

The Role of Food Price Ceilings versus Food Price Coupons in Mitigating the Impact of Food Price Inflation

Mohamad Haidir Hashim¹, Ruslan Sabirzyanov²

¹ Faculty of Economics and Management Sciences, International Islamic University Malaysia, 50728 Kuala Lumpur, Malaysia

² IIUM Institute of Islamic Banking and Finance, International Islamic University Malaysia, 205A Jalan Damansara, 50480 Kuala Lumpur, Malaysia

Abstract: In the current time, food price inflation is inevitable due to the fact that the many countries in the world have globalised and liberalised their economy. The economies in the world now are very much integrated as compared to previous centuries. Any supply or demand fluctuations in major commodity producing countries will influence the global price of the commodities including food prices. Rapid rise of population and growing economies have also put a lot strain on food production and supply hence driving up the food price. The free market principles are not perfect since there is no such thing a perfect market in the world and many countries in the world are not a closed market since majority of the countries are trading economies. Hence, measures like subsidy have to be taken to address market imperfections and unequal wealth distributions. Specifically to food subsidy, food price ceilings and food coupons are one of the common ways to mitigate the impact of the rising food inflation. This paper will begin the topic by discussing the social impacts of poverty and food inflation to a country and the importance of mitigating it. Then, this paper will attempt to discuss the role of food price ceilings and food coupons in mitigating the impact of food price inflation. The advantages and disadvantages of both systems will be discussed. Finally, the paper will conclude that between these two options, food coupon is a better subsidy than food price ceiling approach.

Keywords: Price ceiling, food coupon, subsidy, infaltion.

I. INTRODUCTION

In modern economy, poverty is one of major socio-economic issues that is faced by almost all countries in the world. Poverty hinders the poor and low-income groups from getting access to sufficient nutrition, proper education and better housing and sewerage which normally lead them to other socio-economic issues such as chronic diseases, unemployment, crimes and even death. If inflation is left unchecked and poverty is widespread, it would lead to even bigger issues that can potentially rock the political stability and ultimately topple the government of that country. This can be evidenced from Tunisia revolution and Egypt revolution post 2008 global economic crisis in which both ruling governments were toppled down by the masses. One of the causes of the revolution is widespread poverty and inflation of staple items (Abdel Meguid, Al Banna, Korayem, & Salah El Din, 2011). Therefore, it is in the interest of all the governments in the world to minimize poverty and assist the poor through implementation of many kinds of poverty eradication program. One such program is food subsidy program to address malnutrition amongst the poor and low-income groups by helping them to buy staple foods at lower prices than actual open market prices.

However, as important and as noble as it seems, at least of its true intention and objective, subsidy is not something that is welcomed by many free market supporters and economists including international body like World Trade Organization (WTO) through its General Agreement on Tariffs and Trade (GATT) which encourages the elimination of unfair trade restrictions and obstacles such as agricultural subsidies (World Trade Organization, 2007). There are both advantages and

disadvantages of food subsidy program and the way it is implemented will also produce different kind of impacts. The most common ones are food price ceilings or general food subsidies which normally affect the general population and food coupons or targeted food subsidies which only target and help the poor and low-income groups. In the following two sections, this paper will focus on the roles of food price ceilings and food price coupons in mitigating the impact of food price inflation and their advantages and disadvantages in the short and long run.

II. FOOD PRICE CEILINGS

2.1. Its Role:

A food price ceiling is a form of a general subsidy. It's a market regulation set by a particular government to shield its population from food price inflation by setting a maximum price on the selected food regardless of the actual production cost and market price of the food.

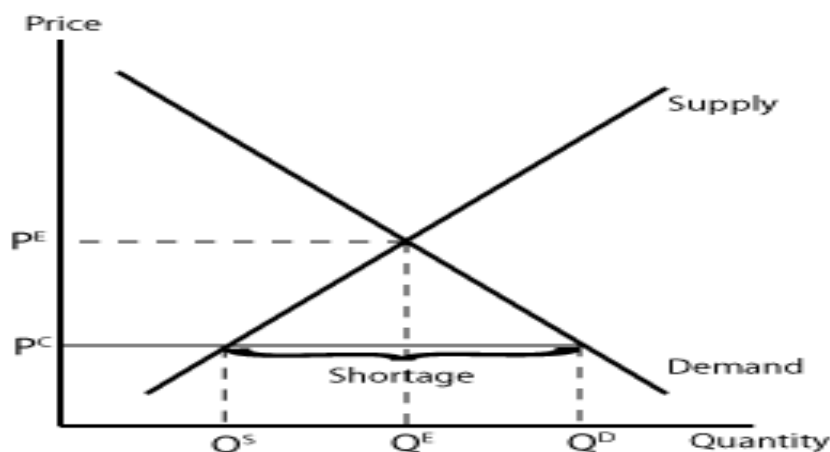


Figure 1. Price Ceiling in Supply-Demand Curve

Source: www.econport.org/content/handbook/Equilibrium/Price-Controls.html

Figure 1 illustrates how does price ceiling work in a market. Assuming that the market is perfect, P^E represents the actual price of a product in the market without any intervention (such as subsidy) where the market clears when both supply and demand are in equilibrium as denoted by Q^E . In an attempt to regulate the price of the product, the government of this market imposes a price ceiling denoted by P^C in the above figure. At this price, the demand of the product will be increased (denoted by Q^D) due to more people are made better off and are able to purchase the product at lower price. However, from the supply-side, the producers are unable to supply the same quantity of products as demanded at the ceiling price imposed by the government without making losses (denoted by Q^S) hence creating a shortage of supply in the market ($Q^D - Q^S$). In order to address the shortage of supply, the government of the market will have to spend money as represented by the area of the triangle ($shortage \times P^E - P^C$) to compensate and incentivize the producers to meet the market demand. Normally, a price ceiling will affect the whole population social demographics from the very affluent group to the hard-core poor since everyone in the market will have access to the same pricing regulation and the subsidy is given at the suppliers' side hence the retailers and customers will only see the regulated ceiling price.

For a government, food price ceiling is the easiest method to help the poor and low-income groups since the program affects everyone in the society. There will be less administrative activities and less cost to execute the program. However, the cost of implementing the price ceiling itself can be high and budget draining (Mehmood & Sadiq, 2010) since the government will have to subsidize the whole population, not just the poor and low-income groups. Economists argue that price ceiling will distort the market and the economy and it leads to inefficiency of resource allocations. In the next section, this paper will give a case example of price ceiling program in Malaysia and elaborate on the advantage and disadvantage of this subsidy method.

2.2. Case Example: Malaysia Subsidy Program:

In the efforts to reduce economic hardship to poor and low-income group, Malaysia has been subsidizing its population for the purchase of important staple food namely rice, flour, sugar and cooking palm oil. The list of staple items that has been subsidized by the government of Malaysia as of 2014 are as follows:

Table 1. Malaysia Controlled Food Items and Price Ceilings

Food Item	Amount	Ceiling Price (RM)	Subsidy Amount (RM)
Flour (General Purpose)	1 KG	2.50	0.68
Cooking Oil	1 KG	1.35	0.83
Sugar (Coarse) ¹	1 KG	2.84	0
Sugar (Refined)	1 KG	2.94	0
Rice	1 MT	1200	600-750 ²

Sources:

- 1) Ministry of Domestic Trade, Co-operatives & Consumerism of Malaysia
- 2) Ministry of Agriculture of Malaysia

By capping the selling prices of the important staple food, Malaysians have been effectively shielded from the world food inflation. Rice, flour, sugar and cooking oil are the main components of many cooking and processed food in Malaysia. By subsidizing these primary food items, the prices of the final food products have been made lower than they should be. These can be evidence from the country Consumer Price Index or CPI, which has been observed to be consistently lower than the World consumer index. Table 2 compares the annual change of CPI for both the total index and food specific between Malaysia and the World.

Table 2. Comparison between Malaysia & World consumer price index & food price index for the period of 2001-2013

Year	Malaysia CPI Annual Change %	Malaysia CPI (Food) Annual Change %	World CPI Annual Change %	World Consumer Index (Food) Annual Change %
2001	1.42%	0.70%	4.01%	3.60%
2002	1.81%	0.70%	3.05%	4.63%
2003	0.99%	1.28%	3.30%	5.72%
2004	1.52%	2.13%	3.58%	6.46%
2005	2.96%	3.73%	4.12%	4.75%
2006	3.61%	3.40%	4.42%	5.56%
2007	2.03%	3.00%	5.05%	7.64%
2008	5.44%	8.83%	9.01%	13.29%
2009	0.58%	4.14%	2.91%	6.44%
2010	1.71%	2.40%	3.49%	7.31%
2011	3.20%	4.81%	5.02%	8.41%
2012	1.66%	2.67%	3.71%	6.19%
2013	2.11%	3.60%	2.66%	7.49%

Sources:

- 1) Department of Statistics of Malaysia
- 2) World Bank
- 3) Food and Agricultural Organisation, FAO

¹ As of 2014, Malaysian government no longer subsidizes sugar but the selling price has been capped to a certain level near the market price.

² Subsidy to rice factories in Peninsular Malaysia (RM750/MT), Sabah & Sarawak (RM600/MT)

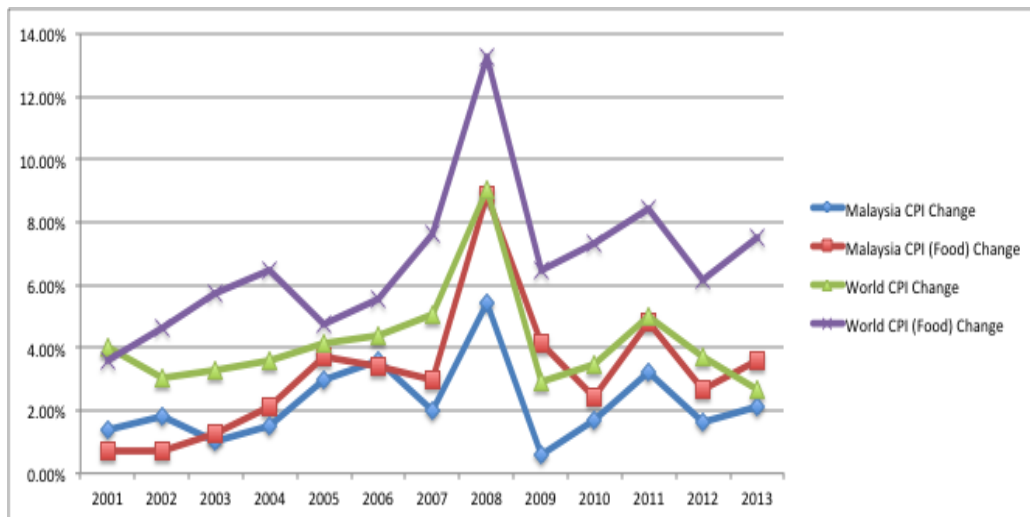


Figure 2. Comparison between Malaysia & World consumer price index & food price index for the period of 2001-2013 (Graph)

CPI is actually a price index of a basket of items comprises of both food and non-food items. Since the paper focuses on the role of food subsidies, a more meaningful discussion is by comparing the food specific CPI between Malaysia and the World. The general CPIs are included to explain the graph trending. In the case of Malaysia, food items are given a weightage of around 30% in the CPI calculation (Department of Statistics Malaysia, 2014a). In order to prove that the price ceilings implemented by Malaysia do actually mitigate the effect of world food inflation, a simple correlation method has been used to check the relationship between the set of data. The percentage of annual changes in the Malaysian CPI (Food) and the World consumer index (Food) register a correlation of 0.88, which means both sets of data are highly correlated. The Malaysian CPI and the World CPI are also highly correlated by registration a correlation number of 0.85. This can be observed from trending of each graph in Figure 2.

All four graphs have more or less similar movement and trending. From this, the paper would like to point that the percentage of annual change of Malaysian food price index has been consistently lower than that of World food price index albeit the two has been consistently showing the same movement and trending. It is as good as by saying that the changes in Malaysia food price index is a factor or a degree lower than the changes in World food price index. The paper believes this “factor” is actually the subsidy effect of the price ceilings implemented by Malaysia, which partially absorb the cost of the rising global food inflation. The case is apparent before and after 2008 global financial crisis where there has been a huge spike (13.1%) in the global food price index before 2008 and a big reduction in the change (6.4%) of the same index post 2008. In the same period, Malaysian price ceilings has curtailed the local food index changes to 8.8% and 4.1% for pre and post 2008 financial crisis respectively. Objectively, there is no doubt that price ceilings do make food price cheaper and affordable to everyone in the market particularly to the poor and the low-income groups but another angle to be looked is whether economically it is the best solution to address inflation. Apart from the advantages, there are many disadvantages of price ceiling discussed by economists and market players alike. In the next section, the paper will attempt to discuss both merits and issues with price ceilings.

2.3. The advantages of food price ceilings:

2.3.1. The subsidy reaches the target group:

Since price ceilings subsidize every customer in the market, the government can be fully assured that the targeted group specifically the poor and the low-income will undoubtedly benefit from the subsidy program.

2.3.2. No price manipulation:

In a situation where the market is monopolized by very few suppliers and not regulated by the government, the food prices are prone to manipulation by the suppliers. A good example would be with the sales of sugar in Malaysian market. The sugar supply in Malaysian market has been monopolized by only two suppliers namely *Malayan Sugar Manufacturing* and *Central Sugar Manufacturing* (Sipalan, 2013) and without a sugar price ceiling the consumers will be

exposed to price fixing and manipulation by these two suppliers. Hence, by introducing price ceilings, the possibility of food price manipulation by the monopoly suppliers is completely removed from the equation.

2.3.3. Lower administrative costs:

The administrative cost of implementing food price is lower than other subsidy methods since the government neither need to have a big body to administer the program nor to have frequent monitoring or audit activities to monitor price ceilings implementation. The method only requires an enactment and/or a ministerial circular and a cost compensation process between the government and the suppliers without having to engage the masses and the market extensively.

Having known some of the major advantages of price ceilings, the following section will then discuss the drawbacks of price ceilings.

2.4. The disadvantages of food price ceilings:

2.4.1. Discourage supply from suppliers:

Price ceilings cannot be implemented without the government compensating sufficiently the marginal cost that the suppliers need to bear to produce more food to meet the additional demand by the market. However, in practice, the government only compensates the suppliers at the most minimum as the compensation mechanism is normally based on average published market cost benchmarks to avoid over compensation and encourage inefficient business operation by the suppliers. Although being compensated, suppliers are left with minimum margin to play and they might be still incurring losses should they become less efficient in their operating expenditures or should they suddenly face a big jump in other associated costs to their business that might completely erode their profit margin.

2.4.2. Exploited by non-targeted groups:

Typically, a food subsidy program is designed and caters to retail users and rarely to commercial users. However, the lower-than-market-price food made by price ceiling opens opportunities to individuals specially the high-income individuals or groups to purchase them in abundance to be used as feedstocks for their commercial activities. In extreme cases, this might deplete the food supply stock in the market and hamper the effort of providing cheap food to the target groups in the first place. The proponents of price ceiling believe a quota system should resolve this issue where each individual is only entitled to a certain amount of purchase. This however will require additional administrative and monitoring activities and create unnecessary hardships to the people.

2.4.3. Illegal smuggling and black market:

One of the favourite arguments by the supporters of free market is that price ceilings imposed by the government will create an illegal secondary or “black market” where irresponsible individuals or groups will try to make illegal profits through arbitrage by buying the subsidized food in the primary market, smuggling them to neighbouring countries and selling it at higher price in the black market. In the case of Malaysia, there are many smuggling cases done by Malaysian citizen and non-Malaysian citizen alike to make illegal profits in the neighbouring countries like Thailand and Indonesia. This has cost Malaysian government millions of Ringgit Malaysia annually (Amir, Masron, & Ibrahim, 2010). Black market will continue to exist as long as there is an opportunity to do arbitrage since controlling national borders is not a simple matter.

2.4.4. Food prices cannot be corrected due to supply-demand fluctuation:

Price ceiling is a market intervention and it is against the principle of free market. One of the sacred principles of free market is to allow natural supply and demand forces to dictate the equilibrium price that is the market price. But by imposing a price ceiling, the market cannot correct itself and the supply and demand sides will be continuously distorted.

2.4.5. Food subsidies are inflationary and create artificial demand:

Subsidized foods are artificially cheap and this condition creates artificial demand. Referring back to Figure 1, the initial market demand is Q^E but due to the presence of price ceiling and subsidy, the demand for the food has been increased to Q^D . A country that relies heavily on food imports will bear the brunt of this artificial demand since the country needs to fork out more from their budget to subsidize the higher demands. In the medium and long run, the increase of the food import, if big enough, will increase the inflation of the regional or even global food prices.

2.4.6. No investment in technology & heavy reliance on import (example investment in fertilizer, irrigation system, biotechnology and machineries)

One way a government could naturally reduce food price is by investing more in food and agricultural technology. Investment in better fertilizer, irrigation system, food biotechnology and agricultural machineries will boost food production efficiency and output and ultimately draw down the food price. However, subsidy system generally and price ceilings particularly tend to hinder this kind of investment because suppliers and entrepreneurs will have less incentive to invest in food technology since they can always resort to importing and producing less food and their costs will be compensated by the government.

III. FOOD COUPONS OR TARGETED FOOD SUBSIDIES

3.1. Its Role:

Unlike food price ceilings, which subsidize everyone in the market, food coupons are subsidies that target only selected groups in the market normally the poor and the low-income. It does not intervene the market as much since the actual prices of the food in the market are not regulated and determined by the forces of supply and demand. A food coupon works like a sales voucher where only selected customers are given the privilege of having the voucher of a certain value and the customer can redeem the voucher as a sales discount to their purchase from selected premises. This discount is the subsidy amount. Similarly, in the case of food coupons, the customers are the poor and low-income individuals who will be identified by a government body. In most cases, these individuals will need to register their eligibility with the government body in order for them to receive the food coupons or food stamps. One of the objectives of food coupon is to provide sufficient nutrition to the poor and the low-income groups (Lin, Yen, Dong, & Smallwood, 2010). As such, the usage of food coupons is normally restricted to staple food items like cereals and dairies to improve the nutrition value of the food purchased by the nutritionally impoverished group. Food coupon system has a better standing with economists and free market supports since it behaves like a charity that is to help those in need only. Since it only targets the impoverished groups, the subsidy cost of a food coupon system should be a lot lower than a general subsidy system where even the very rich individuals can benefit from the subsidy and leads to wastage of public funds which can be channelled to other more important development programs. However, the implementation of a food coupon system is harder and complicated than a general subsidy system. The government will have to have a dedicated body to identify the eligible subsidy receivers and will need to implement an effective distribution system to ensure all targeted individuals received the food coupon aids. On the supply side, in practice there have been few ways of subsidy compensation done by the government. Government can either bulk purchase the staple food from the producers at normal market price and acts as a distributor and resell to the retailers at lower than market price with the instruction that the retailers can only sell the food to the food coupon owners as in the case of India subsidy program (Kotwal, Murugkar, & Ramaswami, 2012). Another way is, the supply of the staple food from the producers to distributors and finally to the retailers, is sold at normal market price but the retailers will have to sell the food at discounted price to the food coupon owners. The retailers then will redeem the discounted value using the coupons received from the government as in the case of Malaysia subsidy program, *Bantuan Rakyat 1Malaysia* or *BR1M* (Public Aid 1Malaysia). This paper will illustrate the food coupon system by giving an example of India Food Subsidy Program in the next section.

3.2. Case Example: India Food Subsidy Program:

The paper decides to use India as example of a country that gives subsidy through food coupons to help the poor and the low-income groups without straining the government budget. India has a very huge population over than a billion with millions in poverty and implementing a price ceiling subsidy system will require so much public funds and the country expenditure might run into deficit. Hence, the country adopts food coupons program to give aids only to those in need. The program is called Public Distribution System or PDS. The PDS has been in place since world war two and the main objective of the system is to deliver food subsidies to three groups labelled as above poverty line, below poverty line and poorest of the poor. Indian government set up a unit called the Food Corporation of India (FCI) to act as both food distributor and market price stabilizer. This unit procures the staple food items in bulk quantity from the producers at normal market price and resell some of them at price lower than market to retailers with instruction to retailers to sell food at discounted price to food coupon owners. The IFC will also influence the domestic market price by either dumping or buying the staple food in the open market to stabilize the price and to protect the interest of both consumers and producers. Table 3 below shows the historical trend from 2001 to 2011 of the support price of wheat and the quantity

procured during the period by Indian government. It shows that India government has the intention to both help to those in need by granting food coupons and at the same time attempting to stabilize the food market price.

There are many issues with the PDS such as the inability of the government to identify and distribute the food coupons to the impoverished individuals. This is understandable considering that India has such a huge population. Theoretically, food coupons system should work but in reality the system must come with a good monitoring and auditing system to avoid abuse like what has been recorded in India (Kotwal, Murugkar, & Ramaswami, 2012).

Table 3. Support Prices and Procurement: 2001–2002 to 2010–2011.

Year	Minimum Support Price of Wheat (in Rs. per quintal)	Amount of Procurement (Million tons)
2001–2002	580	20.6
2002–2003	610	19
2003–2004	630	15.8
2004–2005	630	16.7
2005–2006	640	14.7
2006–2007	700	9.2
2007–2008	850	11.1
2008–2009	1,000	22.6
2009–2010	1,080	25.3
2010–2011	1,100	22.5

Sources: Food Corporation of India – Available from: <http://fciweb.nic.in>.

Although many free market supporters favour food coupon system, there are also issues associated with it and India is a good model for the issues, which the paper will paper in the following sections.

3.3. Its Advantages:

3.3.1. No subsidy wastage since only target groups will be subsidized:

The most apparent advantage of food coupon or food stamp system is that the system will supposedly not waste any government funds to subsidize high-income and middle-income groups that do not require any food or financial aids. Food coupon system is very specific and target-oriented. For a very huge population country, a general subsidy system will spell disaster to the government coffer. The nature of food coupon itself hinders any opportunity of excess purchase by the food coupon owners since the coupons are based on certain limited value and quota hence saving the government from over-subsidizing artificial demands.

3.3.2. No or minimum illegal smuggling:

In addition to the foregoing point, food coupon system will also eliminate and minimize any illegal smuggling of subsidized food items since food coupons are monitored and allocated based on a certain ration. Since the quota volume is just small and just sufficient, the food coupon owners itself would not benefit much from the arbitrage should they want to resell their food at higher price in the open market. The effectiveness of food coupons to deter black market is very much acknowledged that it has been proposed that to allow the food coupons owner to sell and exchange the coupons for money (Roy, 2010).

3.4. Its Disadvantages

3.4.1. No control on food price manipulation:

Since food coupon system will have minimum or no effect to the open market, food prices will be determined the market forces. A food coupon system does not have the benefit of a food ceiling system to curtail the possibility of manipulation of food prices. The case is worse for a highly demanded product (which most of staple food are) with few big suppliers. In

modern economy, suppliers tend to form a cartel, which can be very influential and decisive to the food price in market. As in the case of many commodities such as Crude Oil, this cartel is likely to agree on pushing up the food price to increase their profits. If this price increase is high enough, it will deter the poor and the low-income from getting good food and nutrition from the market.

3.4.2. Abuse in the food supply chain system creating shortage for the food coupon owners:

This situation can only happen in the case where the government becomes the distributors of the staple items by selling the food at lower than market price to the retailers with the instruction to the retailers to sell back the food to the food coupon owner at discounted price. However, the retailers might illegally sell the subsidized items at open market to reap profits and turn away the food coupon owners by giving excuse such as the subsidized items have been sold out and not replenished. This case has actually happened and been documented in India food coupon program. In 2004-2005, about 54% of the subsidized grains has been sold in the open market instead. In the same period, it was found that only 10% of the subsidy expenditure reached the target groups (Kotwal, Murugkar, & Ramaswami, 2012). This might be caused due to the complexity of the system and it is difficult to monitor and audit the food supply chain. However, this issue can be resolved by transferring the benefits directly to the eligible groups as has been discussed earlier on the alternatives of implementing the food coupon system.

3.4.3. Higher administrative costs & difficulty to reach the impoverished people:

Implementation of food coupon system is rather bureaucratic and massive since the government will need to have a dedicated body to identify and distribute the food coupons to the impoverished groups. This will require more manpower from the public offices to search and identify the poor and the low-income groups. In a very high population and under-developed country like India and Bangladesh, this might be a very difficult job. Voluntary registration might not be an effective tool since majority of the impoverished people are not even aware of such aid program by the government. In India, it has been recorded that many of the impoverished people do not have bank accounts or records of property ownership or even worse any official identity (Kotwal, Murugkar, & Ramaswami, 2012).

IV. CONCLUSION

Food price ceiling and food coupons are a few of subsidy mechanisms that can be implemented by the government to help the poor and needy. Price ceilings particularly have been proven to shield the people from the global food price inflation as in the case of Malaysia. However, majority of the economists and free market supporters are against the concept of price ceiling because it distorts the market forces fundamentals and it does not allow the market to correct by itself. The cost of running and sustaining the price ceiling subsidy is high and produce much wastage because the system subsidizes everyone including the rich and the affluent. Price ceilings also encourage illegal smuggling and sales of the subsidized food in the black market. In order to solve these issues, food coupon system can be introduced to reach only the targeted group without having to spend more public fund to subsidize the non-eligible groups. Food coupon system however is not without its problems. The system is rather complicated to implement especially in highly populous countries. However, if it is carefully managed and monitored, we believe that food coupon system is a better way to assist the impoverished groups in mitigating the impact of food price inflation.

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