

# Economics at Warwick

WARWICK

## Professor Andrew Oswald

Professor of Economics and Behavioural Science

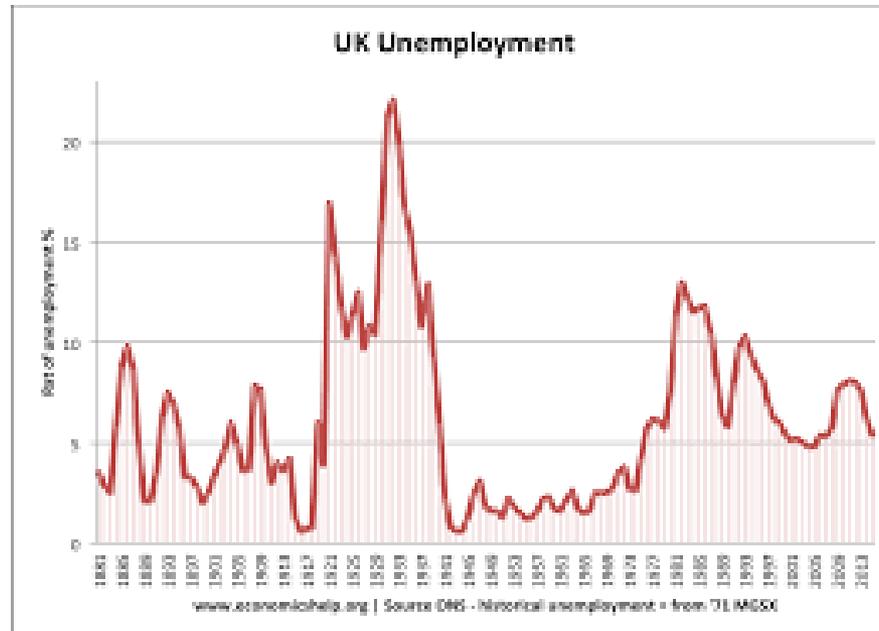


# Why study Economics?

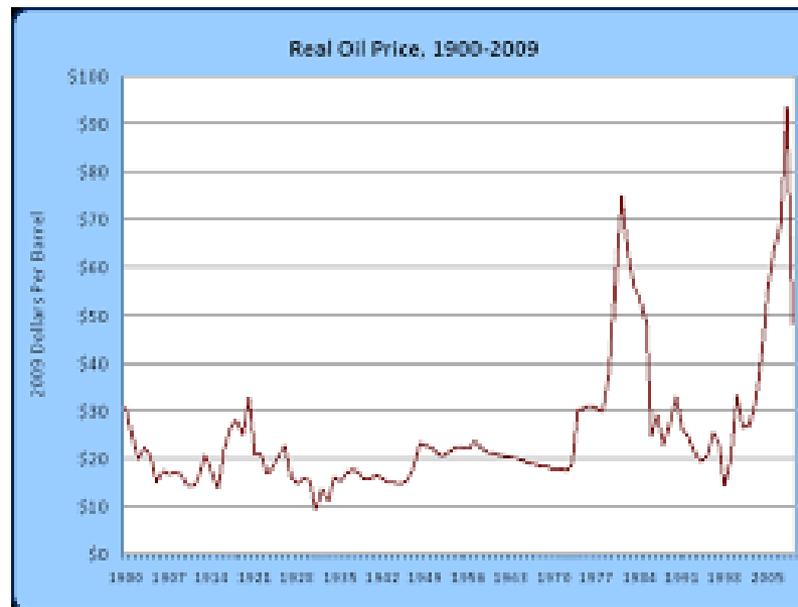
- ▶ I find it is just so interesting and relevant to life.



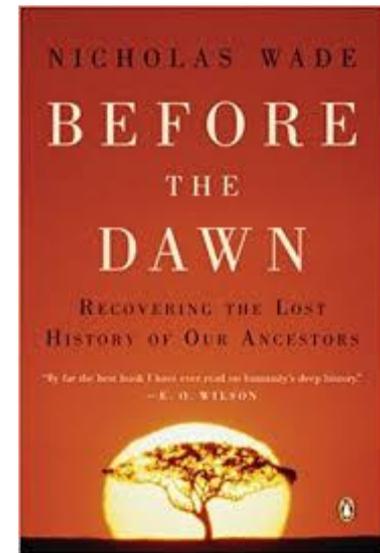
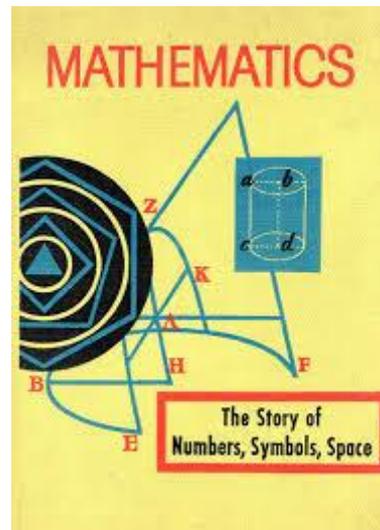
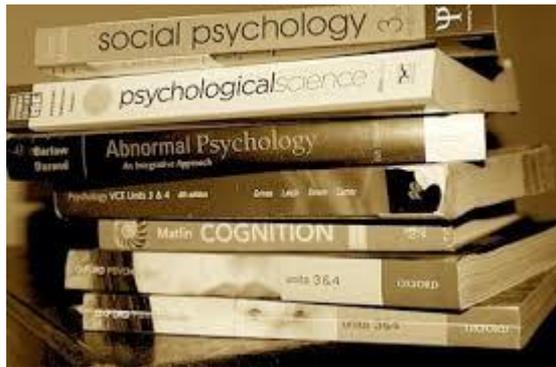
# The UK unemployment rate over 100 years



# Oil price fluctuations over time



- ▶ I enjoy the mixture of maths, psychology, history, statistics, and political science.



# Where to study Economics?

- ▶ My own advice would be: choose an environment in which you would be happy.
- ▶ I suggest you trust your instincts



# Special things about here

- ▶ Economic history in Year 1.
- ▶ A big Applied Economics dissertation in Year 3.
- ▶ It's a fairly mathematical course.



# Graduate Careers

## Recent graduate roles:

- ▶ Financial Analyst
- ▶ Web Content Editor
- ▶ Government Economist
- ▶ Diplomatic Consultant
- ▶ Investment Banking
- ▶ Lecturer
- ▶ Teacher
- ▶ Third Sector
- ▶ Policy Adviser

## Recent employers:

- ▶ Bank of England
- ▶ Civil Service
- ▶ Coca Cola
- ▶ Deloitte
- ▶ Ernst & Young
- ▶ HMRC
- ▶ Aston Martin
- ▶ The British Red Cross
- ▶ Solicitors Regulation Authority



# Admissions

## Entry requirements

**A Levels: A\*AA including Maths A Level**

**In case useful, to give you a  
flavour...**

Here's a clip from one of my own  
first-year lectures.



# Relative Comparisons and the Theory of Herd Behaviour

Ec 135 Hours 5+6

**Andrew Oswald**  
**University of Warwick**



**We need to understand ‘herd behaviour’ in markets (and life).**







***"Men ... think in herds; they go mad in herds, ... they only recover their senses slowly, and one by one."***

**C. Mackay**

**Extraordinary Popular Delusions  
and the Madness of Crowds, by  
Charles MacKay, published in  
1841.**

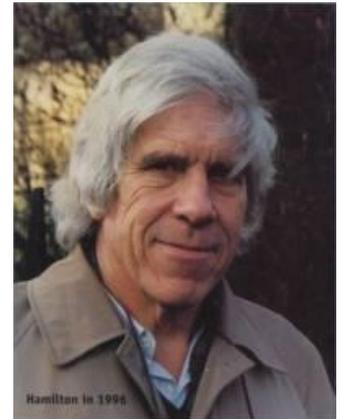
**Far from the Madding Crowd, by  
Thomas Hardy, published in 1874.**

**Herd behaviour is very often natural and individually rational. But it has the potential to be dangerous for the group.**



# The classic article on real herd behaviour:

- **Hamilton, W. D. (1971). "Geometry for the Selfish Herd". *Journal of Theoretical Biology* 31 (2): 295–311.**



***So why does herding happen?***



**When a T Rex dinosaur comes in the room, it is your relative position that matters.**

# *Hamilton argued:*

**A rational animal clusters with the others – because its relative position is what matters.**



**For biologists and zoologists,  
Hamilton's is now the dominant  
theoretical explanation for herd  
behaviour.**

**Before getting to equations,  
let's start with simple economic  
evidence.**

**5 dollars**



**500000 dollars**



**“A watch defines a man's look and tone.” Rolex advert.**



# ps: A recent online bargain offer

- Retail Price: \$179,300.00  
Condition: Unused with Blancpain box
- **\$143,500.00**  
You save 20% (\$35,800.00)
- **FREE DELIVERY**



**Subconsciously, humans seem frightened of falling behind.**



**Surely humans are trying to buy  
'status' or relative position.**



**We are now able to look  
inside the brain.**

# Armin Falk et al



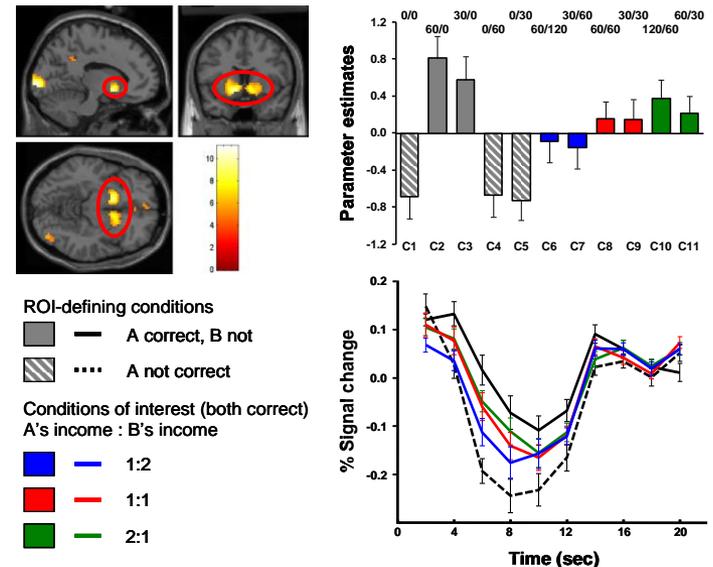
# Armin Falk et al

**While being scanned in adjacent MRI scanners, pairs of subjects had to perform a task with monetary rewards for correct answers.**



# Falk et al in Science and JPubEcon

- “The mere fact of outperforming the other subject positively affected reward-related brain areas.”



**So, inside your brain**

**You simply want to be high up  
the monkey pack**



*It has been found statistically that*

**Relative-income variables show up consistently in well-being equations.**

*E. Luttmer, Quarterly Journal of Economics 2005*

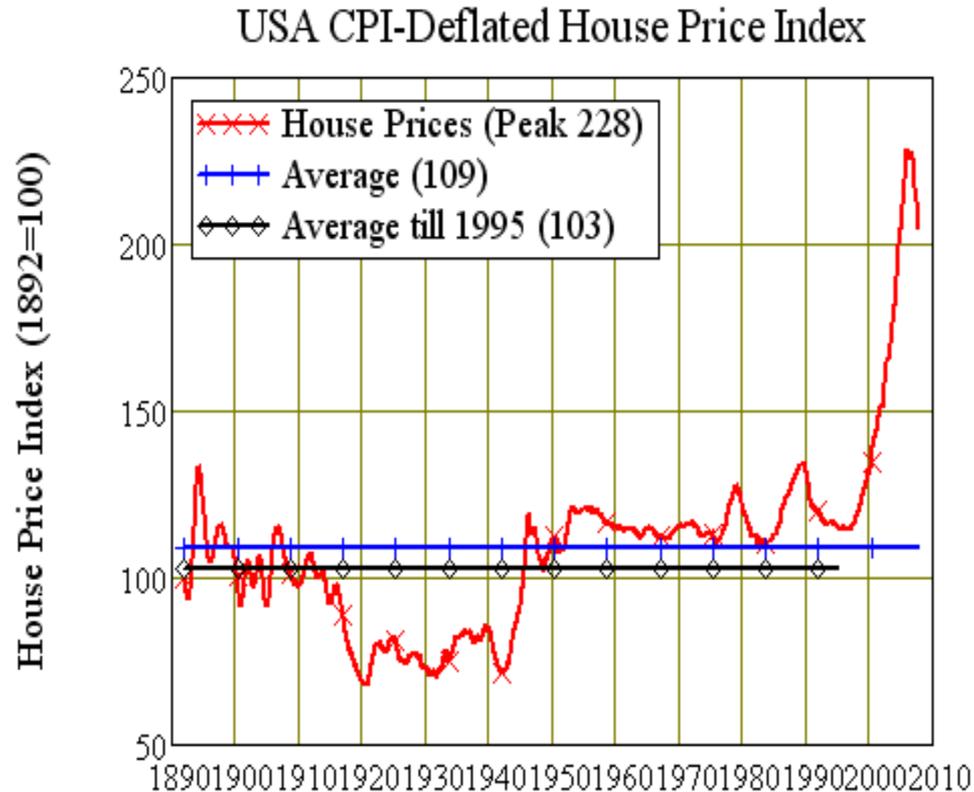
*A. E. Clark et al, JPubEcon 1996, JELit 2008*

*GDA Brown et al, Industrial Relations 2008 and Psychological Science 2010*

*D. Card et al, NBER paper, 2011.*

**Why would we care about these things?**

# Real house prices in the United States over the century



# The dotcom bubble: 2000-1



**But potentially this issue goes far beyond economics.**

# The hair 'bubble'



# Hat mania



# Peers and health choices

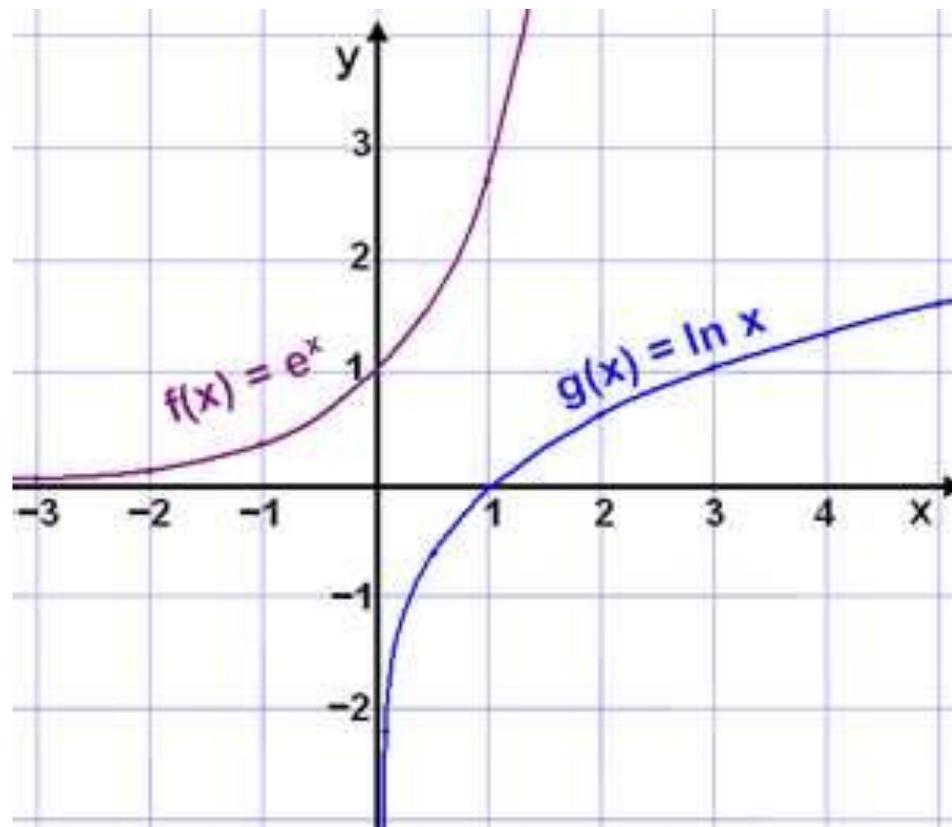


# Social norms in other ways



**Now let's think of the likely mathematics.**

**Much in the next few slides will rest on whether the happiness from status is accelerating or decelerating.**



# Assume

***Utility or 'happiness' depends on relative status according to a function  $v = v(\cdot)$ .***

**We now show:**

**Then if  $v$  is concave (*convex*) in status, it is rational to act similarly to (*deviantly from*) the herd.**

**$v''(a - a^*) \leq 0$     *I do the same  
as you***

**Then if  $v$  is concave (*convex*) in status, it is rational to act similarly to (*deviantly from*) the herd.**

**$v''(a - a^*) \geq 0$     *I do the opposite of you***

**So what?**

**Why might it matter to social scientists if utility depends on relative things?**

# Is this a rational future?



**A second possibility: excessive herding.**

**In financial markets, people are now routinely rewarded in a way that depends on their relative performance.**

# That's dangerous:

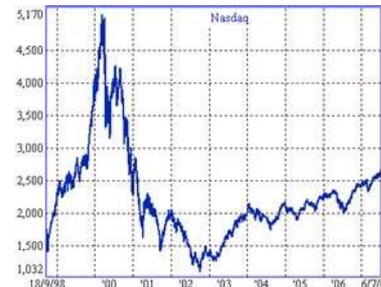


# When rewards depend on your relative position

it will routinely be

- (i) dangerous to question whether the whole group's activity is flawed
- (ii) rational simply to compete hard within the rules that govern success.

*Correct dotcom analysts were fired.*



***To conclude***

# The main ideas in this lecture

1. Imitation is central to human life.
2. It is often driven by relative feelings; this links it to biology and real herds.
3. The crucial parameter is  $v'(a - a^*)$ .
4. We need to understand herd behaviour better in social science.
5. The madness of crowds will be back.



# Relative Comparisons and the Theory of Herd Behaviour

Ec 135 Hours 5+6

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**University of Warwick**

Downloadable research: [www.andrewoswald.com](http://www.andrewoswald.com)



**Returning to today...24<sup>th</sup> June  
2017.**

**I really like Warwick and am proud to be part of the Department. We all hope you enjoy the day.**



**Best of luck with everything.**

**Prof. Andrew Oswald  
Open Day 2017**

*Research papers downloadable at [www.andrewoswald.com](http://www.andrewoswald.com)*