Question 1: Costs and Benefits of Education

(a) With reference to Figure 1, compare the potential benefits for a graduate in the US with a Bachelor's degree to a school leaver who has a High School Diploma. [2]

A graduate in the US with a Bachelor's degree is likely to earn more than a school leaver with a High school diploma. **[1]**

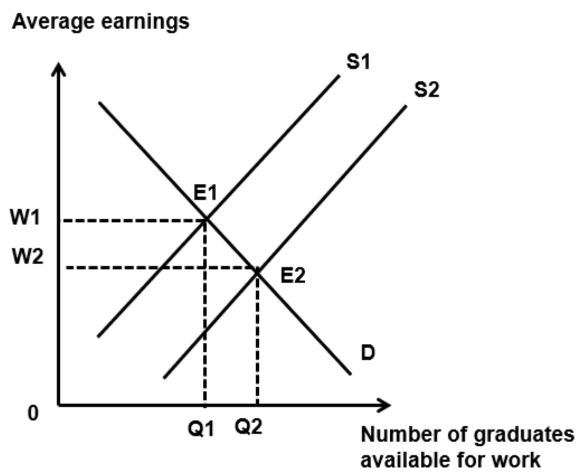
A graduate in the US with a Bachelor's degree is also less likely to be unemployed compared to a school leaver with a High school diploma. **[1]**

(b) With reference to Extract 1, and using a supply and demand diagram, explain one possible reason for the higher average earnings of graduates with a Professional degree compared to those with a Bachelor's degree. [3]

From Extract 1, it is indicated that the marginal private cost of HE is relatively high including the opportunity cost of wages forgone. In view of that, the supply of graduates with a Professional degree is likely to be lesser than those with a Bachelor's degree considering the high cost incurred to pursue a professional degree. **[1]**

This can be illustrated in Figure 1 below where S1 represents the supply curve of graduates with a Professional degree and the average earning is W1 which is higher than the average earning, W2 of those with a Bachelor's degree with a supply curve indicated by S2. [**2m** with a correctly drawn diagram]

Figure 1:



<u>Note:</u>
Also acceptable to explain the higher average earnings of graduates with a Professional degree is likely due to its higher demand compared to those with a Bachelor's degree.

(c) 'Opportunity costs may make even free schooling unaffordable for some families.' (Extract 4)

Explain one example of opportunity cost that might make free schooling unaffordable. [3]

Opportunity cost is the value of the next best alternative forgone when a choice is made. **[1]**

When a student pursues education, a student forgoes possible earnings that he/she could have earned if he/she was working instead of schooling. **[1]**

These wages could be essential for the family to survive during the duration of their schooling. The loss of such wages may result in poorer families finding free schooling unaffordable. **[1]**

(d) Explain how asymmetric information may lead to wrong choices in the market for education. [4]

Asymmetric information occurs when one party to a transaction, in this case education, has more or better information than the other party. **[1]**

As seen in Extract 4, unlike the government, consumers (parents) may not have enough information to assess the private return on an investment in their children education accurately, or they might not even be aware of the opportunities available, this is especially true when the parents themselves are poorly educated. Also, many of these returns occurs in the future, the likelihood of parents under-estimating these returns will be very high. **[2]**

Hence due to the consumers (parents) having lower perceived benefits of education compared to the government, they will consume education at a lower output than at the socially optimal level. **[1]**

<u>Alternative response:</u>
Students can also give the example of parents not aware of the quality of education available at a school as compared to the knowledge of school principal to explain how asymmetric information may lead to wrong choices in the education market.

(e) The government of a low-income country wishes to increase spending on education.

With reference to Table 1, discuss whether the government should concentrate this increase on primary education. [8]

We assume the aim of the government is to maximise societal welfare. Therefore, in deciding whether to increase spending on education, the government will consider both the social benefits and social costs of spending on education. Social benefits is the sum of private benefits and external benefits while social costs is the sum of private costs and external costs.

Reasons why the government of a low-income country should increase spending on primary education:

It is shown in **Table 1**, that the social return from primary education i.e. the external benefits to society on the investment made in education is the highest for primary education at 22.1% compared to that of secondary and higher education. The government by increasing its spending on primary education can bring about benefits to the economy such as higher economic growth as more of its population acquire basic numeracy and literacy skills enabling them to be employed and be more efficient at work.

In addition, the social returns from secondary and higher education are lower due to the limited availability of quality jobs in low-income countries as investments are lacking.

Reasons why government of a low-income country should not increase spending on primary education:

However, the increase in government spending on primary education would mean the government has less money to spend on secondary and higher education. That is, the government needs to consider the opportunity cost of increasing its spending on primary education.

In this case, the government's inability to spend the money on secondary and higher education would mean that the government cannot further raise the literacy rates of its population to attract higher value-added foreign investments which require a better skilled workforce. The lack of such investments can hinder the future economic growth and development of the country.

Furthermore, it is stated in Extract 1 that more tax revenue can be collected from graduates than non-graduates for example in UK. Hence by investing in higher education, the government in a low-income country not only able to attract foreign investment to create better paying jobs but it can also collect more tax revenue in the future. The additional tax revenue can be used to further develop the country.

Conclusion:

The availability of budget and literacy rates are considerations that could affect the government's decision. If the government of a low-income country faces a tight budget and majority of the population lacks basic education, then the government should invest more in primary instead of secondary and higher education. This could raise the income of majority of its population and their basic living standards. As the country progresses, the government including the individuals could have more financial means to spend on secondary and higher education in the future.

Mark Scheme:

Level	Descriptors	Marks
L2	Well-developed and balanced discussion on whether government should increase spending on primary education.	4-6
L1	For an underdeveloped answer that is one-sided OR lacks in-depth explanation on whether government should increase spending on primary education.	1-3
Evaluation	Well-explained judgement on whether government should increase spending on primary education.	1-2

(f) Discuss whether equity issues are more important than market failures as a reason for the government to intervene in the market for education. [10]

Introduction

Objective of the government: To maximise social welfare (efficiency) and ensure equity.

Therefore, the government should aim to address both equity issues as well as market failures in the market for education.

<u>Development 1</u>

The government should intervene in the market for education due to equity issues. Equity refers to a distribution of resources that is considered fair.

Under-production and under-consumption of education services means some people will be rationed out of the market. In the case of education services, with the rich having more dollar votes than the poor, they will be able to demand relatively more education services compared to the poor whose access to education services is constrained by financial ability. The higher level of demand will lead to a higher equilibrium quantity of education consumed for the rich compared to the poor. More resources will be devoted to the production of education for the rich. Hence, there is unfair distribution of resources as the rich can get access to more essential goods and services like education services compared to the poor due to their higher income levels, resulting in inequity.

Since the market for education fails to allocate resources equitably, this justifies the need for government intervention in this market through various policies such as subsidies to make education affordable for the low-income groups. This ensures the poor are not left out and there is equality of opportunity, allowing individuals from lower-income backgrounds to have better prospects for future income and improved socio-economic standing.

EV: However, as mentioned in Extract 4 Para 5, "a government may lack sufficient resources to provide educational services". Hence the government should provide subsidies discriminately targeting only households who are unable to pay. Means-testing can be used to ensure that the subsidies are given only to those who are really in need.

Development 2

The government should intervene in the market for education due to different sources of market failures such as

(a) existence of significant positive externalities in consumption of education services

In the case of education, having a highly educated workforce would mean higher tax revenue collected by the government due to higher tax paid by graduates compared to non-graduates, reduced mortality rates and lower crime rates as mentioned in Extract 1 and 2 respectively. Overall society's standard of living will improve.

Hence, the social benefit of education exceeds private benefit. Since consumers do not consider these external benefits on society in their consumption decisions, education services are often under-demanded and under-consumed. This is seen in Figure 1 where MPB < MSB.

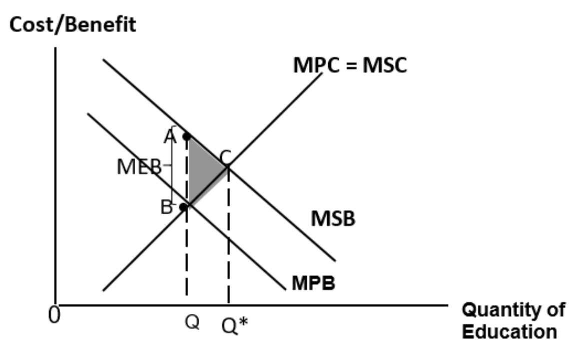


Figure 2: Existence of positive externalities causes a divergence between MPB and MSB

In a free market, the price mechanism will only consider private costs and benefit, ignoring externalities. To the individual consumer, he will consume up to the point where MPB = MPC (private efficiency) at Q. He does <u>not</u> consider external benefits generated. However, the socially optimal level of output is at Q*, where MSC = MSB.

At Q, the MSB is greater than MSC. The last unit of output adds more to society's benefits than to society's costs. Therefore, the price mechanism <u>under-allocates</u> resources to the consumption of education services. There is under-consumption of education services, and hence a welfare loss to society occurs. The shaded area shows the total welfare loss to the society because of this under-allocation of resources. The market fails because allocative efficiency has not been achieved at Q, where the right amount of education services is not produced and consumed.

(b) underestimation of private benefits of education services

In the case of education, individuals who make decisions about how much education to receive do not fully appreciate the private benefits that will be received through being educated. For example, education increases the productivity of individuals and raises their salaries over their working lives. However, the increases in income are in the future, uncertain and difficult to estimate accurately. Also, as mentioned in Extract 4 Para 4, the perceived benefit is underestimated as parents may not be aware of the opportunities themselves if they are poorly educated.

This lack of information leads consumers to underestimate the private benefits of education where consumers perceived the marginal private benefit to be at MPB perceived which is lower than the actual MPB (MPB actual) when consumers have full information of their private benefits. Hence, with no government intervention, he will consume up to the point where MPB perceived = MPC (private efficiency) at Q, which is below the socially optimal output, Q* where MSC = MSB leading to under-allocation of resources and market failure.

The existence of large deadweight loss arising from the underconsumption of education services due to the existence of significant positive externalities and underestimation of true private benefits of education services, justify the intervention of the government in the market to move the consumption closer to Q*.

Evaluative Conclusion: Are equity issues more important than market failures as a reason for the government to intervene in the market for education?

[Criteria] Whether equity issues more important than market failures as a reason for the government to intervene in the market for education depends on the **nature of the economy and the timeframe which in turn is dependent on the unique challenges and goals of the economy.**

[Reasoning] For instance, in the context of a developing nation, addressing certain pressing market failures in the market for education in the short run might be essential to attract investment and foster innovation so that economic efficiency and sustained growth can be achieved. Once a foundation is established, there could be a shift towards emphasising equity in the long run to ensure that the benefits of growth are more broadly shared and distributed fairly among the population, reducing inequalities and promoting social stability. To make government intervention more balanced and effective in addressing both market failures and equity concerns, a possible refinement could be made in the provision of subsidies i.e., to provide means-tested subsidies whereby more subsidies are given to lower-income households.

[Opinion] In the long run, maintaining a careful balance between addressing market failures and promoting equity that considers the evolving needs of the economy is likely to contribute to sustainable and inclusive development of an economy.

Mark Scheme:

Level	Descriptors	Marks
L2	Thorough explanation using relevant economic concepts, making reference to case material given.	4-7
L1	Descriptive explanation with a lack of understanding of question requirement OR one-sided explanation. May contain conceptual errors.	1-3
Evaluation	Well-explained judgement based on a criterion / criterion chosen.	2-3
	For unexplained judgement or mere statements without elaboration.	1