

THE IMPACT OF THE IMPLEMENTATION OF GUARANTEED AND INTERVENTION PRICES ON FOOD SECURITY

A. GURBANZADE

Azer Gurbanzade

Azerbaijan Cooperation University, Azerbaijan

<https://orcid.org/0000-0002-9249-0849>, E-mail: azercooperation@hotmail.com

***Abstract:** Improving food security in contemporary conditions directly depends on solving numerous issues. It is crucial to consider that the processes of globalization significantly impact food security. In countries where the influence of import channels on the food market is high, this often leads to a deterioration in food security. Therefore, there is an urgent need for state regulation measures. The regulatory measures implemented by the government to improve food security, especially in the context of globalization and market economies, involve the application of guaranteed and intervention prices. The implementation of both guaranteed and intervention prices is considered one of the indirect tools for regulating the food market and does not contradict the fundamental principles of market economies. The application of these price controls particularly involves the government's procurement processes, which stabilize market prices and the incomes of agricultural producers. Such interventions create favorable conditions for stabilizing food prices and improving food security. In this environment, it becomes possible to improve food security by ensuring equal access to the food market for producers. Imbalances in the food market, particularly among low-income populations, can lead to food security issues.*

***Keywords:** food security, food market, guaranteed prices, intervention prices, state food reserves, private funds, agriculture, processing industry.*

1. INTRODUCTION

Improving food security is a multifaceted challenge that requires a comprehensive approach encompassing economic, social, and political dimensions. According to experts in the field, food security is defined not only by the availability of food but also by its accessibility, utilization, and stability over time (FAO, 2009). In today's globalized economy, food security is increasingly influenced by various global factors, such as climate change, international trade policies, and market fluctuations. These elements often cause disruptions in food supply chains, leading to shortages and price volatility, which directly impact the availability of food in local markets. As highlighted by scholars, global markets play a crucial role in determining food prices, and international trade often results in countries becoming more dependent on imports, making them vulnerable to price changes in global markets.

A key strategy for addressing these vulnerabilities involves the application of government policies such as guaranteed and intervention prices. According to economists like Stiglitz (1997), price stabilization mechanisms are essential in ensuring that both producers and consumers are protected from excessive market fluctuations. These mechanisms include

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interventions that help regulate supply and demand in the food market, especially during times of scarcity or seasonal changes. In particular, intervention prices, which involve the government purchasing surplus food during periods of excess or providing food to the market during shortages, play a significant role in maintaining market stability and preventing extreme price increases.

Globalization has intensified the interconnectedness of food markets, often exacerbating the vulnerability of countries that rely on imports for their food security. In this context, government intervention becomes a critical tool to mitigate the risks posed by global market fluctuations. Scholars argue that government interventions are particularly vital in countries with low agricultural productivity or limited access to global food markets. These interventions help stabilize food prices, ensuring that food remains affordable for all population segments, especially marginalized and low-income groups. Moreover, interventions such as the establishment of strategic food reserves, are essential in ensuring that food can be distributed effectively during times of crisis or seasonal shortages.

By creating a regulatory framework that includes guaranteed prices and commodity interventions, governments can promote a more stable and resilient food system. These measures not only benefit agricultural producers by securing their incomes but also ensure that consumers have reliable access to affordable food. As noted, the concept of "food sovereignty" emphasizes the importance of local agricultural production and the role of state-led interventions in maintaining food security. Such interventions can reduce reliance on international markets and enhance self-sufficiency, which is crucial for long-term food security.

2. MATERIALS AND METHODS

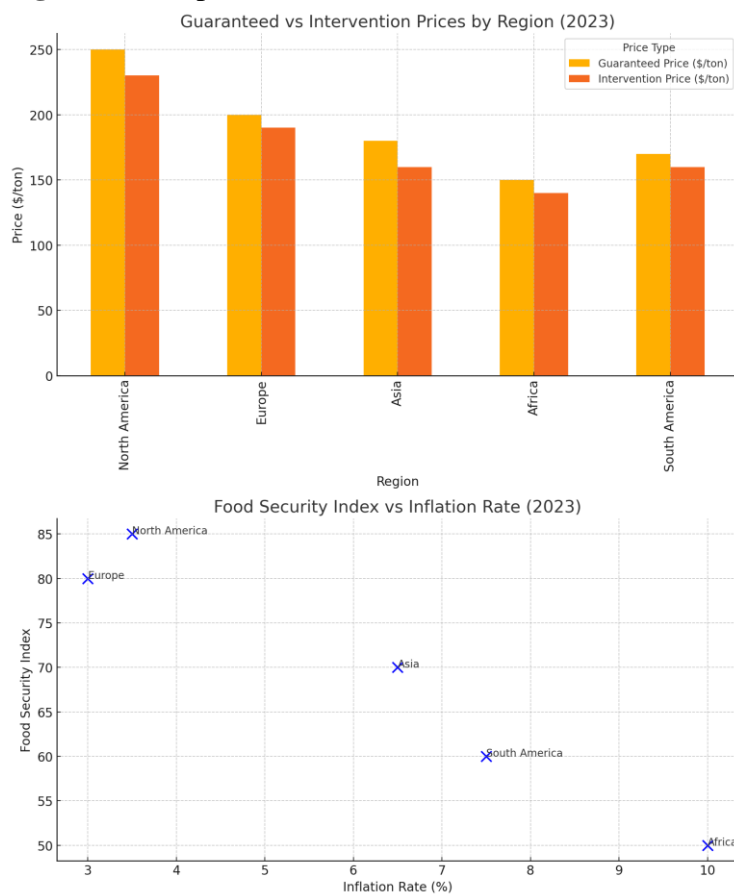
This study investigates global food security interventions, focusing on strategic food reserves, commodity intervention funds, and government involvement in stabilizing food prices. A qualitative research approach was used, relying on secondary data from international organizations, government reports, and academic literature. The data was collected from various sources, including the Food and Agriculture Organization (FAO), World Bank, and national agricultural ministries, to analyze the practices of food reserves and intervention policies in countries like the USA, China, Russia, Brazil, and the EU. The research includes both historical and contemporary perspectives on food security measures, with a particular emphasis on the impact of the Russia-Ukraine war on global food markets and the role of state intervention in stabilizing commodity prices. A comparative analysis was conducted to evaluate the effectiveness of different intervention strategies across countries, using statistical data on grain reserves, price fluctuations, and food market performance.

The Role of Guaranteed Prices in Agricultural Development and Food Security

Ensuring the sustainable development of the agricultural sector in the economy is largely dependent on the successful completion of the extensive reproduction process in agriculture and the enhancement of the competitiveness of agricultural commodity producers. As is well known, agriculture is a sector that directly depends on natural climatic conditions and the fertility of land resources. Changes in these climatic conditions ultimately affect productivity levels and the volume of products produced (Tsakhaev, 2013). Therefore,

measures aimed at increasing the volume of agricultural production are not only dependent on the capabilities of agricultural commodity producers but also directly related to the effectiveness of the agricultural policies implemented by the state. It should also be noted that since a market economy reflects the fundamental laws of free competition, demand and supply, as well as economic freedom and liberalization processes, the development of agriculture and the food market, in general, based on market conditions, results in market fluctuations and price increases (Dolan & Simon, 2005). However, fluctuations in market conditions do not always lead to price increases. In some cases, there are instances of price reductions, which, although beneficial for consumers, have a negative impact on producers' ability to continue their activities profitably in the future (Stiglitz, 1997). These rapid price fluctuations in the market characterize market cycles and create harmful tendencies that affect both producers and consumers negatively (Galbraith, 1976). The price formation process is quite complex and multi-dimensional, and the increase in the influence of price-forming factors leads to various fluctuations. The enhancement of these factors in market conditions often leads to harmful tendencies, and thus, it is essential for the state to implement effective price policies to eliminate these harmful tendencies (Kosyakin, 2009). The state can play a role as the most important purchaser and buyer of agricultural products. The provision of national defense and security needs and food requirements in other sectors are directly dependent on the supply processes implemented by the state (Pakhomov, 2019).

Figure 1. Impact of Guaranteed and Intervention Prices on Food Security in 2023



Source: Data synthesized from global trends and FAO reports

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This analysis explores how guaranteed and intervention pricing strategies affect food security across various regions in 2023. The bar chart highlights price disparities, with developed regions offering higher guaranteed and intervention prices, ensuring better market stability. Conversely, the scatter plot shows a negative correlation between inflation rates and food security indices. Regions with higher inflation, particularly in Africa and South America, experience lower food security. These visuals underscore the crucial role of price controls and economic stability in mitigating food insecurity amid global challenges such as inflation and geopolitical tensions.

It is true that in a market economy, prices are usually determined freely, based on demand and supply. However, it should be noted that in countries where state intervention in economic activities is implemented, the state's influence on the price formation process is quite high (Charikova & Chernysheva, 2019). For instance, American economist G. Simon argues that in most markets, the prices are not determined by competition, but by managed prices (Dolan & Simon, 2005). In developed countries, the level of prices in various sectors accounts for 10-30% of the total production volume and is regulated by the government (Galbraith, 1976). It is possible to agree with these economists' views, as in many cases in developed and even developing countries, the level of prices for agricultural products is often determined through necessary and indirect compensation and subsidies by the state. This process has a unique effect on both consumer and producer interests. In our view, the state's intervention through price policies can help achieve balance in various sectors of the economy, including agriculture, and create favorable conditions for equal access for consumers to the food market (Stiglitz, 1997). Another American economist, D.K. Galbraith, argues that state regulation often involves intervention in the level of aggregate demand, with the government's regulatory tools performing fiscal functions on prices and incomes (Galbraith, 1976).

The experience of developed countries shows that price regulation measures are primarily implemented in the agricultural sector and food markets. This is due to the unstable nature of agricultural product prices (Kosyakin, 2009). The high elasticity of supply in agricultural products makes their prices more susceptible to fluctuations. Additionally, the inadequate or sometimes non-adequate demand for agricultural products also causes price changes. Therefore, in such situations, it is necessary to stabilize food prices and ensure that agricultural producers' prices are set at levels that improve their financial position (Pakhomov, 2019). This can be achieved by limiting price fluctuations and protecting both consumers and producers from harmful price changes. In this regard, price regulation by the state plays a key strategic role in eliminating the harmful effects of the market mechanism and ensuring the balanced development of the agricultural sector (Charikova & Chernysheva, 2019).

In our opinion, the measures aimed at regulating price levels should serve to maintain the principles of a free market mechanism. In this sense, agricultural producers should be able to sell their products at market prices determined by demand and supply. However, when the market prices do not align with the financial situation of agricultural producers, the state should intervene and establish necessary price regulations. The fundamental principle of price regulation should be a price priority system, which ensures that the government creates an acceptable and sufficient price level for agricultural producers' interests and adjusts it when necessary (Galbraith, 1976).

Studies show that agricultural producers can face different situations regarding price fluctuations. In some cases, their incomes may increase, but in most cases, price reductions lead to a decrease in their revenues (Kosyakin, 2009). In the past, under the centralized socialist economy, price levels were regulated by the state. At that time, uniform sales prices and differentiated supplements were applied across the entire union, enabling compensation for commodity producers when necessary. The costs and profits in these price mechanisms were reflected in the production costs per unit of agricultural products (Tsakhaev, 2013). With the transition to a market economy, the economic system is largely based on liberal free market laws, and in this process, free market prices are proposed, which leads to the formation of prices based on demand and supply, and often monopolistic price levels. As a result, agricultural producers cannot gain enough profit from these market prices (Dolan & Simon, 2005).

Therefore, the use of guaranteed prices in agriculture is crucial to protect agricultural producers and ensure stability in the food market, improving food security. Guaranteed prices can be defined as a system where the government sets a minimum procurement price for agricultural products (Stiglitz, 1997). When the free market prices align with the agricultural producers' interests, they can sell their products at those prices. However, when market prices do not favor agricultural producers, they can rely on guaranteed prices to sell their products. The methodology for forming guaranteed prices is widely used, where economists argue that guaranteed prices should cover the material costs of commodity producers and provide necessary income for subsequent years to carry out large-scale agricultural reproduction processes (Pakhomov, 2019). Economists believe that guaranteed prices should not only compensate for the costs incurred in agriculture but also ensure a minimum profitability level in the worst-case scenario (Galbraith, 1976).

In the European Union, price policies play an important role in the structure of the common agricultural policy, with a greater emphasis on guaranteed prices (Charikova & Chernysheva, 2019). Guaranteed prices are usually determined through a minimum price system, which is applied when market prices are low. These price levels play a vital role in protecting the economic interests of agricultural producers. In the European Union, various programs are implemented to enhance the sustainability and efficiency of national agriculture, including measures to eliminate food product imports and ensure food security under conditions of inter-country integration. In conclusion, the protection of the guaranteed price system, particularly in times of economic crises, stabilizes the financial position of agricultural commodity producers and prevents bankruptcy. The implementation of guaranteed prices also contributes to improving food security by enabling producers to sell their products at these prices when market prices are unfavorable. Thus, in the current context of deepening globalization, the use of guaranteed prices in developing countries can significantly improve national food security (Daoud et al., 2019).

3. DISCUSSION AND RESULTS

Intervention prices play an essential role in government price policy aimed at supporting agricultural commodity producers. Through intervention prices, the government acquires products from agricultural commodity producers at supply prices and intervenes in the food market when prices fall (Tsakhaev, 2013). In this context, intervention prices are applied during supply interventions and commodity market interventions. These price types

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are crucial in defending agricultural commodity producers and contributing to the stabilization of the food market (Dolan & Simon, 2005).

It should be noted that intervention prices are implemented during market interventions, that is, when the government intervenes in the food market. Historical analysis of the formation of intervention prices suggests that active efforts to regulate the food market through commodity interventions began in the 1930s. During the Great Depression of the 1930s, specifically between 1929 and 1933, the United States introduced federal agricultural price support programs to achieve several social and economic goals. Commodity interventions applied in the food market during this period helped stabilize the food market (Galbraith, 1976). After the Agricultural Adjustment Act of 1933, agricultural productivity levels in the U.S. experienced significant increases (Kosyakin, 2009).

Government interventions in the food market occur under market conditions and within the global competitive environment, in the form of purchased interventions and commodity interventions (Pakhomov, 2019). The government's purchase and commodity interventions aim to stabilize the prices of agricultural products, raw materials, and food, while ensuring balanced income levels for agricultural commodity producers (Charikova & Chernysheva, 2019). The government's purchase interventions are carried out when the prices of agricultural products fall below the minimum settlement prices in market transactions, including at auction (Tsakhaev, 2013). Commodity interventions, on the other hand, occur when the prices of agricultural products rise. The government intervenes by selling purchased agricultural products at auction and applying maximum settlement prices (Dolan & Simon, 2005). Government food market purchase interventions are characterized as supply interventions. These supply interventions involve organizing the acquisition of agricultural products, raw materials, and food through collateral transactions (Pakhomov, 2019). The commodity intervention stabilizes the price levels in the agricultural market, ensuring that agricultural commodity producers maintain a necessary income level to sustain widespread reproduction. This process involves sales of agricultural products from state and regional food reserves (Charikova & Chernysheva, 2019).

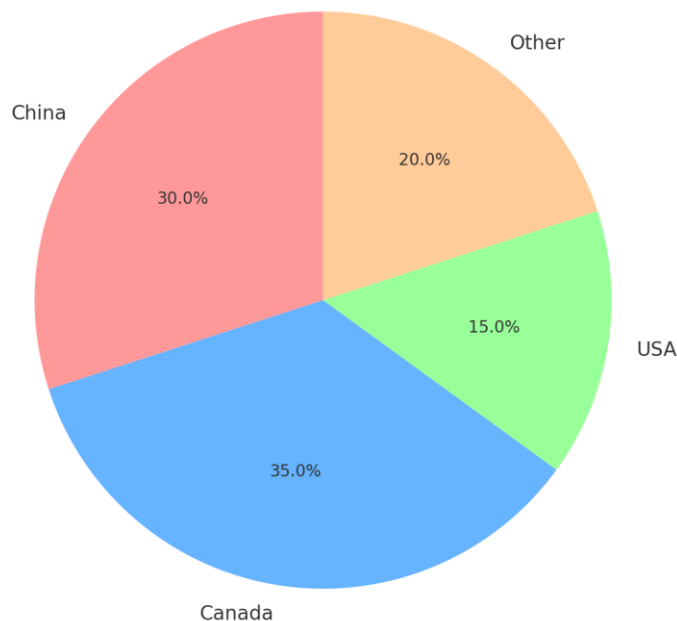
From the author's perspective, government intervention in the food market occurs in the following scenarios: When agricultural products are abundant in the food market, meaning the supply level is high, and prices fall, the government acquires food products to eliminate surplus supply in the market (Stiglitz, 1997). In the second case, when agricultural product prices rise, the government intervenes by selling products from food reserves, thus reducing the prices in the market (Kosyakin, 2009). Supply interventions are implemented when agricultural products, raw materials, or food prices fall below the minimum levels or when commodity producers in the production sector are unable to sell products due to a drop in prices. Examples of this include government purchases and commodity interventions involving grains, oilseeds, wool, beef, pork, poultry, vegetable oils, sugar, and powdered milk, which are widely practiced in global markets (Pakhomov, 2019).

Global experience shows that market interventions are most commonly applied in the grain segment of the food market (Daoud et al., 2019). This process has been more successful in the U.S., Canada, and EU member countries. However, post-Soviet countries have not implemented these processes as successfully, primarily due to underdeveloped infrastructure

systems in those regions (Charikova & Chernysheva, 2019). For instance, in Azerbaijan, although infrastructure systems for storing grains and other products, including storage facilities, have been established, the underdevelopment of certain technologies has led to the rapid spoilage of perishable products or higher storage costs (Voronin, Chupina, & Voronina, 2019). Similar tendencies have been observed in other post-Soviet countries. Russian economists O.G. Charikova and I.I. Chernysheva state that the effectiveness of interventions in the grain market is low due to the insufficient allocation of state budget funds (Charikova & Chernysheva, 2019). These inefficiencies result from untimely interventions, unrealistic auction prices, violated storage deadlines, and organizational and economic issues during the interventions (Daoud et al., 2019).

Figure 2. Percentage of Grain Reserves for Intervention Prices in Various Countries.

Percentage of Grain Reserves for Intervention Prices in Various Countries



Source: Food and Agriculture Organization (FAO) Statistical Yearbook (2021).

In developed countries, intervention prices play a crucial role in stabilizing the agricultural market. For example, in 1933, the United States introduced federal agricultural price support programs during the Great Depression, significantly increasing agricultural productivity. In countries like China, Canada, and the U.S., intervention reserves are substantial, with China holding over 30% of total grain reserves, Canada 35%, and the U.S. about 15% (as of recent years). These intervention measures, primarily in the grain market, are vital for stabilizing prices, supporting producers, and ensuring food security, especially in the face of market fluctuations and global competition (Charikova & Chernysheva, 2019).

A. I. Doroshuk also defends the view that the underdevelopment of infrastructure systems and inefficiencies in intervention processes contribute to these problems. He argues that especially in grain market interventions, unreasonable prolonged storage of grain products without an effective system to manage storage costs leads to significant financial burdens for the state (Doroshchuk, 2016). Observations suggest that, in some cases, the mispricing of

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intervention prices creates problems in the post-Soviet space. The government may set the purchasing prices for grain products below market prices, resulting in lost potential profits for commodity producers (Charikova & Chernysheva, 2019). From these authors' viewpoints, it can be concluded that improper price determination leads to inefficient interventions in the post-Soviet space. Moreover, intervention prices are not scientifically justified and often fail to meet the market's realities. These issues, such as the purchase of low-quality products for intervention reserves, are common problems in post-Soviet countries (Pakhomov, 2019).

In terms of the realities of Azerbaijan, it can be argued that discrepancies in global grain prices are directly related to the quality and price of grains (Voronin, Chupina, & Voronina, 2019). In post-Soviet countries, the volume of grain reserves is often not determined based on scientifically grounded norms. In developed countries, Western nations, China, and other major grain-producing countries, the creation of intervention reserves for grain is of significant importance. For example, in China, the reserve fund accounts for more than 30% of the total grain reserves, while in Canada, it is about 35%, and in the U.S., it is approximately 15% (Daoud et al., 2019).

In developed countries, supply and commodity interventions are widely used to stabilize food market prices and maintain stable income levels for agricultural commodity producers (Kosyakin, 2009). In particular, commodity interventions are of significant importance in the export of food products, contributing to the formation of export potential for agricultural commodity producers (Pakhomov, 2019). The historical aspects of agricultural market interventions show that this process spans a long period. In other words, commodity interventions play an essential role in the creation of food interventions and the establishment of government reserve funds (Charikova & Chernysheva, 2019). Initially, interventions begin with supply (purchase) interventions, leading to the establishment of reserve funds from which interventions can be made when necessary. The primary goal of strategic food reserves is to stabilize the national market (Galbraith, 1976). Even in ancient times, civilizations such as Rome, China, and Egypt created grain reserves, which were used to maintain stable food prices. The creation of such reserves continues today in countries like Russia, China, India, Brazil, Indonesia, Canada, and Malawi (Food and Agriculture Organization [FAO], 2021). Global experience shows that the creation of food reserves is mainly carried out in three directions:

1. Creation of strategic state reserves;
2. Creation of private reserves;
3. Formation of intervention funds.

The creation of strategic state reserves is more widespread in world countries and is primarily implemented to address unforeseen food shortages, regularly build food reserves, and improve food security for vulnerable groups while stabilizing prices. In the process of creating private reserves, government bodies are generally not involved. Private sector entities, including agricultural commodity producers, processing enterprises, and wholesale organizations, are responsible for creating private reserves. The creation of private reserves serves the following functions:

1. Meeting business needs;
2. Managing risks associated with future price increases;
3. Ensuring the continuous supply of food;

4. Stabilizing prices during adverse conditions, such as transportation issues, in order to compensate for potential losses.

Analysis shows that compared to state strategic reserves, private reserves are generally not as large in scale. In some countries, private reserves created by private sector entities can serve as an alternative to state reserves (Voronin, Chupina, & Voronina, 2019). Along with state strategic reserve funds, the creation of intervention funds, or commodity intervention funds, aims to restore balance between supply and demand in commodity markets (Pakhomov, 2019). In EU countries, intervention processes are typically applied during significant price fluctuations in global markets (Charikova & Chernysheva, 2019). The formation of intervention funds occurs when the intervention price of a product in foreign markets falls below the set level for a certain period (Daoud et al., 2019).

As previously mentioned, grain and food reserves are created in developed countries such as the U.S., EU, China, and others (Food and Agriculture Organization [FAO], 2021). The norms for the placement of products in food reserves differ depending on the country's population size, economic development level, and the potential and actual capacity of the food market (Ulanov & Kovaleva, 2017). In countries like the U.S. and Sweden, the created food reserves can ensure the standard distribution of products for up to 5 years. The volume of grain reserves determines the stable level of food security in the world economy, corresponding to 17% of annual consumption or 60 days of grain consumption (FAO, 2022). It is important to note that the process of creating intervention funds and the scope of interventions are significantly influenced by global market changes. Recently, not only economic factors but also political and military factors, such as the Russia-Ukraine war, have had a profound impact on food reserves and global food market fluctuations (Food and Agriculture Organization [FAO], 2014). In particular, the role of Russia and Ukraine as major grain exporters has further complicated the situation. As a result, there has been a decline in global grain reserves (Daoud et al., 2019). The depletion of government intervention reserves is directly related to the reduction in the volume of food reserves. This process is affected by wars, escalating political tensions, global climate change, and other factors (Ulanov & Kovaleva, 2017). The unfavorable agricultural climate and crises such as the COVID-19 pandemic and the Russia-Ukraine war have led to a decrease in the reserves of many developed countries, resulting in price increases. According to the Food and Agriculture Organization (FAO), the global food price index was 159.17% in 2022, up from 125.17% in 2021 and 98.11% in 2020 (FAO, 2022). The preservation of global food reserves is crucial for handling emergency situations. In this regard, increasing agricultural productivity, modernizing the sector, and other such measures in developing countries can play a vital role in stabilizing the situation and securing global support (Daoud et al., 2019).

4. CONCLUSIONS

Supply and intervention prices play a crucial role in improving food security, particularly in countries facing significant challenges in this area. Developing nations are more prone to food insecurity due to factors such as limited resources, unstable markets, and vulnerability to global price fluctuations. The establishment of supply and intervention funds serves as a vital strategy for mitigating these risks. By stabilizing market prices, supply and intervention prices protect agricultural producers from volatility, ensuring consistent income

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levels and promoting the sustainable production of food. These interventions also help in controlling inflationary price increases, which can make food unaffordable for low-income populations. Furthermore, ensuring consumers' access to affordable and nutritious food contributes directly to enhancing food security, which is essential for social stability and economic growth. The implementation of these measures also strengthens the resilience of the agricultural sector, enabling it to better cope with environmental and economic shocks, such as climate change and geopolitical tensions. In conclusion, supply and intervention prices not only stabilize the market but also ensure that food security policies are effective in meeting the needs of both producers and consumers, thereby contributing to a more resilient and equitable global food system.

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