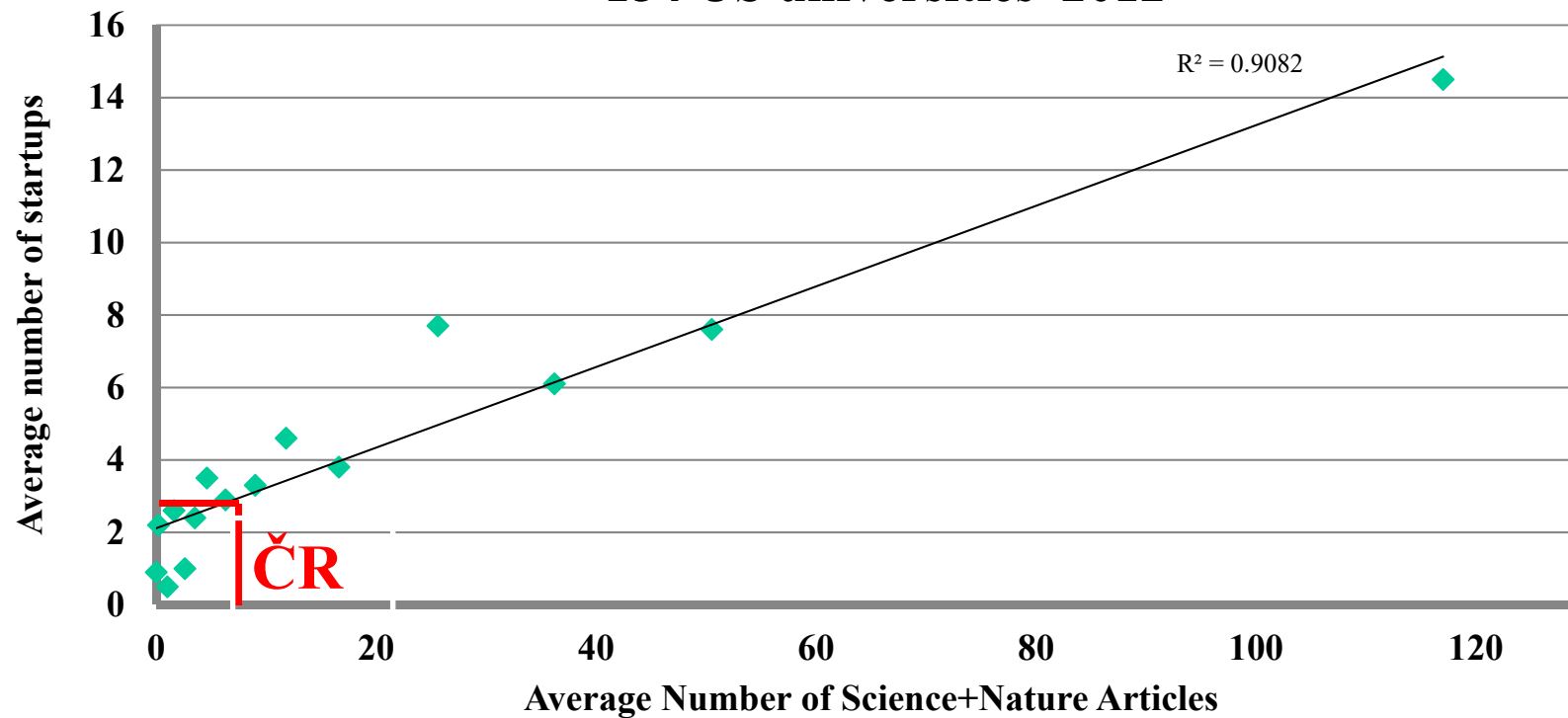
# Number of start ups as a function of R&D budget - top 154 US universities 2012



Zdroj: AUTM U.S. Licensing Survey: FY2012

# Number of start ups as a function of innovation factor- top 154 US universities 2012

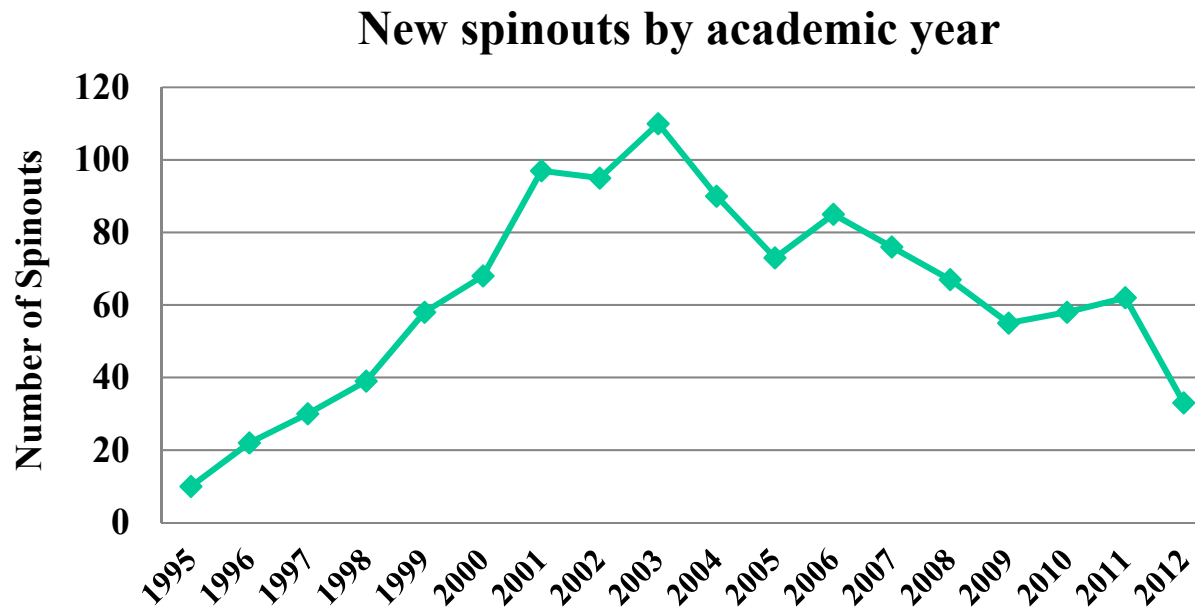
## Number of startups as a function of "Innovation factor" 154 US universities 2012



Zdroj: Web of Science database, AUTM U.S. Licensing Survey: FY2012

## Case study– UK The PraxisUnico SPINOUTS UK SURVEY

- 800 active university startups in 2013

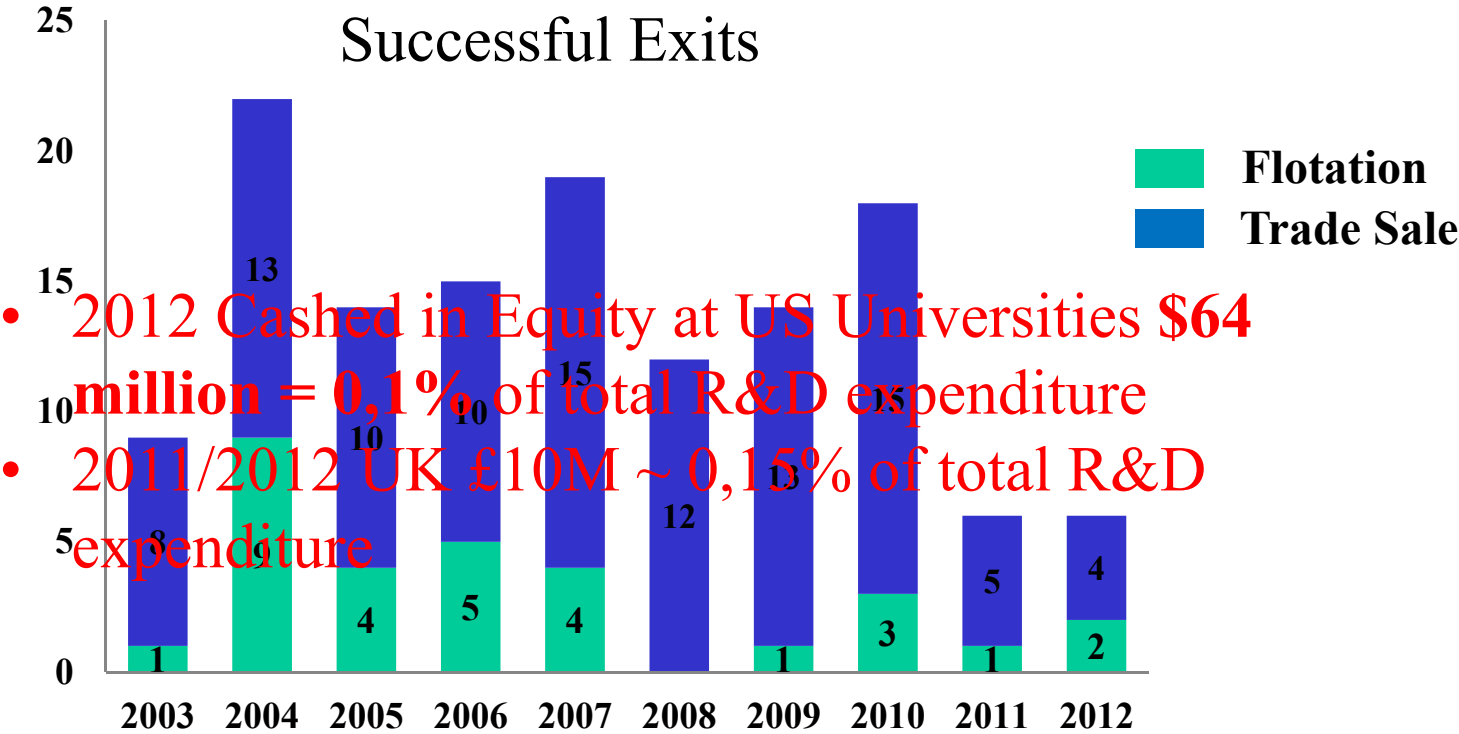


Zdroj: PraxisUnico Annual Survey 2013



Model case– UK The PraxisUnico  
SPINOUTS UK SURVEY

Average time to capitalization of startups 2012 – 10 years



Zdroj: PraxisUnico Annual Survey 2013

## 2. Licences

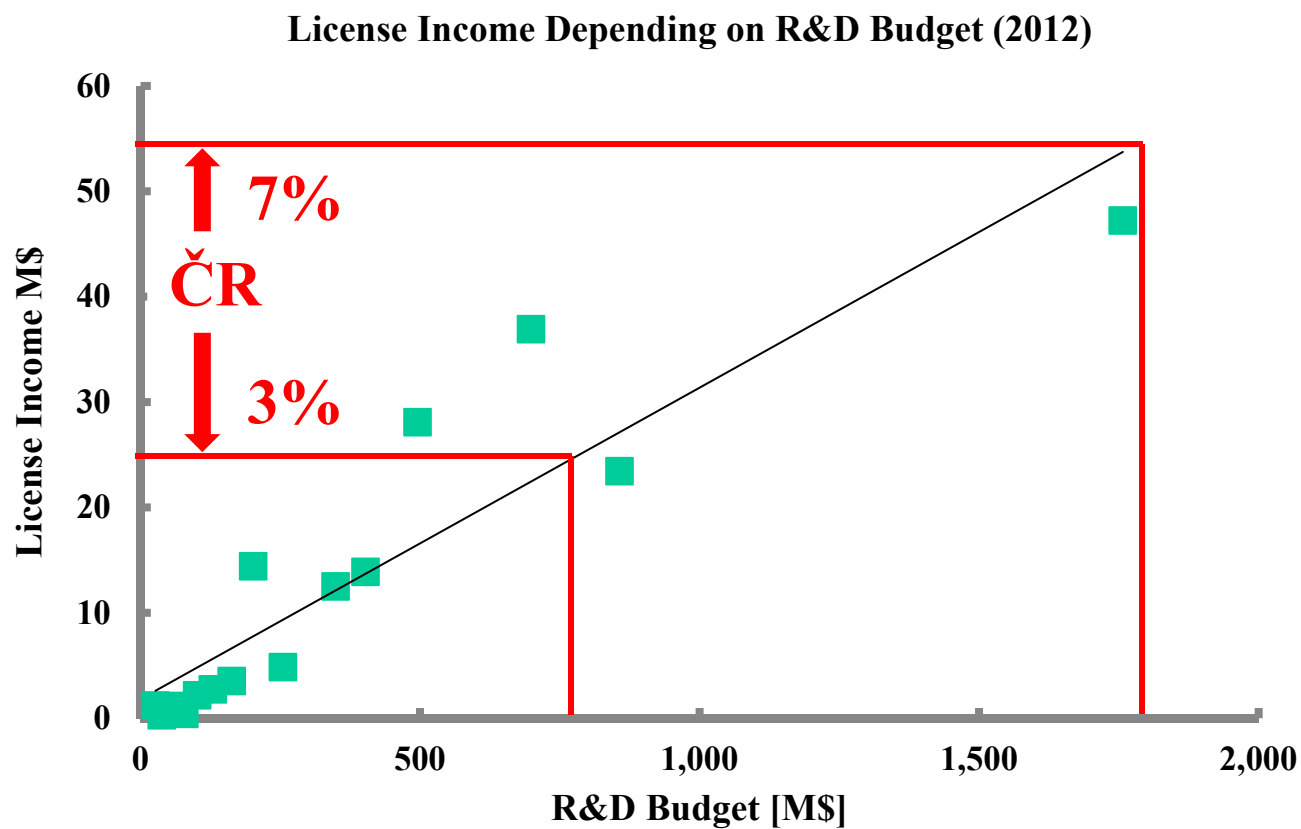
Case study – USA 2012

5130 Licenses (+4,7%) a 1242 Options (+7,8%)

40 007 active Licences and options in 2012

Income from licence agreements \$2,6 billion  
(+6,8%) – 2012 = 4% R&D budget USA

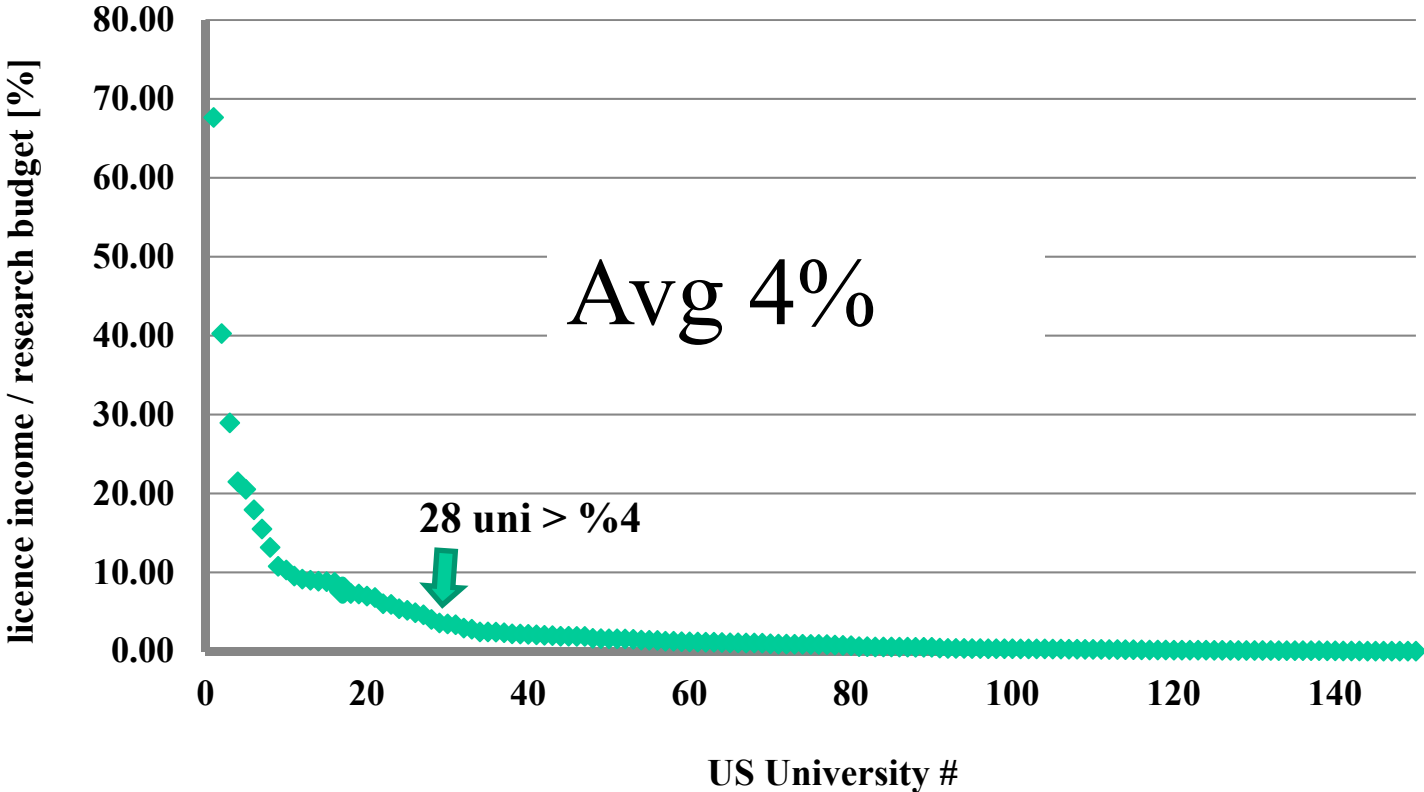
# Licence income as a function of R&D budget top 154 US universities 2012



Zdroj: AUTM U.S. Licensing Survey: FY2012

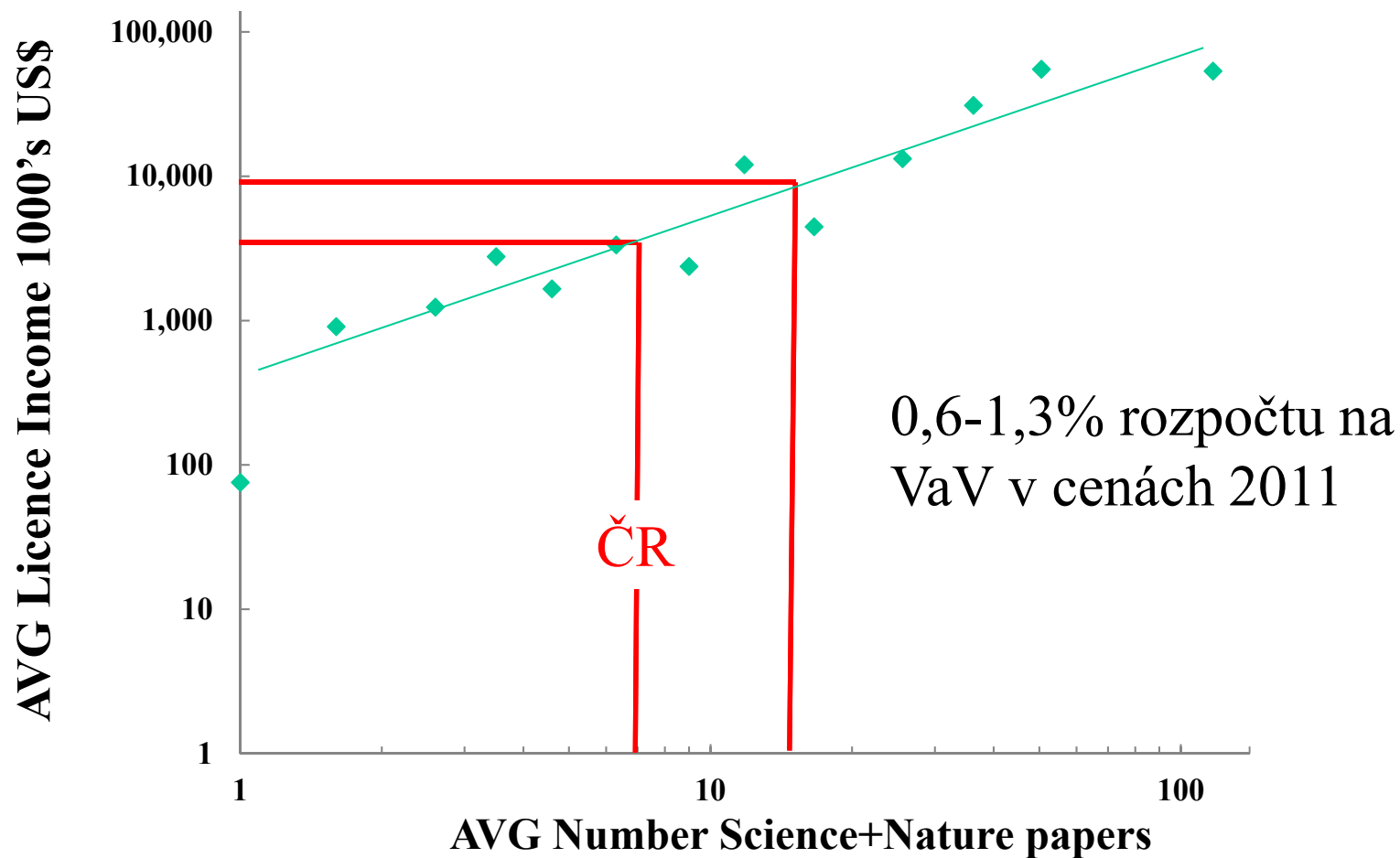
# Licence income and research budget ratio 154 US universities 2012

"Return of Investment" ROI [%]



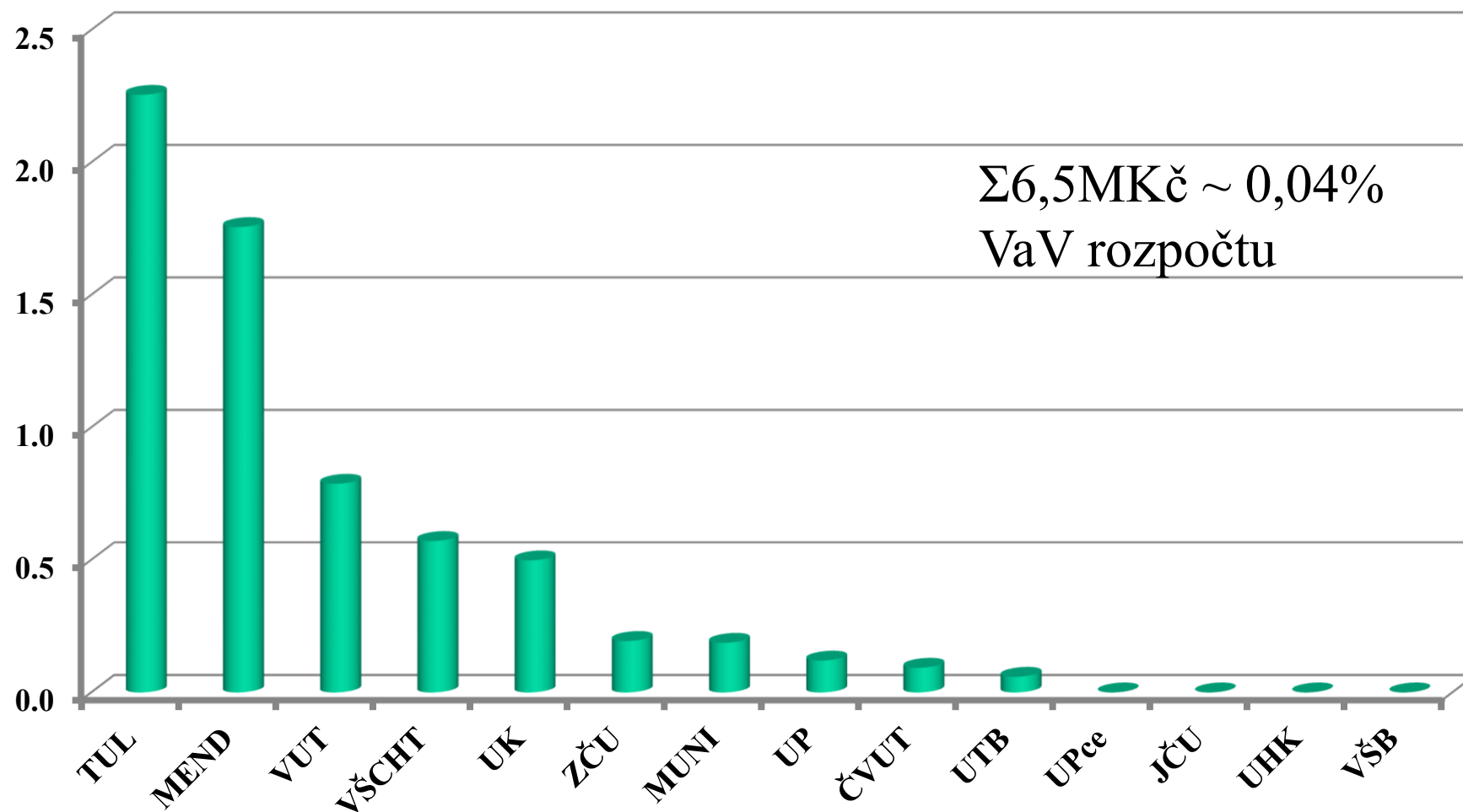
Zdroj: AUTM U.S. Licensing Survey: FY2012

# Licence income as a function of innovation factor 154 US univerzit 2012



Zdroj: Web of Science database, AUTM U.S. Licensing Survey: FY2012

## Prodej licencí vybraných CZ univerzit v MKč 2012

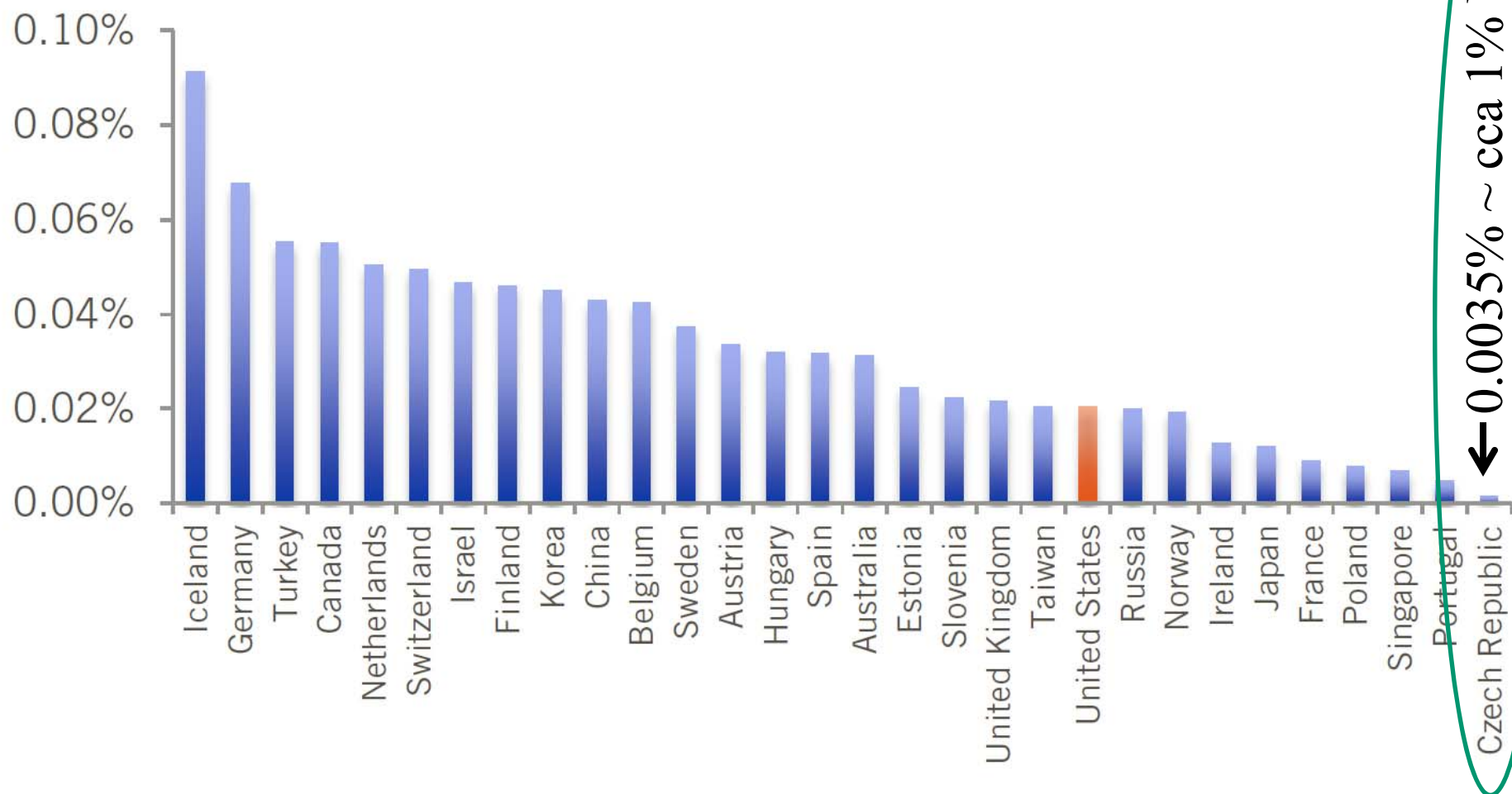


Zdroj: výroční zprávy univerzit 2012

# 3. Sponsored research

- Definition: University owns the Intellectual property and takes the risk
- Sponsored research is part of the main university activity
- Implications in state aid rules to be discussed later

## Business sector involvement in the university research as a percentage of GDP in 2008

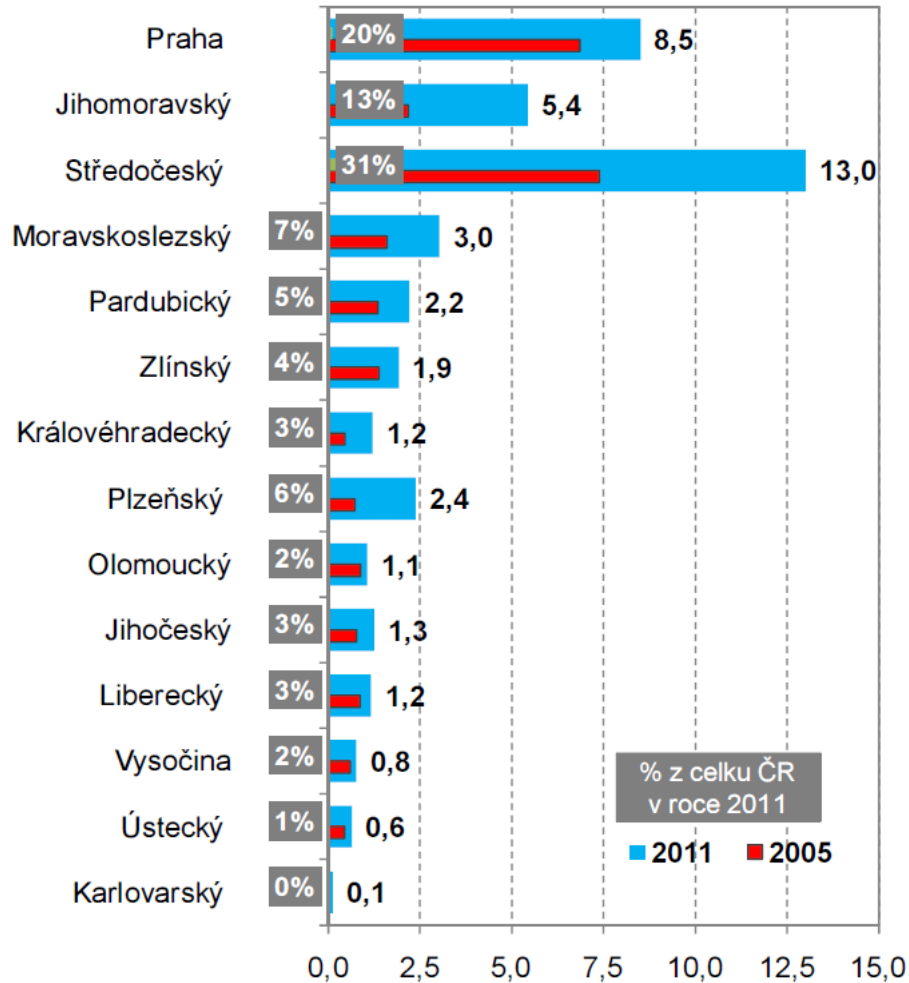


Zdroj: <http://www.itif.org/files/2011-university-research-funding.pdf>

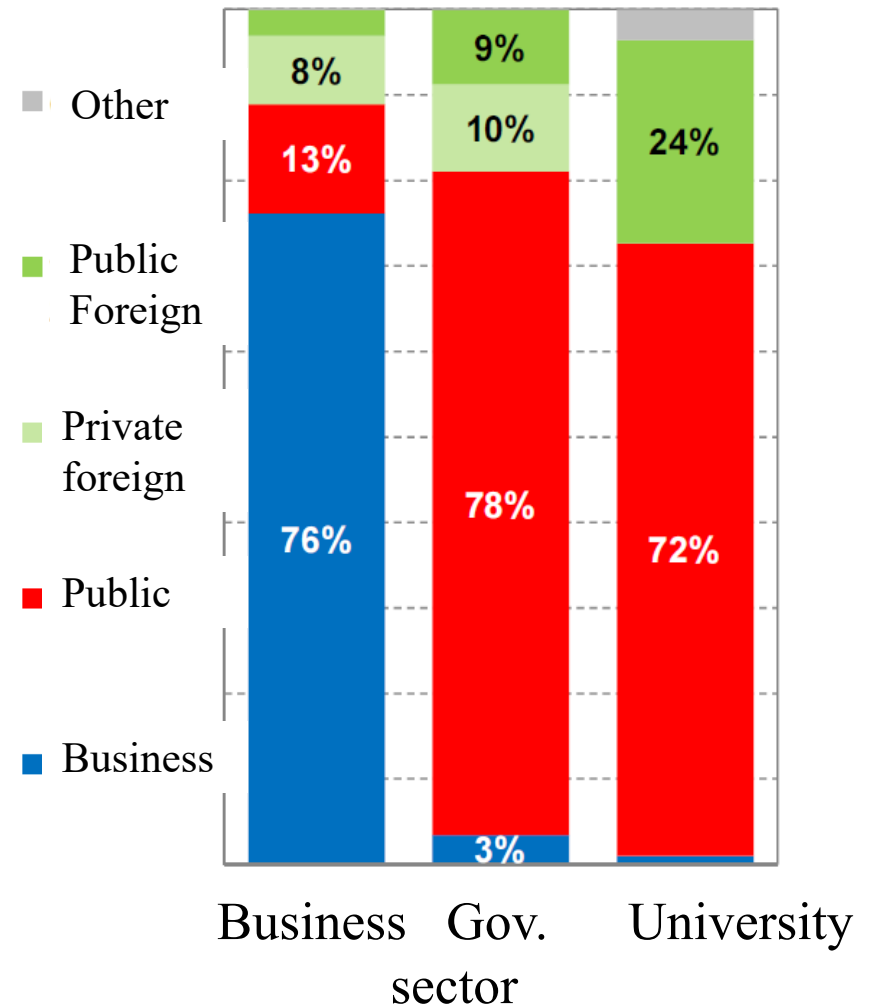


## Business R&D in 2011 - 42,7 billion Kč

R&D expenditure per region in bill. Kč



R&D expenditure per provider



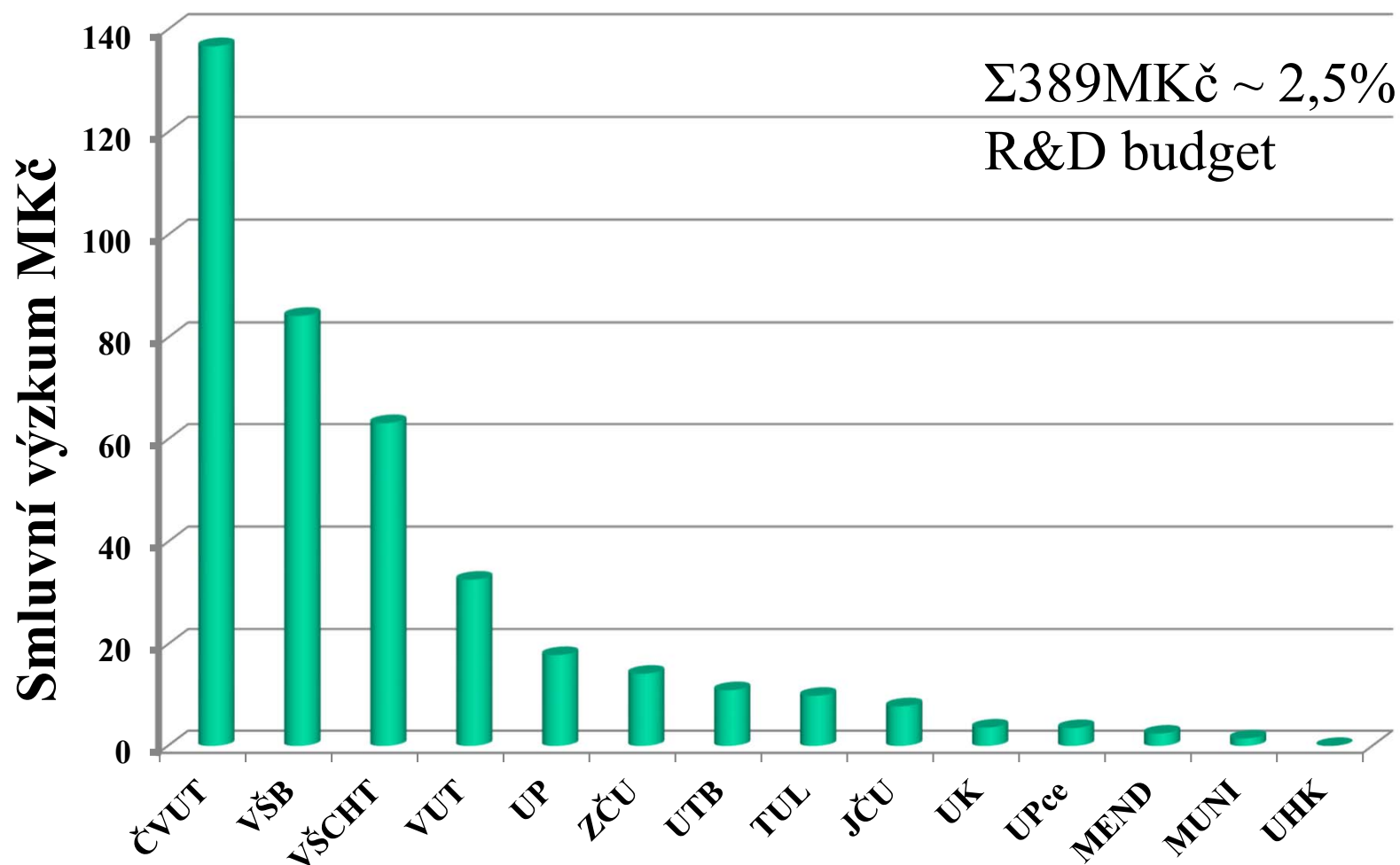
# Sponsored Research

- **ČR 2012 Industry-Sponsored Research ???Kč (0-1% R&D expenditure)**
- **USA 2012 Industry-Sponsored Research \$4 100M (6,4% R&D expenditure)**
- **Germany 2012 Industrial-Funding €1 841M (14,3% R&D expenditure)**

# 4. Contractual research

- Definition: Provider owns the intellectual property and owns the risk
- It is not the main university business
- Implication on state aid

„Contractual research at selected czech universities DOČ“  
2012



Zdroj: výroční zprávy DOČ

# Contractual resaerch



Main responsibility of TT to transfer:

## Contractual research



## Sponsored research

# 5. Services

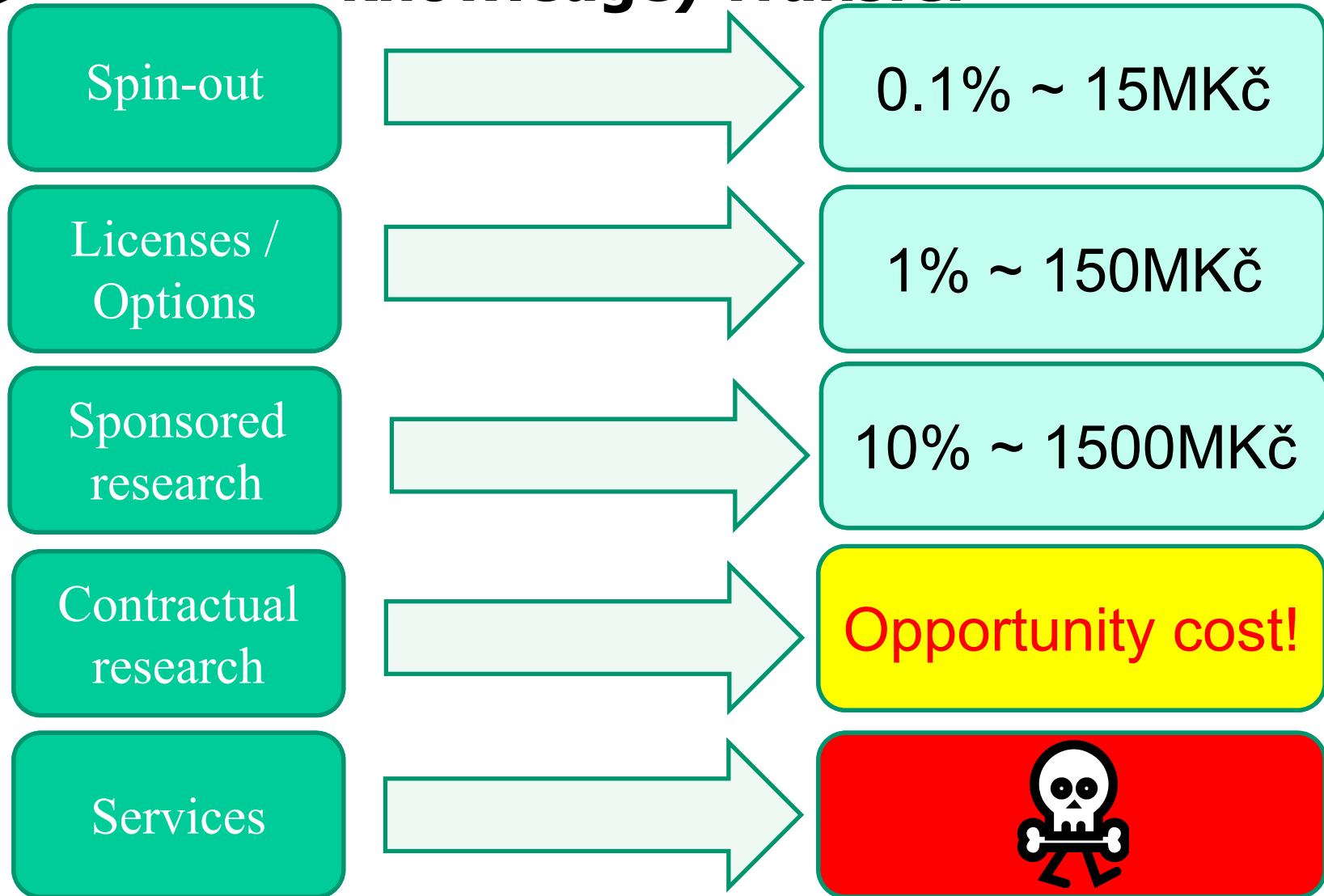


**Opportunity cost!**

Č. 5.2.1 RÁMEC SPOLEČENSTVÍ PRO STÁTNÍ PODPORU VÝZKUMU,  
VÝVOJE A INOVACÍ (2006/C 323/01)

How?

# Univerzity Technology (and knowledge) Transfer



# Dynamika Zdravého Technologického Transferu v ČR?

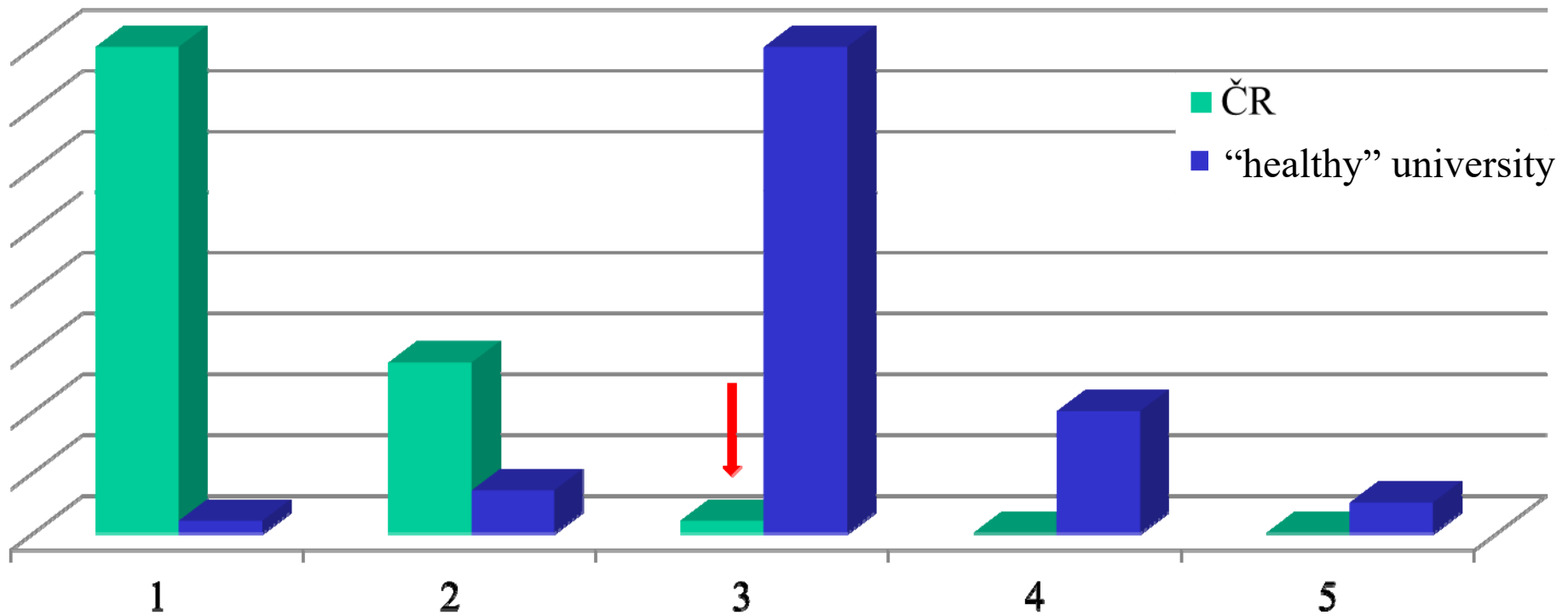
Services

Contractual research

Sponsored research

Licences/  
opce

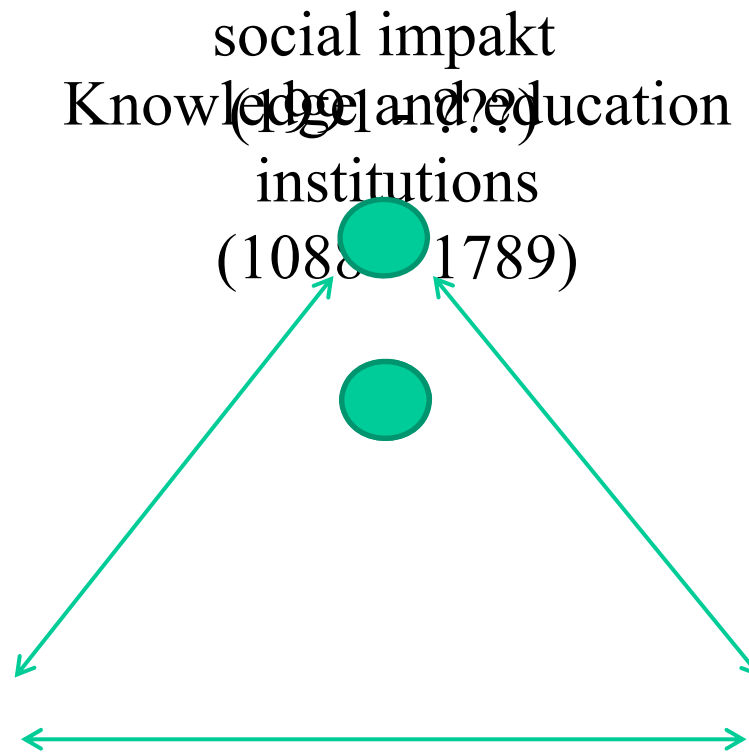
Spin out





Why?

## Quo Vadis Universitas?



R&D institutions  
(1789 – 1991)



# Conclusion

- TT is not to make money!
- The university leadership has no interest at TT! Bottom of the priorities.
- It is questionable to support TT directly from OP, it should, in principle, be supported by the university overheads.
- Critical to TT success are experienced people – very rare in the Czech R in 2012 and still rare in 2020
- Nurture the ecosystem of the scientific excellence as an utmost priority for the future TT success!