

Read All Instructions Carefully. Use a blue book. Be sure to put your name on the blue book cover, but not inside it. You are responsible for managing your time wisely, and for making sure your answers are clear and appropriately related to class material. If you answer more questions than necessary, I will skip the last one(s) in your blue book.

**I. (30%) Short Descriptions: Answer 10 of 12 (3% each)** In two to three articulate sentences each, define and/or explain each of the following, with some comment on their importance, context, or relevance.

- a) **Anarchism** is a philosophy that society can and should be self-governing, without a state or government. Bakunin thought that all government power was inherently corrupt, regardless of whether it was capitalist or socialist. There are many different kinds of anarchism – no surprise—on both the left and the right, including collectivists, mutualists, and individualists. One of the former, Proudhon, argued that private property is theft. Libertarians tend to be the latter.
- b) **Condorcet's Voting Paradox** is a problem in which majority voting can lead to inconsistency and cycling. For example, if three parties choose among three alternatives (A,B,C) by pairwise majority vote, the result can be that  $A > B > C > A$ .
- c) **Historical Materialism** is the Marxian theory of change, built on the Hegelian Dialectic of conflict, in which the forces of production are the base determining the relations of production, a.k.a. the economy, and these in turn lead to the superstructure.
- d) **Intensive Growth** is economic growth resulting not from the use of more resources, but the better use of existing resources. This can result from improved technology, additions to human capital, or improvements in economic efficiency, all of which are not subject to the same diminishing returns and resource limits faced by extensive growth.
- e) **Kaldor Compensation Criterion** is a modification to Pareto Optimality. If one person gains by more than another person loses, such that the winner could afford to compensate the loser, this could be considered to be a Pareto Improvement even if the compensation does not actually occur.
- f) **Labor Theory of Value** is the theory that only labor creates value, while capital is the means of production but only transfers value. Smith originated it, and Marx used it. Thus, when the capitalist makes a profit, he necessarily does so by exploiting the worker. The theory is flawed, in part because it confuses supply with demand.
- g) **Madisonian Liberalism** is the view that voting still matters even if no social choice rule can reliably determine society's preferences, since voting acts as a check on government power and prevents the least preferred policies from continuing.
- h) **Pareto Optimality** is the economic condition in which no further mutually-beneficial trades are possible, and so no one can be made better off without someone being made worse off. It implies that all possible gains from trade have occurred and the economy, at a static moment in time, is perfectly efficient in its use of scarce resources.
- i) **Public Good** is something produced with scarce resources that society desires, but with two particular characteristics that make it highly unlikely that private producers would provide it in efficient quantities. These characteristics are nonrivalrous consumption, which implies that marginal cost (the efficient price) is zero, and nonexcludable benefits, which leads many users to act as free riders. This implies that governments can provide what private producers cannot, paying for it through mandatory taxation.
- j) **Say's Law** is the belief of classical economists that a laissez faire economy was naturally self-equilibrating, since supply creates its own demand. The income generated from the sale of goods exactly equals that necessary to buy it.
- k) **Socialism** is an economic system in which the state, under the unchallenged control of a Marxist-Leninist communist party, attempts to eliminate capitalism through state ownership of the means of production, and possibly the elimination of most private markets. This is not to be confused with the political philosophy of increased government intervention in a capitalist economy.
- l) **Theorem of the Second Best** demonstrates that there is no a priori second best. Perfect free markets are perfectly efficient, but imperfect free markets cannot be ranked based on the number of market failures, since it is possible that one market failure or other distortion can offset another.

**II. (30%) Short Essays.** Answer two of the following three questions, each in a short essay. (15% each).

1. What is the Prisoner's Dilemma model, and what does it predict? How does it compare to Smith's Invisible Hand? When might the Prisoner's Dilemma work in society's interest, and when might it work against society's interest? Give an economic example of each that is not from lecture.

*Answer:* The Prisoner's Dilemma is a model of how well-informed and self-interested individuals may face incentives to not cooperate, to defect or confess, by either taking advantage of others or to trying to avoid letting them take advantage of you. As a result, everyone in the game becomes worse off. Adam Smith argued that men acting in their self-interest promote the social interest as if guided by an invisible hand, and do so more effectively than if they had intended to act for the benefit of society. Both the Invisible Hand and the Prisoner's Dilemma assume that individuals rationally act in their own self-interest, but they make different assumptions and reach different conclusions. It may be possible that both models simultaneously apply; for example, competition makes firms worse off by driving their profits to zero (a Prisoner's Dilemma), while society benefits by having more goods at cheaper prices (the Invisible Hand). Examples, of course, may vary, but it would be preferred if they were original.

2. What is the Arrow-Debreu “efficiency” theorem (i.e., the first fundamental theorem of welfare economics), and what does it mean? What are the theorem’s three preconditions? What does this theorem imply for the appropriate role of government if the conditions are met? If they aren’t?

*Answer:* The efficiency theorem, also known as the First Fundamental Theorem of Welfare Economics, says that if there are complete markets (CM), then any Competitive General Equilibrium (CGE) is Pareto Optimal, even under the Kaldor Compensation Criterion. CGE can exist, assuming an economy has perfect competition (PC) and perfect information (PI). So if these three perfect market conditions (CM, PC, PI) are met, a free market economy would be perfectly efficient.

The three conditions for perfect markets are: (1) perfect competition, with homogeneous products and many buyers and sellers so no individual may control the price alone; (2) perfect information, so we all know all relevant information about the goods we are buying and selling; and (3) complete markets, so there is a market for everything, with no externalities or public goods as a result. Violations of the first condition include monopolies; violations of the second include adverse selection, moral hazard, or fraud; violations of the third include pollution, national defense, and the market for babysitters. Under these three conditions, the best government policy is laissez faire, to keep hands off the market. If the perfect market conditions are not met, then a free market economy will probably not be perfectly efficient. It may thus be possible for the government to intervene in ways that could improve economic efficiency.

3. Compare, contrast, and explain Keynes’ General Theory versus the views of the Monetarist and New Classical economists, especially as they pertain to the causes of economic instability and the appropriate role of government in a capitalist economy.

*Answer:* In his General Theory, Keynes (pronounced like sugar "canes") argued that a free market economy is inherently unstable, and capitalism needed to be saved from itself. Say's Law posited that the economy was inherently stable, because supply creates its own demand, but Keynes argued that classical theory was wrong because prices, wages, and interest rates do not quickly adjust to keep the economy at full employment, except in the long-run (but in one of his famous quotes he said that in the long-run we are all dead). Instead, it is possible to enter into a low-level equilibrium. The source of this instability is the investor, who is subject to herd behavior or "animal spirits," and the multiplier effect exacerbates this instability. The way to stabilize the economy and keep it near full employment, Keynes argued, is for the government to use fiscal policy. When investment falls, the government needs to spend more or tax less to keep spending up, and vice-versa. Capitalism needed to be saved from itself.

Monetarists, on the other hand, argue that the money supply is the key element that Keynes dismissed in his analysis. Unstable monetary policy creates the instability that investors react to, by changing prices and interest rates, and thus the source of economic instability is the government's mismanagement of the money supply. The New Classical economists extended this analysis to argue that government efforts to increase GDP can only work if people don't expect it, but doing this it creates instability in expectations that make future reactions unpredictable. Both Monetarists and new Classical economics favor rule-based, predictable policy, and generally oppose macroeconomic intervention by the government. The government should otherwise stay out of the economy.

**III. (40%) Longer Essays.** *Answer two of the following three essay questions. The quality and coherence of your essays matter (20% each).*

- A. What was Feudalism, and what were its chief characteristics? What are some of the major factors and historical events which led to its demise? How did Capitalism differ, and how did its emergence change the long-run trajectory of the world’s economic growth?

*Answer:* Feudalism was an economic, social, and political system in Europe’s middle ages (circa 9th - 14<sup>th</sup> Centuries) based primarily on the relationship of lord to vassal. Land was held in feud, meaning that the tenant owed services to the lord in return, from serf to lord to overlord, ultimately to the king. Property rights were limited, though there was mutual responsibility between lord and vassal based on tradition. The economy was predominantly rural, agricultural, cellular, and autarkic at the manorial level. The social structure was extremely rigid, mobility was very limited, and the Church played a strong role, for better or for worse.

Capitalism, on the other hand, is an economic system characterized by the private ownership of property, where firms hire labor, compete, and produce for a market intending to make a profit. It emerged in the last several centuries,

and has led to industrialization, urbanization, export orientation, and unprecedented rates of self-sustaining growth, along with a population explosion and rapid exploitation of natural resources.

Major factors and events which led to the emergence of Capitalism in Europe include the gradual evolution of property rights through checks on the power of kings and lords and the emergence of legal systems, the evolution of money and banking, the re-emergence of trading cities in which the bourgeoisie emerged, corporate charters which enabled the creation of larger production units, and the enclosure movement which created a working class. The Renaissance contributed a new era of creativity and rationalization in thought, the discovery of the New World overturned the old world view and provided an opportunity for exploration, and the Protestant Reformation not only undermined traditional authority, it made it possible to reconcile the seeking of profit and individual initiative with religious doctrine. Bernstein focused on four conditions, including: (1) property rights, since creators must have proper incentives to create; (2) scientific rationalism, for innovators must be allowed to innovate without fear of retribution; (3) capital markets, since entrepreneurs must be given access to capital to pursue their visions; and (4) transportation and communication technologies that enable society to spread ideas and transport finished products to larger markets.

- B. How do we measure the performance of an economic system? What are the major criteria we use? What are the major problems of measuring economic performance? In addition to the institutions and policies underlying the economic system, what other factors affect its performance?

*Answer:* Comparative measures of economic performance may include GDP per capita, its composition and growth rate, the distribution of income (equity), dynamic and static economic efficiency, economic freedom, stability, economic security, and long-term viability. You need to explain each of these a little, so it is apparent you have done more than memorize the list.

There are many reasons that measurement of performance is difficult. Accurate measurement itself is difficult, numbers are not in comparable currencies or calculated the same way, and often good measures are not available. The weighting of these different performance measures is arbitrary and subjective, so coming up with a single summary is not possible. This is especially problematic because some of the measures involve tradeoffs. Having more equity may reduce efficiency, having more static efficiency may reduce dynamic efficiency, et cetera. There is also a tendency to not compare fairly, by comparing the ideal theoretical version of one economy to the ugly reality of another.

. For an example of the measurement problem, the comparison of GDP or similar measures of money income depends on putting different countries' currencies into a common unit of account. Market exchange rates, however, vary with the investment climate, the ease of trade, and the expected stability of the currency in the future, and thus currencies can be significantly undervalued or overvalued in the relative purchasing power. Economists try to adjust for this by taking a sample of how much countries produce and weighting it by U.S. prices, and then deriving a PPP index to use instead of the market exchange rate. Using these purchasing power parity estimates seems to be a good alternative, except the Gerschenkron effect tells us that we will tend to overestimate another country's output if we do so. Because relative prices differ between countries, and because goods which are relatively scarce tend to have relatively higher prices (and vice-versa), we would be giving our relatively higher weights to what they produce relatively more of, and relatively lower weights to what they produce relatively less of. The implication is that we simply can't make precisely accurate comparisons of living standards between countries using different currencies.

Even if you could derive a single accurate measure of economic performance, there are many other factors than the economic system that could affect the result. Bornstein argued that three additional factors could affect performance. These include 1) the level of economic development – the amount of capital and technological level, the size and structure of the economy, and the degree of centralization, 2) social and cultural forces – beliefs, values, and education, for example, and 3) the natural environment – a country's geography, climate, and resources. How an economy performs may be contextual.

- C. What are fundamental theoretical reasons why a capitalist economy might benefit from state management or intervention? Give practical examples of state interventions that could, in theory, improve the performance of the economy. Then explain the major reasons why state intervention may instead lead to public failure.

*Answer:* Theoretically, the state may be economically justified in intervening in the economy in order to correct market failures, enforce cooperation, provide public goods, or stabilize the macroeconomy. Theoretically, the state may also intervene to improve the equity of income distribution, provide so-called merit goods, or meet other non-market objectives. The state may therefore define and enforce property rights through establishment of a legal system; tax its citizens to pay for public goods (e.g., national defense, police, or fire protection); correct externalities through subsidies, taxes, or regulation; control or break up monopolies and enforce competitive behavior; follow fiscal and monetary

policies to stabilize prices, employment, and output; and improve market information by requiring full disclosure or truth-in-advertising.

However, there are many reasons the state may not be able to intervene efficiently, and what we call "public failure" implies that state intervention makes the economy less efficient. It might occur if the state lacks information about how to correct market failures (particularly since market prices are not present, and in a market economy the state is left with the most intractable problems), if the state's objective is not only to improve efficiency, or if the state is unable to provide its agents with clear appropriate incentives. Large bureaucracies are always difficult and expensive to manage, especially when their objectives are hard to define and their performance is hard to measure. Such agencies tend to be risk averse, they may fear success because it threatens the agency's survival (unlike in the private sector, where success usually ensures survival), and they may be "captured" by private industries they are supposed to regulate. If the state is involved in providing services, because labor productivity in services typically does not rise as fast as in other sectors, then the cost disease hypothesis argues that the state's share of output will inevitably increase. Furthermore, even well-intentioned political leaders must get power, retain power, and extend power to be effective, and this all requires efforts to please decisive coalitions. Add to this the impossibility of determining society's preferences, and public failure seems more likely.

END

