

- 2 While the US struggles with sluggish economic recovery, retail food prices are expected to rise by 2.5%-3.5% this year, up from 1.4% in 2013. Much of the rise comes from higher meat and dairy prices. In California, the biggest US producer of agricultural products, about 95% of the state is suffering from drought conditions.

Source: Wall Street Journal, 18 March 2014

- (a) Explain the combined effect of food cost increases and sluggish economic recovery on the expenditure by US consumers on grocery items such as meat and dairy products. [10]
- (b) Discuss the policy options that governments may adopt to stabilise food prices. [15]

Question requirements:

- a) Explain the shifts in DD and SS in the market for grocery (food) items, weigh the relative shifts in DD and SS, then recognise the indeterminate effect on consumer expenditure based on types (nature) of grocery items, differences in income levels, etc.
- b) Identify and explain the policy options which are suitable to stabilise food prices, before discussing them in terms of effectiveness, sustainability, etc. 'Stabilise' should not be seen as preventing increases only but more so to minimise the fluctuations in prices (frequency and more specifically, the magnitude).

Suggested Answers for Q2(a)

Explain the combined effect of food cost increases and sluggish economic recovery on the expenditure by US consumers on grocery items such as meat and dairy products. [10]

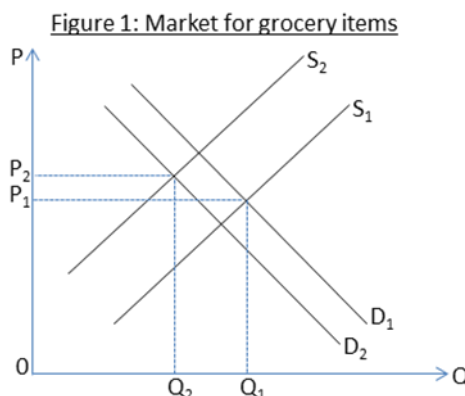
NOTE to students: While the complexity in the suggested answers is not expected, information and analysis in the table on page 3 will help offer different angles to the analysis.

What is the issue?

- 'sluggish economic recovery' → income falls or grows at a slower pace → demand for food falls
- 'higher meat and dairy prices', 'drought conditions' → food cost increases → supply of food falls

How would 'food cost increases' and 'sluggish economic recovery' affect market for grocery items?

- DD falls → DD curve shifts left from D_1 to D_2 → downward pressure on equilibrium P and Q
- SS falls → SS curve shifts left S_1 to S_2 → downward pressure on Q but upward pressure on P
- Final outcome: equilibrium Q will certainly fall but effect on P is indeterminate. A possible outcome in the diagram below shows that equilibrium P rises because the fall in SS is greater than the fall in DD



How would changes in equilibrium P and Q affect US consumers' expenditure on grocery items?

In general, grocery items (broad definition) are food items which are essential for basic survival. Therefore, it should likely have $PED < 1$ and positive $YED < 1$ (normal necessity).

However, the **PED values** of grocery items would vary across:

- 1) different items - those which are considered as essential and staple e.g. milk, cereals, meats, potatoes, are likely to have lower PED than say, grocery items such as candies, soft drinks, beer
- 2) different households – e.g. those with babies and young children would assign a much lower PED for milk formula as compared to those with older children or without children; or demand for meat would be perfectly price elastic for vegetarians or vegans but relatively price inelastic for households which are meat lovers
- 3) different income groups - lower-income groups are likely to spend a larger proportion of their income on grocery items and thus, their PED for these goods would be much lower than that for the higher-income group

Similarly, the **YED values** of grocery items would vary across:

- 4) different items – although essential and staple grocery items e.g. milk, cereals, meats, potatoes, are likely to have lower YED than say, candies, even the YED value for meats would vary depending on the type of cuts and whether it is fresh or frozen (luxury vs. necessity)
- 5) different households – e.g. those with babies would see their demand for milk formula to be positive income inelastic because the babies need milk regardless of changes in income levels
- 6) different income groups – while ready meals (e.g. mac and cheese) may be seen as a necessity for some households ($+YED < 1$), these could be luxuries for the lower-income households who view home-cooked pasta as cheaper alternatives (or even other grocery items which are substantial enough to be considered their meals). In fact, households which suffer a fall in income (or loss of jobs) may now switch to grocery items which appear to be inferior/less superior, e.g. minced meat or frozen meat as opposed to fresh cuts or steaks.

Examples of common grocery items in the US:

Eggs & dairy e.g. milk, cheese	Fruits e.g. bananas, grapes, apples, oranges
Meats e.g. beef, poultry, ham	Vegetables e.g. potatoes, carrots, sprouts, salad
Hot dogs, meat patties, nuggets	Drinks e.g. juices, milk shakes, coffee, tea, beer
Bread/buns/rolls, cereal, pasta	Snacks e.g. chips, snack bars, chocolates, candies
Jam, butter, peanut butter	Ready meals & frozen pizza

The table below shows **SOME POSSIBLE OUTCOMES** of how US consumers' expenditure on grocery items would change as a result of 'food cost increases' and 'sluggish economic recovery':

<div><div>PED</div><div>YED</div></div>	Groceries which are not necessities Demand is price elastic (PED>1)		Groceries which are necessities Demand is price inelastic (PED<1)	
	Specify the grocery items which are relevant to your examples/scenarios			
Normal luxury +ve YED > 1	Rise in food costs → P rises less than proportionate to the fall in Q → expenditure falls	Fall in income → more than proportionate fall in DD → large fall in Q → expenditure falls	Rise in food costs → P rises more than proportionate to the fall in Q → expenditure rises	Fall in income → more than proportionate fall in demand → large fall in Q → expenditure falls
	Consumer expenditure will unambiguously fall. (Show diagram)		Uncertain if consumer expenditure will rise or fall - depends on the extent of shifts in DD and SS. (Show diagram)	

<div><div>PED</div><div>YED</div></div>	Groceries which are not necessities Demand is price elastic (PED>1)		Groceries which are necessities Demand is price inelastic (PED<1)	
	Specify the grocery items which are relevant to your examples/scenarios			
Normal necessity +ve YED < 1	Rise in food costs → P rises less than proportionate to the fall in Q → expenditure falls	Fall in income → less than proportionate fall in DD → small fall in Q → expenditure falls	Rise in food costs → P rises more than proportionate to the fall in Q → expenditure rises	Fall in income → less than proportionate fall in DD → small fall in Q → expenditure falls
	Consumer expenditure will unambiguously fall. (Show diagram)		Uncertain if consumer expenditure will rise or fall - depends on the extent of shifts in DD and SS. (Show diagram)	
Inferior good -ve YED	Rise in food costs → P rises more than proportionate to the fall in Q → expenditure falls	Rise in Y → fall in demand → fall in Q → expenditure falls		
	Consumer expenditure will unambiguously fall. (Show diagram)			

Conclusion: Regardless of the sign and value of the YED coefficients, as long as demand for groceries is price elastic, consumers' expenditure on groceries will fall due to the combined effect of higher food costs and fall in income. The outcomes are less definite when demand is relatively price inelastic.

Note: Students are not required to cover all possible scenarios in the table above. As long as answers are able to present scenarios with different PED and YED values, and acknowledge that the final outcomes depend not only on the elasticity concepts but also magnitude of shifts in DD and SS, the answers should be able to move to Level 3.

Level	Descriptors for Q2(a)	Marks
L3	<ul style="list-style-type: none"> Developed analysis + well-illustrated with scenario/example: <ul style="list-style-type: none"> considers combined effect of lower income + higher food costs on US consumers' expenditure on grocery items uses YED + PED to distinguish the impact on consumers' expenditure of different groups of consumers 	9-10
	<ul style="list-style-type: none"> Developed analysis (even without illustration) which is able to unpack the individual effects (of ↓DD and ↓SS). Able to show that of ↓DD will lead to a fall in consumer expenditure, and effect of ↓SS on consumer expenditure will depend on PED. 	7-8
L2	<ul style="list-style-type: none"> Uses DD-SS analysis but: <ul style="list-style-type: none"> considers only effect of either lower income or higher food costs attempts to consider the DD or SS effect on consumer expenditure 	6
	<ul style="list-style-type: none"> Uses DD-SS analysis but only considers effects on equilibrium P & Q and not consumer expenditure. Answer over-generalises, not answering the question. 	5
L1	<ul style="list-style-type: none"> Listing or mere description of points, with some conceptual inaccuracies No use of DD-SS framework or relevant economic concepts 	3-4
	<ul style="list-style-type: none"> Many conceptual errors Irrelevant answers 	1-2

Suggested Answers for Q2(b)

Discuss the policy options that governments may adopt to stabilise food prices.

[15]

What is meant by 'to stabilise prices'?

- To stabilise means to minimise fluctuations; it is not merely about reducing prices
- To stabilise prices is thus to minimise the increases in prices or the fall in prices, as well as to reduce the frequency in price changes (upward or downward)

Why is there a need to stabilise prices?

- In the context of this question, stabilising prices would more appropriately refer to minimising price increases in the retailing of grocery items
- Rising food costs would affect the livelihood and SOL of Americans. The impact of rising food costs is further exacerbated by the sluggish economic conditions, which means AD is falling or growing very slowly. This means that many Americans could be jobless or are struggling to keep their jobs.
- The main objective to stabilise prices is thus to prevent erosion of purchasing power which may lead to a more inequitable distribution of goods

What are the policy options to stabilise prices? How do they work? How effective are they?

Measure	How do they work?	How effective are they in stabilising prices?
Price ceiling	Set the maximum price (which is below market equilibrium) at which retailers are allowed to sell their good(s)	<ul style="list-style-type: none"> ✓ Prices are fixed and prevented from rising ✓ Maintains affordability for consumer × Distorts market → shortage arises (some are deprived) → may lead to black market → consumers worse off? × Blanket policy is not feasible → problem arises as to which grocery items to set price ceiling on × What is the cost of enforcement? Any trade-offs?
Subsidy to firms Cash pay-outs or food vouchers to consumers	<ul style="list-style-type: none"> • Subsidy to grocery firms/retailers → lower COP → keep prices from rising • Greater affordability → better able to cope with rising food costs 	<ul style="list-style-type: none"> ✓ Helps producers and consumers cope with rising costs ✓ Prices can be kept (artificially) low × Producers may not pass on cost savings to consumers × How much to subsidise? Who to subsidise? × If intervention is in terms of cash pay-outs, difficult to ensure that it is spent (or saved) or if it is spent on necessities → consider the use of food vouchers? × Opportunity costs of subsidy and food vouchers? Can government budget finance this? Is it sustainable?
Increase supply of agricultural products	<ul style="list-style-type: none"> • Encourage/assist local distributors to supplement local supply with imports • Help local farmers outside of California to boost supply and help make up for shortfall in California 	<ul style="list-style-type: none"> ✓ Measures are more lasting and less costly ✓ More directed at managing the problem of shortage rather than just helping producers and consumers cope × Resistance from local distributors to bring in imports as this will moderate price increases and thus profits. What incentive must the government give? × Opportunity costs of subsidy or other financial help to farmers? Can government finance this? Is it sustainable? × Measures to boost agricultural yield needs long gestational period. Is outcome guaranteed?

Conclusion: In the selection of appropriate measures, the government has to consider the severity of the problem (how sharp the price increase is and how extensive a range of items are affected). While it is necessary to help consumers cope in the short-term, blanket measures should be avoided. Instead, they should cater to different needs of different income groups. Enforcement is also vital in cases when measures are legally binding and/or distort market forces, which could lead to greater inequity.

Level	Descriptors for Q2(b)	Marks
L3	<ul style="list-style-type: none"> Balanced and developed discussion on at least 2 appropriate policy options to stabilise prices <ul style="list-style-type: none"> Clear analysis of how the measures could achieve the purpose Considers the inadequacies of the proposed measures 	9-11
L2	<ul style="list-style-type: none"> Developed but one-sided answer <ul style="list-style-type: none"> Considers at least 2 policy options but take on only a single perspective May be theoretical and not applied to the context of groceries <u>OR</u> Balanced but undeveloped discussion <ul style="list-style-type: none"> Considers both perspectives or at least policy options May or may not be contextualised to groceries 	6-8
L1	<ul style="list-style-type: none"> Listing or mere description of points No use of DD-SS framework or relevant economic concepts Some conceptual errors 	3-5
	<ul style="list-style-type: none"> Many conceptual errors Irrelevant answers 	1-2
E2	<ul style="list-style-type: none"> Forms a reasoned judgement about policy options to stabilise prices, supported by criteria to assess effectiveness/appropriateness/suitability/sustainability of options. 	3-4
E1	<ul style="list-style-type: none"> No reasoned judgement to wrap up the balanced answer. Not using any particular criterion to evaluate policy options. 	1-2