

Examine effectiveness of indirect taxation as a means of reducing cigarette and tobacco consumption. (15)

Question Number	Answer	Mark
10(b)	<p>Knowledge, Application & Analysis: (up to 9 marks)</p> <ul style="list-style-type: none"> • Definition of indirect tax (a government levy or charge on tobacco) (1 mark). • Identification or reference to different types of tax (1 mark). • Tax has effect of increasing costs to producers who try and pass on to consumers in the form of higher prices (1+1 mark). • Also reference to falling profits which lead to less output and hence less consumption (1 mark). • Explanation of diagram / effect in terms of increasing price and reducing quantity demand (1 mark). • Data application e.g. UK has £4.03 tax per packet of cigarettes (1 mark). <p>Diagram (4 marks)</p> <ul style="list-style-type: none"> ❖ Inward shift in supply curve (accept <u>parallel</u> or <u>pivotal</u> shift) (1) ❖ Tax incidence for consumers and producers (1) ❖ Overall tax area (1) ❖ Original and new equilibrium price / quantity shown (1) ❖ Demand curve drawn relatively price inelastic (1) 	<p>9</p> <p>AAA</p> <p>9</p>

(KAA)
Effects
of tax
on tobacco
consumption

Explaining
diagram

Q is
vague in
terms of
the tax
type.

Questioning/
Critique
of the
effectiveness
of tax.

brought in
from
abroad.

Note: Accept MPB / MPC / MSC approach for a diagram, but they need to show the imposition of a tax on MPC curve
Note: If no diagram award a maximum of five marks for this section

Evaluation ~~(3+2 marks for two well developed points or 2+2+1 marks)~~

- Cigarettes are addictive and so demand is likely to be price inelastic. This implies taxation may be ineffective in reducing smoking and a very high tax is required to have an impact.
- Magnitude of the taxes on cigarettes: this is very large and so must have a significant effect on reducing smoking.
- Taxation may be ineffective for 'socially disadvantaged' groups as many still smoke. Poorer smokers may lack access to treatments for quitting.
- Difficult to determine impact of high taxes on cigarettes from other factors causing a decrease in demand (demand estimation problem).
- The high taxes have encouraged tobacco smuggling. This may represent a government failure since considerable loss of tax revenue according to HMRC.
- The Tobacco Manufacturers Association estimate that 27% of all cigarettes consumed in 2006 were non-UK duty paid. This implies that many were breaking the law.

6 Ev

diff. groups impacted diff. (15)

Is tax only reason?
education...
publicity
of impacts?

Level	Mark	Descriptor
Level 1	1-2	Definition of indirect tax and/or recognition of increasing price of tobacco.
Level 2	3-4	Diagrammatic analysis which accurately depicts a decrease in supply and tax incidence or area. (Mark cap to 7 if no evaluation offered).
Level 3	5-8	Diagrammatic analysis which accurately depicts a decrease in supply and tax incidence or area. Limited evaluation offered.
Level 4	9-12	Convincing diagrammatic analysis with two or more evaluation points.

15 marks

3 KAA points / 2 EV points.

Start with definition of a key term in the question (counts as KAA)

KAA – 9 marks - Knowledge 3, Application 3, Analysis 3

Level	Mark	Descriptor
	0	A completely inaccurate response.
Level 1	1–3	Displays isolated or imprecise knowledge and understanding of terms, concepts, theories and models. Use of generic or irrelevant information or examples. Descriptive approach which has no chains of reasoning or links between causes and consequences.
Level 2	4–6	Displays elements of knowledge and understanding of economic principles, concepts and theories. Applies economic ideas and relates them to economic problems in context, although does not focus on the broad elements of the question. A narrow response; chains of reasoning are developed but the answer may lack balance.
Level 3	7–9	Demonstrates accurate knowledge and understanding of the concepts, principles and models. Ability to link knowledge and understanding in context using relevant and focused examples which are fully integrated. Economic ideas are carefully selected and applied appropriately to economic issues and problems. The answer demonstrates logical and coherent chains of reasoning.

Evaluation - 6 marks

Level	Mark	Descriptor
	0	No evaluative comments.
Level 1	1–2	Identification of generic evaluative comments without supporting evidence/reference to context. No evidence of a logical chain of reasoning.
Level 2	3–4	Evidence of evaluation of alternative approaches which is unbalanced. Evaluative comments with supporting evidence/reference to context and a partially developed chain of reasoning.
Level 3	5–6	Evaluative comments supported by relevant chain of reasoning and appropriate reference to context. Evaluation is balanced and considers the broad elements of the question.

Conclusion: only needs to be maximum two or three lines, DO NOT JUST REPEAT POINTS – good technique is to choose your most impactful point or make a general comment to finish (e.g. in the long-term x would be the most effective... etc.)

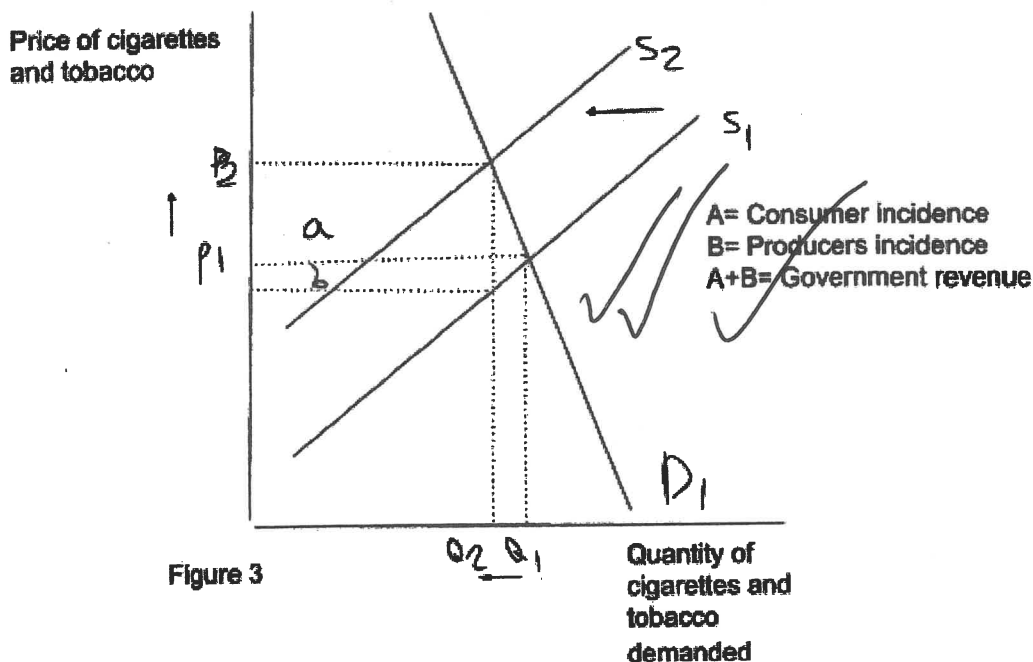
Note: Again, the mark schemes (above) do not outline an exact number of KAA/EV points, but 3 KAA and 2 EV are enough for 10 and 15 mark questions. The difference between the two questions, are that your points for 15 markers will need to be developed further and use more data – the introductory paragraph (with definition) and conclusion also need to be longer in a 15 marker.

You will find that it is easier to develop 15 mark questions, as the questions are a bit more open and lend themselves to more discussion.

Examine the effectiveness of indirect taxation as a means of reducing cigarette and tobacco consumption. Use a demand and supply diagram in your answer. (15)

Taxes are a compulsory contribution to state revenue, levied by the government. There are two types of taxation, direct and indirect tax. Indirect taxation, such as VAT, allows the supplies to pass on the burden of tax through an intermediary, whereas direct taxes are paid directly to the government by the individual taxpayer, such as income tax. *good.*

Demerit goods, such as cigarettes and tobacco have negative externalities and can be discouraged through taxation, which is why the UK imposed a £4.03 (per packet) tax on their consumption. This tax can be shown in a supply and demand diagram: *Data.*



The law of demand states that ceteris paribus, as the price of a product increases, the quantity demanded of the product falls. Since an indirect tax is imposed by the government, the supply curve in this diagram has shifted to the left. The tax essentially increases the company's production costs and if fixed costs are higher, less suppliers will be willing to produce cigarettes. Figure 3 also shows that companies pass on their high costs to consumers in the form of a higher price (price increases from P_1 to P_2 , which also increases producer surplus), which decreases the quantity demanded for cigarettes and tobacco. A percentage of the tax is also absorbed by the company (B). The quantity demanded for cigarettes and tobacco decreases from Q_1 to Q_2 , which shows the taxation was effective in reducing its consumption. *important >* *very good. KKK* *(S1 - S2)* *good*

As the price of cigarettes and tobacco increases, consumers that can no longer afford them but are still addicted to nicotine would search for substitutes in the market. Substitute goods are goods that can be used to replace each other (such as tea and coffee). Substitute goods in this market include Nicotine patches and gum, as stated by Extract One. According to the substitution effect, the demand for these substitutes would increase as the price of cigarettes increases. Therefore, the consumption of cigarettes and tobacco would decrease and they would be replaced with cheaper substitutes.

Positive
XED

However, the effectiveness of indirect taxation as a means of reducing the consumption of any good or service depends on its price elasticity of demand and cigarettes and tobacco are relatively inelastic ($PED < 1$) as they are addictive. This means that companies can pass a larger proportion of the tax on to consumers as consumers will most likely buy it regardless of the price. This also means that the government would need to impose a large tax on the goods if they wanted to see a large decline in their consumption because Figure 3 shows a very slight decrease in quantity demanded. This can also be proven using Extract Two which states that 'in 2007 more than twenty-five per cent of the adult population continues to smoke'. This shows that more than a quarter of the adult population were unaffected by the £4.03 tax on cigarettes and tobacco, which could be deemed an indirect taxation less effective as consumers would be less responsive to any price change.

PED
in
proportion

great
data
to
back
point.

As well as this, imposing a tax on cigarettes may not be the most efficient way of reducing its consumption. Extract One states that 'nicotine patches and gum' were introduced to the market as alternatives but I think subsidising these substitutes would be better to reduce demand for cigarettes. This is because they have a negative XED value in relation to cigarettes and tobacco and subsidising alternatives would allow company owners to lower their prices for patches and gum, which would act as an incentive to attract consumers. This method would also be more effective in the long run, as consumers would become less addicted to cigarettes by using Nicotine patches etc. in which case a taxation wouldn't be required.

Positive
Cig.
Patches

In conclusion, I think that the effectiveness of an indirect tax would depend on many other factors, such as the income of cigarette consumers and whether or not there is an unethical regressive effect, however the evidence suggests the indirect tax was effective. Figure 1 shows that the UK cigarette consumption has decreased from 81.5 billion cigarettes to 67.5 cigarettes, which is a decline and the ban on tobacco advertising in 2003 was also effective. Although I think government spending would be better spent campaigning to help poorer smokers to quit, so that the twenty-five per cent of the adult population that are still smoking would receive treatment to quit.

good
conclusion.

15/15

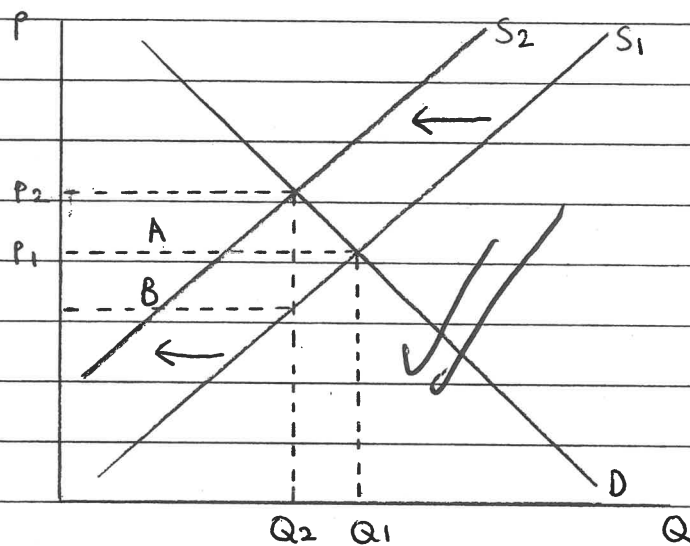
KAA
9/9

Ev
6/6

Amazing!

amine the effectiveness of indirect taxation as a means of reducing cigarette and tobacco consumption.

An indirect tax is a tax levied on goods and services rather than on income or profits. The consumer does not pay the money directly to the government, but the firms which sold the goods or services must pay.



A = Consumers share
B = Producers share

This diagram shows the process of applying an indirect specific tax. When the government introduces an indirect tax to producers, the supply curve shifts to the left as the tax effectively adds to the cost of production. As the supply curve shifts to the left from S_1 to S_2 , the market price of cigarettes increases from P_1 to P_2 and the quantity falls from Q_1 to Q_2 . This is because when a tax is imposed the cost of supplying the commodity cigarettes to the market increases.

In Figure 1 we can see that UK cigarette consumption has decreased by 14 billion between 2000 and 2006. In Figure 2 we can also see that the UK has the highest tax rate on cigarettes in the EU, at £4.03. Therefore, the introduction of the indirect tax has decreased the number of cigarettes consumed, as the tax diagram

excellent
use
labels!

$P_1 - P_2$

suggested. The tax increased the cost of production, which decreased supply and the quantity of cigarettes. As well as this, the tax increased the market price of cigarettes so consumers now feel worse off because of ^{higher} ~~lower~~ prices and are less likely to buy them. Therefore, it can be seen that indirect taxation is effective to some extent at reducing cigarette consumption.

great

However, the effectiveness of the tax is limited due to the fact that most indirect taxes are regressive. As a ~~percentage~~ ^{percentage} of income, it is often the case that the poor pay much more in terms of indirect taxes, relative to the higher income groups. Therefore, the introduction of an indirect tax on cigarettes is most likely to impact lower income earners, rather than higher income earners. So the effectiveness of the tax is reduced as higher income earners may continue to buy cigarettes because the tax is only a very small percentage of their income. ^{IN}

In addition to this, to evaluate, in Extract Two we are told that the numbers of young people who smoke have not changed that much, despite the ^{IN} ~~introduction~~ of the tax and increasing the legal age of sale for tobacco. Therefore, the tax can be seen as being less effective because young people make up a high percentage of smokers, and ^{IN} ~~are~~ continuing to smoke, rather than reducing consumption of cigarettes. Unless the tax actually impacts a large percentage of smokers, cigarette consumption will not change enough to say that the tax is effective.

Why?
PED?

↓
Combine
with
later
point.

On the other hand, Extract Two tells us that many young people are still able to obtain tobacco from the ^{IN} ~~informal~~ sector. This further limits the effectiveness of the tax because people are able to buy cigarettes without paying the tax set by the UK government. Extract Two also tells us that UK tax was ^{IN} ~~not paid~~ on 27% of

cigarettes consumed in 2006. Therefore, indirect taxation has not been fully effective at reducing cigarette consumption because many people are able to avoid ~~paying~~ the tax so are not impacted by it.

In Extract One, we are told of other efforts made by the government to reduce the consumption of cigarettes. In 2003 tobacco advertising was banned and public health campaigns were ~~launched~~. This would have the effect of decreasing demand for tobacco as people's preferences change with the knowledge of how smoking affects them. Smoking was also banned in pubs, clubs and restaurants. This also has the effect of decreasing demand ~~as~~ people have fewer places to smoke so they may see less social benefits of smoking. To evaluate, it can be seen that the government has used other strategies to reduce cigarette consumption. Therefore, the effectiveness of indirect taxation is questioned because ~~the~~ 14 billion decrease in cigarette consumption could be more as a result of the other methods, rather than the tax.

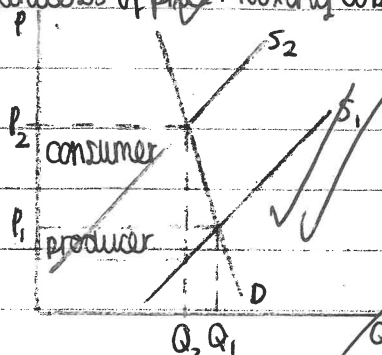
15/15
KAA
9/9
Ev
6/6
A product which has an inelastic price elasticity of demand ~~means~~ that there is a smaller proportional change in quantity demanded after a given change in price. Cigarettes are price inelastic ~~because~~ many people are addicted to them, or even dependent on them, so there is always a high demand for them despite the price. Therefore the introduction of an indirect tax is likely to have little effect on consumers, other than the fact that the price ~~of~~ cigarettes will continue to rise as the government can make more revenue through taxing price inelastic goods.

Only need 2 Ev points,
You have 5!

In conclusion, I do not believe that indirect taxation is very effective at reducing consumption of cigarettes. Due to the price inelastic nature of cigarettes, the fact that most indirect taxes are regressive and

people avoiding cigarette tax, the indirect tax on cigarettes has not been fully effective. More than 25% of the adult population continue to smoke, showing that the tax has had only a very small effect on a larger scale.

An indirect tax is a compulsory contribution levied by the government on goods or services which involves an intermediary. Tobacco tax is a specific tax and so is a fixed rate per unit regardless of price. Taxing tobacco products would reduce consumption because a tax increases costs of production ($S_1 \rightarrow S_2$) which increases the price ($P_1 \rightarrow P_2$) and reduces the quantity demanded ($Q_1 \rightarrow Q_2$). The incidence of tax is mainly on consumers which means that there is a large price increase that some people are unwilling or unable to pay. As the price elasticity of demand for tobacco is inelastic, the increase in price is greater than the fall in quantity demanded which means that government tax revenue increases. This revenue can be spent on promoting substitutes to tobacco (goods with a positive cross elasticity of demand) such as 'nicotine patches and gum' or 'public health campaigns' which will reduce dependency on cigarettes and help people to eventually stop smoking tobacco products. This would therefore tobacco and cigarette consumption would be reduced. excellent.



well linked diagram

However, since the price elasticity of demand for cigarettes is inelastic because cigarettes are addictive so the fall in quantity demanded ($Q_1 \rightarrow Q_2$) is proportionately smaller than the change in price ($P_1 \rightarrow P_2$). This means that many people will continue to smoke regardless of the large price increase. 'More than 25% of adult still smoke which is a very significant proportion of the population and suggests that the tax was largely ineffective. This is partly because, since since Although many people continue to pay the higher price, others who can no longer afford cigarettes may look for other ways to purchase cigarettes because they are dependent on them. This has led to 'cross border shopping and smuggling' and so tax was not paid on around '27% of cigarettes'. This suggests that the tax has been ineffective since due to the addictive nature of cigarettes people do not wish to stop smoking and so will either continue to purchase them or find other illegal but cheaper sources of cigarettes.

In conclusion, I think that the tobacco tax is effective not because it reduces the demand for cigarettes but because the revenue generated can be used to increase awareness of the dangers of smoking and fund replacement products. It is also

important to use some of the revenue to reduce tobacco smuggling as this
threats to undermine the government's efforts to reduce cigarette and tobacco
consumption.

KAA

Ev

6/6

4/4

Brilliant and well detailed.

Great job,

10
10.