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ALLAMA IQBAL OPEN UNIVERSITY, ISLAMABAD

Course: Introduction to Macro Economics (802) • Level: MSC Economics

Semester: Autumn 2026

Assignment No. II (Units 6-9)

Total Marks: 100 • Pass Marks: 50

SOLVED ASSIGNMENT GUIDE

(For Study & Reference)

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Note: This guide is prepared for study and reference purposes. Students are advised to read the relevant units of the course book, understand the concepts, and then write the assignment in their own words.

Question 1: The Keynesian Consumption Function and the Factors Affecting Consumption (20 Marks)

Explain the Keynesian consumption function. Discuss the factors affecting consumption in detail.

Introduction

Consumption is the largest component of aggregate demand in every economy, accounting typically for well over half of total expenditure, and it is also the most stable component — which makes understanding it essential for understanding the level of income and employment. Keynes placed the consumption function at the very centre of his theory: upon it rest the multiplier, the explanation of under-employment equilibrium, and the prediction that rich

economies must find growing investment outlets for their growing saving. The consumption function expresses how consumption expenditure depends on income, and the factors around it explain why, at any given income, a society may consume more or less. This answer explains the Keynesian consumption function, its properties — the average and marginal propensities to consume and to save — and then discusses in detail the objective and subjective factors that affect consumption.

The Keynesian Consumption Function

The consumption function is the functional relationship between total consumption expenditure and total income in an economy, written C = f(Y). Keynes proposed, on the basis of what he called a fundamental psychological law, that when income increases, consumption also increases, but by less than the increase in income. In his own words, men are disposed, as a rule and on the average, to increase their consumption as their income increases, but not by as much as the increase in their income. The reason is simple: a household first meets its necessities; as income rises beyond necessities, an increasing part of the addition can be set aside as saving. Consumption therefore grows with income, but saving grows faster, and the gap between income and consumption widens as an economy becomes richer.

In its commonly used linear form the function is written C = a + bY, where C is consumption, Y is disposable income, a is autonomous consumption and b is the marginal propensity to consume. Autonomous consumption is the part of consumption independent of current income: even at zero income, people must eat and clothe themselves, financing this minimum spending from past savings, borrowing or transfers, so the consumption line starts above the origin. The

coefficient b, the marginal propensity to consume (MPC), is the fraction of each additional rupee of income that is spent; Keynes held that it lies between zero and one and is relatively stable in the short run. Income not consumed is saved, giving the companion saving function S = −a + (1 − b)Y, where (1 − b) is the marginal propensity to save (MPS) and MPC + MPS = 1 always, because every extra rupee of income is either spent or saved. For example, if a = Rs 10 billion and b = 0.8, then at an income of Rs 100 billion consumption is Rs 90 billion and saving Rs 10 billion; at an income of Rs 200 billion consumption is Rs 170 billion and saving Rs 30 billion — consumption has risen, but the saving gap has widened exactly as the psychological law predicts.

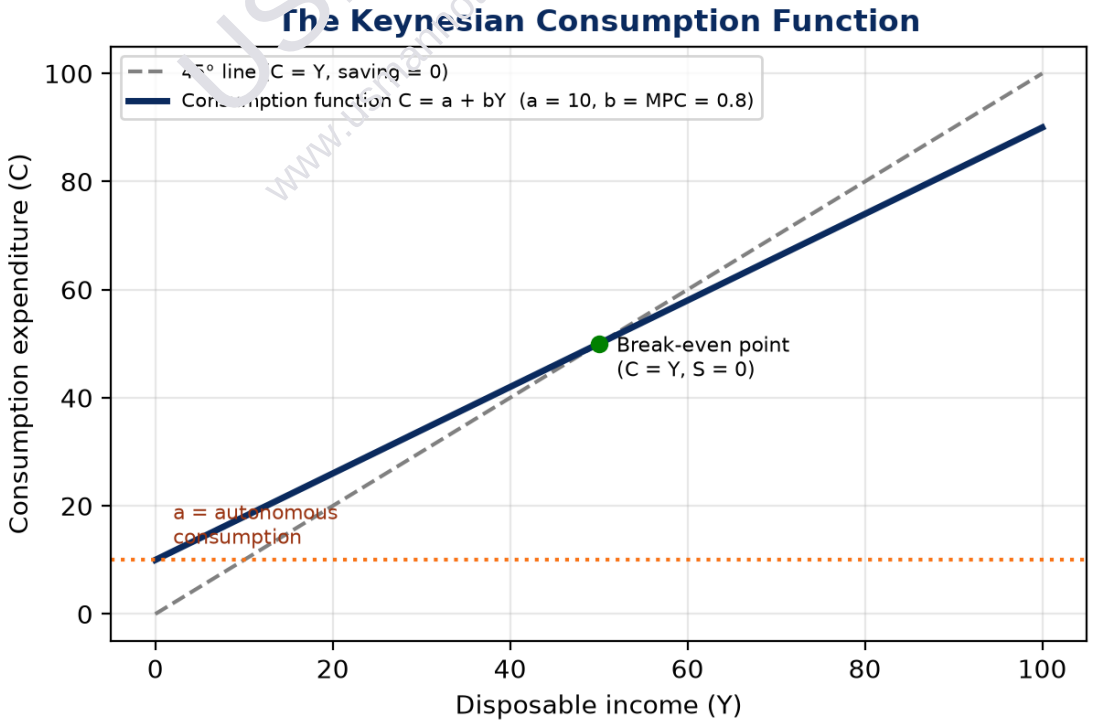


Figure 1: The consumption function C = a + bY. Consumption starts at autonomous level a, rises with income with slope MPC, and crosses the 45° line at the break-even point where saving is zero.

Average and Marginal Propensities

Four related measures describe the behaviour summarised by the function. The average propensity to consume (APC) is total consumption divided by total income, C/Y: it shows what fraction of its total income a community spends. The average propensity to save (APS) is S/Y, and APC + APS = 1. The marginal propensity to consume (MPC) is the change in consumption divided by the change in income, ΔC/ΔY, and the marginal propensity to save (MPS) is ΔS/ΔY, with MPC + MPS = 1. As income rises, Keynes expected the APC to fall — richer communities spend a smaller share of their income — while the MPC also tends to decline, though in the simple linear function with constant b, MPC stays constant while APC falls toward it. The table illustrates these relations numerically.

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Table 1: Consumption and saving at different incomes (C = 10 + 0.8Y; rupees billion)

Income (Y)	Consumption (C)	Saving (S = Y − C)	APC = C/Y	APS = S/Y	MPC = ΔC/ΔY
0	10	−10	—	—	—
50	50	0	1.00	0.00	0.8
100	90	10	0.90	0.10	0.8
200	170	30	0.85	0.15	0.8
400	330	70	0.825	0.175	0.8

These propensities are not mere arithmetic: the MPC is the engine of the multiplier examined in Question 2, since the size of the multiplier, 1/(1 − MPC), depends entirely on it, and the falling APC explains Keynes's worry that mature economies, consuming a shrinking share of a growing full-employment income, must rely on ever-larger investment to sustain demand. Later economists refined the picture: Kuznets found that over very long periods the APC is roughly

constant, a puzzle addressed by the relative income hypothesis of Duesenberry, the permanent income hypothesis of Friedman and the life-cycle hypothesis of Modigliani, all of which make consumption depend on more than current income alone — on past peak income, expected lifetime income and age structure respectively. These refinements extend rather than overturn the Keynesian framework, and they lead naturally to the factors affecting consumption.

Factors Affecting Consumption: Objective Factors

Keynes divided the influences on consumption, other than income itself, into objective factors — measurable economic circumstances — and subjective factors — psychological and social motives. The objective factors are the following.

- Level and changes of income and its distribution: consumption depends first of all on income; moreover, redistributing income toward poorer households, whose MPC is high because their unsatisfied needs are many, raises aggregate consumption, while redistribution toward the rich lowers it, since the rich save a larger share.
- Windfall gains and losses: unexpected capital gains on shares or property make households feel richer and spend more; unexpected losses have the reverse effect, even though measured current income has not changed.
- Fiscal policy: taxes reduce disposable income and hence consumption, while tax cuts, subsidies and transfer payments raise it; expectations of future taxes may also affect present spending, and cheap consumer credit provided under government encouragement raises spending on durables.

- Rate of interest and credit conditions: a higher interest rate rewards saving and raises the cost of borrowing for cars, motorcycles and houses, tending to reduce consumption; easy instalment credit, low down-payments and longer repayment periods increase it — in modern economies the credit channel is often stronger than the pure interest effect.
- Price level and expectations of prices: if prices are expected to rise, households buy now to beat inflation, raising current consumption; if prices are expected to fall, they postpone purchases; unexpected inflation also redistributes wealth from creditors to debtors, who usually have a higher propensity to consume.
- Wealth and liquid assets: households holding larger stocks of bank deposits, savings certificates or other liquid wealth feel more secure and consume a larger fraction of income — a consideration developed later as the real-balance or wealth effect.
- Wage level and employment security: a rise in wage rates raises consumption directly, and secure employment encourages spending and borrowing, while fear of unemployment — even for those still employed — induces precautionary saving and cuts discretionary spending.
- Availability and variety of goods and consumer-durables innovation: new products — smartphones, appliances, vehicles — create new wants and raise spending; conversely, shortages and rationing forcibly depress consumption and raise saving, as happens in wartime.

Factors Affecting Consumption: Subjective and Social Factors

The subjective factors are the motives that lead individuals and societies to refrain from spending, or to spend. Keynes listed eight motives to save — precaution against emergencies,

foresight for old age and children's education, calculation (earning interest), improvement of one's standard over time, independence, enterprise (accumulating funds to start a business), pride in leaving an inheritance, and avarice pure and simple — and corresponding motives to spend, including enjoyment, short-sightedness, generosity, miscalculation, ostentation and extravagance. Around these individual motives stand social and institutional influences. Social habits, customs and standards of living change slowly, which is why the consumption function is stable in the short run: families resist cutting an established standard even when income temporarily falls, financing the difference from savings — the ratchet effect emphasised by Duesenberry, who also showed that households imitate the consumption of richer reference groups, the demonstration effect, so that consumption depends on relative as well as absolute income. Advertising and salesmanship continuously raise desired consumption; urbanisation changes tastes away from home-produced towards market-purchased goods; joint-family systems, social security coverage and insurance spread change precautionary saving — a household protected by pensions and health insurance needs to save less for old age and illness; and cultural and religious attitudes toward thrift, debt and display shape spending patterns in ways that differ between societies. Population size and age structure matter too: young families borrow and spend, the middle-aged save for retirement, and the retired dissave, so a younger population profile tends to raise the community's propensity to consume.

For policy, the important conclusion is that the consumption function is stable but not immovable. In the short run, governments can count on a predictable MPC when estimating the effects of tax changes or transfers: a rupee transferred to low-income households will be mostly spent, and mostly on domestic goods, which is why such transfers are a powerful

stabiliser in recessions. In the longer run, financial development, social protection and rising wealth gradually shift the function itself. For developing countries like Pakistan, high consumption propensities reflect low incomes — most income must go to necessities — rather than improvidence, and the corresponding low saving rate is one reason investment must be supplemented by foreign saving and why raising incomes is itself a precondition for raising saving.

Conclusion

To conclude, the Keynesian consumption function C = f(Y), in linear form C = a + bY, embodies the fundamental psychological law that consumption rises with income but by less, so that the saving gap widens as income grows. Its key parameters — APC falling as income rises, MPC between zero and one, and MPC + MPS = 1 — connect consumption directly to the multiplier and to the determination of effective demand. Around the basic income relationship operate many factors: objectively, the distribution of income, windfalls, fiscal policy, interest and credit conditions, price expectations, wealth and employment security; subjectively and socially, motives of precaution, foresight, pride and display, habits, demonstration effects, advertising, institutions and demography. Consumption is thus at once the most predictable component of demand and a faithful mirror of the society that undertakes it.

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Question 2: Investment, the Multiplier — Working, Assumptions and Limitations (20 Marks)

Define investment. Explain the concept of the multiplier and discuss its working, assumptions, and limitations.

Introduction

If consumption is the largest component of aggregate demand, investment is the most consequential, because it is both a component of present demand and the means of creating future productive capacity — and because, as Keynes showed, a change in investment does not merely add itself to national income but multiplies itself through the economy. A new factory costs money to build, but the wages and profits earned in building it are spent again on food, clothing and services, whose producers in turn spend their receipts, and so the original expenditure echoes from round to round, raising income by several times its own amount. The ratio of the final increase in income to the initial increase in investment is the multiplier, one of the most famous ideas in macroeconomics. This answer first defines investment carefully, then explains the multiplier concept and its formula, works through its operation with a numerical example and a diagram, and finally sets out its assumptions and limitations — especially in developing economies.

Definition and Types of Investment

In economics, investment means the addition to the stock of real capital assets during a period — expenditure on new plant, machinery, buildings, roads, inventories and other produced assets that will yield goods and services in the future, together with expenditure on human

capital in some treatments. It is essential to distinguish this real investment from the everyday use of the word, in which buying shares, bonds or an existing house is called investment. Such financial transactions merely transfer ownership of existing assets from one person to another; they add nothing to the economy's productive capacity and are not investment in the macroeconomic sense, though the issue of new shares whose proceeds finance a new factory does underlie real investment. Investment as defined here is a flow per year, gross investment includes replacement of worn-out capital, and net investment equals gross investment minus depreciation: only net investment enlarges the capital stock. Its main categories are: fixed business investment in plant and equipment; construction investment in factories, offices, infrastructure and dwellings; and inventory investment, the change in stocks of raw materials and finished goods — which can be unintended when goods remain unsold. Investment may also be classified as autonomous, induced by the state of confidence, public policy or technical progress and not by current income, and induced investment proper, which responds to rising income and demand through the acceleration principle, as firms add capacity when their existing plant is fully utilised. Private and public investment — by firms and households, and by government and public corporations on infrastructure such as dams, roads and schools — complete the classification. What determines the level of private investment, recall from Assignment 1, is the comparison between the marginal efficiency of capital, the expected return on new assets, and the rate of interest.

The Concept of the Multiplier

The multiplier, introduced by R. F. Kahn in 1931 as the employment multiplier and developed by Keynes into the investment multiplier, is the ratio of the total change in national income to

the initial change in investment that caused it: K = ΔY/ΔI. Keynes showed that its value depends on the marginal propensity to consume: K = 1/(1 − MPC) = 1/MPS. The intuition is that of an echo diminishing by a fixed fraction each round: of every new rupee of income, the fraction MPC is re-spent and becomes someone else's income, while the fraction MPS leaks away into saving and ends that chain — though, importantly, the saved part is not lost to the economy in the accounting sense; it is precisely the equality of saving with the new investment at the new, higher income that brings the process to rest. If MPC is 0.8, the multiplier is 1/(1 − 0.8) = 5: an extra Rs 10 billion of investment ultimately raises income by Rs 50 billion. If MPC is 0.75, K = 4; if MPC is 0.5, K = 2; and as MPC approaches 1, K grows without limit — while if MPC were zero, income would rise only by the original investment, K = 1.

Working of the Multiplier

The process works in successive rounds of income and expenditure, which the following example and table display. Suppose firms undertake additional investment of Rs 10 billion — say, constructing a new power plant — and the MPC of the community is 0.8. In the first round, the Rs 10 billion is paid out as wages, salaries, profits and payments for materials: income rises by Rs 10 billion. In the second round, the recipients spend 80 per cent of it, Rs 8 billion, on consumption; this becomes the income of shopkeepers, farmers, transporters and manufacturers, so income rises by a further Rs 8 billion, while Rs 2 billion is saved. In the third round, 80 per cent of the Rs 8 billion — Rs 6.4 billion — is spent and becomes new income. Round by round the increments shrink, in a geometric series: 10 + 8 + 6.4 + 5.12 + …, whose sum is 10 × 1/(1 − 0.8) = Rs 50 billion. The process ends when cumulative saving generated out of the new income equals the new investment — at the final income, extra saving of Rs 10

billion has accumulated (20 per cent of Rs 50 billion) — restoring S = I at a higher level of income. The multiplier also works in reverse: a fall in investment of Rs 10 billion would reduce income by Rs 50 billion through the same chain of contracting spending, which is why investment collapses are so dangerous in depressions.

Table 1: Working of the multiplier with ΔI = Rs 10 billion and MPC = 0.8 (rupees billion)

Round	Increase in income (ΔY)	Increase in consumption (0.8 × ΔY)	Increase in saving (0.2 × ΔY)
1 (investment itself)	10.00	8.00	2.00
2	8.00	6.40	1.60
3	6.40	5.12	1.28
4	5.12	4.10	1.02
Remaining rounds	20.48	16.38	4.10
Total	50.00	40.00	10.00

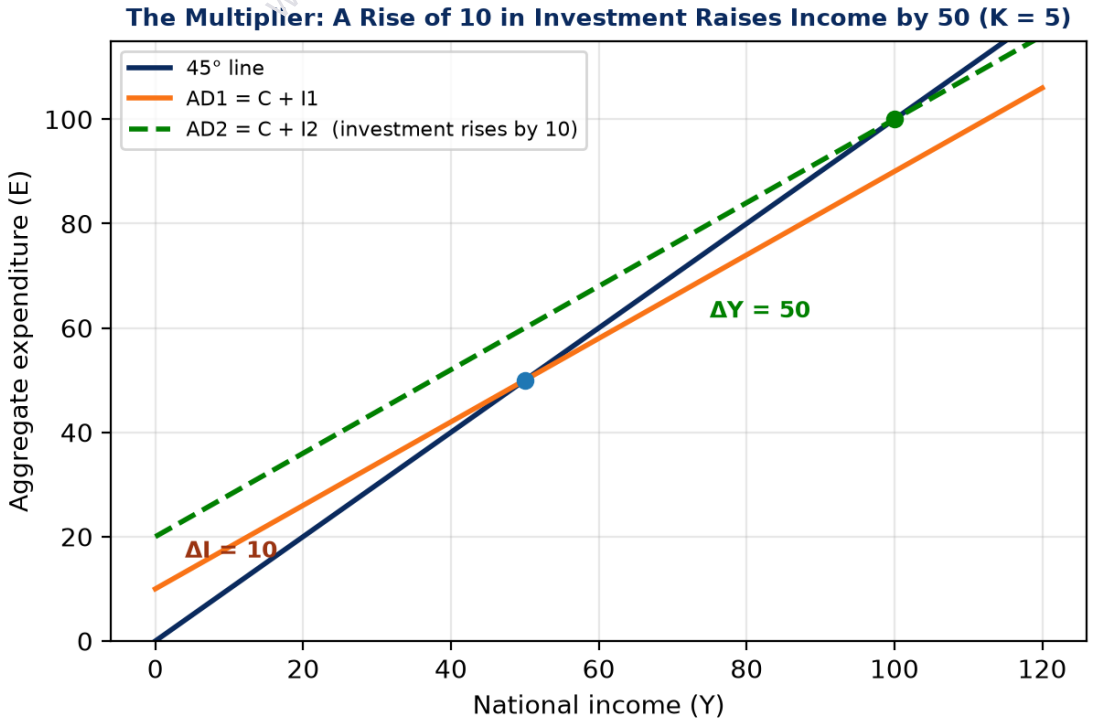


Figure 1: The multiplier in the income–expenditure diagram: investment rises by 10, the AD line shifts up, and equilibrium income rises by 50 (K = 5 when MPC = 0.8).

Graphically, as Figure 1 shows, the initial investment shifts the aggregate expenditure line upward by its own amount; the equilibrium point moves along the 45° line to a new income higher by a multiple of the shift, because at the old income planned saving now falls short of the enlarged investment and producers expand output in response to the excess demand. Two qualifications about timing belong here. The multiplier is not instantaneous: the rounds take time as incomes are received and re-spent, so the full effect may spread over months — the so-called dynamic or period multiplier. And the simple formula describes a closed economy without government; when taxes and imports also leak from each round, the multiplier is smaller, as noted under limitations.

Assumptions of the Multiplier

The simple multiplier rests on a set of assumptions that must be made explicit, because the limitations follow from them.

- The marginal propensity to consume remains constant throughout the process, the same for all recipients of income in every round.
- There is no time lag, or lags are ignored: income received in one round is spent in the next immediately.
- Prices remain constant: the increase in demand raises real output and employment, not prices; this requires spare capacity and unemployed resources in the economy.

- The economy is closed, with no foreign trade, and initially the simple model abstracts from government taxation and expenditure, so saving is the only leakage.
- Investment is autonomous and remains at its new level; the initial increase is not reversed, and it does not itself change as income rises (no acceleration effects).
- The supply of consumption goods is elastic: consumer goods industries can expand output promptly when demand rises, drawing on inventories and idle capacity.
- Factor supplies, especially labour, are available: unemployed or underemployed workers can be hired at the existing wage, and there are no bottlenecks in skills, materials or foreign exchange.
- The monetary and credit system accommodates the expansion: interest rates do not rise to choke off investment as income and the demand for money grow (no crowding out).

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Limitations of the Multiplier

In practice each of these assumptions can fail, and the failures are particularly instructive for developing economies.

- Leakages reduce its size: saving is not the only leakage in reality. Taxes withdraw a fraction of each round's income, and imports withdraw another, especially in open economies dependent on imported fuel, machinery and consumer goods. The practical multiplier becomes 1/[MPS + marginal propensity to tax + marginal propensity to import], which for an economy like Pakistan's is markedly smaller than the textbook figure.

- Inflation when capacity is limited: if the economy is near full employment, or if key sectors face bottlenecks, extra demand raises prices rather than real output; the money multiplier effect on nominal income overstates the real gain.
- Supply inelasticity in developing countries: food and consumer-goods supply may respond slowly because agriculture depends on weather, irrigation and inputs; investment demand then spills into imports and prices, and foreign-exchange shortages can halt the process altogether.
- Debt repayment and hoarding: recipients may use extra income to repay old debts — whose creditors may not re-spend it quickly — or hold cash idle, reducing the effective MPC in each round.
- Crowding out: if the investment is financed by government borrowing, interest rates may rise and private investment fall, offsetting part of the stimulus; similarly, expectations of future taxes to repay public debt can dampen spending.
- Time lags and statistical uncertainty: the MPC is estimated from data and varies across income groups and over the cycle; the multiplier effect arrives gradually and may be overtaken by other changes before it is complete.
- It works on demand only: the multiplier cannot create skills, power supply, law and order or ports; where the binding constraint is on the supply side, demand expansion alone yields inflation and imports rather than employment.
- Reverse operation and instability: the same mechanism magnifies downturns, so economies dependent on volatile investment or exports experience amplified cycles — a warning, not merely a policy tool.

These limitations do not destroy the multiplier's usefulness; they define its proper use. It remains the standard first approximation for estimating the income effect of public works, tax changes, export changes and aid inflows, provided the analyst adjusts for leakages, capacity and the state of the economy. In a recession with idle factories and unemployed labour, its real effect is at its largest; at full capacity, its effect is mostly on prices.

Conclusion

To conclude, investment is expenditure on new real capital assets — plant, construction and inventories — net investment enlarging the capital stock, and it is determined by expected returns against the rate of interest. The multiplier, $K = \Delta Y/\Delta I = 1/(1 - MPC)$, expresses how an initial change in investment raises income repeatedly through successive rounds of consumption, until new saving equals new investment at a higher income, as the worked example ($\Delta I = 10$, $MPC = 0.8$, $\Delta Y = 50$) and the diagram demonstrate. Its textbook power depends on strong assumptions — constant MPC, spare capacity, constant prices, a closed economy without taxes — and in real, open, supply-constrained economies leakages into taxes and imports, bottlenecks, inflation and crowding out make the practical multiplier smaller and slower. Properly qualified, it remains one of the most important tools for understanding fluctuations and designing stabilisation policy.

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Question 3: Inflation — Causes, Types and Effects on Economic Growth in Developing Countries (20 Marks)

What is inflation? Discuss its causes, types, and effects on economic growth in developing countries.

Introduction

Inflation is the most widely felt of all macroeconomic disorders. It is experienced not in statistics but in the market: in the rising price of flour, fuel, transport and school fees, and in the shrinking of what a fixed salary will buy. For developing countries, where large parts of the population live close to subsistence and hold their small savings in cash, sustained inflation is not merely an economic inconvenience but a source of poverty and social unrest, while at the same time many such countries have experienced inflation precisely in the course of trying to develop quickly. This answer defines inflation carefully, discusses its main causes and its principal types, and then examines its effects — harmful, and in a strictly limited sense sometimes claimed to be helpful — on economic growth in developing countries.

What Is Inflation?

Inflation is a sustained and general rise in the price level of goods and services in an economy over a period of time, resulting in a fall in the purchasing power of money. Every word of the definition matters. The rise must be in the general price level — an average across many goods, measured by indices such as the consumer price index (CPI), the wholesale price index or the GDP deflator — not merely in the price of one commodity: if onions become dearer while other prices are unchanged, that is a relative price change, not inflation. The rise must be sustained,

continuing month after month, rather than a one-time jump, such as the once-for-all adjustment when a subsidy is removed, although a one-time jump can ignite an ongoing inflation if wages and expectations chase it. And inflation is equivalently described from the side of money: it is a decline in the value or purchasing power of the currency, so that each rupee buys progressively less. The rate of inflation is the percentage increase in the price index over a year: if the CPI rises from 200 to 224, inflation is 12 per cent. Its opposite is deflation, a sustained fall in the general price level, and disinflation is a fall in the rate of inflation — prices still rising, but more slowly.

Causes of Inflation

Economists group the causes under demand, supply (cost), monetary and structural headings; in real episodes, several operate together.

- Excess aggregate demand (demand-pull): when total spending grows faster than the economy's capacity to produce — because of expansionary fiscal deficits, rapid credit growth, export booms or investment surges — buyers compete for limited goods and bid prices up, in the classic phrase, too much money chasing too few goods.
- Rising costs (cost-push): increases in wages not matched by productivity, in imported input prices, in fuel and energy tariffs, in indirect taxes or in administered prices push up costs of production, which firms pass on in higher prices; a wage-price spiral can follow if workers then claim compensating wage increases.
- Monetary expansion: sustained growth of money supply faster than the growth of real output, in quantity-theory terms MV = PY with velocity roughly stable, must eventually raise

P; in many developing countries the mechanism is fiscal — governments financing budget deficits by borrowing from the central bank, effectively printing money.

- Imported inflation: a depreciation of the currency or a rise in world prices of essential imports, above all oil, raises domestic costs and prices directly; economies importing fuel and edible oil are acutely exposed, as Pakistan's experience in global commodity booms shows.
- Supply shocks and structural bottlenecks: crop failures, floods, energy shortages, transport breakdowns and inelastic food supply reduce output while demand continues, raising prices; in developing economies, slow-growing food supply against fast-growing population and incomes is a standing structural cause.
- Inflationary expectations: once households and firms expect inflation, they build it into wage claims, price setting, interest rates and hoarding behaviour, making inflation self-perpetuating even after the original cause has weakened.
- Market power and administered pricing: monopolies, cartels and hoarding or profiteering in essential commodities can raise prices in particular markets, which, when the goods are necessities with large weights in the price index, feeds general inflation and public perception of it.

Types of Inflation

Inflation is classified in several useful ways. By rate or severity: creeping inflation is slow, in low single digits, and generally regarded as compatible with growth; walking or moderate inflation reaches high single or low double digits and begins to distort decisions; galloping or double- and triple-digit inflation destroys money's functions and savings; and hyperinflation — famously

defined as exceeding 50 per cent per month — is a complete monetary collapse, as in Germany in 1923 or Zimbabwe in the 2000s. By cause: demand-pull and cost-push inflation, already described, together with monetary, imported, structural and built-in (expectational) inflation. By coverage: open inflation, where prices rise freely and visibly, contrasts with suppressed or repressed inflation, where price controls, rationing and subsidies hold official prices down while shortages, queues and black markets reveal the underlying pressure — a distinction important because suppressing the symptom does not remove the cause. By expectation: anticipated inflation, to which contracts can adjust through indexation and interest rates, does less damage than unanticipated inflation, which arbitrarily redistributes wealth between debtors and creditors. Finally, stagflation names the painful combination of inflation with stagnation and unemployment, which the simple demand model said should not occur, and which supply shocks in the 1970s made familiar.

Table 1: Main types of inflation at a glance

Type	Basis	Key feature
Creeping	Rate	Low single-digit annual rise; usually tolerable
Galloping / hyperinflation	Rate	Very rapid rise; money loses its functions; savings destroyed
Demand-pull	Cause	Excess aggregate demand relative to productive capacity
Cost-push	Cause	Rising wages, inputs, fuel or taxes passed into prices
Imported	Cause	Currency depreciation or higher world prices of essentials
Structural	Cause	Bottlenecks: inelastic food supply, energy and transport shortages
Suppressed	Coverage	Controls and rationing hide the rise; shortages and black markets

		appear
Stagflation	Combination	Inflation together with stagnation and rising unemployment

Effects of Inflation on Economic Growth in Developing Countries

The effects of inflation on growth in developing countries are predominantly, though not exclusively, negative, and they operate through several channels. First, inflation discourages saving and distorts investment. When inflation is high and variable, real interest rates are uncertain and often negative, so households avoid financial saving, hold wealth in gold, real estate or foreign currency, and shorten the maturity of what lending does occur. Long-term finance for industry and infrastructure dries up — financial repression — and investment, where it happens, shifts from productive plant to speculative inventories and property, lowering the quality and growth-yield of capital formation. Second, inflation creates radical uncertainty: businesses cannot distinguish relative price changes from general inflation, long-term contracts become gambles, and entrepreneurs shorten their horizons and demand quick returns, all of which reduces and misallocates investment. Third, high inflation typically destabilises public finance: tax collections lag behind spending as revenues lose real value in the interval between assessment and collection (the Olivera–Tanzi effect), deficits widen, and if the deficit is monetised, inflation feeds on itself. Fourth, inflation worsens the balance of payments: domestic prices rising faster than foreign prices make exports uncompetitive and imports attractive, unless the exchange rate depreciates, which in turn imports further inflation.

Fifth, inflation redistributes income arbitrarily and usually regressively, which in developing countries has direct growth consequences. Fixed-income earners — salaried employees,

pensioners — and cash-holding poor families lose, while debtors, including indebted governments and large borrowers, gain at creditors' expense; the poor, who spend most of their income on food and fuel whose prices often rise fastest, see their real consumption and nutrition fall, damaging health, education and hence the human capital on which long-run growth depends. Sixth, resources are wasted in coping with inflation: firms devote management to repricing, speculation and inventory games — shoe-leather and menu costs — instead of production and innovation. Seventh, very high inflation destroys the monetary system itself, encouraging barter, dollarisation and capital flight, and the stabilisation programme eventually required — tight money and fiscal cuts — imposes a sharp recession, so the growth lost in the crisis and its cure together can exceed any temporary output gained while inflation was rising. Empirical research broadly supports this: beyond a moderate threshold — often estimated in the region of high single digits for developing countries — higher inflation is associated with lower investment and slower growth, while the association at very low inflation is weak.

Against this catalogue, the arguments sometimes made that inflation helps developing economies deserve fair statement, because they explain why governments have tolerated it. Moderate inflation can act as a forced saving device, transferring resources from consumers to investing firms or the state; it can erode the real burden of public and private debt; rising prices may raise profit margins and encourage investment in the short run (the Tobin effect of a shift from money into capital); where nominal wages and interest rates are institutionally sticky, a little inflation can grease relative price and wage adjustments; and seigniorage — revenue from money creation — has financed infrastructure where tax systems are weak. Each of these

benefits, however, is limited to low and stable rates, tends to vanish or reverse as inflation rises and becomes anticipated, and is purchased at the price of the distortions listed above. The consensus that follows from theory and experience is not that the ideal inflation rate is literally zero — a small positive rate gives central banks room to cut real interest rates and avoids deflation — but that high, volatile inflation is unambiguously an enemy of growth in developing countries, while low, stable and predictable inflation is compatible with, and indeed a condition for, sustained development.

Conclusion

To conclude, inflation is a sustained general rise in the price level — a fall in the purchasing power of money — caused variously by excess demand, rising costs, monetary expansion financing deficits, imported price shocks, structural bottlenecks and self-confirming expectations. It appears in forms from creeping to hyperinflation, open or suppressed, and in its most damaging combination as stagflation. For developing countries its effects on growth are mainly adverse: it discourages financial saving, distorts and shortens investment, destabilises public finance and the external balance, redistributes income against the poor and against human-capital formation, and at high rates destroys the monetary framework altogether. Only at low, stable levels are the limited benefits sometimes claimed for it plausible. Price stability is therefore not a rich country's luxury; it is one of the foundations on which developing-country growth is built — a conclusion that leads directly to the monetary and fiscal policies examined in Questions 4 and 5.

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Question 4: Functions of Money and the Role of the Central Bank in Credit Control and Stabilisation (20 Marks)

Explain the functions of money. Discuss the role of the central bank in controlling credit and stabilizing the economy.

Introduction

Money is so familiar that its functions are taken for granted, until they fail — in a hyperinflation, a banking crisis or a cash shortage — and trade itself begins to break down. Money is defined not by what it is made of but by what it does: anything that is generally acceptable in exchange, from cowrie shells and gold coins to bank deposits and mobile balances, is money to the extent that it performs the functions this answer describes. Standing behind modern money is the central bank — in Pakistan, the State Bank of Pakistan — the institution charged with issuing currency, regulating banks, controlling credit and thereby stabilising the economy's price level, output and financial system. This answer first explains the primary, secondary and contingent functions of money, and then discusses in detail the role of the central bank in controlling credit and stabilising the economy, by both quantitative and qualitative methods.

Primary Functions of Money

Money performs two primary or original functions, from which all others derive. The first is to serve as a medium of exchange. In a barter economy, exchange requires a double coincidence of wants: the farmer with wheat who wants shoes must find a shoemaker who wants wheat, in the right quantities, at the same time; otherwise exchange fails or requires long chains of

indirect trades. Money removes this obstacle by interposing itself in every exchange: goods are sold for money, and money is then used to buy goods, so the single barter transaction C–C is split into two transactions, C–M and M–C, each requiring only a single coincidence. Because money is generally acceptable, no one needs to search for the perfect partner, markets widen, specialisation and the division of labour become possible, and the whole volume of trade and production expands. This is money's most fundamental service to the economy.

The second primary function is to serve as a measure of value, or unit of account. Money provides a common denominator in which the values of all goods, services, assets and debts are expressed: prices. The value of a bag of wheat, an hour of labour, a house and a share can all be stated in rupees and immediately compared, whereas under barter every good would need a separate exchange ratio against every other good — with a thousand goods, nearly half a million ratios. A common measure makes accounting, costing, budgeting, contracts and national income measurement possible: GDP itself can only be computed because money values heterogeneous outputs into one total. Together the two primary functions define money in the classic phrase: money is what money does, and what it does first is to be exchanged and to measure.

Secondary Functions of Money

Three secondary functions grow out of the primary ones and become more important as economies develop.

- Store of value: money allows purchasing power to be carried through time — income earned today can be held and spent next month or next year, in a form that is perfectly

liquid and generally acceptable at any moment. Other assets — land, machinery, even government securities — also store value, but money is the most convenient and liquid store, though it is a good store only when its value is stable: inflation erodes exactly this function, which is why people flee from money in high inflations.

- Standard of deferred payments: because money is a stable measure and a generally acceptable asset, debts and future payments — loans, interest, rent, wages under contract, instalments — are expressed and settled in money. Credit, the basis of modern commerce and investment, would be hazardous if repayment had to be made in a good whose value fluctuated unpredictably between borrowing and repayment. Money, provided its value is reasonably stable, makes long-term lending and borrowing possible.
- Transfer of value: money moves purchasing power between persons and places cheaply and instantly — remittances from workers abroad, payments between cities, transfers through banks and mobile accounts — whereas transferring value in kind would mean physically transporting goods. This function underlies the integration of national and international markets, and for Pakistan the enormous flow of workers' remittances depends upon it.

Contingent and Other Functions

Economists, notably Kinley, add contingent or incidental functions that money performs in a developed economy. Money is the basis of the credit system: bank deposits, themselves created on the basis of cash reserves, form the larger part of modern money supply, so the entire structure of credit — cheques, cards, loans — rests on money. It helps in the distribution of national income, since the total output measured in money is divided as rent, wages, interest and profit to the cooperating factors. It equalises marginal utilities and marginal productivities:

consumers maximise satisfaction by using money to equalise the marginal utility per rupee across goods, and producers maximise profit by allocating money expenditure until the marginal productivity per rupee is equal across factors — so money guides the efficient allocation of resources through the price system. It guarantees the solvency of its holder and serves as a bearer of options: holding money confers the freedom to choose what to buy and when, a general purchasing power over all goods which Keynes emphasised as liquidity — the precautionary and speculative motives for holding money that make its demand, and therefore monetary policy, so important.

The Central Bank: Nature and General Role

A central bank is the apex institution of a country's monetary and banking system, established by the state and charged with managing the currency and credit in the public interest rather than for private profit. The State Bank of Pakistan, founded in 1948, performs the standard functions: it has the sole right of note issue; it is banker to the government, managing public debt and government accounts; it is banker to the banks, holding their reserves, operating the clearing system and acting as lender of last resort when sound banks face temporary liquidity crises; it holds and manages the country's foreign exchange reserves and the external value of the currency; it collects monetary statistics; and above all, it conducts monetary policy and regulates and supervises the banking system. Within this general role, the specific task set by this question — controlling credit and stabilising the economy — is discharged through the instruments described next. Credit control matters because commercial banks, in accepting deposits and making loans, create deposit money: the volume of credit in the economy

influences aggregate demand, output, employment and the price level, so an institution that can regulate that volume holds a lever over the entire macroeconomy.

Quantitative Methods of Credit Control

Quantitative (general) methods regulate the total volume of credit and the cost of borrowing, without directing its uses. The bank rate or policy rate is the rate at which the central bank lends to, or sets the corridor for, commercial banks; raising it makes borrowing from the central bank and in the money market dearer, banks raise their own lending rates, credit contracts and demand cools — the standard anti-inflation move; lowering it works in reverse against recession. The State Bank's policy rate decisions are the most visible instrument of Pakistani monetary policy. Open market operations are the central bank's purchases and sales of government securities. Selling securities withdraws cash from banks and the public, reducing their lending capacity; buying securities injects cash and expands it. Open market operations are flexible and can be used frequently and in fine amounts. Changes in reserve requirements oblige banks to hold a stated fraction of their deposits as cash reserves (and a further fraction in liquid assets) with or under the rules of the central bank: raising the cash reserve ratio immediately shrinks the funds banks can lend, with a powerful multiplied effect, while lowering it releases funds. Variation of margin and liquidity ratios works similarly through required holdings of government securities. These instruments operate together: the policy rate sets the price of credit, open market operations and reserve ratios set its quantity, and announcements of the central bank guide expectations, which are themselves a powerful channel, since credible anti-inflation policy persuades wage and price setters to moderate their claims.

Qualitative Methods of Credit Control

Qualitative (selective) methods direct credit toward or away from particular uses, rather than changing its total. Margin requirements on loans against securities or commodities can be raised to curb speculative borrowing — for example, lending against shares or against stocks of essential commodities suspected of hoarding. Consumer credit regulation varies down-payments and maximum repayment periods for instalment purchases of vehicles and durables, influencing demand in those sectors directly. Credit rationing and ceilings limit the amount particular banks or sectors may lend; priority-sector directions and refinancing schemes channel subsidised credit to agriculture, small industries, housing and exports — instruments used extensively in developing countries where some sectors cannot compete for funds on purely commercial terms. Moral suasion is the central bank's use of persuasion, guidance and public statements to align banks' behaviour with policy without formal orders. Direct action — penalties, restrictions on rediscounting, or ultimately licence measures — stands behind persuasion when banks do not comply. In Pakistan, export finance and small-enterprise refinancing schemes illustrate selective control in its developmental form: the central bank not only restrains credit where it feeds speculation or inflation but actively steers it where it feeds production.

Table 1: Central bank credit-control instruments at a glance

Method	Type	How it contracts credit
Policy (bank) rate rise	Quantitative	Raises cost of borrowing throughout the banking system
Open market sales of securities	Quantitative	Drains cash reserves from banks, reducing lending capacity
Higher cash reserve ratio	Quantitative	Freezes a larger share of

		deposits; multiplied contraction of credit
Higher margin requirements	Qualitative	Cuts loans against shares/commodities; curbs speculation
Consumer credit tightening	Qualitative	Higher down-payments, shorter instalment periods
Credit ceilings / rationing	Qualitative	Direct limits on lending by banks or sectors
Moral suasion	Qualitative	Persuasion and guidance backed by supervisory authority

Role in Stabilising the Economy

Combining these instruments, the central bank stabilises the economy in several dimensions. Price stability is the primary statutory objective of most modern central banks: by restraining credit and demand when inflation rises and easing when it falls, monetary policy aims at low, predictable inflation, protecting money's store-of-value function on which saving depends. Output and employment stabilisation complements this: in recessions, cheaper and more plentiful credit supports investment, housing and consumer durables, raising effective demand toward full employment — always with the caution, learned from experience, that monetary easing works with long lags and cannot cure supply-side shortages. Financial stability is a third dimension: supervision, capital and liquidity rules, the lender-of-last-resort function and deposit protection prevent bank failures from cascading into panics that destroy the payments system and credit supply together, as unregulated systems repeatedly suffered before central banking. External stability is a fourth: managing reserves and the exchange framework, and setting interest rates with an eye to capital flows, defends the currency's external value and the country's ability to pay for essential imports. Finally, in developing countries the central bank

has a developmental role — building banking habits, extending financial services, developing money and capital markets and financing priority sectors — but experience, including Pakistan's, teaches that this role must remain subordinate to price and financial stability, because inflation caused by excessive credit creation for development or for government deficits destroys the very savings that development requires. The effectiveness of credit control itself has limits: it works through the organised banking system and may miss informal finance; it cannot compel banks to lend in a panic of pessimism — one cannot push on a string — and it conflicts at times with fiscal policy, which is why coordination between the central bank and the finance ministry, within the central bank's operational independence, is a standing theme of modern macroeconomic management.

Conclusion

To conclude, money earns its name by its functions: primarily, it is a medium of exchange that abolishes the double coincidence of wants, and a measure of value that makes prices, accounts and national income possible; secondarily, it is a store of value, a standard of deferred payments in which credit is written, and a means of transferring value across space; and contingently, it underpins the credit system, income distribution and efficient allocation. The central bank safeguards and steers this system: through the policy rate, open market operations and reserve ratios it controls the quantity and price of credit in general; through margin rules, selective directions, ceilings and moral suasion it controls credit's direction; and by deploying these tools counter-cyclically, supervising banks and standing as lender of last resort, it stabilises prices, output, the financial system and the external value of money — the indispensable institutional foundation of a modern economy.

Question 5: Fiscal Policy and Monetary Policy Compared — Controlling Inflation and Unemployment in a Developing Economy like Pakistan (20 Marks)

Explain fiscal policy and monetary policy. Compare their effectiveness in controlling inflation and unemployment in a developing economy like Pakistan.

Introduction

Governments are not obliged to accept whatever levels of inflation and unemployment an unmanaged economy produces. Two great sets of instruments are available for steering aggregate demand and stabilising the economy: fiscal policy, operated by the government through the budget, and monetary policy, operated by the central bank through money and credit. Both can expand demand to fight unemployment and contract it to fight inflation, yet they differ in who wields them, how quickly they act, what they affect most strongly, and what limits hem them in — differences that are especially sharp in a developing economy like Pakistan, with its large informal sector, shallow financial markets, persistent fiscal deficits and exposure to imported inflation. This answer explains each policy in turn and then compares their effectiveness in controlling inflation and unemployment in Pakistan's conditions, concluding with the case for coordinating them rather than choosing between them.

Fiscal Policy: Meaning and Instruments

Fiscal policy is the deliberate use of government expenditure, taxation and public borrowing to influence aggregate demand, income, employment, prices and the distribution of income and

resources. Its instruments are three. Government expenditure includes current spending on administration, defence, education, health and subsidies, and development or capital spending on infrastructure — roads, dams, power, irrigation — which both creates demand immediately and expands productive capacity later; transfers such as income-support payments and pensions put purchasing power directly into the hands of households with high propensities to consume. Taxation — direct taxes on income and profits, and indirect taxes on sales, production and imports — withdraws purchasing power from the private sector, and its structure can be varied to affect incentives and distribution as well as totals. Public borrowing and the budget balance tie the two together: a budget deficit, spending exceeding revenue, injects net demand into the economy, especially powerfully if it is financed by borrowing from the central bank (which creates money) or from the public's idle balances; a surplus withdraws demand. Policy is expansionary or contractionary according to the direction of the change: against unemployment, the prescription is higher spending, lower taxes and a larger deficit; against inflation, lower spending, higher taxes and a surplus or reduced deficit. Fiscal policy also has automatic stabilisers built into it — in a slump, tax revenues fall and unemployment-related transfers rise automatically, cushioning demand without any new decision, and the reverse happens in a boom — though in Pakistan these automatic mechanisms are weak because the tax net is narrow and formal social insurance small.

Monetary Policy: Meaning and Instruments

Monetary policy is the central bank's regulation of the supply, availability and cost of money and credit in pursuit of price stability, sustainable growth and financial stability. Its instruments, explained in detail in Question 4, may be summarised as: the policy (bank) rate, which anchors

interest rates throughout the financial system; open market operations, buying and selling government securities to inject or withdraw liquidity; reserve and liquidity requirements, which fix the fraction of deposits banks must hold idle or in approved securities; and selective instruments and moral suasion, which steer credit toward priority uses and away from speculation. Policy is tightened — rates raised, liquidity withdrawn — to fight inflation, and eased — rates cut, liquidity provided — to fight unemployment and recession. The transmission mechanism runs from the policy rate through market and bank lending rates to borrowing, spending, asset prices and the exchange rate, and thence to demand, output and prices; it is powerful but indirect and operates with lags commonly estimated at several quarters to more than a year. In Pakistan, the State Bank announces its policy stance in regular monetary policy statements, targeting inflation over the medium term while watching growth, the external account and financial stability.

Comparison of the Two Policies

The two policies can be compared systematically on the dimensions that determine their practical effectiveness.

Table 1: Fiscal policy and monetary policy compared

Dimension	Fiscal policy	Monetary policy
Operated by	Government (Ministry of Finance), approved by parliament	Central bank (State Bank of Pakistan), operationally independent
Main instruments	Government spending, taxation, transfers, budget deficit/surplus	Policy rate, open market operations, reserve ratios, selective credit controls
Speed of decision	Slow: budgets are annual, legislation and appropriation take time	Fast: monetary policy committee can change the rate at any meeting

Speed of effect	Direct spending affects demand immediately once released; tax changes affect pay packets quickly	Indirect and lagged: works through interest rates, credit and expectations over quarters
Targeting	Precise: can aim at regions, sectors, the poor, specific projects	General: affects all borrowers, cannot easily favour one sector (selective tools excepted)
Effect on composition	Changes the public/private mix of output; builds infrastructure and services	Changes the investment/consumption and interest-sensitive mix of private spending
Political exposure	Highly political: visible, distributive, subject to electoral pressures and populism	Relatively insulated: technical, less visible, can take unpopular decisions
Reversibility	Spending programmes and tax cuts are hard to withdraw	Rates can be raised or cut again at the next meeting
Main limits	Deficits, debt, financing constraints, implementation capacity	Informal finance, weak transmission, cannot force lending or borrowing

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Effectiveness Against Inflation in Pakistan

Pakistan's inflations have typically had mixed causes — fiscal deficits partly monetised, currency depreciation and imported fuel and food prices, administered energy tariff adjustments, and food supply shocks — and this mixture decides what each policy can achieve. Monetary policy is the indispensable first line against generalised, demand-driven inflation: by raising the policy rate — as the State Bank did sharply in the tightening cycle of 2022–23, when inflation driven by floods, currency depreciation and global commodity prices peaked above 38 per cent — it raises the cost of credit, restrains demand, supports the exchange rate, anchors expectations and signals resolve, and as liquidity and demand cooled and supply normalised, inflation subsequently fell back substantially. Its limits in Pakistan's conditions are equally clear: monetary tightening cannot produce wheat, gas or dollars, so supply-shock and imported

inflation yield to it only at a heavy cost in lost output if it is forced to do the whole job; a large informal and cash-based sector and interest-insensitive borrowers blunt transmission; and if the government simultaneously runs large deficits financed from the banking system, fiscal dominance undermines the tightening — the central bank raises rates while the state's own borrowing pours demand back in and raises its own debt-service costs, which in Pakistan consume a very large share of federal revenue.

Fiscal policy's contribution against inflation is therefore decisive in the medium term: reducing the budget deficit — broadening the exceptionally narrow tax base, restraining current expenditure and untargeted subsidies, especially in energy, where below-cost tariffs generate circular debt and periodic inflationary price adjustments — removes the root monetary financing pressure, lowers the government's claim on bank credit, and makes the central bank's task feasible at lower interest rates. Fiscal measures can also target inflation's specific sources more precisely than monetary policy: reducing import duties on food essentials in a shortage, releasing public food stocks, or targeted cash transfers to protect the poor from food inflation are fiscal instruments with no monetary equivalent. But fiscal contraction is politically painful, often falls on development spending because current spending is rigid, and works on inflation slowly compared with a decisive rate increase. The balanced verdict for inflation control in Pakistan is: monetary policy leads in the short run and for expectations; fiscal consolidation is the necessary condition for durable success; and neither can substitute for supply-side measures in energy, agriculture and imports.

Effectiveness Against Unemployment in Pakistan

Against unemployment, the comparison reverses in important respects. Much of Pakistan's unemployment and underemployment is structural rather than cyclical: it reflects rapid labour-force growth, skills mismatched to employers' needs, energy shortages that idle factories, and a large informal sector, in a context of open unemployment officially in single digits but widespread underemployment and informality. Fiscal policy has the more direct tools: development spending on roads, power, water and housing is labour-intensive and creates employment both immediately in construction and permanently by removing the infrastructure bottlenecks that limit private hiring; public employment and income-support programmes sustain demand in depressed regions; education and vocational training budgets attack the skills mismatch; and tax incentives or credit-guarantee schemes can target small and medium enterprises, which employ most workers. Fiscal expansion also has the higher and more certain multiplier where it is spent on domestic labour and materials rather than imports.

Monetary policy's role against unemployment is supportive but weaker and less precise. Lower interest rates encourage investment, housing construction and consumer durables, and a competitive exchange rate helps exporters of textiles and other labour-intensive goods to hire; but in Pakistan the transmission to employment is blunted because many small firms borrow informally or not at all, banks prefer lending to the government or to large established borrowers, and the binding constraints on hiring are often electricity, gas, law and order, skills and policy uncertainty rather than the interest rate. There is also an asymmetry: monetary tightening can reliably destroy jobs by choking demand, but monetary easing cannot as reliably create them when confidence is low — firms will not borrow to expand merely because credit is

cheaper if they expect weak sales. Finally, both policies face a common ceiling: attempts to push demand beyond the economy's supply capacity — the lesson of the Phillips-curve experience internationally and of Pakistan's own boom-bust cycles, in which demand-led booms ended in balance-of-payments crises and stabilisation programmes — produce inflation and external deficits rather than permanent employment gains. Sustainable employment growth comes from the supply side — energy, skills, exports, investment climate — which fiscal policy partly builds and monetary stability enables.

The Need for Coordination

The comparison therefore ends not in a verdict for one policy over the other, but in a division of labour and a warning about conflict. Monetary policy should be assigned primarily to price and financial stability, in which its speed, flexibility and independence give it comparative advantage; fiscal policy should be assigned to the medium-term tasks — a sustainable deficit and debt path, the composition of spending toward infrastructure, education and targeted social protection, and a broader, fairer tax base — in which its precision and capacity-building give it the advantage. Conflict between them is expensive: expansionary fiscal policy with tight money produces high interest rates, crowding out of private investment and ballooning debt service — the pattern Pakistan has repeatedly experienced — while loose policy in both produces inflation and external crisis; tight policy in both, in a recession, deepens unemployment unnecessarily. Coordination through shared forecasts, a credible medium-term fiscal framework and respect for the central bank's operational independence is therefore itself a policy instrument, and for a developing economy exposed to floods, commodity shocks and

global financial conditions, it is the difference between stabilisation that holds and stabilisation that has to be repeated every few years.

Conclusion

To conclude, fiscal policy steers the economy through government spending, taxation and the budget balance, and monetary policy through the central bank's control of interest rates, liquidity and credit. They differ in operator, speed, precision, political exposure and limits, as the comparison table summarises. In a developing economy like Pakistan, monetary policy is the sharper short-run weapon against inflation but cannot cure supply shocks and is undermined by fiscal dominance; fiscal consolidation is the durable cure for inflation's fiscal roots, and fiscal policy is also the more direct and better-targeted instrument against unemployment, especially the structural unemployment that monetary easing cannot reach. Used in coordination — stable money, sustainable and development-oriented budgets, and supply-side reform — the two policies together can control inflation without sacrificing employment; used in conflict, each defeats the other, and the economy pays for both failures at once.

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