



**Cass Business School**  
CITY UNIVERSITY LONDON

# **Expert knowledge and university leadership – the important connection**

**Danish Academy of Technical Sciences (ATV)**

**Amanda Goodall**





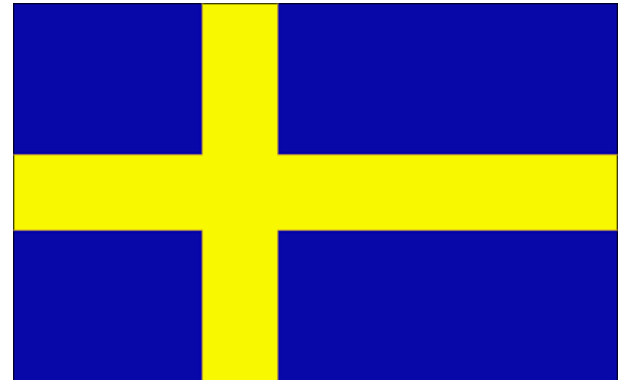
**Denmark's research output has risen dramatically over the last 20 years.**

**Impressively so.**



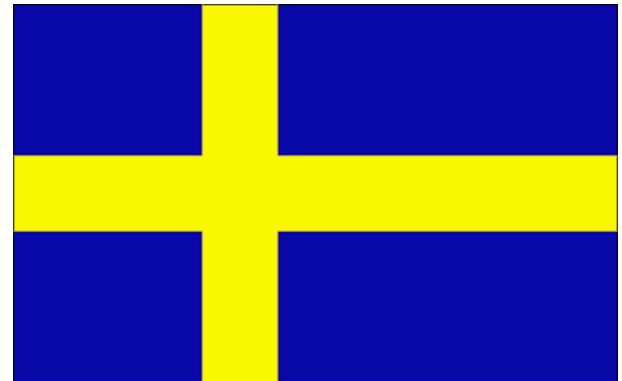
**So say Gunnar Öquist & Mats Benner in  
‘Fostering breakthrough research: a  
comparative study’, December 2012.**

**Öquist & Benner produced the report  
because they wanted to understand**



**Öquist & Benner produced the report  
because they wanted to understand**

... why Swedish research has shown a  
trend of relative decline at the  
international breakthrough level.



**Here is their conclusion:**

‘What we can learn from Denmark, the Netherlands and Switzerland is that scientific quality is promoted by stability and a long-term approach when it comes to national policy for funding, **and by academic leaders who single-mindedly and firmly pursue quality to meet stringent international requirements.**’

**Today I will present the latest  
evidence on academic  
leadership -- and I will argue  
that:**



If Denmark wants to maintain its position, and continue to produce outstanding innovative research, then it should ensure it has its best academics in charge of research universities and funding bodies.

# Who should lead research universities?



# **Who should lead research universities?**

**Good managers?**

**Good scholars?**

SOCRATES  
*in the*  
BOARDROOM

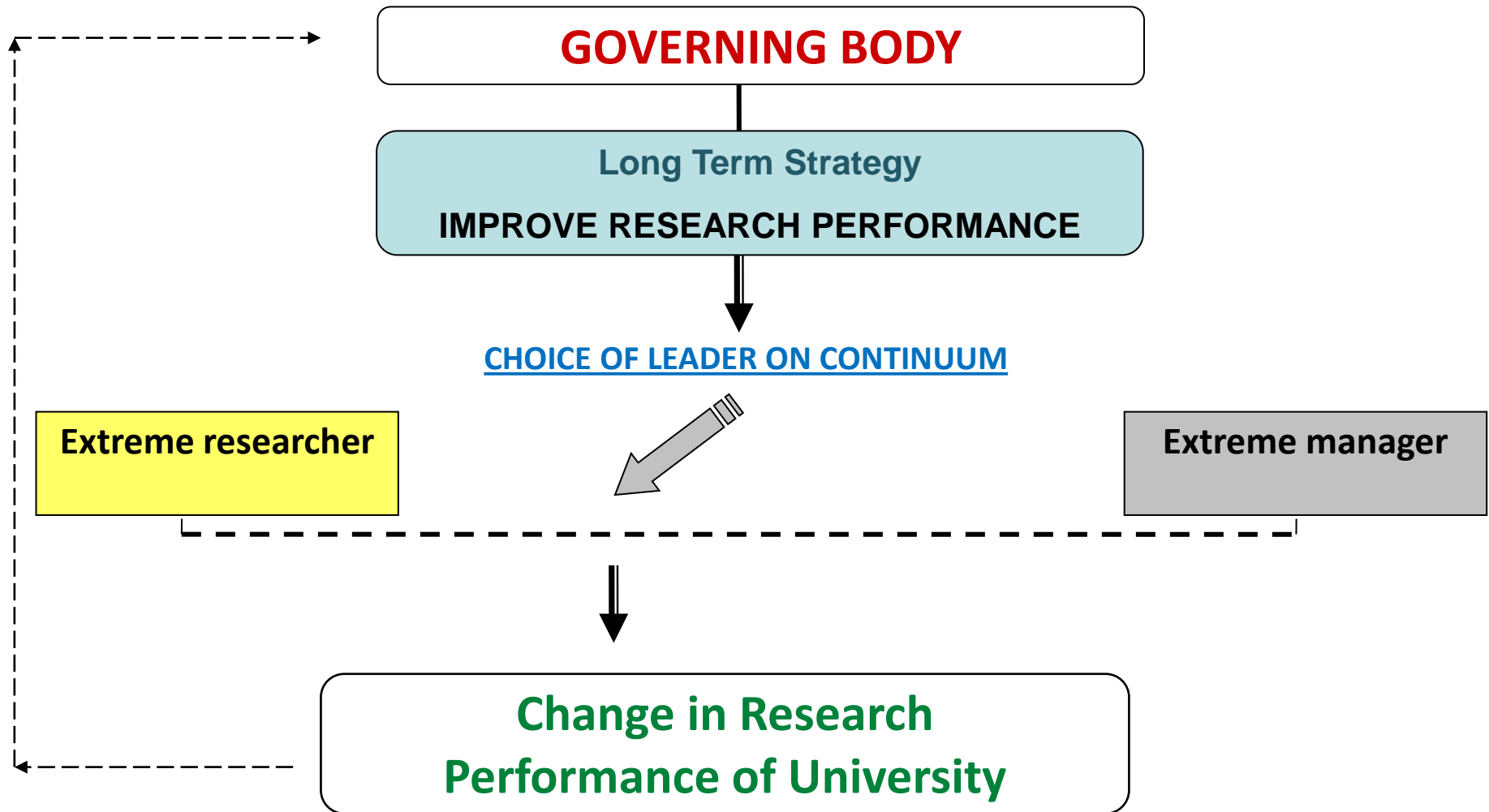


*Why Research Universities  
Should Be Led by Top Scholars*

AMANDA H. GOODALL

Socrates in the Boardroom: Why Research  
Universities Should be Led by Top Scholars,  
Princeton University Press, 2009

# Appointment of a Scholar on a Continuum between Extreme Researcher and Extreme Manager



# Scholarship is not a proxy

- **For management experience or leadership skills**

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# Scholarship is not a proxy

- **For management experience or leadership skills**
- **Most academic administrators in senior leadership positions are tenured professors – have led departments, run research centres and laboratories, acted as deans or provosts.**



# **Key Research Findings**

- 1. The best universities are led by top scholars.**

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- 1. The best universities are led by top scholars.**
- 2. Top scholars seem to improve the later performance of their university.**

# The Research

- **Two cross-sectional studies**  
100 top universities and 100 business schools

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- **Two cross-sectional studies**

100 top universities and 100 business schools

- **Longitudinal study**

Performance of 55 universities in the Research Assessment Exercise 1992, 1996 and 2001

# The Research

- **Qualitative data**

26 interviews with university leaders  
in the US and UK

# Stage 1 of research

**Who do the very top  
universities in the world  
appoint as their leaders?**

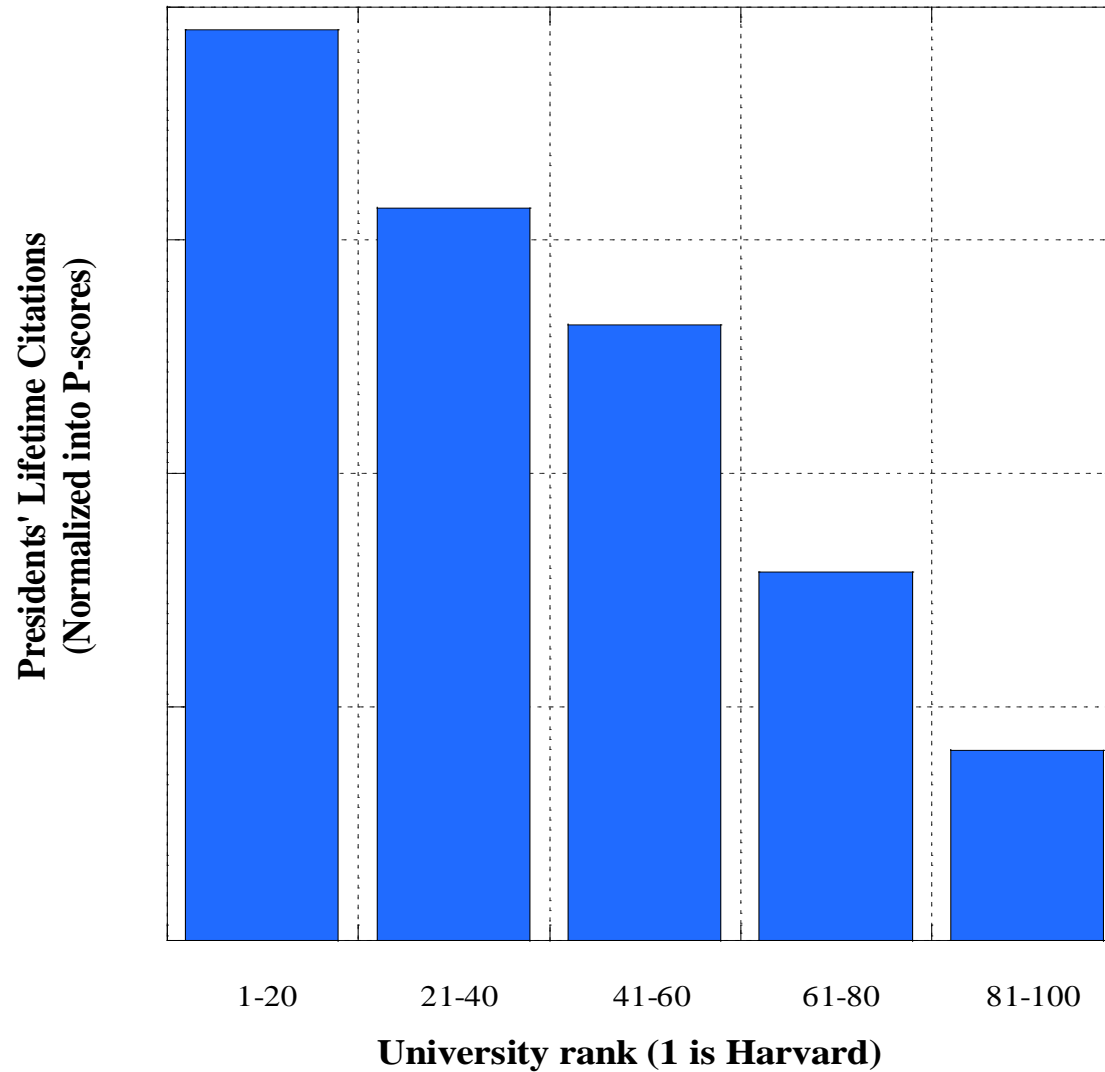
**Here I examine the  
relationship between the  
position of a university in a  
global ranking and the  
lifetime citations of its  
leader.**

# Conclusion 1

**The best universities are led  
by the most-cited researchers**



# A Cross-Tabulation of Presidents' Lifetime Citation P-scores by World University Rank (in quintiles)



**Is the finding statistically  
significant?**

# Results of Cross-Sectional Correlations of Presidents' Lifetime Research Citations by University Rank from Four Different Sub-Samples

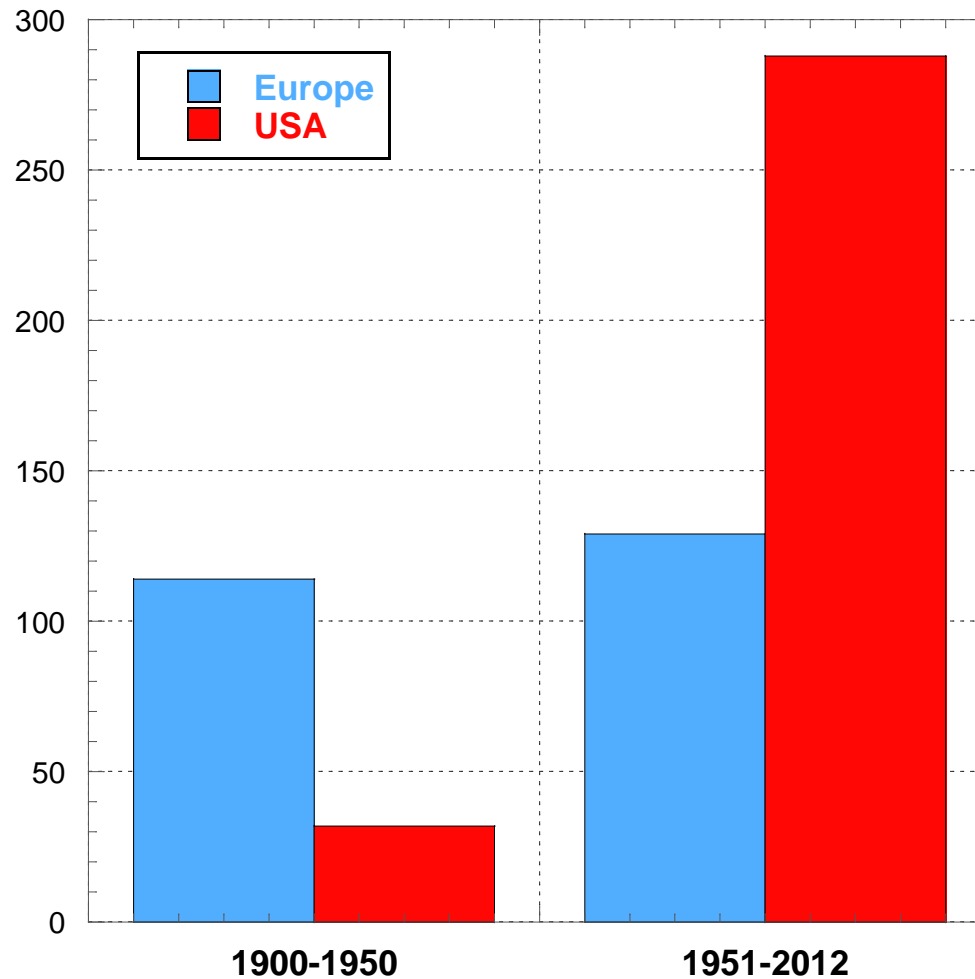
<i>Pearson's Correlation Coefficient between Lifetime Citations and Rank</i>	(1) Presidents of top 100 universities (n=100)	(2) Female presidents (n=15)	(3) US presidents (n=51)	(4) Presidents from the rest of the world (n=49)
	0.344***	0.690**	0.375**	0.140

\*\*\*p < 0.001    \*\*p < 0.01

**How do US universities  
compare with those in Europe?**

**The share of Nobel Prizes in the sciences has shifted towards the USA in the last 50 years**

**The rise in the number of US based Nobel Prize winners in physics, chemistry, medicine and economics between 1900-2012\***



\*European countries include: Austria, France, Germany, Italy, Netherlands, Sweden, Switzerland and UK.

**One third of US Nobel Prizes are awarded to individuals born outside the USA**

**320 prizes have gone to US institutions**

**219 winners listed as being born in the US  
– one third born outside.**

**1% of US universities and colleges has  
ever received a Nobel Prize**

**55 US universities approx. have won at  
least one prize (in addition to research  
labs and hospitals)**

**1% of the 4,500 degree-granting  
institutions in the US**





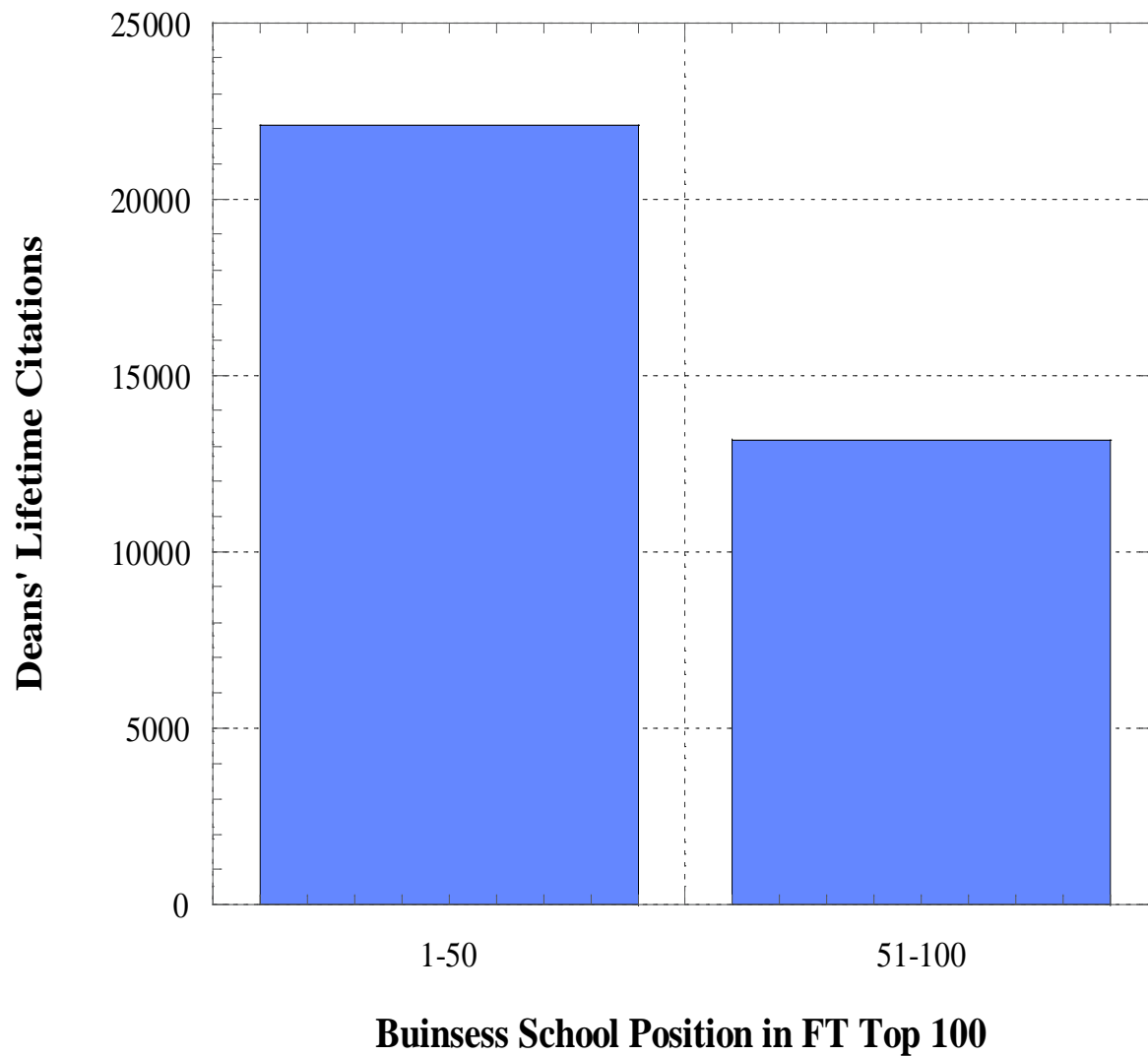
# What about business schools?



# Deans of Business Schools

**Deans in Financial Times Global  
MBA ranking 2005 of top 100  
business schools**

## Business School Deans' Life-time Citations in FT Top 100 ranking



**What evidence is there  
that academic leaders  
improve performance?**

**In part 2 of my study**

**Time lags have been  
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**I look at performance of  
a university a number of  
years after a leader is  
hired**

## **Universities and Leaders**

- Performance of 55 UK research universities**
- 147 university leaders**
- Citations normalised by discipline into P-Scores**

## **Performance Measurement**

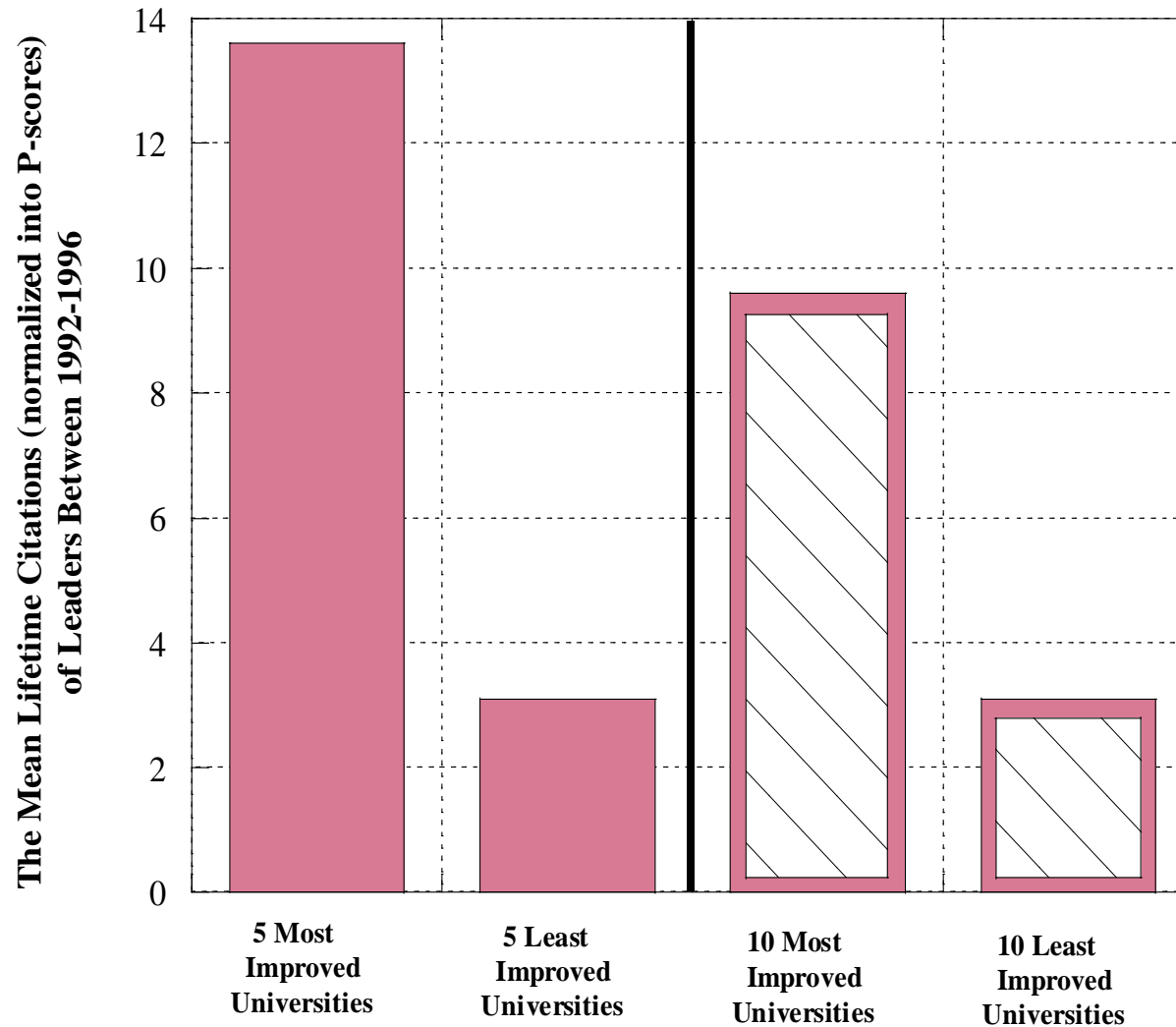
- Research Assessment Exercise (RAE)**
- Improvement over time in departments rated 5A\*, 5B\* and 5A in RAE**
- Across RAEs - in 1992, 1996 & 2001**



# Results

**The correlation exists in raw  
longitudinal data**

**Universities that Improved the Most in the  
RAE Between 1992-2001 Were Led by Vice  
Chancellors With Higher Lifetime Citations  
(n=55 universities)**



**Mainly I used multiple -  
regression equations with  
control variables to try to  
identify a causal association**

- **I control for the size of a university**
- **The discipline of a leader (scientist, social scientist or humanist)**
- **The age of a leader**

**What is the size of the effect of vice chancellors' research score on the future performance of their university's RAE?**

- A hypothetical 1 point move up in a VC's P-score is estimated to be associated with 0.4 extra top departments in 2001
- 0.3 extra departments when other variables are included

*NB: Mean P-Score = 5*

*Mean University Performance = 7*

# Conclusion

**The higher a president's lifetime citations, the more likely it is that their university will improve its performance in *future* Research Assessment Exercises**

**This kind of finding  
has been replicated,  
with co-authors, in  
other settings**





# Professional basketball

Star basketball players make better basketball coaches (Goodall, Kahn & Oswald, Journal of Economic Behavior and Organization, 2011).



# Formula 1 racing

With co-author Ganna Pogrebna -

After controlling for confounding variables, we find that the most successful team leaders in F1 motor racing are more likely to have started their careers as drivers.



# Empirical study of physician-leaders and hospital performance in the US

- Hospital CEOs – physicians or non-MD CEOs?

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- Hospital CEOs – physicians or non-MD CEOs?
- CEOs in the top-100 hospitals in Cancer, Digestive Disorders, and Heart & Heart Surgery. ('America's Best Hospitals' 2009 U.S. News and World Report)

# Empirical study of physician-leaders and hospital performance in the US

The higher a hospital's performance score, the more likely it is that its CEO is a physician.

Goodall, A.H. Social Science and Medicine, August 2011



# Current work – Chairs of US Economics Departments

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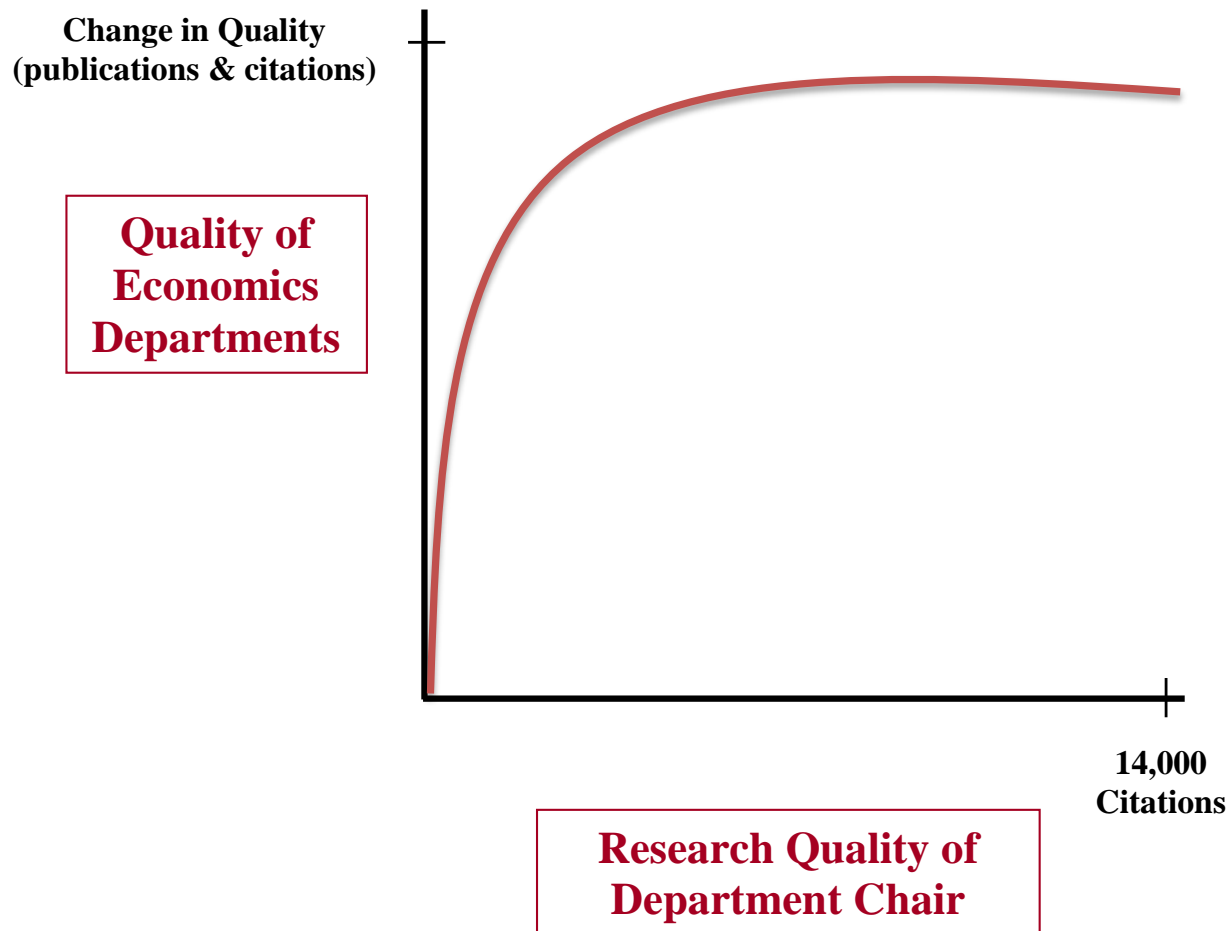
# Change in performance of US economics departments

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- We look at the change in performance of 67 US economics departments over 14 years.

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- We look at the change in performance of 67 US economics departments over 14 years.
- We find that departments go on to improve when they are led by top researchers.

# Change in the performance of US economics departments and their Chairs' citations



# **Why might it matter if a leader is a top scholar?**

Four possible explanations  
arose from interviews with  
26 heads in UK and US  
universities

## Explanation 1

**A leader must be credible to followers. An accomplished scholar appears more credible, which enhances a leader's influence.**

“The rationale for ranking academic excellence very highly is the enormous importance we place on the president having the respect of the faculty. Without that, it is very difficult to lead a research university.”

**Shirley Tilghman,  
President  
Princeton University**





## Explanation 2

**Leaders with high technical ability have developed expert knowledge about the organization's core business -- research and teaching.**

“A leader who is an academic helps to mobilize people. People are much more important in academic institutions than conditions. Everything in a university flows from the academic value of faculty.”

**Anthony Giddens,  
former Director LSE**



## Explanation 3

**It is the responsibility of leaders to set the academic standards.**

“Leaders are the final arbiters of quality. Therefore it is right to expect the standard bearer to first bear the standard.”

**Patrick Harker, former  
Dean, Wharton School  
Current President,  
Univ. Delaware**



## Explanation 4

**Selecting a top academic to lead a research university sends out a signal about priorities.**

“Being a researcher sends a signal to the faculty that you, the president, share their scholarly values and general understanding. It also sends an internal signal to colleagues that research success in the institution is important.”

**Amy Gutmann, President  
University of Pennsylvania**





**Denmark's research output has risen dramatically over the last 20 years.**

**How can it stay that way?**

**What advice might I pass  
on to Danish politicians?**





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on to Danish Politicians?**



**No. 1: Don't be tempted to control  
universities and research institutes  
through managers and managerialism.**

**Managers design systems that work well  
for other managers, not for academics.**

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**“We’ve got 57 team managers, 36 project coordinators, and 63 concept implementors—not bad for a company with only 18 employees!”**

**What advice might I pass  
on to Danish Politicians?**



**No. 2: If you want to maintain globally competitive research and innovation, ensure you have academics leading the institutions – your best academics.**

**Scholars know how to create the right environment to get the most out of other scholars.**

**Top scholars are more likely to hire other top scholars.**

# Like-for-like hiring or 'homophily'

# Weil's Law of university hiring:

**“First-rate people hire other first-rate people. Second-rate people hire third-rate people. Third-rate people hire fifth-rate people.” *André Weil, a French mathematician, mid 20<sup>th</sup> Century.***

# ***Not just in universities***

**Scholars should also lead bodies involved in higher education policy-making and funding.**

➤ **Research Councils**



➤ **Private trusts and foundations focused on funding research**



**What advice might I pass  
on to Danish Politicians?**



**No. 3: Academics will need incentives to become leaders, and hiring and holding onto the best faculty will require competitive conditions.**

This means inequality in top pay in universities.



# Tak

My work is available at:  
**[www.amandagoodall.com](http://www.amandagoodall.com)**