AQA A Level Economics

Synoptic Data Questions

Mark Scheme

Volume 1

5 x 10 Mark Synoptic Data Questions

tutor2u

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Synoptic Data Questions

Marking Guide

10-mark question data handling practice

Generic grid marking guide

Level	Description	Marks Available
3	A good response: - Well organised - Includes at least 3 relevant well-developed issues - Makes effective use of the data - Shows some appreciation of the limitations of the data - Includes a supported final judgement	8 – 10
2	A reasonable response: - Fairly well organised - Includes 2 relevant and fairly well-developed issues - Includes satisfactory use of the data - Shows some limited appreciation of the limitations of the data - At the top of the level, will include a judgement but it is not very well supported throughout the whole answer	4 - 7
1	A weak response: - Brief and/or incoherent - Limited or poor use of the data - No appreciation of the possible limitations of the data - May include an unsupported judgement or no judgement	1 – 3

1. To what extent, if at all, do you agree that the tax burden on firms in the EU is less heavy than in other parts of the world?

(10 marks)

Indicative content:

- Understanding of the term 'tax burden' i.e. the % of profits / income paid in tax, as well as the time / cost involved in paying taxes

- Understanding that it is possible to assess the tax burden for EU firms against the data in Figure 1 (i.e. against the "average" firm worldwide) or against other specific regions or in terms of amount paid as a % / time taken / amount paid in total / types of different taxes

- Use of Figures 1 and 2 as a comparison tool:
    - The average firm pays 40.5% of its earnings in tax compared to EU firms of 39.6%
        - Less burden for the EU but very little different (0.9 percentage points)
    - The average firm takes 240 hours to comply with tax laws compared to just 161 hours for EU firms i.e. 67% of the time taken for the average worldwide firm
        - Less burden for the EU – appears to be quite a significant difference
    - The average firm makes 24 tax payments annually compared with just 12 for the EU i.e. just half the number of payments – this reduces transactions costs and administrative burdens and is likely to be a highly significant difference

- Use of Figure 2:
    - Only 3 areas have higher tax burdens (as a % of income) than the EU – these are Central America/Caribbean, South America and Africa – other regions seem to be much more competitive in terms of their tax regime for businesses
    - Only the Middle East has a lower 'time to comply' with tax law than the EU, so from this perspective, the tax burden is very low in the EU
    - Only the US has a lower 'tax payments per year' than the EU, which is much lower than other countries
    - The tax efficiency index is very high for the EU – a full 12.3 percentage points higher than its nearest competitor (the US)
    - Overall, the regulatory burden is much less for the EU than in other parts of the world, although the % paid in tax is one of the highest

- Use of Figure 3:
    - Figure 3 shows the breakdown in types of taxes imposed on businesses in different regions of the world
    - The EU has almost the lowest direct tax on profits (12.4%) out of all the regions shown, apart from the Middle East (8.8%)
    - However, it has the largest taxes imposed on labour i.e. social security payments (the equivalent of National Insurance in the UK) at 25.5% compared with the next highest of 17.8% in Central Asia and Eastern Europe
    - The EU's "other taxes" are very low

- Limitations of the data:

  - What is meant by the 'average firm'? The data is not clear on this.
    - We also don't have the efficiency index data for the average firm, which reduces the ability to compare data between Figure 1 and Figure 2
  - Regional averages mask country differences e.g. there are probably broad disparities within the EU i.e. France is known to be a country in which the tax burden (both % paid in tax by businesses and regulations) are hefty, whereas Estonia is a country with an extremely simple tax code (flat rate taxes, all digitally paid)
  - Can we trust data from some areas of the world? Accurate economic statistics can extremely difficult to come by in areas such as South America and Africa because there is an opportunity cost of collecting such data

- Broader considerations
  - There are other factors that affect the tax environment for businesses e.g. income tax for employees / managers
  - Tax compliance issues may be offset by minimal regulations in other areas e.g. environmental or labour law
  - Other data that might be helpful would be the breakdown of tax rates / contributions / regulatory compliance for businesses of different sizes rather than just the 'average' firm

2. To what extent, if at all, do you agree that low-cost airline carriers, such as Southwest, are outperforming traditional network carriers in the US market?

(10 marks)

Indicative content:

- An understanding of what an economist might mean by 'outperforming'
  - Profits, market share, rate of growth, number of customers, efficiency etc.

- Use of Figure 1
  - Southwest appears to be more efficient in its use of planes than its competitors with the same type of plane, therefore outperforming its competitors
    - Southwest has more flights per day for each plane – at 8.2 flights per day, this is nearly double the number of flights for network carriers
    - Southwest has more seats fitted onto each plane i.e. 122 compared with 104 and 109 for Continental and United respectively
    - Southwest planes spend a greater % of the day in the air (as measured by block time)
  - The composite measure ASM (Average Seat Miles) is much higher for Southwest than for the network carriers, suggesting it is outperforming its competitors

- Use of Figure 2:
  - Southwest's costs per 'block hour' are nearly half of those for United suggesting that they are outperforming United – lower costs probably impacts on profit, but having this data would help with the assessment
  - Southwest's labour costs are very low compared to other airlines
    - We don't know the reason for this – possibly fewer on-board crew? Or paid lower wages? Possibly on zero-hours contracts or flexible contracts rather than annual salaries? This looks good from a business perspective but could have an impact on staff morale and turnover of staff
  - Other costs that are low include 'other' and 'maintenance'
    - The former is probably beneficial because Southwest can probably benefit from purchasing economies of scale with only really having one type of plane but the low spend on maintenance costs could impact on quality and have longer-term consequences
  - The fuel costs appear to be much higher for Southwest than other carriers – nearly 25% higher than for Continental
- Use of Figure 3:
  - Southwest's growth has been faster than US GDP growth, by nearly 3 times – however the bar chart suggests that Southwest used a greater % of its capacity in 2016 than it did in 2012, approximately 3 percentage points higher, although it does lag behind the capacity utilitisation of United a little
  - Low-cost carriers such as Southwest appear to get little of their revenue from cargo – just 1 or 2% - but this is not far behind network carriers, suggesting that cargo revenue is not important for the industry as a whole anyway
  - Profit per passenger has been higher for Southwest in both 2012 and 2016 compared to United and the industry average – it is fairly consistent at 16 cents per passenger mile – this suggests that daily profit per Boeing 737 plane for Southwest, when combined with data

from Figure 1 on ASM and capacity data from Figure 3 is ($0.16 x 399 746) x 85% = $54 365. For United, the same number is ($0.14 x 264 284) x 87% = $32 190

- Limitations of the data:
    - More information on other low-cost carriers and network carriers is needed, not just the small number of firms considered in the data provided
    - More information on the trends is needed i.e. performance over a longer period of time, as well as projections / forecasts
    - It is difficult to compare like-with-like for low-cost and network carriers
        - Southwest has more seats per plane, but that could reduce legroom and comfort, or it may mean no business class
        - Southwest operates more flights per day than network carriers, but they could be very short and they may avoid longer routes that are also desired by passengers
    - Composite measures such as ASM are possibly over-simplified and ignore other factors e.g. pollution / externalities, delays, accessibility of airports and so on.
    - Different stakeholders have different objectives in terms of performance

3. To what extent, if at all, do you agree that the service sector in the UK is outperforming other sectors of the economy?

(10 marks)

Indicative content:

- An understanding of what an economist might mean by 'outperforming'
  - Productivity e.g. output per worker per hour, output per job
  - Total output
  - Tax revenue earned for the government
  - Impact on the trade balance
  - Efficiency

- Data from Figure 1
  - Productivity, as measured by output per job, has increased slightly more for services than for manufacturing since 2015 (the base year)
    - The use of index numbers does not tell us, though, which sector has the highest actual productivity – it only indicates changes relative to each sector
  - Productivity has increased significantly more for manufacturing over the period shown i.e. roughly 30 index points / percentage points since 2000 as compared with an increase of just around 15 index points / percentage points in the same time period for services
    - If performance is measured by productivity improvements then manufacturing is outperforming services
  - Productivity following the financial crisis shows a steeper decline in services than for manufacturing, and manufacturing productivity recovered more quickly than services productivity
  - Limitations of the data:
    - Would be useful to have actual productivity levels rather than just index numbers
    - Different measures of productivity would be useful e.g. labour, capital, per hour, per job etc
    - Other sectors, not just manufacturing e.g. construction, agriculture etc – makes it difficult to assess whether services is the highest performing *sector*

- Data from Figure 2
  - This Figure provides more information regarding the performance of different services sectors
  - Financial services remains the largest sub-sector by value in 2017 at 41.5%, although it has not shown the most significant growth in terms of output – the strongest gain there goes to transport / storage / communication
  - The government sector is quite significant as a proportion of overall service activity but has experienced the slowest growth
    - Whether this is positive or negative for the economy as a whole depends on whether one takes a Keynesian or Neoclassical perspective on government intervention
  - Overall, the service sector's output has grown by 5% since 2015 – this appears to indicate fairly strong growth
  - Limitations of the data

        - Some longer term trends would be useful i.e. not just growth since 2015 but also looking back further than this (per sub-sector and overall) and possibly also some forecasts / projections about the future performance of these areas

- Data from Figure 3:
    - Strong correlation between GDP growth data and services growth data, on a quarterly basis e.g. some of the strongest GDP growth was in Q4 2015 and Q4 2015 when services growth was also strong; some of the weakest growth was in Q1 2017 when services growth was zero
    - There is less correlation between manufacturing / production growth and overall GDP growth
    - Limitations of the data
        - Annual data, not just quarterly, would be useful as there appears to be quarterly / seasonal patterns and so it is difficult to discern a trend
        - The data doesn't tell us in which areas there is growth, or how that growth is being achieved

- Data from Extract 1
    - More and more people are employed in low-productivity service sectors such as food and drink – this suggests that the shift towards services, despite boosting employment, is reducing growth rates because of the lack of productivity
    - The trends look set to continue due to labour immobility e.g. high house prices
    - Limitations of the data:
        - Regional information would be helpful
        - Employment data would help – maybe having a job is more important than productivity in those jobs

4. To what extent, if at all, do you agree that there will be significant differences in regional impacts in the UK as a result of Brexit?

(10 marks)

Indicative content:

- Understanding of Brexit
  - The UK leaving the EU – possibly leaving the Free Trade Area, the Customs Union, and reducing labour mobility

- Understanding of regional impacts
  - The so-called North South divide
  - The location of different types of industry in the UK

- Use of Figure 1
  - Regardless of the Brexit negotiation outcomes in terms of the UK's future relationship with the EU, some parts of the UK are set to be much more badly hit in terms of GDP growth than others i.e. the North East, North West, West Midlands and Northern Ireland look set to suffer more in terms of a lack of GDP growth than other parts of the UK i.e. Yorkshire, South West and London
  - This suggests industry / manufacturing will be hit worst rather than services / tourism because these are regionally located in the UK
  - Could link the fall in GDP growth to other objectives e.g. employment, asset prices etc
  - The overall impact depends on the type of relationship negotiated with the EU
  - Limitations of the data:
    - The UK Treasury and its civil servants have been accused of being biased and pro-Remain by some politicians
    - Forecasts and predictions are very difficult
    - How do we define these particular geographical areas?

- Use of Figure 2:
  - Industries located further towards the top right hand corner of this chart will be more significantly affected by Brexit than those located towards the bottom left hand corner of this chart
  - The larger the circles, the greater the value of that industry
  - Food and drink manufacturing could be hit hard – but it is not the largest 'circle' and it may well not have a regional impact if food and drink manufacturing is spread across the UK (which seems likely)
  - The large circles in the centre of the chart represent significant UK industries (banking, business services, IT / telecoms etc), all of which have significant exposure to the EU in terms of both labour required and trade with the EU – many of these are located in London and the South East / M4 corridor and so there may be more of an impact than expected on these areas
  - Limitations of the data:
    - Data from KPMG – might they have been paid by a client to collect this data? Could it be biased? How have the indices been calculated?

- Data from Figure 3:

- Some industries e.g. metals, automotive, oil and gas, have significant imports as part of their production process – a lack of free trade with the EU might reduce these industries' ability to invest / grow / produce / employ
- Some industries e.g. banking, construction, insurance, have a much smaller % of imported raw materials
- Manufacturing is typically located in the North East/North West/Midlands whereas financial services are typically located in the South
- Limitations of the data
  - The data does not break down the imports from EU and non-EU
  - Many non-EU imports still enter the UK via the port of Rotterdam in the Netherlands

- Data from Figure 4
  - 10 of the industries shown export a greater % of their exports to non-EU countries than to the EU, suggesting that there will remain profitable opportunities post-Brexit
  - Extraction, oil & gas, agriculture, and food & drink, export mostly to the EU – certainly extraction / oil & gas will be regional (e.g. North Sea oil), suggesting that some regions could be hit hard

- General limitations of the data
  - At the moment, the data reflects forecasts and predictions – these could be biased i.e. completed by "Remainers", and also could be vulnerable to other economic shocks
  - Data on the location of different industries in the UK would be helpful in assessing the impact of changes to different industries in the different regions

5. To what extent, if at all, do you agree that cash, as a payment method, is in decline?

(10 marks)

Indicative content:

- Data from Figure 1
  - Cash is used for about 48bn transactions annually in the US – less than for debit cards but more than every other form of payment
  - Cash is used for approximately 27/28% of all transactions in the US – this suggests it is still important
  - Newer methods e.g. payment cards and remote payments still seem to be very small compared to more traditional methods
  - Limitations
    - We would need to know how these transactions figures have changed over time and their projections
    - This is just US data – different consumers in different economies will have different preferences regarding their payment methods

- Data from Figure 2
  - The use of cash in the UK is projected to roughly halve (in terms of number of transactions) between 2016 and 2026 – however, it will remain the 2nd most important payment method, with more than double the number of transactions of credit cards
  - The biggest gainer is debit cards with a projected 57% gain between 2016 and 2026 (and an even bigger proportionate gain in the use of contactless payments of around 265%!)
  - Limitations
    - Projections and forecasts are unlikely to be accurate, and don't account for technological changes e.g. cryptocurrencies such as Bitcoin
    - Cash is often used in the shadow economy / grey market so may be difficult to measure its use

- Data from Figure 3
  - The pie chart shows a different pattern to both the UK and the US data, suggesting that payment methods are very different in different countries – this makes it hard to make an assessment on the decline of cash as a transaction method
  - Cash accounts for 9% of all transactions worldwide – this is a much smaller % than the data shown in Figures 1 and 2 – perhaps a little surprising!
  - Limitations
    - We need trend data to show how different payment methods are changing

- Information from Extract 1
  - Transaction / consumer trends suggest a shift towards more digital services, which cannot be paid for easily in cash e.g. online subscription services
  - Biometric / security data is increasingly easy to build into card transactions and online transfers, so this suggests that with more trust then consumers will increasingly use such methods
  - There is a range of different drivers for trends in payment methods e.g. regulation, consumer demand, tech driven etc

- Limitations of the data
  - Some statistics to back up the claims would make these more credible

- General limitations
  - Information not just on number of transactions but value of transactions would be helpful in this assessment

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