

The Economics of Subsidies

The removal of subsidies on agriculture, health, education, petroleum products, etc is one of the key policy prescriptions by the World Bank to developing countries. Presumably, this policy is supposed to enhance economic performance in these countries. However, the removal of subsidies can have adverse effects on the poor in these countries and lead to political agitation as evidenced in the 2005 demonstrations after the ruling NPP government in Ghana removed the subsidy on petrol. But is there a compelling economic argument or basis for the removal of subsidies? Will this policy necessarily improve economic performance? In this article, I shall provide answers to these questions.

Modern neoclassical economics is based on perfectly competitive markets. More than fifty years ago, the Nobel Laureates Kenneth Arrow and the late Gerard Debreu proved the existence of competitive prices under very restrictive conditions. Under certain conditions, a competitive equilibrium not only exists but is also efficient (i.e., maximizes the size of the national pie or maximizes social welfare). In this world, there can be no role for government

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intervention in the economy. In a competitive equilibrium, the price of each commodity is equal to its cost of production. Suppose the cost per unit of output is constant, where cost is defined to include the minimum return on investment that an entrepreneur requires to remain in business. Since the quantity demanded of the commodity increases as the price falls, an increase in quantity beyond the competitive equilibrium quantity will result in a fall in the price. Given that the price is equal to the cost of production in a competitive equilibrium, any increase in quantity beyond the competitive equilibrium quantity implies that the price will be below the cost of production. This clearly does not make sense. Conversely, any reduction below the competitive equilibrium quantity implies that the price is above the cost of production. But since price is a measure of how society or economic agents value a commodity, the value that society places on an additional quantity exceeds the cost. Therefore, economic welfare increases if quantity is increased when the economy is below the competitive equilibrium quantity. Thus, I have argued that departures from the competitive equilibrium quantity and price reduce social welfare or do not make economic sense. If the market is in a perfectly competitive equilibrium, then a subsidy, by reducing the price of the commodity, increases consumption of the commodity beyond the equilibrium competitive quantity. But since departures from the competitive equilibrium reduce social welfare, the subsidy is not desirable. Herein lies the logic behind the World Bank policy prescription: removal of subsidies. In this world, subsidies are a form of market distortion which leads to a misallocation of resources and a reduction in social welfare.

Given that the conditions required for free markets to operate efficiently are rarely met in the real world, one is inclined to question why the World Bank recommends the removal of subsidies to several developing countries as though this was some religious dogma or mantra. Joseph Stiglitz of Columbia University won his 2001 Nobel prize in economics based on his numerous works which demonstrate market inefficiencies in various contexts. Market imperfections or distortions exist when buyers are uninformed, the number of firms is small, public goods exist, property rights are weak, etc¹. However, market imperfections do not necessarily lead to market failures or inefficiencies. For example, it can be shown that a market with only two firms which face no capacity constraints could yield an efficient competitive outcome.

If subsidies are distortionary and reduce welfare in perfectly competitive markets, are they necessarily so in markets which are not competitive? Is there a generally accepted economic argument for their removal? The answer is no. Almost fifty years ago, Lipsey and Lancaster (1956) showed that in an economy characterized by many market imperfections, there is no guarantee that the removal of any one such imperfection will improve social welfare. This is the theory of the second-best. As the development economist Paul Mosley (1991: 227) observed “... any ‘structural adjustment programme’ – i.e., programme to remove a cluster of such imperfections is therefore not an application of economic principles but rather an improvisation, a gamble

¹See Stiglitz (1996) for a discussion of some of these arguments.-

based on the premise that if past microeconomic policies have yielded unsatisfactory results, an alteration of those policies may help.”

Let me present an illustration of second-best theory. Suppose there is a market imperfection, for example, there is only one firm or very few firms in the market. Typically, the equilibrium quantity in this market will be below the perfectly competitive equilibrium quantity. For example, the equilibrium quantity when the seller is a monopolist is lower relative to the quantity in a perfectly competitive market since monopolies charge higher prices. Therefore, a subsidy, by reducing the price of the commodity, may increase the consumption of the commodity towards the equilibrium (perfectly) competitive quantity, given that output was initially too low. Indeed, an appropriately chosen subsidy will move the economy towards the perfectly competitive equilibrium quantity. This increases social welfare. This benefit must be balanced against the cost of the subsidy, which also includes the cost of financing the subsidy through distortionary taxation. But the main point is that we cannot necessarily conclude that the subsidy will reduce social welfare unless we know the relative magnitudes of the costs and benefits. The theory of the second-best suggests that if there are irremovable distortions in some sectors of the economy, then economic performance or social welfare may be higher if free-market pricing principles are deliberately violated in other sectors of the economy.

There is yet another reason why the removal of subsidies may not enhance economic performance. Subsidies may be used by governments to redistribute income from the rich to the poor. For example, subsidies on

kerosene in Ghana serve this purpose, since kerosene is typically used by the poor. Indeed, redistribution can enhance economic efficiency in certain situations. Harvard economists Alberto Alesina and Dani Rodrik (1994) showed that income inequality had an adverse effect on growth. They argued that in more unequal societies, economic growth is lower because the demand for fiscal redistribution financed by distortionary taxation is higher. Income inequality also fuels social discontent and increases socio-political instability. The uncertainty in the politicoeconomic environment reduces investment which reduces growth.

Here is another example, due to Szymanski and Valletti (2005), of how redistribution or less inequality can enhance efficiency. Consider a winner-take-all society where being first comes with everything and being second, third, etc comes with nothing. As an example, consider three athletes competing in a 100-meter race. Call them Kofi, Musa, and Edem. Let there be a prize worth \$1 million. Suppose Kofi is an outstanding sprinter relative to Musa and Edem. Musa and Edem are equally matched. If the winner gets \$1 million and the losers get nothing, then Musa and Edem will exert very little effort because they know that they can't really compete with Kofi and the runner-up does not receive a prize. But if Edem and Musa exert very little effort, then Kofi does not have the incentive to exert a high effort either. Aggregate effort will therefore be low and income inequality will be high since one person will be a million dollars richer than the others. Suppose that the race is no longer a winner-take-all race but instead \$700,000 goes to the winner and \$300,000 goes to the runner up. In this case, Edem and Musa will exert a

higher effort because being second comes with a prize. The higher effort of Edem and Musa will also induce Kofi to increase his effort. Aggregate effort will be higher and the distribution of income will be less skewed. Hence, less inequality in the distribution of the million dollars led to an increase in aggregate effort. This argument makes sense if the distribution of abilities is very unequal (i.e., Kofi is an outstanding athlete relative to Edem and Musa). If the abilities of Musa and Edem were comparable to Kofi's, a winnertake-all prize structure would have resulted in a higher aggregate effort. However, the basic point is that the distribution of income or resources can enhance performance or increase aggregate output. But we do not have to carry redistribution too far. We have to redistribute taking cognizance of the fact that it could have adverse effects on output.

There is a Keynesian view of macroeconomic policy management where subsidies could be used to boost expenditure or aggregate demand. Hence, the removal of subsidies might dampen economic activity. But this depends on one's view of the budget balance. If we appreciate the fact that subsidies must be financed through taxation, then the removal of subsidies might also imply the reduction of taxes. The reduction of taxes could stimulate the economy. In reality, taxes are not reduced when subsidies are removed nor is there necessarily a strong connection between subsidies and taxes. Governments, indeed, run budget deficits. Of course, if the continual use of subsidies widens the government's budget deficit, then this is clearly a cost of subsidies which must be taken into account since bigger budget deficits imply higher interest rates which also dampen economic performance.

Also, the political economy of subsidies depends on the perception of economic agents. If economic agents do not trust their governments and believe their most of their taxes are used for the private gain of politicians, then they might agitate for subsidies on certain commodities as a way of getting a piece of the national pie. Subsidies, no matter how inefficient, may then be used by the electorate as a way of getting politicians to commit to some form of credible redistribution.

My goal is not to argue for or against the removal of subsidies. My main argument is that since there is no compelling theory to support the removal of subsidies, the World Bank and governments in developing countries should implement this policy cautiously and should do so on a case-by-case basis. Indeed, the World Bank does not impose these conditions on the developed nations. Why? Clearly, there is a double standard. The removal of subsidies should not be a one-size-fits-all policy prescription for developing economies because there is nothing in economic theory which unequivocally supports this policy. The public must be educated and informed about the pros and cons of this policy on a case-by-case basis including the alternative uses of tax revenue if the subsidy on a specific commodity is removed. For example, the removal of subsidies on health may have entirely different implications than the removal of subsidies on petrol.

Those who wish to play politics with this piece will only see one side of the story. On the contrary, this piece calls for pragmatism, balance, and common sense. Finally and perhaps, more importantly, the World Bank will not be able to tell developing countries what do if they put their house in

order. For the sake of their children, grandchildren, and their own pride, developing countries ought to get rid of any canker of corruption, nepotism, misgovernance, incompetence, and apathy in their house. That way, they wouldn't have to depend on the World Bank.

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