



National Certificate of Educational Achievement  
TAUMATA MĀTAURANGA Ā-MOTU KUA TAEA

## **Exemplar for Internal Assessment Resource Economics Level 2**

### **Resource title: Cause and effect?**

This exemplar supports assessment against:

**Achievement Standard 91226**

**Analyse statistical data relating to two contemporary economic issues**

Expected responses

The moderators have developed expected student responses from a wide variety of sources

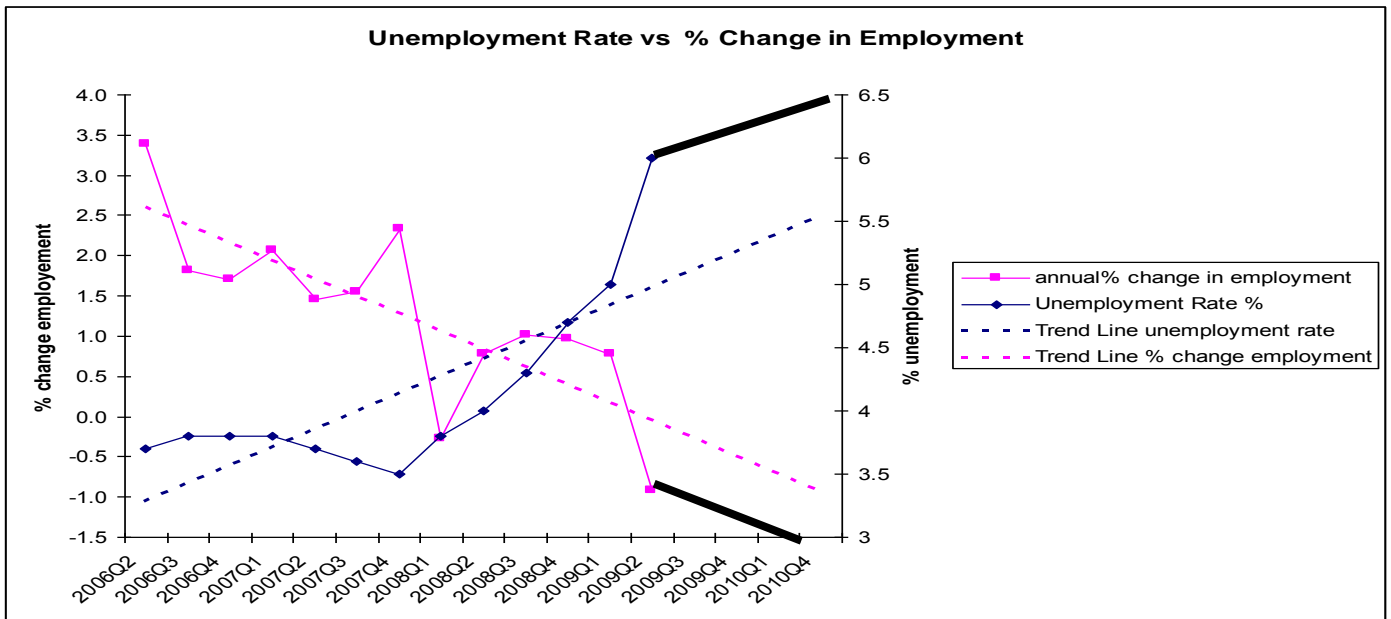
Date version published by  
Ministry of Education

December 2011  
To support internal assessment from 2012

	Grade Boundary: Low Excellence
1.	<p>The student has analysed statistical data comprehensively relating to two contemporary economic issues, which is required for Excellence.</p> <p>The student has processed employment and growth data and presented the data accurately on two graphs.</p> <p>Detailed explanations of the relationship between the percentage change in employment and the unemployment rate have been supported with direct reference to relevant data, the labour market model and a secondary information source. Refer to part A.</p> <p>The circular flow diagram has been used to fully explain the cause and effect relationship between the growth rate and the unemployment rate. Refer to part B.</p> <p>Both graphs are extrapolated for four extra time periods based on the long term trend lines, an inverse or negative relationship and the relationship shown using the circular flow diagram provide evidence of reasons for the future trends. The student has made a forecast about unemployment and the growth rate, and both predictions are partially justified by using the extrapolated data. Refer to part C.</p> <p>Percentage change in Real GDP has been processed to show annual growth rate quarterly from 2006 to 2009. Real GDP and the trend in this data has been explained, however another series of data is required to be able to explain relationships in growth data. For example, comparing the percentage change in Gross Investment and Real GDP over the same time period would show an important growth relationship and the important inter-relationship between Gross Investment and employment levels would be fully explained for Excellence.</p> <p>A more secure Excellence would be attained if the above point was addressed and more supporting evidence from the analysis that explains the extrapolated data was used as further justification. For example adding; <i>Firms are employing fewer workers so households' income decreases, resulting in further contraction in the demand for goods and services. As firms decrease output unemployment increases further. Also, when firms decrease output, there is likely to be spare capacity so that even if there is some recovery (perhaps due to demand generated by positive net migration), it is likely that firms will be able to increase production without hiring more workers. For this reason, I am predicting unemployment will continue to increase until at least the economy is well into the recovery phase.</i></p>

Table 1-Processed data same as appendix A.

**Graph 1**



Graph 1 shows the relationship between the percentage change in employment and the unemployment rate. The annual percentage change in employment measures the rate at which the number of people employed changes compared to the same time last year, while the annual unemployment rate measures, from year to year, the percentage of people in the labour force that are without work. As can be seen generally by the long term trend lines, they are inversely or negatively related in that when one goes up the other comes down, and specifically in 2007Q4 when unemployment rate dropped to its lowest (3.5%), the annual percentage change in employment experienced a sharp increase (2.3%). Similarly, in 2009Q2 when the annual percentage change in employment dropped to its lowest (-0.9%), the unemployment rate increased to its highest (6.0%), and this trend is continued to 2010 with my extrapolated data.

An increase in unemployment may be due to increased supply of labour or decreased demand for labour or a combination of both. The economic model used to explain the above relationship is the Labour Market (same as appendix C).

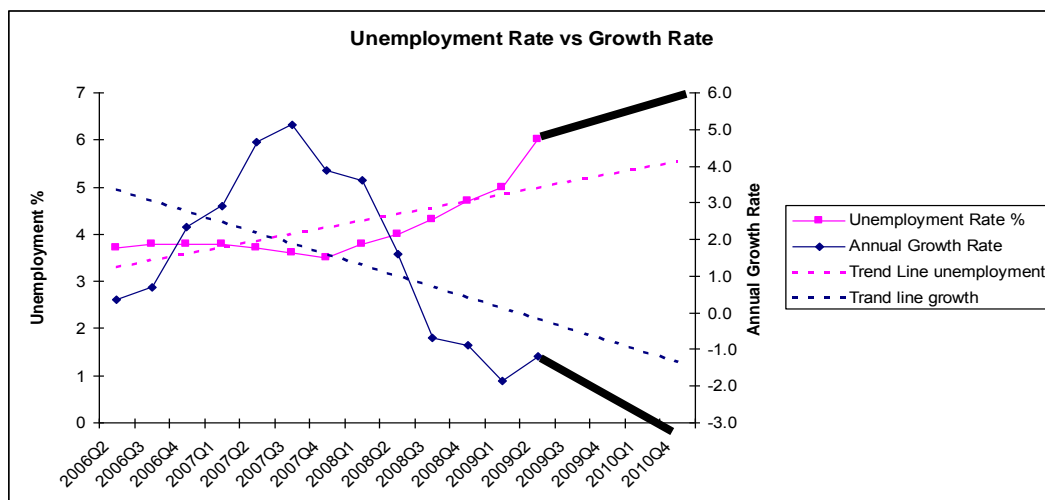
Increased supply of labour could be attributed to an increase in the birth rate or decrease in mortality rate, increase in net migration, decrease in legal school leaving age, increase in retirement age, among other factors. If supply of labour increased while the number employed remained (relatively) unchanged, then the number employed as a percentage of labour force would decrease, hence a fall in the annual percentage change in employment. According to the Statistics New Zealand's Media Release of February 2009, although modest, there was an increase in net migration gain over the period in question which attributed to the increase in supply of labour.<sup>1</sup>

Decreased demand for labour, ceteris paribus, could also lead to increased unemployment and unemployment rate. Demand for labour is a derived demand i.e. it is demanded because there is demand for the good or service it produces. Employers or producers demand (or buy) labour and if their demand for labour decreases, employment will decrease while unemployment increases. This is supported by the trend shown by the Real GDP. From 2008Q3 (Table 1-same as appendix A), the Real GDP decreased,

<sup>1</sup> International Travel and Migration: February 2009 – Media Release

representing a slowing of economic activity or downturn in the economy. Production of goods and services decreased, thus producers or firms reduced their demand for labour resulting in higher unemployment.

**Graph 2**

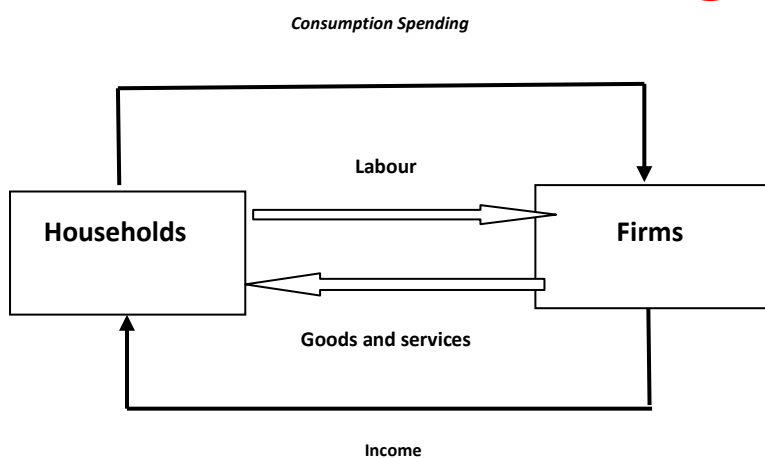


Graph 2 shows the relationship between the percentage change in Real GDP (Growth Rate) and the unemployment rate. The annual percentage change in Real GDP measures the rate at which the dollar value (measured at constant prices) of goods and services produced in the country changes compared to the same

time last year, while the annual unemployment rate measures, from year to year, the percentage of people in the labour force that are without work. As can be seen by the long term trend lines, they are inversely or negatively related in that when one goes up the other comes down, so the extrapolation follows the trend lines.

**Diagram 3: Simple 2-Sector Circular Flow**

**B**



The circular flow model can be used to show this relationship. As the Real GDP decreases, this means that firms are producing less i.e. output decreases. When firms cut down on production, they will require fewer workers so demand for labour decreases. (The real flow of LABOUR decreases) As explained above, this will lead to increased unemployment. This means that the income paid to households will also decrease (Money flow of INCOME decreases). With decreased income households will spend less on goods and services (Money flow of CONSUMPTION SPENDING decreases) and this is met by a

corresponding decrease in the real flow of GOODS and SERVICES from firms to households. This decreased consumption spending will lead to further reduction in output which will mean a further decrease in the use of resources including labour.

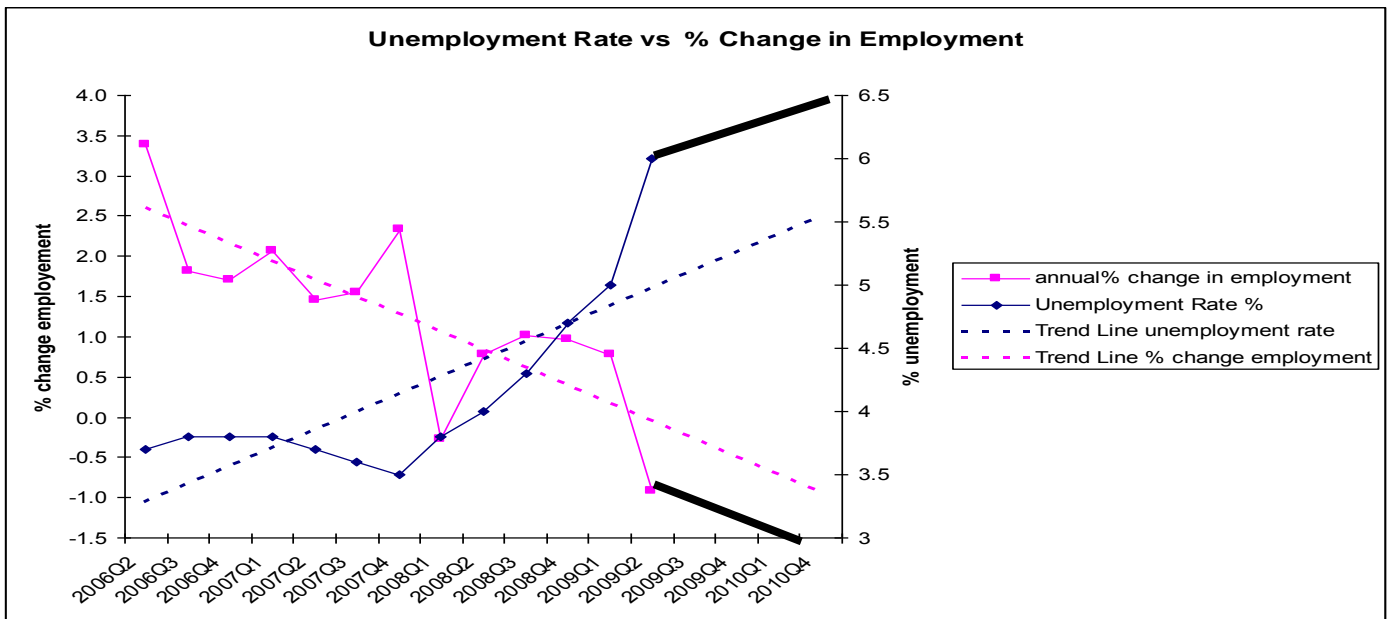
Based on my observations and the economic analysis I have done above, I am predicting that unemployment will continue to rise from 2009Q3 into 2010, or at least for the next 4 quarters. Based on the long term trend for Real GDP Growth Rate, I am also predicting that the Growth Rate will decrease within the same time period. My justification for this prediction is based on the fact that the Annual Growth Rate has been decreasing for the past 4 quarters so production levels have been lower than the same time last year.

**C**

	Grade Boundary: High Merit
2.	<p>The student has analysed statistical data in depth relating to two contemporary economic issues, which is required for Merit.</p> <p>The student has processed employment and growth data and presented the data accurately on two graphs.</p> <p>Detailed explanations of the relationship between the percentage change in employment and the unemployment rate have been supported with direct reference to relevant data, and the labour market model. Refer to part D.</p> <p>Percentage change in Real GDP has been processed to show annual growth rate quarterly from 2006 to 2009. The Real GDP trend in this data has been explained; however another series of data is required to be able to explain relationships in growth data. For example, comparing the percentage change in Gross Investment and Real GDP over the same time period would show an important growth relationship and the important inter-relationship between Gross Investment and employment levels would be fully explained for Merit and Excellence.</p> <p>The circular flow diagram has been used to fully explain the cause and effect relationship between the growth rate and the unemployment rate. Refer to part E.</p> <p>Both graphs are extrapolated for four extra time periods based on the long term trend lines, an inverse or negative relationship, and the relationship shown using the circular flow diagram provides some evidence of reasons for the future trends. However, the student has not made a justified forecast using the extrapolations from both contemporary economic issues with supporting evidence from the analysis that explains the extrapolated data which is required for Excellence.</p>

Table 1-Processed data same as appendix A.

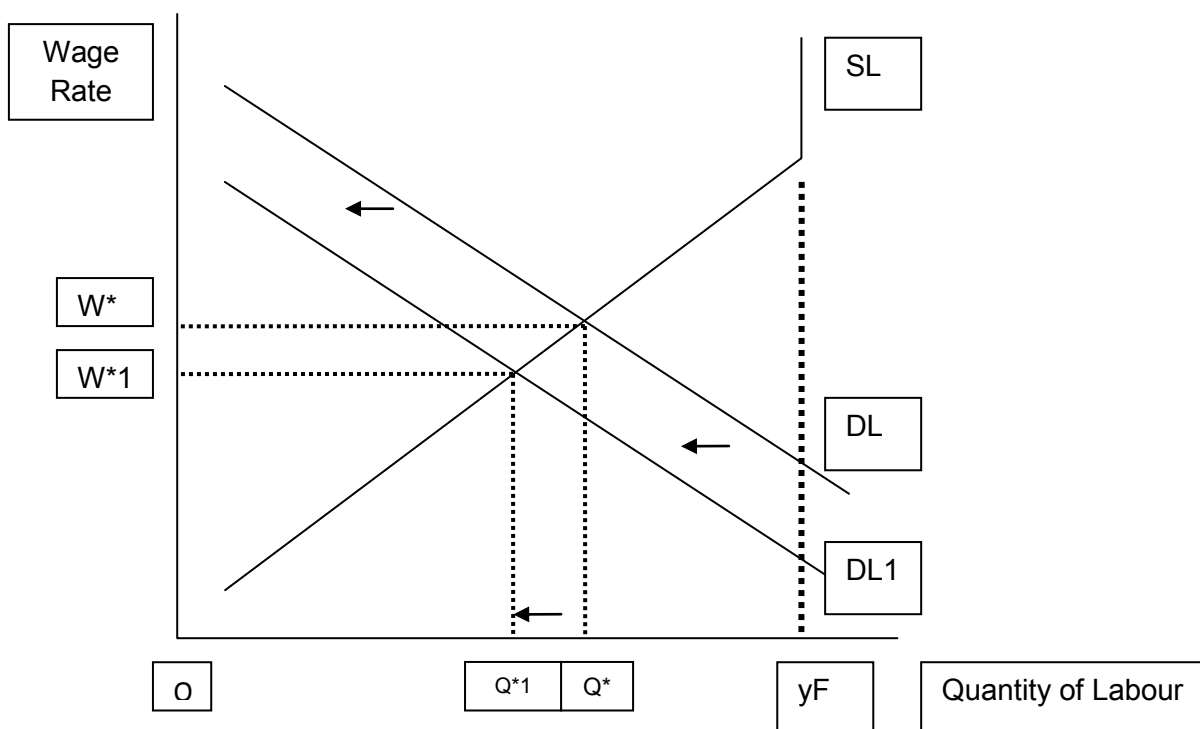
Graph 1



Graph 1 shows the relationship between the percentage change in employment and the unemployment rate. As can be seen generally by the long term trend lines, they are inversely or negatively related in that when one goes up the other comes down. In 2007Q4 the unemployment rate dropped to its lowest (3.5%), the annual percentage change in employment sharply increased (2.3%), and in 2009Q2 the annual percentage change in employment dropped to its lowest (-0.9%), while the unemployment rate increased to its highest (6.0%). An increase in unemployment may be due to decreased demand for labour. Decreased demand for labour could lead to increased unemployment and unemployment rate.

D

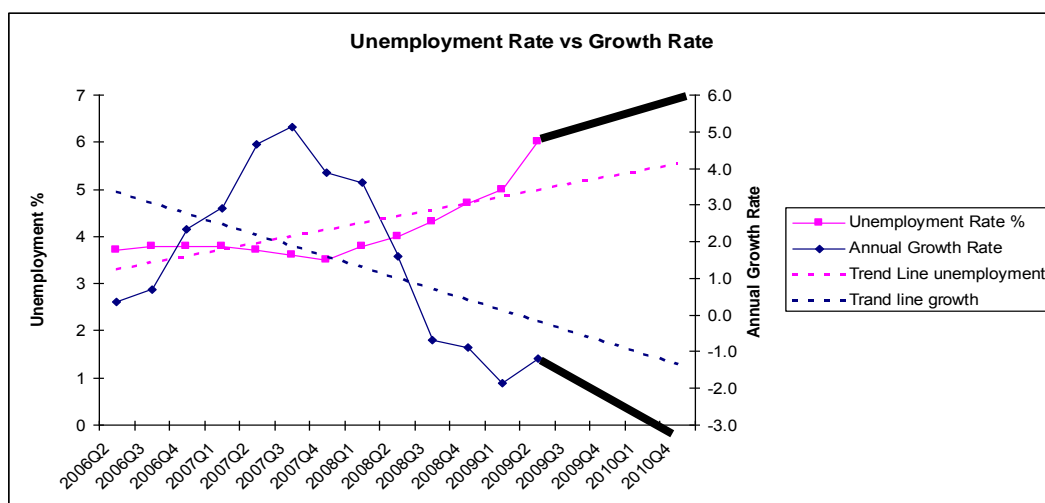
Diagram 1: Demand for labour decreases



When Real GDP decreases it means production of goods and services decreases, therefore producers or firms will reduce their demand for labour resulting in greater unemployment, as seen in the labour market

model above where employment has decreased from O-Q\* to O-Q\*1. Because of this relationship and backed by the long term trends, I have extrapolated the trend lines to show continuing increases in the unemployment rate and corresponding decreases in the annual percentage change in employment for the next four quarters.

## Graph 2

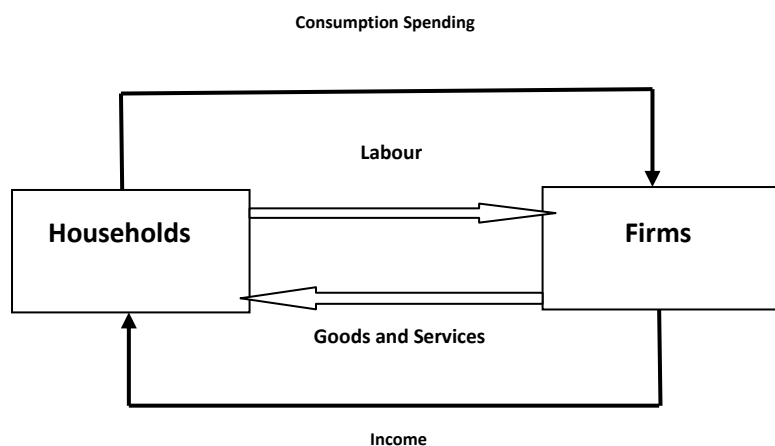


Graph 2 shows the relationship between the percentage change in Real GDP (Growth Rate) and the unemployment rate. As can be seen by the long term trend lines, they are inversely or negatively related in that when one goes up the other comes down. Because of this

relationship and backed by the long term trends, I have extrapolated the trend lines to show continuing decreases in the annual growth rate and corresponding increases in the unemployment rate for the next four quarters.

E

## Diagram 2: 2-Sector Circular Flow Model



The circular flow model can be used to show this relationship. As the Real GDP decreases, this means that firms are producing less i.e. output decreases. When firms cut down on production, they will require fewer workers so demand for labour decreases. (The real flow of LABOUR decreases) As explained above, this will lead to increased unemployment. This means that the income paid to households will also decrease (Money flow of INCOME decreases). With decreased income households will spend less on goods and services (Money flow of CONSUMPTION SPENDING decreases) and this is met by a corresponding decrease in the real flow of GOODS and SERVICES from firms

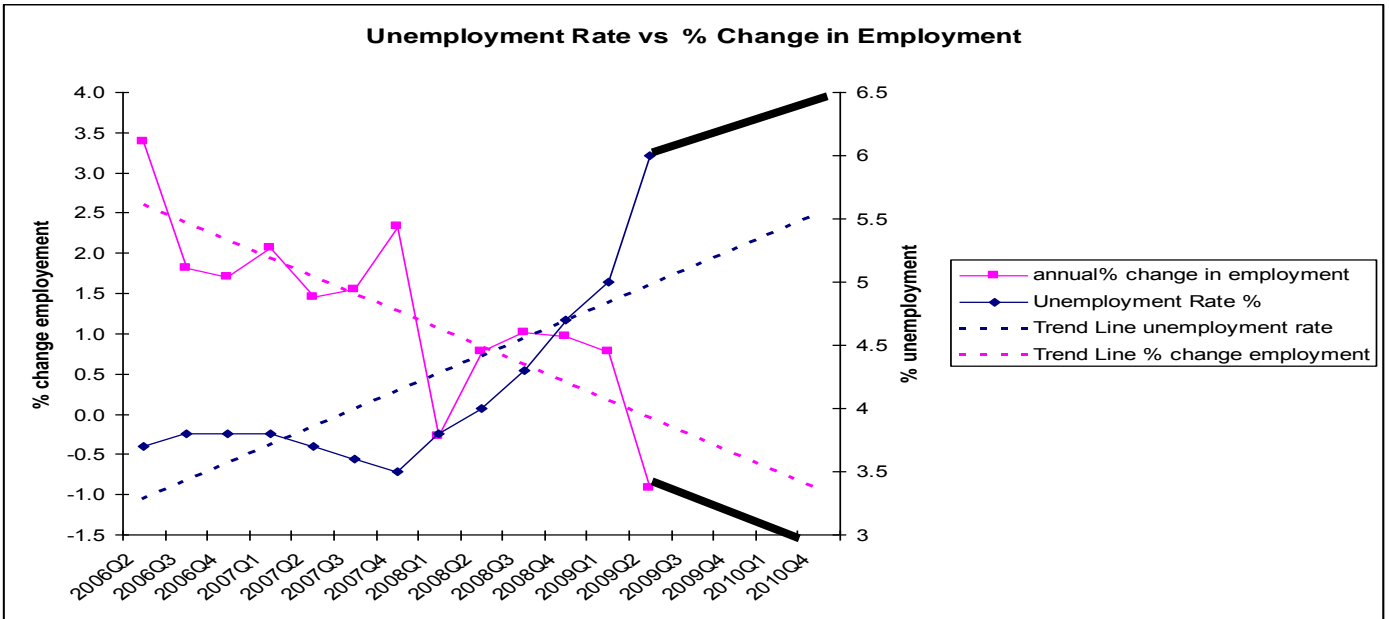
to households. This decreased consumption spending will lead to further reduction in output which will mean a further decrease in the use of resources including labour.

	Grade Boundary: Low Merit
3.	<p>The student has analysed statistical data in depth relating to two contemporary economic issues, which is required for Merit.</p> <p>The student has processed employment and growth data and presented the data accurately on two graphs.</p> <p>The relationship between the percentage change in employment and the unemployment rate have been supported with direct reference to relevant data, and the labour market model, and some of the explanations demonstrate more than a basic understanding of the related economic concepts, which is required for Merit. Refer to part F.</p> <p>Percentage change in Real GDP has been processed to show annual growth rate quarterly from 2006 to 2009. The Real GDP trend in this data has been explained; however another series of data is required to be able to explain relationships in growth data. For example, comparing the percentage change in Gross Investment and Real GDP over the same time period would show an important growth relationship and the important inter-relationship between Gross Investment and employment levels would be fully explained for Merit.</p> <p>The circular flow diagram has been used to support the inter-relationships between the growth rate and the unemployment rate, although not fully incorporated into the explanations. Refer to part G.</p> <p>A more secure Merit would be attained if the above points were addressed. Additionally, while both graphs are extrapolated for four extra time periods based on the long term trend lines, the student has not provided evidence of a justified forecast based on the extrapolations for a contemporary economic issue, which is required for Excellence.</p>



Table 1-Processed data same as appendix A.

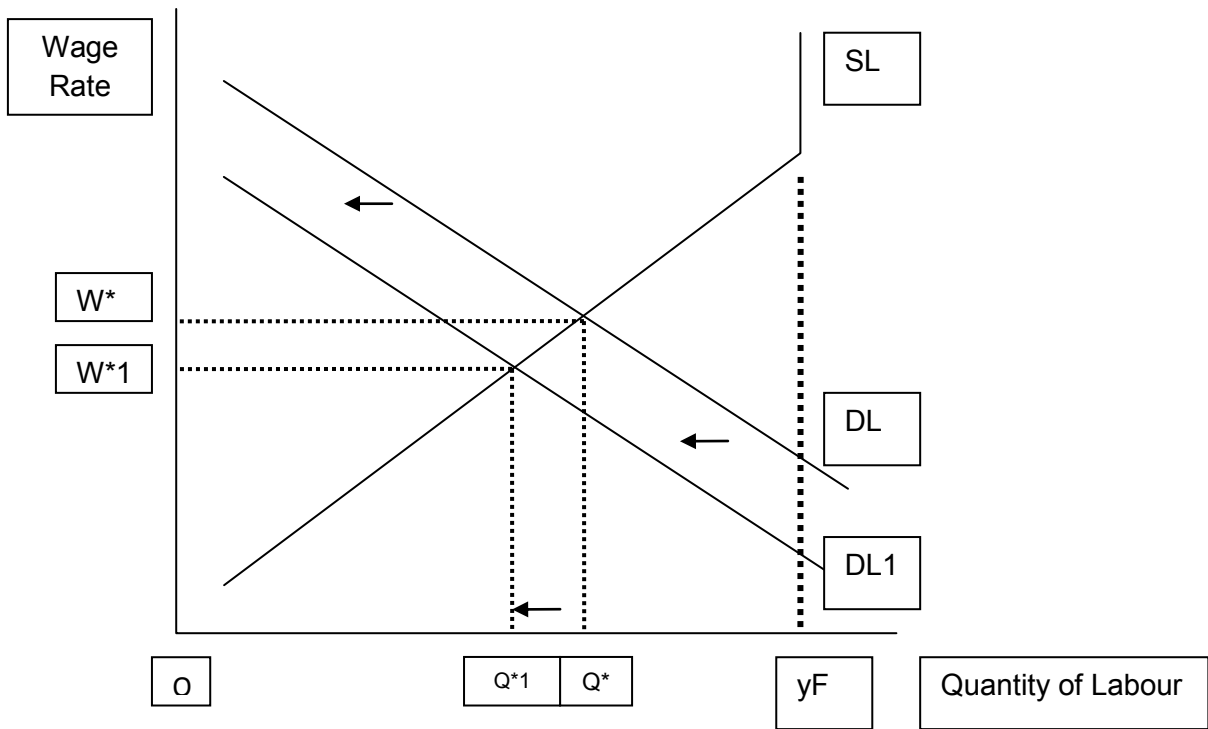
Graph 1



Graph 1 shows the relationship between the percentage change in employment and the unemployment rate. The long term trend lines are negatively related in that when one goes up the other comes down. In 2007Q4 the unemployment rate dropped to its lowest (3.5%), the annual percentage change in employment sharply increased (2.3%), and in 2009Q2 the annual percentage change in employment dropped to its lowest (-0.9%), while the unemployment rate increased to its highest (6.0%). An increase in unemployment may be due to decreased demand for labour. Decreased demand for labour could lead to increased unemployment and unemployment rate.

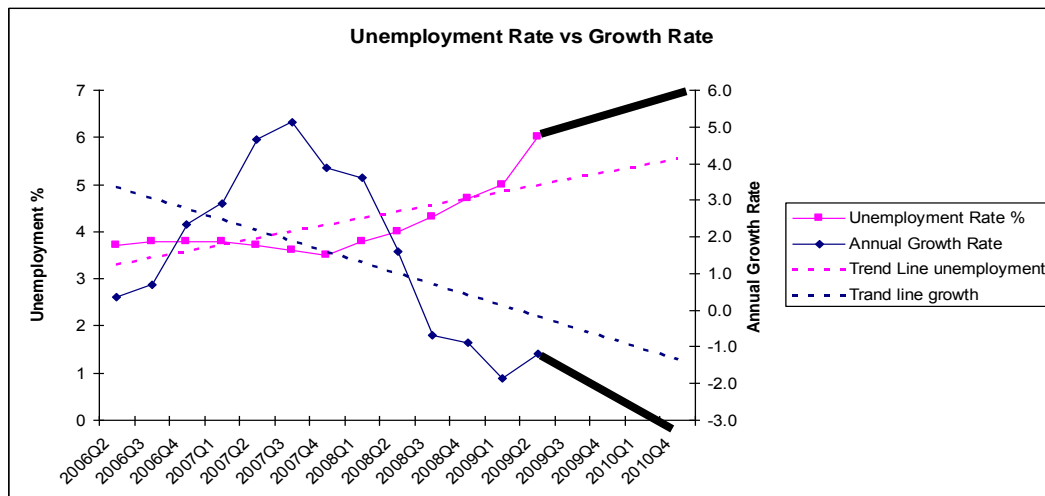
F

Diagram 1: Demand for labour decreases



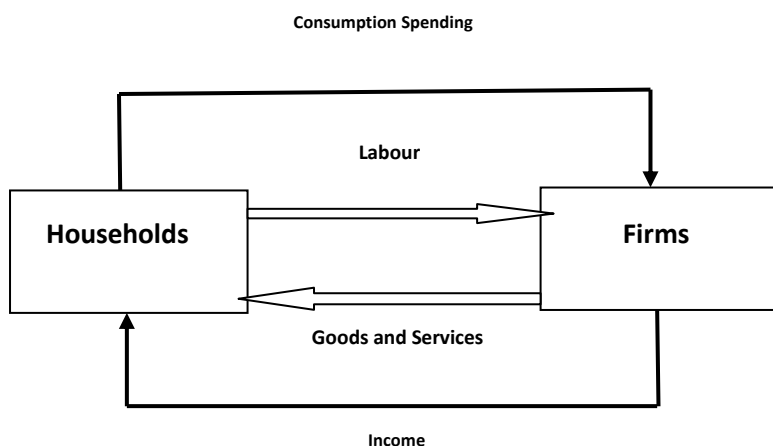
When Real GDP decreases it means production of goods and services decreases, therefore producers or firms will reduce their demand for labour resulting in greater unemployment, as seen in the labour market model above where employment has decreased from O-Q\* to O-Q\*1.

## Graph 2



Graph 2 shows the relationship between the percentage change in Real GDP (Growth Rate) and the unemployment rate. As can be seen by the long term trend lines, they are negatively related in that when one goes up the other comes down.

## Diagram 2: 2-Sector Circular Flow Model



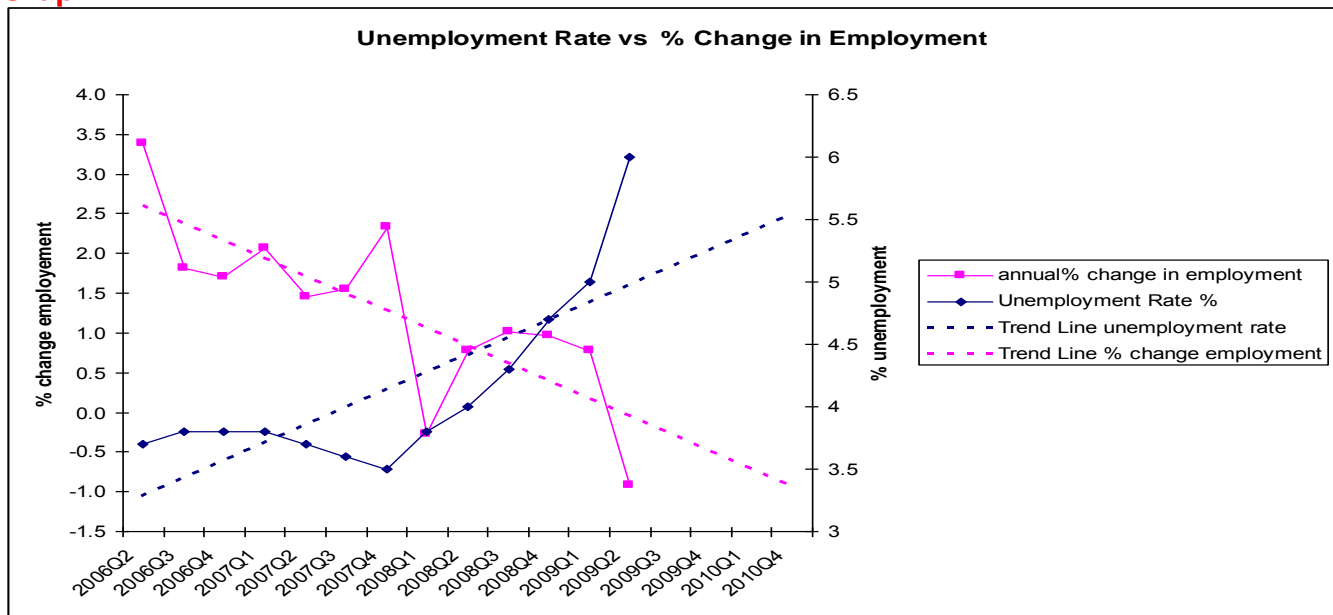
G

This can be explained using the circular flow model. When firms cut down on production, they will require fewer workers so demand for labour decreases. This means that the income paid to households will also decrease. With decreased income households will spend less on goods and services and this will decrease the real flow of goods and services from firms to households. This decreased consumption spending will lead to further reduction in output which will mean a further decrease in the use of resources including labour.

	Grade Boundary: High Achieved
4.	<p>The student has analysed statistical data relating to two contemporary economic issues, which is required for Achieved.</p> <p>The student has processed employment and growth data and presented the data accurately on two graphs.</p> <p>The relationship between the percentage change in employment and the unemployment rate have been supported with direct reference to relevant data, and the labour market model, and some of the language used demonstrates more than a basic understanding of the related economic concepts, but the explanation is limited and requires more breadth for Merit. Refer to part H.</p> <p>Percentage change in Real GDP has been processed to show annual growth rate quarterly from 2006 to 2009. The Real GDP trend in this data has been explained; however another series of data is required to be able to explain relationships in growth data. For example, comparing the percentage change in Gross Investment and Real GDP over the same time period would show an important growth relationship and the important inter-relationship between Gross Investment and employment levels would be fully explained for Merit.</p> <p>The circular flow diagram has been used to support the explanation of the inter-relationships between the growth rate and the unemployment rate, and some of the economic language again demonstrates more than a basic understanding. However, more detail is needed in the explanations to meet the requirements of Merit, which requires students to analyse the statistical data in depth. Refer to part I.</p>

Table 1-Processed data same as appendix A.

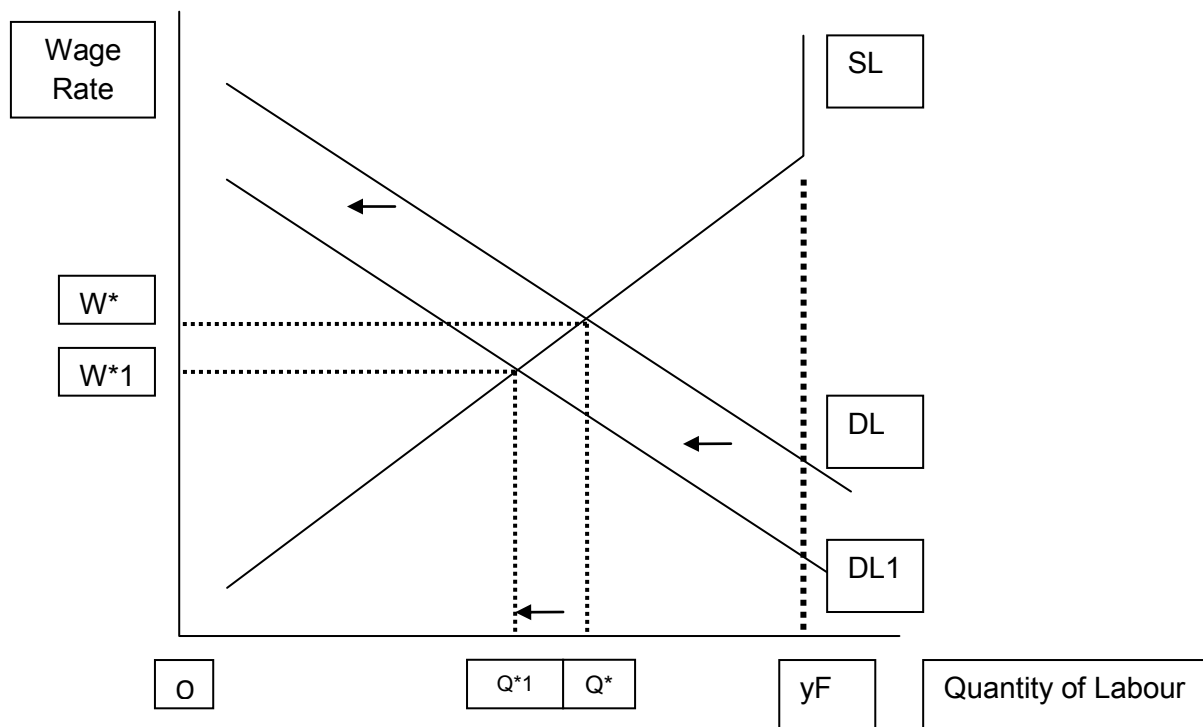
Graph 1



Graph 1 shows the relationship between the percentage change in employment and the unemployment rate. In 2007Q4 the unemployment rate dropped to its lowest (3.5%), the annual percentage change in employment sharply increased (2.3%), and in 2009Q2 the annual percentage change in employment dropped to its lowest (-0.9%), while the unemployment rate increased to its highest (6.0%). The trend lines show that they are inversely or negatively related in that when the percentage change in employment decreases, the unemployment rate increases and vice versa. This means that when the percentage change in the number employed decreases, the number unemployed as a percentage of labour force increases. An increase in unemployment may be due to decreased demand for labour.

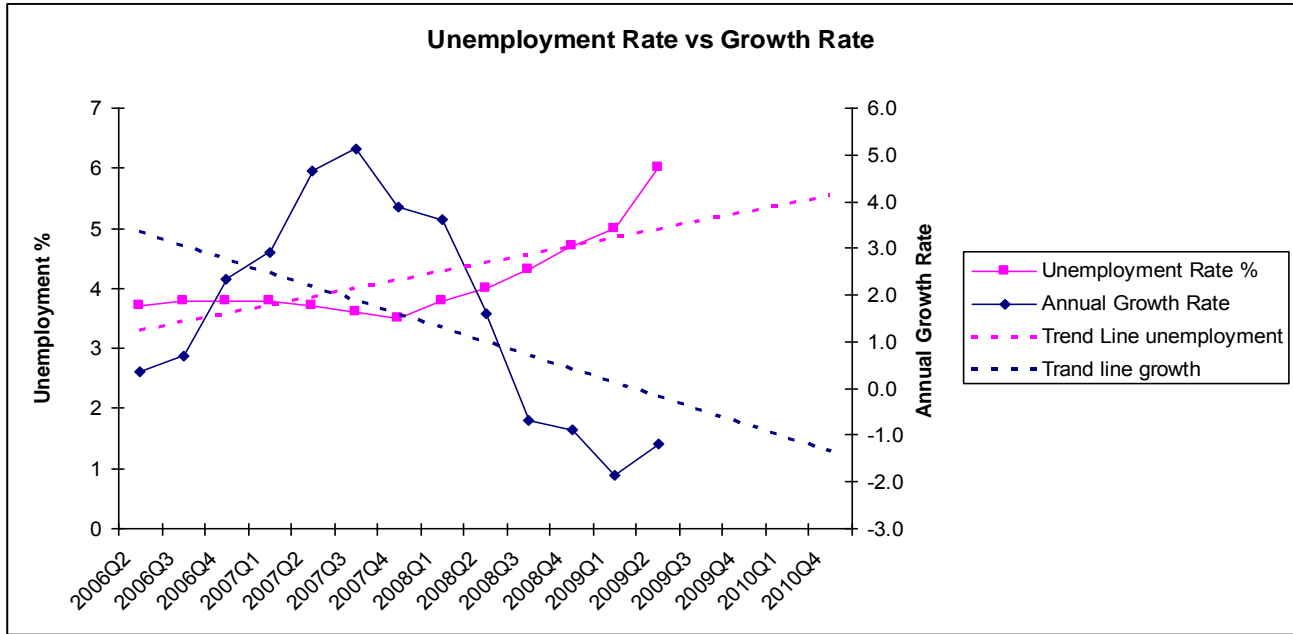
H

Diagram 1: Demand for labour decreases



Decreased demand for labour could lead to increased unemployment and unemployment rate. This is seen in the labour market model above where employment has decreased from O-Q\* to O-Q\*1.

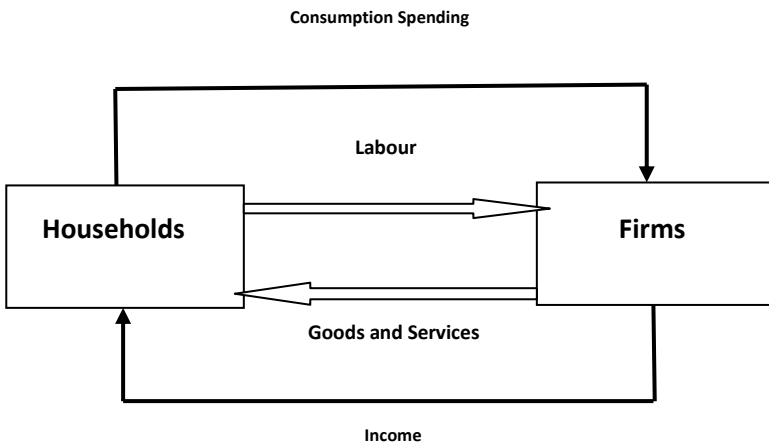
**Graph 2**



Graph 2 shows the relationship between the percentage change in Real GDP (Growth Rate) and the unemployment rate. The trend lines show that they are also inversely or negatively related in that when the percentage change in Real GDP (Growth Rate) decreases and the unemployment rate increases and vice versa. This means that when the economy produces less, fewer workers are employed so unemployment increases.



**Diagram 2: Circular Flow Model**

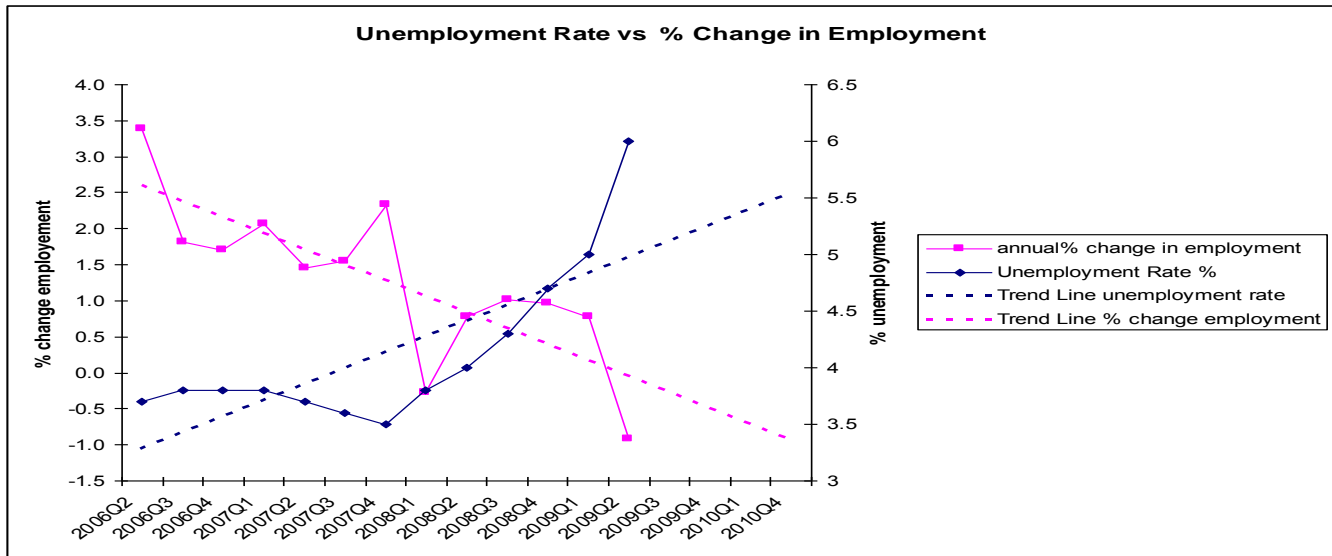


This can be explained using the circular flow model. When firms cut down on production, they will require fewer workers so demand for labour decreases. This means that the income paid to households will also decrease. With decreased income households will spend less on goods and services and this will decrease the real flow of goods and services from firms to households. This decreased consumption spending will lead to further reduction in output which will mean a further decrease in the use of resources including labour.

	Grade Boundary: Low Achieved
5.	<p>The student has analysed statistical data relating to two contemporary economic issues, which is required for Achieved.</p> <p>The student has processed employment and growth data and presented the data accurately on two graphs.</p> <p>The relationship between the percentage change in employment and the unemployment rate have been supported with the labour market model, but no direct reference to data has been included in the limited explanation. Refer to part J.</p> <p>Percentage change in Real GDP has been processed to show annual growth rate quarterly from 2006 to 2009. The Real GDP trend in this data has been explained; however another series of data is required to be able to explain relationships in growth data. For example, comparing the percentage change in Gross Investment and Real GDP over the same time period would show an important growth relationship and the important inter-relationship between Gross Investment and employment levels would be explained for Achieved.</p> <p>The circular flow diagram has been used to briefly explain the inter-relationships between the growth rate and the unemployment rate. Refer to part K.</p> <p>A more secure Achieved would include specific reference to data to support the explanations of the relationships in the statistical data, and expansion of economic concepts used to support the explanations of the inter-relationships between the two contemporary economic issues.</p>

Table 1-Processed data same as appendix A.

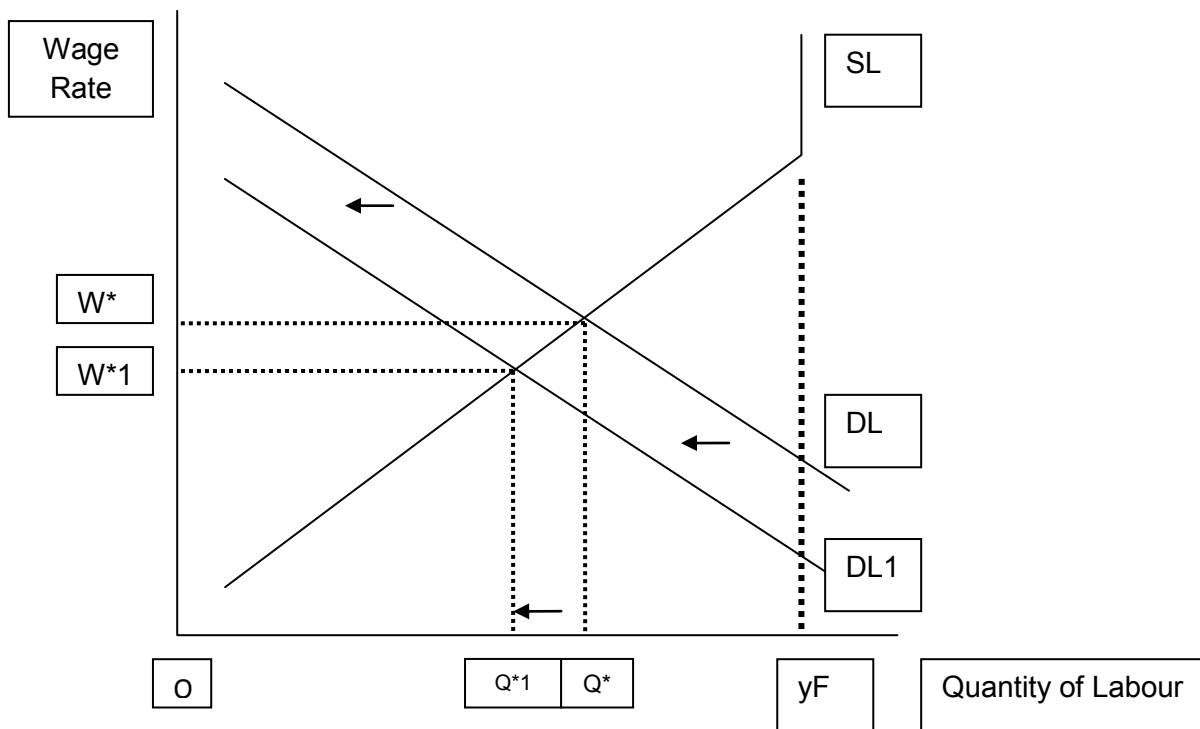
Graph 1



Graph 1 shows the relationship between the percentage change in employment and the unemployment rate. The trend lines show that when the percentage change in employment decreases, the unemployment rate increases and vice versa. An increase in unemployment may be due to decreased demand for labour.

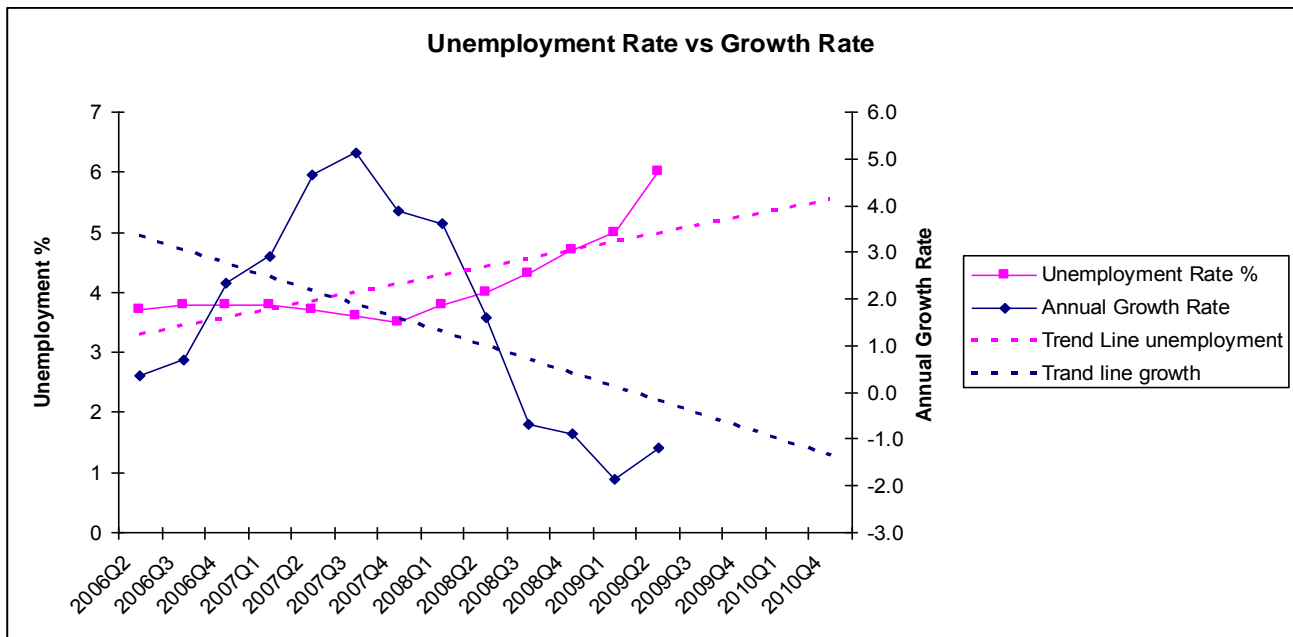
Diagram 1: Demand for labour decreases

J



Decreased demand for labour could lead to increased unemployment and unemployment rate. This is seen in the labour market model above where employment has decreased from  $O-Q^*$  to  $O-Q^*1$ .

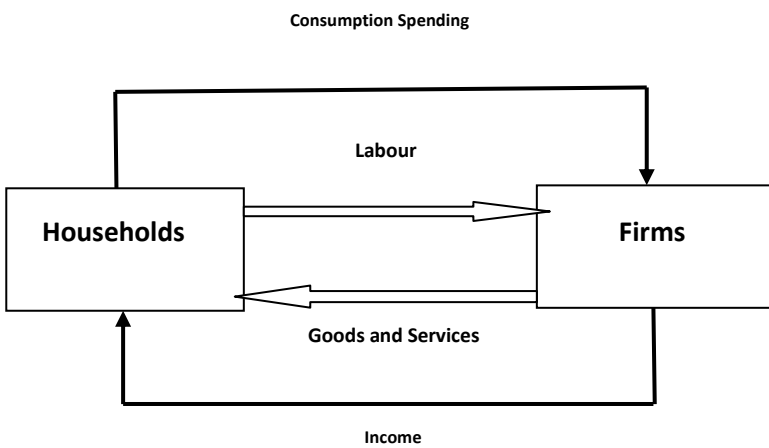
**Graph 2**



Graph 2 shows the relationship between the percentage change in Real GDP (Growth Rate) and the unemployment rate. The trend lines show that when the percentage change in Real GDP (Growth Rate) decreases and the unemployment rate increases and vice versa. This means that when the economy produces less, fewer workers are employed so unemployment increases.

K

**Diagram 2: Circular Flow Model**



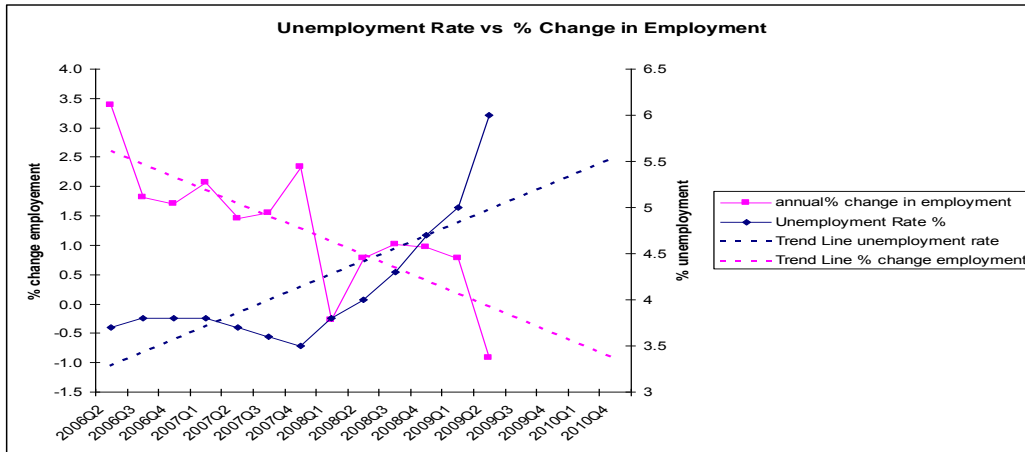
The circular flow model shows this, because when firms produce less, they require fewer workers so demand for labour decreases. This means that the income paid to households will also decrease. With decreased income households will spend less on goods and services and this will decrease the real flow of goods and services from firms to households. This decreased consumption spending will lead to further reduction in output which will mean a further decrease in the use of labour.



	Grade Boundary: High Not Achieved
6.	<p>The student has not adequately analysed statistical data relating to two contemporary economic issues, which is required for Achieved.</p> <p>The student has processed employment and growth data and presented the data accurately on two graphs. However, the relationship between the percentage change in employment and the unemployment rate has not been supported with economic concepts or a labour market model, and no direct reference to data has been included in the explanation. Refer to part L.</p> <p>Percentage change in Real GDP has been processed to show annual growth rate quarterly from 2006 to 2009. The Real GDP trend in this data has been explained; however another series of data is required to be able to explain relationships in growth data. For example, comparing the percentage change in Gross Investment and Real GDP over the same time period would show an important growth relationship and the important inter-relationship between Gross Investment and employment levels would be explained for Achieved.</p> <p>The circular flow diagram has been used to briefly explain the inter-relationships between the growth rate and the unemployment rate. Refer to part M.</p> <p>The analysis of statistical data is limited as there is a lack of economic concepts and/or models used in the explanation of the relationships in the statistical data for unemployment, so overall the student has not met the requirements of Achieved.</p>

Table 1-Processed data same as appendix A.

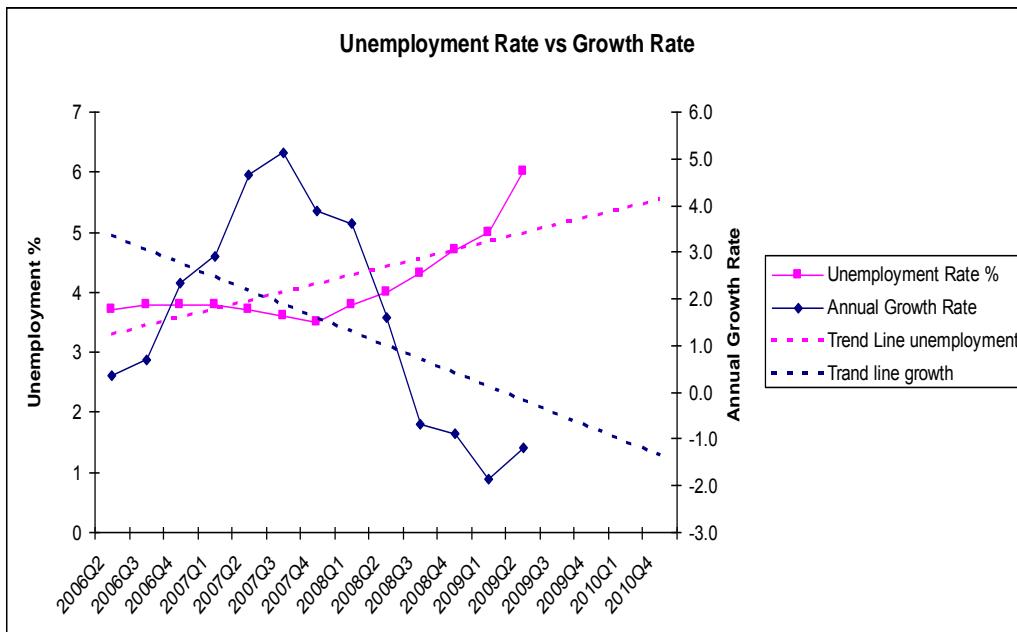
Graph 1



Graph 1 shows the relationship between the percentage change in employment and the unemployment rate. The trend lines show that when the percentage change in employment decreases, the unemployment rate increases and vice versa.

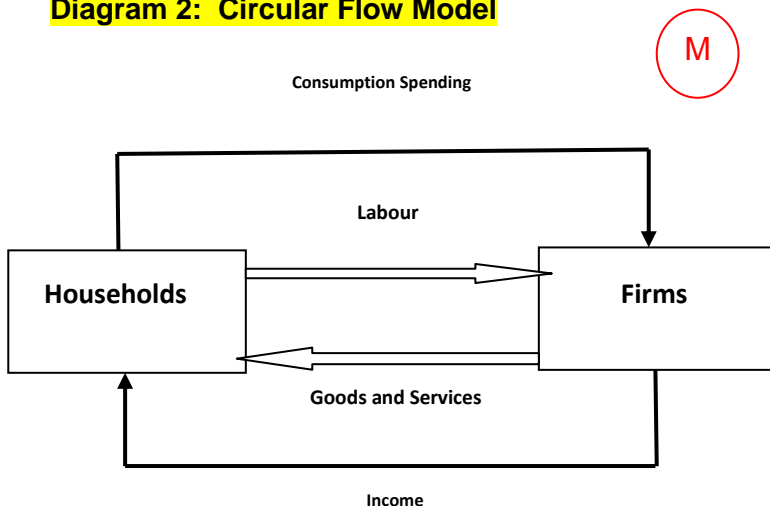
L

Graph 2



Graph 2 shows the relationship between the percentage change in Real GDP (Growth Rate) and the unemployment rate. The trend lines show that when the percentage change in Real GDP (Growth Rate) decreases and the unemployment rate increases and vice versa. This means that when the economy produces less, fewer workers are employed so unemployment increases.

Diagram 2: Circular Flow Model



The circular flow model shows this, because when firms produce less, they require fewer workers so demand for labour decreases. This means that the income paid to households will also decrease. With decreased income households will spend less on goods and services and this will decrease the real flow of goods and services from firms to households. This decreased consumption spending will lead to further reduction in output which will mean a further decrease in the use of labour.