

INNOVATION AND PRODUCTIVITY  
GRAND CHALLENGE

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# Innovation, Networking & the Growth of New Firms

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# New Firms

Are important for:

- Employment growth in regions (Bosma et al. 2006; Mueller et al. 2007)
- Productivity growth in regions (Bosma et al. 2006)
- GDP growth (Van Stel et al. 2005)



# New *Growing* Firms

Are *even more* important for:

- Employment growth in regions (Birch 1979; Acs & Mueller 2006)
- GDP growth (Wong et al. 2005; Stam et al. 2006; Stam & Van Stel 2007)



# Received wisdom

- In policy circles:  
“Growing firms are more innovative than non-growing firms” (Ministry of Economic Affairs NL)
- In academic circles:  
“Innovate or die” (Freeman, Baumol, Cefis & Marsili)  
Innovation -> growth?



Innovation -> New Firm Growth?



# Dynamic capabilities

- Dynamic capabilities (DC): “the organizational and strategic routines by which firms achieve new resource combinations” (Eisenhardt & Martin 2000, 1107)
- Examples: R&D activities, inter-firm alliancing, new product development
- DC -> firm growth



# Dynamic capabilities

- often mentioned in recent debates (e.g. Teece et al. 1997, cited 900+; Eisenhardt & Martin 2000, cited 300+)
- hardly measured in the context of young firms (cf. Zahra et al. 2006 JMS)



# Boundary conditions DC approach

- (technologically) dynamic environments
- a minimum level of
  - human capital
  - firm resources

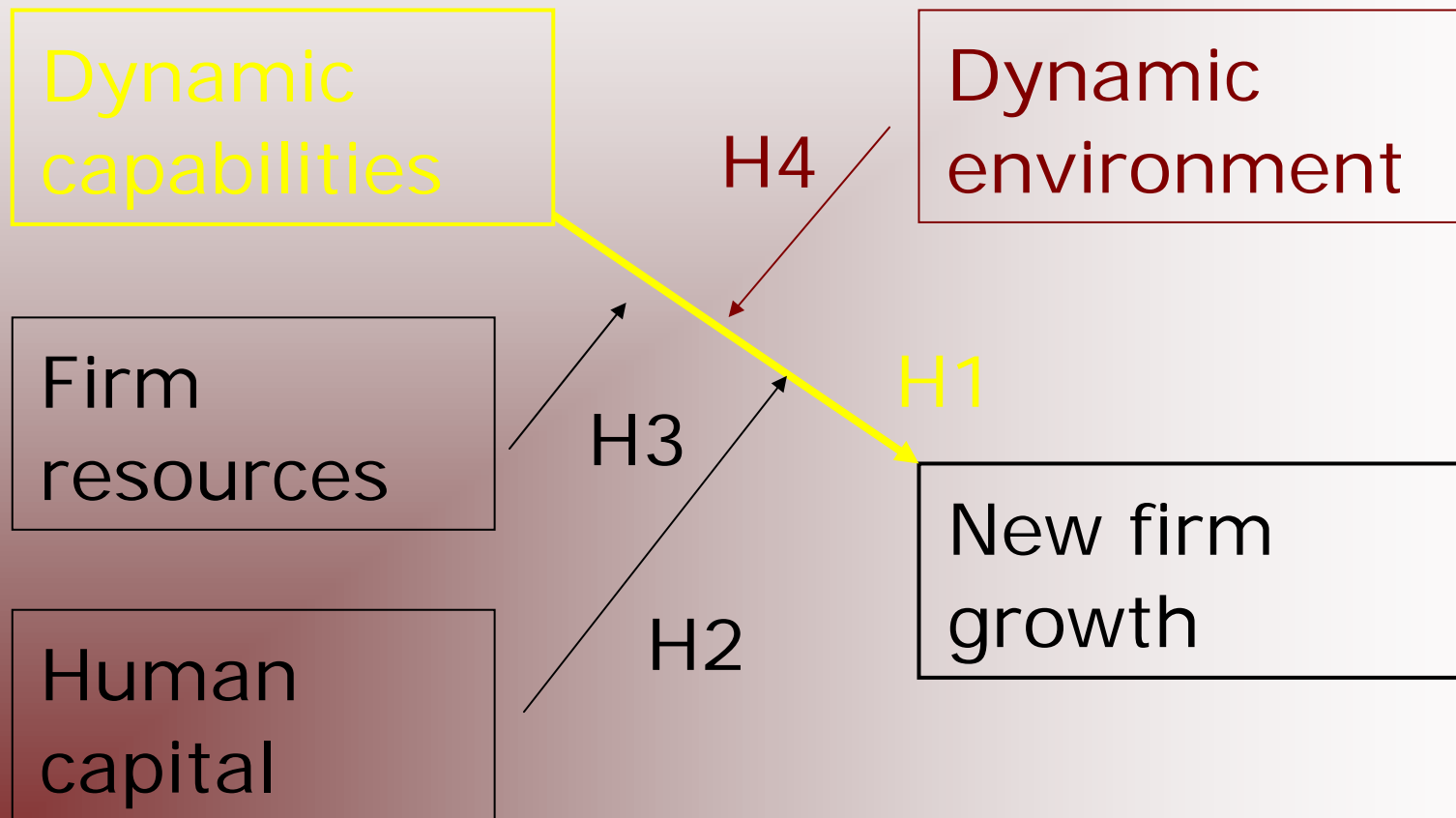


# Research Question

To what extent do dynamic capabilities affect the growth of new firms?



# Hypotheses



# Hypotheses



# Data

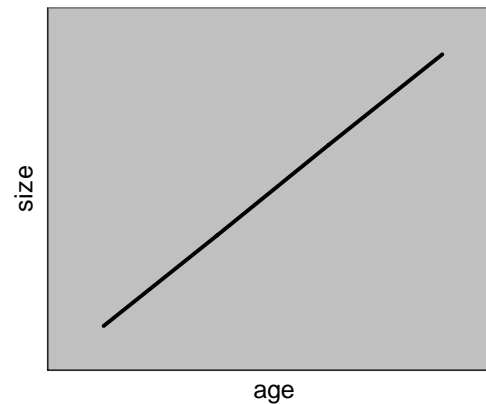
- EIM Start-up panel: cohort 1994 (representative sample of NL new firms population)
- Annual survey 1994-2004 (354 cases)



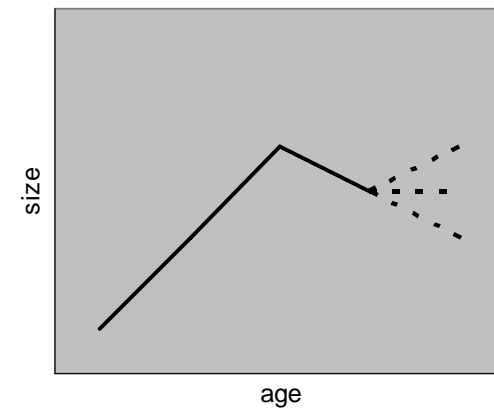
# Dependent variables I

- Employment growth ( $T_0$ - $T_{10}$ ) (31%)

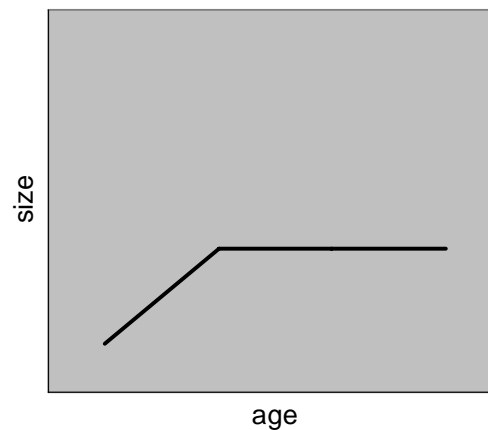
Continuous growth (0.3%)



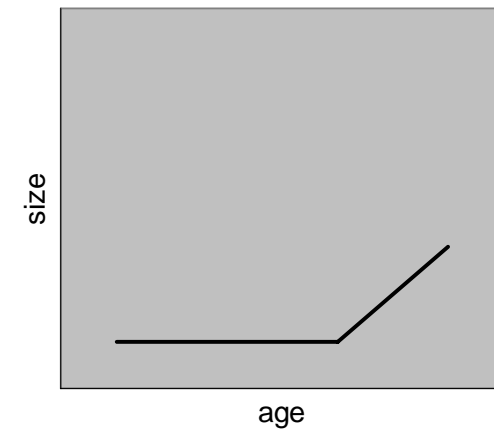
Growth setback (16.7%)



Early growth and / or plateau (4.5% / or plateau (68.6%))

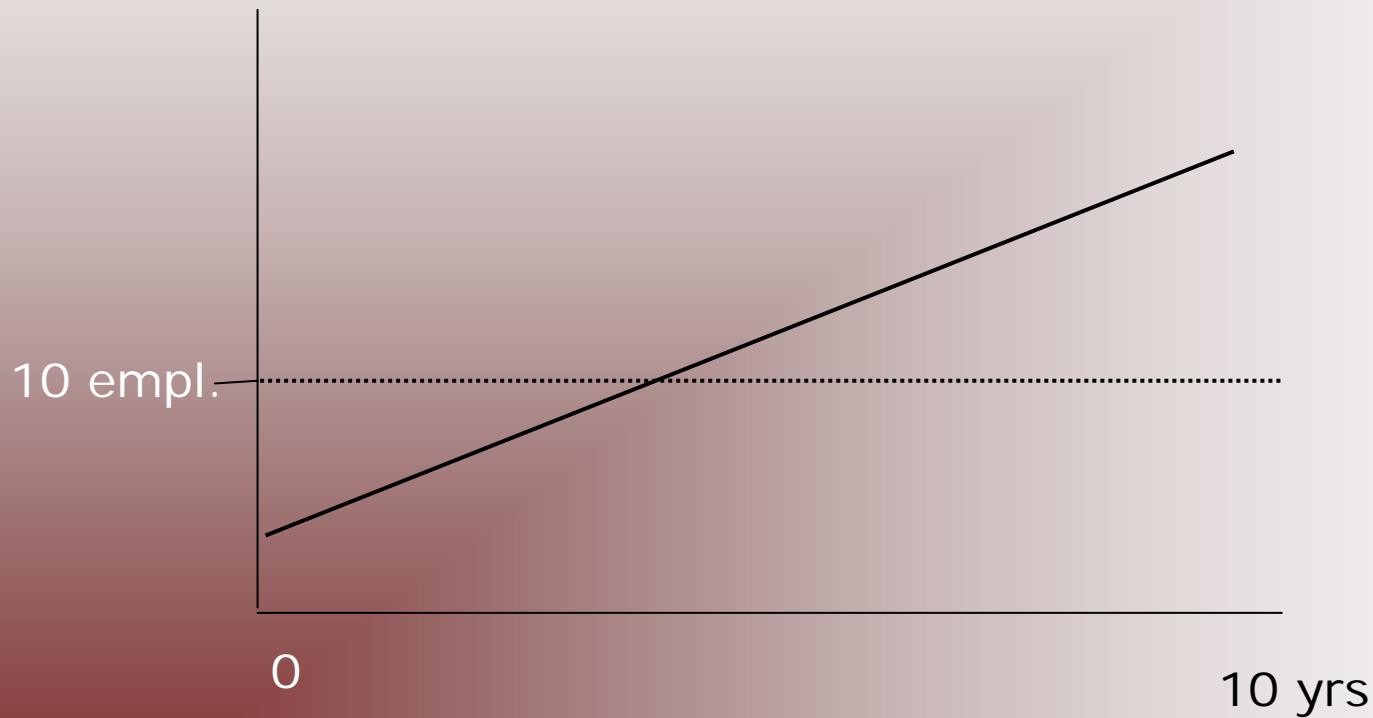


Delayed growth (9.9%)



# Dependent variables II

- Threshold 10 employees (12%); 41 firms



# Independent variables

- 4 variables dynamic capabilities (cf. Eisenhardt & Martin 2000):
  - R&D (0/1): 9%
  - Inter-firm alliancing (0/1): 32%
  - New product development:
    - 10% sometimes
    - 23% regular
    - 67% never
  - Exporting (0/1): 9%



# Independent variables

- Firm resources, human capital, environmental dynamism
  - 3 variables firm resources
  - 7 variables human capital entrepreneur
  - 3 variables social capital entrepreneur
  - 4 variables dynamic environment
- 3 control variables
  - growth ambitions, age and gender



?



# Log. regr. – main effects growth

	<i>DC T<sub>0</sub></i> (R <sup>2</sup> 0.451)	<i>DC T<sub>2</sub></i> (R <sup>2</sup> 0.492)	<i>DC T<sub>4</sub></i> (R <sup>2</sup> 0.499)
R&D			
Inter-firm alliancing	0.815 *		
New product development			
Exporting			
Start-up size	0.737 **	0.918*	0.825*
Age entrepreneur	-0.778 **	-0.681*	-0.775 **
Growth ambitions	0.518 **	0.549 **	0.652 **

\* Correlation is significant at the 0.05 level

\*\* Correlation is significant at the 0.01 level



# Log. regr. – main effects 10 empl.-threshold

	<i>DC T<sub>0</sub></i> (R <sup>2</sup> 0.531)	<i>DC T<sub>2</sub></i> (R <sup>2</sup> 0.586)	<i>DC T<sub>4</sub></i> (R <sup>2</sup> 0.548)
R&D			
Inter-firm alliancing			
New product development			
Exporting		2.252 *	
Start-up size	0.954 **	1.046 **	1.047 **
Entrepreneurial family/friends	-1.481 *	-1.502 *	
Dynamic industry	-0.140 *	-0.159 *	-0.124 *
Age entrepreneur	-1.198 **	-1.413 **	

\* Correlation is significant at the 0.05 level

\*\* Correlation is significant at the 0.01 level

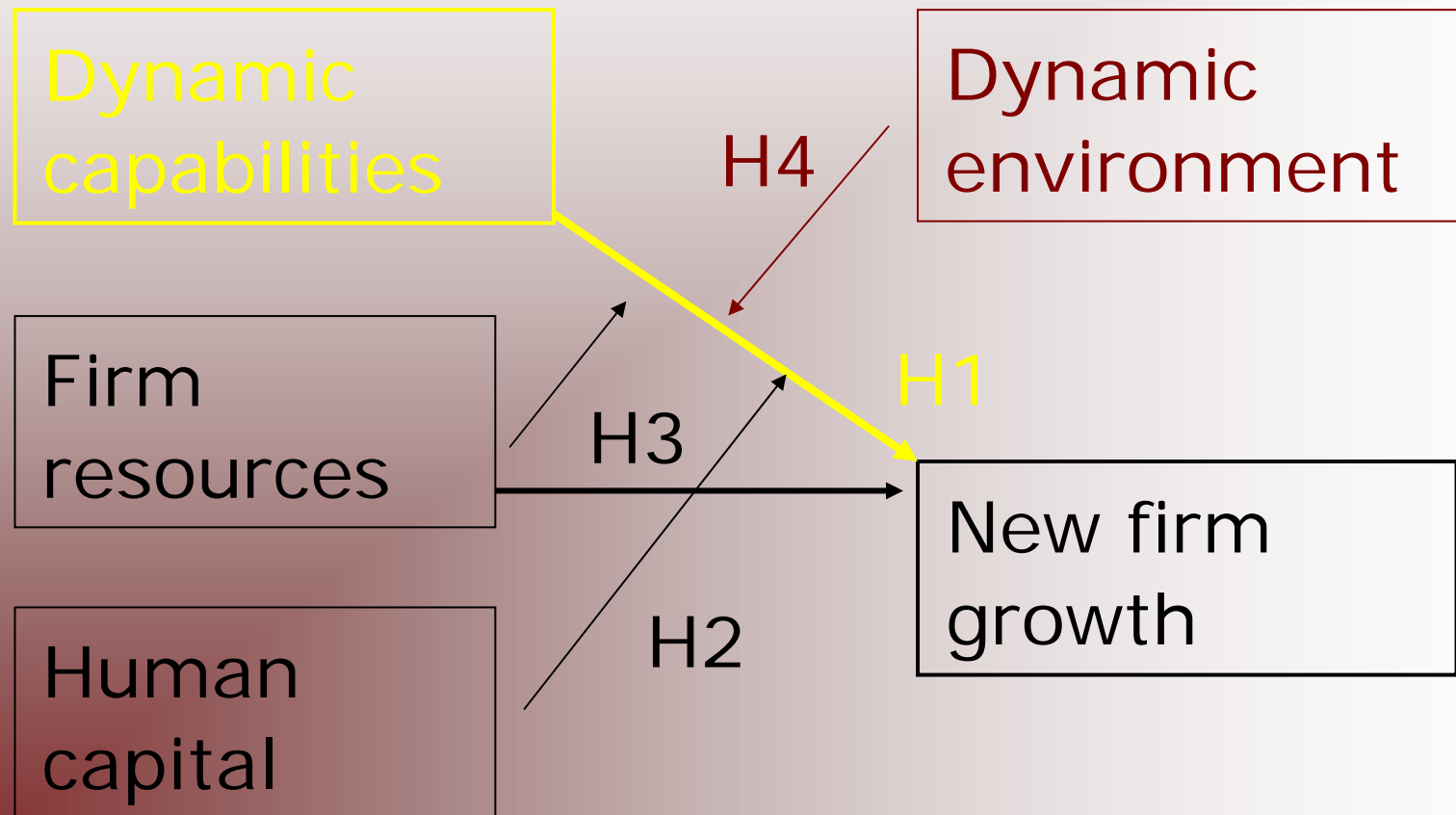


# Log. regr. – interaction effects

- H2 (human capital \* dyn cap)
  - No additional effect
- H3 (firm resources \* dyn cap)
  - No additional effect
- H4 (dynamic environment \* dyn cap):
  - Inter-firm alliancing 0 (Environments with rapid technological change & dynamic industries)



# Conclusion 1



# Conclusion 2

- No consistent effect of dynamic capabilities like new product development, R&D and inter-firm alliancing
- 'Matthew effect': every new firm that starts with employees shall have more employees
- ...and it helps a bit if you're young and ambitious



# Limitations

- No use of longitudinal research methods
- Problems & problem-solving?
- Sequence of DC
- Complementarities of DC



# **(Innovation, Networking) & the Growth of New Firms**

Erik Stam

