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A-LEVEL ECONOMICS

COURSE INTRODUCTION

Possibly without realising it you are already an active part of the global economic system: whether you are buying clothes that cost 50 percent more than their manufacturing cost, lamenting the price of petrol, paying more for flights at the weekends, not getting paid enough for your weekend job, employing someone else to do your homework, avoiding your taxes or wondering just why some people are far richer than you. Well, what better way to stay afloat, get ahead or help others than by studying economics?

Studying economics will help you understand why prices fluctuate, where your taxes go, how government legislation can push people to change their spending habits (or not), why some companies dominate their market, how global or societal changes like climate change and ageing can have an impact on a country's economy, why people fight for resources and why certain economies grow faster than others.

You will also learn how to analyse complex issues, create strategies, monitor the political climate, understand commercial incentives, problem solve, interpret statistics and data, explain your ideas clearly and be ready for any eventuality – all highly desirable and transferable skills.

Economics is an intellectually challenging subject that universities hold in high regard. The answers to these questions will provide an insight to the strategies of some of the most successful organisations in the world. A-level economics is not only a qualification; it's a handbook for anyone thinking of entering the complex world of commerce.

"Economics is everywhere, and understanding economics can help you make better decisions and lead a happier life."

Tyler Cowen, economics professor and New York Times columnist.

In the first year, you will be introduced to the basic economic problem of scarcity, unlimited wants, and how the market allocates scarce resources. You will consider the government's role in managing the economy and how it achieves the macroeconomic objectives of economic growth, reducing unemployment, and equality in the distribution of income.

In the second year, you learn about the economics of business behaviour. For example, you will study how firms make price and output decisions and how the behaviour of one firm is affected by the actions of another. You will also study global economics and consider issues such as trade, globalisation, and development. Furthermore, you will learn about the role of banks and financial markets in the global economy.

Throughout the course you will develop knowledge of the main economic trends over the past 25 years and be able to compare recent and historical economic events. You will also be introduced to different economic thinkers and look at how these thinkers have influenced economic policy and debate.

Expectations of you

The economics A-level course is the next step after successfully completing GCSEs. A-levels are designed to build on your previous learning and knowledge and assist you in developing the necessary skills to complete the course. In order for you to excel at A-Level and achieve your targets, you need to acknowledge and agree to the following;

- Attendance = attainment. Attend all lessons, arrive on time and bring all the necessary equipment and resources. Do not book appointments during lesson hours.
- Work to the best of your ability in class and focus on the lesson
- Listen respectfully to the views of other students and consider how your own views are developing
- Complete all homework on time this includes printing out resources
- Keep up-to-date with economics in the news either online or via newspapers
- Complete all necessary research (as directed)
- Make sure you check your emails and are part of the relevant email groups for additional resources and tasks.
- Attempt all work. If you are unsure of what to do, of course you may ask questions, but you must develop greater independence
- Take advantage of any spare time to work develop your ideas or seek help on areas you're unsure of
- Keep to deadlines!

Essential summer reading

There is an official textbook (covering the AS and A Level units) available for you to read ahead and develop an initial understanding of our topics.

We study for the AQA exam board qualification, use their website to see the specification. http://www.aqa.org.uk/subjects/economics/as-andalevel/economics-7135-7136



And you can look online at additional resources, especially here: www.tutor2u.net/economics

Check the BBC News website for breaking news under the 'UK economy' tab once a week. Alternatively, the school has free Financial Times online access via the following link: <u>https://www.ft.com/corp-signup/join?token=36fddb98-6bc1-4a7e-a735-3109a4e044a6</u> (Please note that you must be on the school's network to access this link.

Print off stories that link to specific areas of the course, read and annotate them, and add to your file at the relevant point. Keeping up-to-date with current affairs is essential for Business Studies and we expect students to regularly read newspapers and magazines, and watch programmes like Newsnight and Question Time.

Task to be completed

If you've just finished your GCSE in Business Studies, you'll be familiar with the exam technique and structure.

The following tasks are designed to develop your exam technique for A-level standard, highlight your current strengths in writing and developing an answer and provide you with an example of the types of questions you may be asked in an A-Level economics exam. You should attempt to answer all of the questions (the multiple choice questions have come from a past A-Level paper!) Questions and terminology you are unfamiliar with should be researched and an answer must be given for all questions.

Section One

Multiple choice questions. Highlight one answer from the possible options – you may have to look up some of the terms and theory. Answer all ten questions.

1	 Which one of the following applies to merit goods? 	
	a) Their marginal private benefit is greater than their marginal social benefit.	
	b) They are likely to be provided by the market.	
	c) They can only be supplied by the government.	
	d) They have the characteristics of non-excludability and non-rivalry.	

At the start of the financial year, an economy's national debt stands at £1000 billion. Over the course of the year, the government plans to spend an extra £100 billion and borrow an extra £40 billion. If the government achieves its spending and borrowing targets, by the end of the financial year the national debt will have increased by...
a) 4%
b) 10%
c) 14%
d) 40%

. All other things being equal, an increase in the ratio of capital to labour resulting from an increase in investment is most likely to lead to a	
a) Decline in labour productivity.	
b) Fall in the size of the labour force.	
c) Negative demand-side shock to the economy.	
d) Supply-side improvement.	

4.	. Which one of the following indicates a contractionary monetary policy?	
	a) Fall in the budget deficit.	
	b) A rise in the money supply.	
	c) An increase in the national debt.	
	d) Appreciation of the exchange rate.	

5. The following table shows the planned changes to injections into and withdrawals from the circular flow of income for one year.

	£bn
Exports	19
Government expenditure	29
Imports	20
Investment	35
Savings	26
Taxation	32

Other things remaining the same, these changes would cause...

a) Consumer expenditure to decrease.	
b) National income to increase.	
c) The balance of trade deficit to decrease.	
d) The budget deficit to rise.	

6. A government wants to increase the economy's rate of long-run economic growth by implementing a supply-side policy. Which one of the following is a government policy aimed at stimulating the supply side of the economy?
a) A new scheme to help young people buy their own homes.
b) Greater provision of care homes for the elderly.

c) Measures to promote competition between businesses.

d) More generous welfare benefits for unemployed workers.

7. A government reduces its budget deficit. Other things remaining the same, the most likely short-run impact of this policy is...
a) A reduction in the current account deficit.
b) A reduction in unemployment.
c) An increase in the rate of economic growth.
d) An increase in the rate of inflation.

8.	The central purpose of the production of goods and services is to	
	a) Achieve more technological innovation.	
	b) Maximise exports.	
	c) Maximise profits.	
	d) Satisfy consumer wants.	

In an economy, competitive firms supply electricity that is generated using coal-fired power stations. If the government tries to reduce pollution by imposing an indirect tax on the firms, this would...

1. Shift the market demand curve to the left.	
2. Shift the market demand curve to the right.	
3. Shift the market supply curve to the left.	
4. Shift the market supply curve to the right.	

10. The price elasticity of demand (PED) for petrol used by car drivers in an economy is estimated to be –0.2. Which one of the following is the most likely reason for the low PED?	
a) A tax on petrol	
b) Cycle lanes on many roads	
c) Few bus and rail services	
d) Low household incomes	

Section Two

Case study and research. Read the case study, look up relevant theorists and answer all five questions. Remember – think PEAL (and look at videos on Tutor2U or Taking The Biz on YouTube on how to maximize marks for 16-25 mark questions).

Cleaning up in China

2014 seems the year for China to get serious about industrial pollution. For several years, air pollution in Beijing and Shanghai has been an embarrassment to the Chinese government. The main problem is PM2.5 (Particulate Matter)¹ which can be dangerous to breathe – especially when mixed with smoke and fog to form 'smog'.

Now the Chinese state is clamping down on pollution from the steel industry. In the past, Chinese steel has been smelted from low-grade iron ore. This emits far more pollutants than the higher-grade, more expensive ores. In the steel-making regions near to Beijing, steel plants are under pressure to comply with new air pollution standards following several summer smog crises in 2013. As a result, they are buying higher quality ore that can be loaded into blast furnaces without 'sintering', a process that is a major source of carbon dioxide and other pollutants.

The US embassy in Beijing regularly reports on the level of PM2.5. For 1st February 2014 its reading was 225 on the Air Quality Index, which registered as 'very unhealthy'. In the summer, readings can rise to 500, which is 'hazardous', meaning that 'everyone should avoid outdoor exertion'. In the short-term these levels of pollution represent a risk to health; in the longer term they contribute to greenhouse gas emissions and therefore, perhaps, to global warming.

In 2000 China made 15% of the world's steel. By 2013 that figure had risen to 48%. Because China makes nearly half the world's steel, it buys half the world's iron ore. So purchasing decisions can move markets. The price of high-grade iron ore has moved from a premium of \$8 per tonne in mid-2013 to \$18 in early 2014. For top-grade iron ore the price premium has jumped from \$10 to \$40. As the base price of iron ore is around \$120 a tonne, these price premiums are significant – especially as steel is a commodity, i.e. a homogenous product. For some years China has been trying to diversify its purchases of iron ore away from its 70% dependence on high-cost Australia and Brazil. The move to buy higher-grade iron ore undermines that – as these two countries dominate production of higher-grade ores.



Note:

1. Air pollution in China

The US embassy in Beijing regularly reports on the level of PM2.5. For February 1st 2014 its reading was 225 on the Air Quality Index, which registered as 'very unhealthy'. In the summer, readings can rise to 500, which is 'hazardous', meaning that 'everyone should avoid outdoor exertion'. In the short-term these levels of pollution represent a risk to health; in the longer term they contribute to greenhouse gas emissions and therefore, perhaps, to global warming.

Section Two

Answer all five questions. There are thirty marks available; we recommend you spend 35-40 minutes answering these questions.

Question 1

From the graph, explain the changes that have happened to the price of iron ore between January 2004 and December 2013. (5 marks)

Question 2

Use a diagram to help explain why the price premium on top grade iron ore rose to \$40 in early 2014. (6 marks)

Question 3

Outline the positive and negative externalities that would have arisen in China as a result of the remarkable growth of its steel industry. (5 marks)

Question 4

In the circumstances outlined in the article, what is the significance of the statement that steel is 'a homogenous product'. (5 marks)

Question 5

In China, a pollution problem can be addressed by the government telling steel plants to reduce pollution. In a free market system how might this market failure be addressed? Use a diagram to support your argument. (9 marks)

Section Three

Numeracy tests – you may have to look up some of the terms and theory. Answer all thirty questions.

- 1. Milano's Pizza is a large-scale frozen pizza manufacturer based in Newcastle. They have 4 pizza machines. 1 machine can make 500 margarita pizzas an hour OR 400 ham and pineapple pizzas per hour. The manager currently has 2 machines making margarita pizzas and 2 machines making ham and pineapple pizzas. Assuming there are no defects or production problems, what is the maximum number of pizzas the firm makes in 12 hours.
- 2. The regional demand for Milano's ham and pineapple pizzas increases after two prominent Newcastle footballers post a photo of themselves on Instagram eating them. To satisfy the extra demand, the manager at Milano's decides that she will use 3 machines to make ham and pineapple pizzas and 1 machine to make margarita pizzas. Calculate the new maximum number of pizzas made in 12 hours.
- 3. After a few weeks, the manager decides that the only way she can cope with the surging demand is to buy 2 more machines (6 in total). She uses 1 to make margarita pizzas (2 in total) and 1 to make ham and pineapple pizzas (4 in total). Calculate the percentage change in production in both types of pizza.
- 4. Geoff sells a house for £650,000 in Harrogate. The estate agent is paid 1.5% of the selling price for her services. **Calculate how much she is paid**.
- 5. Geoff buys a new 1-bed apartment in London with the proceeds from his house sale in Harrogate. The apartment costs him £500,000 to buy. This time he has to pay Stamp Duty tax on his purchase. Stamp Duty at this price is 3%. How much tax does he pay?
- 6. Over the next five years, London house prices go up by 45%. House prices in Harrogate decrease by 1.25%
 - i) Calculate how much Geoff's London apartment is worth five years later.

ii) Calculate how much his house in Harrogate would have been worth if he hadn't sold it.

7. A and B are two points on a straight line. If we move from A to B, how many X units do we gain and how many Y units do we lose?



8. Calculate the area of each of the shaded rectangles.



9. The gradient does not change but the relationship between Y and X changes. At each amount of Y there are now 400 more units of X. Adapt the diagram above to illustrate the change.



10. The owner of a small carpet cleaning business looks at the annual salaries of his five employees.

Employee 1 (duty manager)	£32,000
Employee 2	£14,000
Employee 3	£14,000
Employee 4	£16,000
Employee 5	£18,000

i) Calculate the total expenditure on labour costs.

ii) Calculate mean average and median average salary for the five employees.

11. The boss hires a sixth employee to the business. The employee is highly experienced and very skilled. As a result, she commands a relatively high salary of £26,000.

i) Calculate the extra cost of the additional employee.

ii) Calculate the change in the mean average salary in the business.

iii) Calculate the new median average salary for the employees of the carpet cleaning business.

- 12. A British-made car costs £20,000. The current exchange rate is £1 (UK pound) to \$1.30 (US dollars). 6 months ago, the exchange rate was £1 to \$1.50. Calculate how much the £20,000 car costs in US dollars i) now and ii) 6 months ago.
- 13. The exchange rate of UK pounds (£) to Euros (€) changes from £1 = €1.10 to £1 = €1.25.
 - i) Calculate the percentage increase of $\in 1.1$ to $\in 1.25$.

 ii) Calculate the UK price (£) of a €500 washing machine made in Italy, after the exchange rate change.

14. Of the selected countries in the graph below, i) what percentage of UK migrants live in Spain?



ii) Compare the number of UK migrants living in Ireland compared to the number living in Portugal.

15. The graph shows the number of people in work in the UK over time.



i) Calculate the percentage change from the lowest point to the highest point.

ii) Assuming the UK population was constant at 63m throughout this period (it wasn't, but assume it was!), calculate the number of people in work as a percentage of the population in both 2008 and 2014.

- 16. Simon owns a small juice bar. His two most popular juices are 'red juice' and 'green juice'. Each juice has different ingredients. The cost of ingredients for 'red juice' is 60p per juice. The cost of ingredients for 'green juice' is 40p per juice. Simon sells 50 'red juices' and 80 'green juices' per day. Calculate the daily cost of making the two juices.
- 17. The price of each juice drink is £2.30. Assuming Simon sells the quantities stated in Q1,
 i) Calculate how much revenue Simon earns in one day from selling 'red juice and 'green juice'. (revenue = price x quantity)

ii) Using your answer from Q16, then **calculate the profit Simon makes** (profit = revenue – costs).

- 18. Simon decides to increase the price of his juice drinks by 20%. Sales of 'red juice' fall by 10% and sales of 'green juice' fall by 5%. **Calculate Simon's new level of revenue.**
- 19. Income tax in the UK is applied in bands. Nobody pays tax on the first £11,850 that they earn. People pay 20% tax on the next £34,500 earned above £11,850. People pay 40% tax on the next £103,659 after that. If Evelyn earns £60,000 per year as a lawyer, **prove that she has to pay £12,360 in income tax.**
- 20. If the top rate of tax increases to 50%, calculate
 - i) how much tax Evelyn pays now
 - ii) how much income she has left over after paying her income tax.

Assume that Evelyn's income does not change and the other tax bands remain the same.

21. Nomo takes a loan from a payday company. Nomo takes a £300 loan at 0.8% per day. *How much will Nomo owe the lender after a week?*

22. A and B are two points on a straight line.



If we move from A to B, how many Y units do we gain and **how many X units do we** lose?

23. The gradient does not change but the relationship between Y and X changes. For every value of Y there are now 50 fewer units of X.



Adapt the diagram above to illustrate the change.

24. A currency investor thinks that she can make a profit by buying Russian Roubles. She exchanges $\pounds 10,000$ to Roubles when the exchange rate is $\pounds 1 = 96$ Roubles. Later in the year, the exchange rate changes to $\pounds 1 = 55$ Roubles and she changes her Roubles back to Pounds. **How much profit did she make?**

- 25. George likes to spend his income in the same way every month; 20% savings; 40% necessities and household bills, 10% on watching football, 30% on luxuries. If George earns £28,000 a year (after tax), calculate how much he spends on these 4 areas per year.
- 26. Income decile group is a way of splitting up the population for statistical analysis: imagine lining up the population from poorest to richest; income decile group 1 would contain the poorest 10% of people, income decile group 2 would contain the next poorest 10%, and so on.



i) Calculate the mean average expenditure on transport of the lowest 3 income deciles.

ii) Calculate the mean average expenditure on transport of the highest 3 income deciles.

27. The table below shows the total output figures for a firm as it adds more workers to its production process. Fill in the right-hand column.

Workers	Total Output	Output per worker
1	18	
2	24	
3	36	
4	44	
5	48	

- 28. Gunter brews beer. He brews 100 pints of beer per week. Rosa makes wine. She bottles 125 bottles of wine per week. However, Gunter likes wine and Rosa likes beer. So, they agree to trade. They trade at a ratio of 5 beers: 2 wine. Every week Gunter trades 20 pints of beer for bottles of wine. After 4 weeks, how many pints of beer and bottles of wine does Gunter have?
- 29. Canada has a population of 36.2 million people. Canada has a total national income of \$1.6 billion. **Calculate the average income per person.**



30. The chart below shows Government spending by area 2015/16:

Total Government spending in the 2015/16 financial year was £722bn. **Calculate** the % of Government spent on Social Protection, Health and Education in that year.

Section Four

Read and review. Read the four news articles provided below and write a 200 words synopsis for each one.

Systemic Risk

By Investopedia | Updated September 02, 2014

DEFINITION

The possibility that an event at the company level could trigger severe instability or collapse an entire industry or economy. Systemic risk was a major contributor to the financial crisis of 2008. Companies considered a systemic risk are called "too big to fail." These institutions are very large relative to their respective industries or make up a significant part of the overall economy. A company that is highly interconnected with others is also a source of systemic risk. Systemic risk should not be confused with systematic risk.

INVESTOPEDIA EXPLAINS

Federal government uses systemic risk as a justification to intervene in the economy. The basis for this intervention is the belief that the federal government can reduce or minimize the ripple effect from a company-level event through targeted regulations and actions. For example, the Dodd-Frank Act of 2010, an enormous set of new laws, is supposed to prevent another Great Recession from occurring by tightly regulating key financial institutions to limit systemic risk.

Lehman Brothers' size and integration into the U.S. economy made it a source of systemic risk. When the firm collapsed, this event created problems throughout the financial system and the economy. Capital markets froze up while businesses and consumers couldn't get loans, or could only get loans if they were extremely creditworthy, posing minimal risk to the lender.

Simultaneously, AIG was also suffering serious financial problems. Like Lehman, AIG's interconnectedness with other financial institutions made it a source of systemic risk during the financial crisis. AIG's portfolio of assets tied to subprime mortgages and its participation in the residential mortgage-backed securities market through its securities-lending program led

to collateral calls, a loss of liquidity and a downgrade of AIG's credit rating when the value of those securities dropped. While the U.S. government did not bail out Lehman, it decided to bail out AIG with loans of more than \$180 billion, preventing the company from going bankrupt. Analysts and regulators believed that an AIG bankruptcy would cause numerous other financial institutions to collapse as well.

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The Default Choice, So Hard to Resist

By Steve Lohr, October 15, 2011 **The New Hork Times**

In the wide-open Web, choice and competition are said to be merely "one click away," to use Google's favorite phrase. But in practice, the power of digital distribution channels, default product settings and traditional human behavior often matters most.

In a Senate hearing last month about Google, Jeremy Stoppelman, the chief executive of Yelp, pointed to that reality in his testimony. "If competition really were just 'one click away,' as Google suggests," he said, "why have they invested so heavily to be the default choice on Web browsers and mobile phones?"

"Clearly," he added, "they are not taking any chances."

Indeed, Google made a big bet early in its history: In 2002, it reached a deal with AOL, guaranteeing a payment of \$50 million to come from advertising revenue if AOL made Google its automatic first-choice search engine — the one shown to users by default. Today, Google pays an estimated \$100 million a year to Mozilla, coming from shared ad revenue, to be the default search engine on Mozilla's popular Firefox Web browser in the United States and other countries. Google has many such arrangements with Web sites.

Most economists agree that Google's default deals aren't anticompetitive. Rivals like Bing, the general search engine from Microsoft, and partial competitors like Yelp, an online review and listing service for local businesses, have their own Web sites and other paths of distribution. Choice, in theory, is one click away.

But most people, of course, never make that single click. Defaults win.

The role of defaults in steering decisions is by no means confined to the online world. For behavioral economists, psychologists and marketers, defaults are part of a rich field of study that explores "decision architecture" — how a choice is presented or framed. The field has been popularized by the 2008 book "Nudge," by Richard H Thaler, an economist at the

University of Chicago and a frequent contributor to the Sunday Business section, and Cass R. Sunstein, a Harvard Law School professor who is now on leave and is working for the Obama administration. Nudges are default choices.

In decision-making, examples of the default preference abound: Workers are far more likely to save in retirement plans if enrolment is the automatic option. And the percentage of pregnant women tested for H.I.V. in some African nations where AIDS is widespread has surged since the test became a regular prenatal procedure and women had to opt out if they didn't want it.

A study published in 2003 showed that while large majorities of Americans approved of organ donations, only about a quarter consented to donate their own. By contrast, nearly all Austrians, French and Portuguese consent to donate theirs. The default explains the difference. In the United States, people must choose to become an organ donor. In much of Europe, people must choose not to donate.

Defaults, according to economists and psychologists, frame how a person is presented with a choice. But they say there are other forces that make the default path hard to resist. One is natural human inertia, or laziness, that favors making the quick, easy choice instead of exerting the mental energy to make a different one. Another, they say, is that most people perceive a default as an authoritative recommendation.

"All those work, and that is why defaults are so powerful," says Eric J. Johnson, a professor at the Columbia Business School and co-director of the university's Center for Decision Sciences.

The default values built into product designs can be particularly potent in the infinitely malleable medium of software, and on the Internet, where a software product or service can be constantly fine-tuned.

"Computing allows you to slice and dice choices in so many ways," says Ben Shneiderman, a computer scientist at the University of Maryland. "Those design choices also shape our social, cultural and economic choices in ways most people don't appreciate or understand." Default design choices play a central role in the debate over the privacy issues raised by marketers' tracking of online consumer behavior. The Federal Trade Commission is considering what rules should limit how much online personal information marketers can

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collect, hold and pass along to other marketers — and whether those rules should be government regulations or self-regulatory guidelines.

Privacy advocates want tighter curbs on gathering online behavioral data, and want marketers to have to ask consumers to collect and share their information, presumably in exchange for discount offers or extra services. Advertisers want a fairly free hand to track online behavior, and to cut back only if consumers choose to opt out.

New research by a team at Carnegie Mellon University suggests the difficulty that ordinary users have in changing the default settings on Internet browsers or in configuring software tools for greater online privacy. The project, called "Why Johnny Can't Opt Out," has just been completed and the results have not yet been published. Forty-five people of various backgrounds and ages in the Pittsburgh area were recruited for the study.

To qualify as research subjects, they had to be frequent Internet users and express an interest in learning about protecting their privacy online. Each was interviewed for 90 minutes, and each watched a video showing how online behavioral advertising works.

Then, each person was given a laptop computer and told to set privacy settings as he or she preferred, using one of nine online tools. The tools included the privacy options on browsers like Mozilla Firefox and Microsoft's Internet Explorer, and online programs like Ghostery and Adblock Plus, as well as Consumer Choice from the Digital Advertising Alliance.

The privacy tools typically proved too complicated and confusing to serve the needs of rankand-file Internet users.

"The settings they chose didn't block as much as they thought they were blocking, often blocking nothing," says Lorrie Faith Cranor, a computer scientist at Carnegie Mellon who led the research.

Ms. Cranor says the research points to the need to simplify privacy software to few choices. "If you turn it on, it should be pretty privacy-protective," she says. "The defaults are crucial."

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The nudge unit – has it worked so far?

Since 2010 David Cameron's pet project has been tasked with finding ways to improve society's behaviour – and now the 'nudge unit' is going into business by itself. But have its initiatives really worked?



The nudge unit has tackled everything from jobcentre experiences to late income tax payments and loft insulation

Leo Benedictus

When the day comes to write the obituary of this curious coalition, a day that many feel can't come too soon, it won't be "the big society" that it is remembered for creating. It seems unlikely to be "fairness" either. There may, however, be a large section on "the nudge unit", otherwise known as the cabinet office's behavioural insights team. Set up in the summer of 2010 shortly after this government came to office, and well known to be a pet project of David Cameron's, it is essentially a little band of academics looking for ways to run the country better. (There used to be nine of them, but there are now 13, mostly economists and psychologists.)

In part, the unit owes its reputation to Cameron, and to its nickname, a reference to the 2008 book Nudge by Richard Thaler and Cass Sunstein, who are not formal members but set out many of its guiding principles. But only in part. Because its work has been quite startling,

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drawing so much interest from private companies and foreign governments who want to pay for its ideas that it is now going into business by itself. Yesterday, plans were announced to start a joint-venture company, owned in equal thirds by the government, a private investor, and the staff themselves.

The idea behind the unit is simpler than you might believe. People don't always act in their own interests – by filing their taxes late, for instance, overeating, or not paying fines until the bailiffs call. As a result, they don't just harm themselves, they cost the state a lot of money. By looking closely at how they make their choices and then testing small changes in the way the choices are presented, the unit tries to nudge people into leading better lives, and save the rest of us a fortune. It is politics done like science, effectively – with Ben Goldacre's approval – and, in many cases, it appears to work.

Jobcentres

What is it actually like to walk into a jobcentre for the first time, hoping to find work? People who don't know probably hope they won't find out, but by considering the question carefully in a Jobcentre Plus in Loughton, Essex, the nudge unit has been able to make what look like some very valuable adjustments. For one thing, they found that within the first half hour many new jobseekers were being required to complete as many as nine different forms. And, having done so, they did not get to speak to an adviser straight away, but instead had to wait two weeks while their details were processed.

So in a trial, more than 2,000 jobseekers were split into two groups. One continued to be treated in the same way; the other was dealt with under a new system. This new system ensured that each person had a proper conversation during their first visit about getting back to work, that they were encouraged on each subsequent visit to make clear plans for the following two weeks (instead of being asked to account for what they'd done in the preceding two), and if they were still unemployed after eight weeks their "psychological resilience and wellbeing" was enhanced with techniques such as "expressive writing" and "strengths identification".

Thirteen weeks after signing on, the second group were 15-20% less likely to be on benefits compared with the first.

Status: Expanded to larger trials in Essex and the north-east.

Car tax

Not every nudge is friendly. People who don't pay their road tax can be fined up to £1,000 and have the vehicle clamped or towed away – yet many still don't do it, even after their car has been photographed without its tax disc by a DVLA camera. A letter reminding them that the payment is due does help, but even this gets only an 11% response.

The nudge unit suggested some changes, based on a few principles of psychology (and indeed marketing): that people respond better when things are made simple, and that personalised and visual messages make a bigger impression. As a result, in December 2011 the DVLA began testing some new letters on drivers who had been photographed more than once. One batch continued as before, another was simplified and included a big headline saying "Pay your tax or lose your [make of car]", and a third added a photograph of the recipient's untaxed car for good measure. The second group prompted roughly double the number of payments compared with the first. The third group tripled it.

Status: Bigger trials are planned.

Income tax

A subtler approach had equally dramatic effects on income tax. As things stand, people have a relatively long time – around nine months – between the end of the tax year in April and the deadline for payments at the end of the following January. Many of us consider this a dull job, and put it off, but how much procrastination is normal? After what date do we start to become feckless and disorganised in comparison with our peers?

On the advice of the nudge unit, Her Majesty's Revenue and Customs tested some new styles of reminder letter, which included a startling statistic: that most people living in the recipient's town or postcode had already paid. Rates of repayment in the test groups rose by around 15%. According to estimates from the HMRC, if this was repeated on a national scale, it would generate approximately £30m of extra revenue from savings in the cost of tax collection. The same method was also more effective than statements about the cost of non-payment to public services.

Status: Scaled up to almost everybody; the results appear to be repeated.

Court texts

When people have been fined in court, they don't always pay up. As you might imagine, sending a letter doesn't make a lot of difference – only about 5% comply. But if you send them a text message, as the nudge unit found in a trial in the south-east last year, the results are dramatic. If you send them a text message with their name in it, they are spectacular, increasing the response rate to around 33%. Applied nationwide, it would cut bailiff interventions by around 150,000 and save the government about £30m.

Status: National rollout planned.

Loft insulation

For years, by offering financial help to insulate people's lofts, thereby reducing their energy consumption and their bills, successive governments had been trying to give money away – and failing. But in 2011, the nudge unit realised that money wasn't the problem. What held people back was all the clutter that they knew was stored up there.

So in a trial, people were offered not subsidised insulation, but subsidised loft clearance – with unwanted items being taken to local charity shops – on the condition that they got the space insulated afterwards. The scheme cost people more, but they loved it, and uptake rates tripled. If the insulation was subsidised as well, it became a fivefold increase. Another approach was less successful, but equally revealing. When offered a still greater discount for every friend or neighbour they roped in, people took no interest. You cannot put a price, it appears, on being seen to be a loft-botherer.

Status: B&Q (the original partner) expanded the loft clearance scheme.

What is the function of a Central Bank?

by Tejvan Pettinger on October 27, 2011 in economics

- A Central Bank has various functions:
- Issue notes and coins and ensure people have faith in notes which are printed, e.g. protect against forgery.
- Target low inflation, e.g. the Bank of England have an inflation target of 2% +/- 1. See: Bank of England inflation target. Low inflation helps to create greater economic stability and preserves the value of money and savings.
- 3. Growth and Unemployment. As well as low inflation a Central Bank will consider other macro-economic objectives such as economic growth and unemployment. For example, in a period of temporary cost push inflation, the Central Bank may accept a higher rate of inflation because it doesn't want to push the economy into a recession.
- 4. Set interest rates to target low inflation and maintain economic growth. See: how bank of England set interest rates. Every month the MPC will meet and evaluate whether inflationary pressures in the economy justify a rate increase. To make a judgement on inflationary pressures they will examine every aspect of the economic situation and look at a variety of economic statistics to get a picture of the whole economy.
- 5. Use other monetary instruments to achieve macro-economic targets. For example, in a liquidity trap, lower interest rates may be insufficient to boost spending and economic growth. In this situation, the Central Bank may resort to more unconventional monetary policies such as quantitative easing. This involves creating money and using this money to buy bonds; the aim of quantitative easing is to reduce interest rates and boost bank lending.
- 6. Ensure stability of financial system, e.g. regulate bank lending and financial derivatives
- 7. Lender of Last Resort to Commercial banks. If banks get into liquidity shortages then the Central Bank is able to lend the commercial bank sufficient funds to avoid the bank

running short. This is a very important function as it helps maintain confidence in the banking system. If a bank ran out of money, people would lose confidence and want to withdraw their money from the bank. Having a lender of last resort means that we don't expect a liquidity crisis with our banks, therefore people have high confidence in keeping our savings in banks. For example, the US Federal Reserve was created in 1907 after a bank panic was averted by intervention from J.P.Morgan; this led to the creation of a Central Bank who would have this function.

8. Lender of Last Resort to Government. Government borrowing is financed by selling bonds on the open market. There may be some months where the government fails to sell sufficient bonds and so has a shortfall. This would cause panic amongst bond investors and they would be more likely to sell their government bonds and demand higher interest rates. However, if the Bank of England intervene and buy some government bonds then they can avoid these 'liquidity shortages'. This gives bond investors more confidence and helps the government to borrow at lower interest rates.

Save your work with an appropriate name and email it to Miss Thomas – the assistant curriculum lead for the business department at sthomas@uhs.org.uk

You should email it by 11.59pm on Wednesday, 2nd September 2020.