

## *Original Paper*

# Review and Evaluation of Agricultural Policies in Years 2015-2017

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### **Abstract**

*This journal article describes main results of the OECD Annual Report published in 2018, titled "Review and evaluation of agricultural policy in 2017" for 51 selected countries in the world, including Vietnam. The report is closely prepared by MARD and OECD experts. The journal article emphasizes more on Vietnam by updating and adjusting data, information and policies in 2017 and 2018. The description presents the changing trend of agricultural policies applied in the world, considering whether this trend is in the direction of achieving sustainable productivity growth, environmental protection, and adaptation to climate change.*

*On average in the last 20 years, trend of world policies has been better but far to catch above purposes. The development of international trade has made the commodity movement more freely and price gaps narrowed between countries and regions. This trend made agricultural markets developed more toward reflecting the scarcity of good and services.*

*Average level of total agricultural supports has been reducing. Consequently, the world price indices and the total support have been converted between countries and commodities. However, the total agricultural support reduction is mainly in developed countries like OECD countries. Emerging and developing countries have increased their agricultural supports. Relative to GDP, the level of the total agriculture support in Vietnam has been reducing.*

*Inside the total agricultural support, producer supports accounted 78% while general service support*

accounted only for 14%. Inside the producer support, market price support accounted for more than 50% in many countries. Payments based on outputs and inputs also accounted more than 50% in many countries. In Vietnam, the producer support is very small, negative level in 2015 and 2016 and became positive in 2017 and 2018. The agricultural producer support in 2017 is about 900 million USD. In the overall service support, many countries mainly invest in infrastructure construction, for example in Japan and Vietnam over 70%, while investments in other items are too small, for example that in Vietnam is only about 16%.

In conclusion, OECD suggests that market price support should be reduced and finally eliminated. Similarly, output and input payments should be reduced and eliminated. Future policies should focus on general support service that helps producers to achieve sustainable productivity growth in the context of a changing and uncertain climate. OECD especially emphasizes on appropriate investments in research, together with efforts to ensure that the outputs of this research reach farmers. OECD also emphasizes on research that help producers to better manage risks including business risk, weather risk, and climate changes. Agricultural production and climate changes are strongly interacted. Future research should be the better co-operation between public and private sectors with the leading role of public sector. The future research should be co-operated more strongly between countries and regions because of the differences in histories, cultures, geology and climate.

### **Keywords**

*producer support estimate, total support estimate, agricultural policy, pure competitive market*

## **1. Introduction**

This journal article describes main results of the Organization of Economic Co-operation Development (OECD) Annual Report published in 2018, titled “Review and evaluation of agricultural policy in 2017” for 51 selected countries in the world, including Vietnam. OECD started to co-operate with Vietnam Ministry of Agriculture and Rural Development (MARD) to write and update these annual reports in December 2013. The journal article emphasizes more on Vietnam by updating and adjusting data, information and policies in 2017 and 2018. The description presents the changing trend of agricultural policies applied in the world, considering whether this trend is in the direction of achieving sustainable productivity growth, environmental protection, and adaptation to climate change. Consequently, the journal article gives main OECD’s recommendations for countries to adjust their agricultural policies. The comparison of Vietnam’s agricultural policy with the general policy purpose of the world and with other countries’ policies will inform policy makers what status of its policies is and which directions its policy should focus on.

## **2. Evaluation Methodology**

Due to difference of natural-economic-social circumstances, through histories, agricultural policies have been understood and applied diversely between countries. After many decades of various

applications, agricultural commodity markets differ too much between countries and have not reflect rightly the scarcity of agricultural outputs and inputs. Agricultural production has a strong impact to climate changes and vice versa. OECD applies a set of calculated indicators for selected representative commodities to review and evaluate quantitatively the effect of agricultural policies as presented in sub-sections below.

### *2.1 Pure Competitive Market*

OECD applied the concept of perfect or pure competitive market to review and evaluate countries' agricultural policies. "Pure competitive market" is the market concept which describes open markets with free movement and "fair" allocation of resources according to the "law of scarcity" (ACI, 2002). The agricultural policies are encouraged to apply if these policies make market prices more reflecting the scarcity of goods, towards sustainable productivity growth, environmental protection, and adaptation to climate change.

In practice, the pure competitive market is generally not existed. Therefore, the pure competitive market is applied for international markets or import and export markets. In these international markets, Cost Insurance and Freight (CIF), Free On Boat (FOB) and border prices are assumed to reflect the scarcity of goods and not affected by any country's agricultural policies. The international prices, then, are recalculated at farm-gate levels and finally compare with the domestic prices at farm gate level. The difference between the two prices is the quantitative effect of applied agricultural policies, infrastructure and institutions. The comparison can be classified for OECD, non-OECD, developed, emerging developing countries, a group of commodities and a commodity.

A countries with pure competitive markets usually have sustainable economic growth, low inflation rate and low unemployment rate. With appropriate support policy, producers in these countries can receive good price signals and then give good production decision in the context of many types of risks including business, climate changes, and natural disasters.

### *2.2 Total Support Estimate (TSE) and Percentage TSE (%TSE)*

TSE is the annual monetary value of all gross transfers from taxpayers and consumers arising from policies that support agriculture, net of the associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products. TSE is the sum of PSE, TCT and GSSE. Percentage TSE (%TSE) is the TSE as a share of GDP (OECD, 2018b).

#### *2.1.1 Producer Support Estimate (PSE) and Percentage PSE (%PSE)*

PSE is the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policies that support agriculture. Percentage PSE (%PSE) is PSE as a share of gross farm receipts (OECD, 2018b). PSE is the sum of MPS, Payment based on outputs, payment based on inputs, and others (OECD, 2018b). These two indicators are the most important indicators and are calculated for all commodities (ACT-All commodity transfer), a group of commodities (GCT-Group commodity transfer), a commodity (SCT-Producer single commodity transfer), and other commodity supports (OCT-Other commodity transfer).

a. Market Price Support (MPS)

MPS is the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, arising from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farm gate level (OECD, 2018b).

b. Payments based on output

Payments based on output transfers from taxpayers to agricultural producers from policy measures based on current output of a specific agricultural commodity (OECD, 2018b).

c. Payments based on input use

Payments based on input use transfers from taxpayers to agricultural producers arising from policy measures based on on-farm use of inputs (OECD, 2018b).

2.1.2 General Services Support Estimate (GSSE) and Percentage GSSE (%GSSE)

GSSE is the annual monetary value of gross transfers arising from policy measures that create enabling conditions for the primary agricultural sector through the development of private or public services, institutions and infrastructure regardless of their objectives and impact on farm production and income, or consumption of farm products. It includes policies where primary agriculture is the main beneficiary, but does not include any payments to individual producers. GSSE transfers do not directly alter producer receipts or costs, or consumption expenditures. Percentage GSSE (%GSSE) is transfers to general services (GSSE) as a share of TSE (OECD, 2018b).

2.1.3 The Consumer Support Estimate (CSE) and Percentage CSE (%CSE)

The Consumer Support Estimate (CSE) expresses the monetary value of the transfers to consumers (measured at the farm gate). The percentage Consumer Support Estimate (%CSE) expresses the monetary value of the transfers to consumers as a percentage of consumption expenditures (measured at the farm gate) (OECD, 2018b).

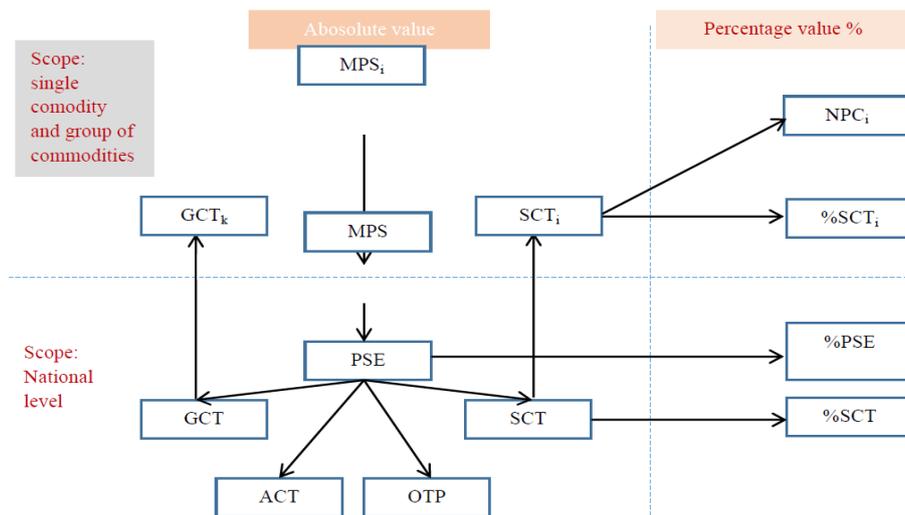
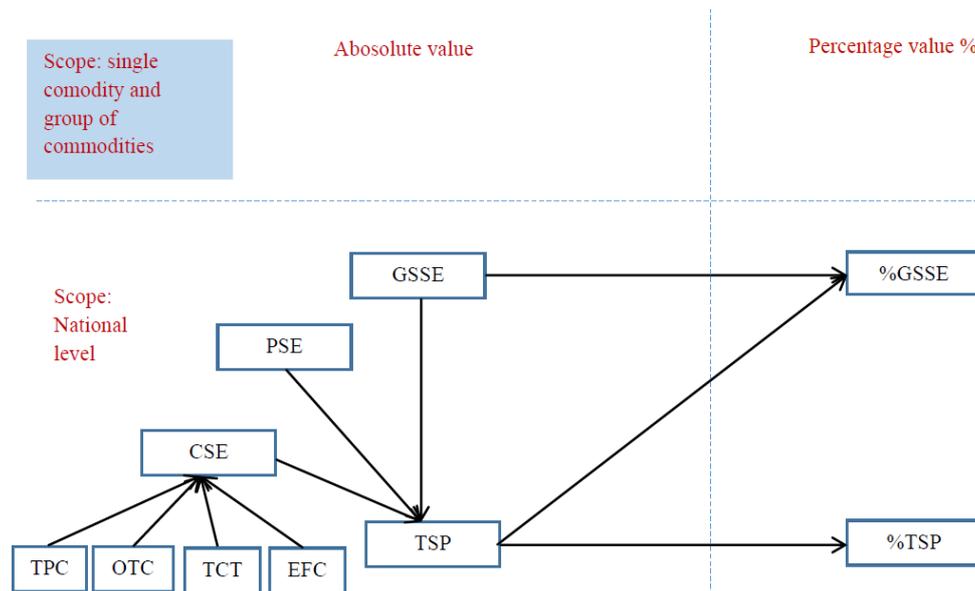


Figure 1. Linkages between Producer Support Estimate Indicators

Source: OECD (2018b).



**Figure 2. Linkages of Indicators between Producer Support, Consumer Support and General Support**

Generally, OECD's implications for countries' policy application have three main points:

- Reduce TSP, especially PSE including MPS, Payments based on outputs and inputs.
- PSE should be fair between commodities.
- Increase GSSE, especially for innovation, risk management.

### 3. Main Types of Agricultural Policies Applied in the World

Agricultural policies are applied widely by countries around the world and within a country. Section 3 describes the main types of agricultural policies that are commonly applied by countries, explains how each type of policy affects producers, and finally classifies or groups these policies into groups. The indicator is presented in Part 2. In some cases, Part 3 will also provide information and data regarding why a policy is issued.

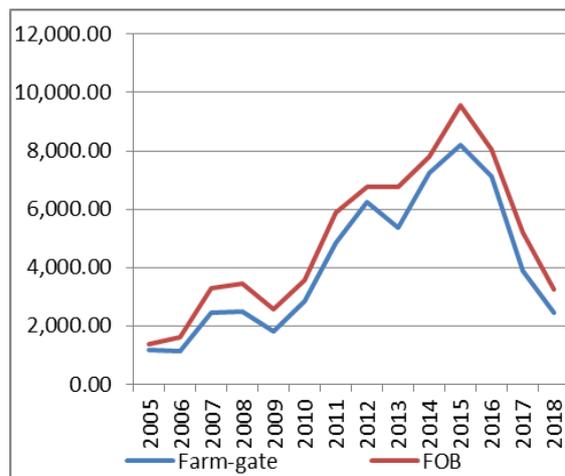
#### 3.1 International Trade Policies

International trade policies are classified in the group of market price supports. There are main types of international trade policies that have been applied widely by countries in the world as presented below (ACI, 2002):

- Import tax (or quota) of output products: limiting the quantity of imported products, for example rice, carcass meat, thereby making domestic prices higher to support domestic producers because they can sell their products at higher prices.
- Import tax (or quota) of input products: limiting the quantity of imported products, for example fertilizer and animal feed, thereby making domestic input prices higher or not supporting domestic producers because they have to pay for their inputs at higher prices.

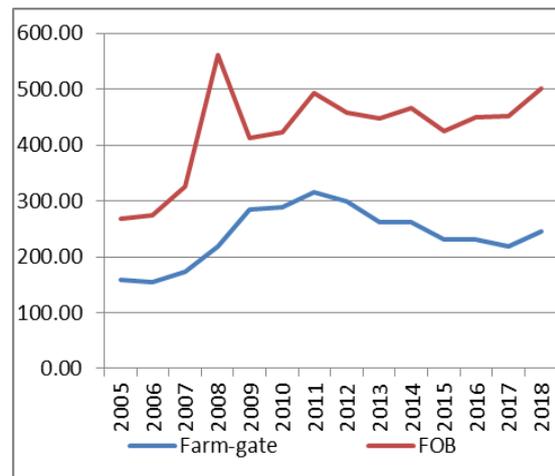
- Export taxes (or quotas) of output products: limiting the quantity of export products, thereby making domestic prices lower or not supporting domestic producers because they will sell their products at lower prices.
- Export taxes (or quotas) of input products: restricting the quantity of export inputs, thereby making domestic prices lower or supporting to domestic producers because they can buy their inputs at lower prices.

In the last three decades, almost countries reduce their levels of above tax or quota and take part in world and regional international trade organizations. The reduction has made the movement of commodities easier and price gaps between countries lower, therefore, stimulating supply and demand. An example for this trend is the case of Vietnam. Before 1991, Vietnam's trade activities were conducted mainly with communist countries in Eastern Europe. Vietnam has only joined actively in international trade since 1994, the year when the USA discontinued their embargo on Vietnam's international trade. In 1995, Vietnam became an official member of the Association of South East Asia Nations (ASEAN) and joined the ASEAN Free Trade Association (AFTA). By 2006, Vietnam had implemented provisions of AFTA by reducing tariffs on imported products from 30%, 50% and 100% on some products to less than 5%. In 1998, Vietnam became an official member of the Asia-Pacific Economic Cooperation (APEC). In 2000, the USA normalized its relationship with Vietnam in terms of bilateral trade policies. As a result, Vietnam had trade activities with over 120 countries in 2000. In December 2006, Vietnam was accepted as an official member of the World Trade Organization (WTO) (Phan, 2014). In 2018, Vietnam has international trade with about 200 countries in the world. Consequently, the price gaps and trends of domestic and international prices for many commodities are quite similar in Vietnam.



**Figure 3. Farm-gate and Border Price of Pepper in Vietnam, 2005-2018**

Source: MARD (2018)



**Figure 4. Farm-gate and Border Price of Rice in Vietnam, 2005-2018**

Source: MARD (2018)

In the last two years, there are some important changes about international trade. In 2017, trade negotiations between the European Union and Mexico and the European Union and the Mercosur advanced. In September 2017, the Canada-European Union Comprehensive Economic and Trade Agreement (CETA) entered into force provisionally. In September 2017, the European Parliament approved two EU- Iceland agreements, one on agricultural trade and one on mutual recognition of geographical indications. In December 2017, the Economic Partnership Agreement between the European Union and Japan was finalized. Australia and New Zealand signed the Pacific Trade and Economic Agreement (PACER Plus) in June 2017. The negotiation of the Free Trade Agreement between the Central American Republics and Korea was finalized. The Korea-Central America Free Trade Agreement was signed in February 2018. In March 2018 Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore and Vietnam signed a new agreement called the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CP-TPP). Australia concluded a free trade agreement with Peru in February 2018 (OECD, 2018a).

### *3.2 Policies to Set Targeted Production Output*

This group of policies are belong to payment based on outputs and payment based on input. Unlike international trade policies, this group of policies is usually decided independently by each country. This type of policy is usually applied for necessary commodities, for example rice, wheat, meat, and sugar. Policy makers usually worry about the shortage of these commodities will lead to the instability of society and politics. For example, to avoid the shortage of rice, the government can set the production quota of rice at a given quantity, for example 40 million tons. In order to achieve this targeted output, the government can apply some type of policies below (OECD, 2018a):

- Setting the minimum output price: the government will spend a given amount of state fund to buy rice whenever the market price is lower than the minimum prices. Before 2018, Japan applied this policy for rice production. Iceland applied this policy for milk production. EU applied this type of policy for sugar production in years 2006-2017. Vietnam applied this type of policy for rice production in years 2015-2017. In these years, paddy farmers did not pay irrigation fees. China is applying this type of policy for rice and wheat.
- Subsidizing for key input prices: the government will spend a given amount of state fund for farmers who buy key inputs, for example, not paying irrigation fees. Vietnam applied this type of policy for rice production in years 2012-2017. In order to keep area of paddy stable, Vietnam is applying the direct payment for paddy farmers. If the household grows rice, it will be supported with an amount of 3 million VND/ha/year. The direct payment is also currently applied for soybean in China (OECD, 2018a).

### *3.3 General Service Support Policies*

Unlike above policy that transfers money directly to producers, general support policy focuses on long-term supports. Like policies of payment based on output and payment based on input, this group of policies is usually decided independently by each country. Some main type of general support

service policies are presented below.

### 3.3.1 Policy for Research and Development

Investment in research and development helps to produce and process products with higher productivity, cheaper prices, using fewer natural resources, and not creating bad environmental impacts. This type of policy is conducted widely in the world. Korea's Development Plan for 2018-2022 increase investment for the integration of digital technology into food and agriculture, and for the promotion of renewable energy generation, and measures to further enhances food safety and traceability in the supply chain. Colombia approved a law to create a National Agricultural Innovation System (OECD, 2018a). Vietnam announced a lending program to promote the development of high-tech, clean agriculture that offers interest rates 0.5-1.5% lower than market interest rates. The total amount of credit is 4 billion USD, committed by 8 commercial banks (Minh Phuong, 2017).

### 3.3.2 Policy for Risk Managements

There are many types of risks, for example business risk, disease, natural disaster, and climate changes. Canada is undertaking a Review of its Business Risk Management (BRM) programs that focuses on the effectiveness of BRM programs. Australia expanded its concessional loans program, which is used to help producers recover from adverse events and put in place better risk management strategies. In Brazil, the Veterinary Inspection system is to be modernized to improve the management of animal disease risks (OECD, 2018a). The risk of prices of agricultural commodities in Vietnam often occurs, especially when the selling price is lower or equal to the production cost at the time of harvest, for example for pig raising in 2017, watermelon in 2018, pepper in early 2019, coffee in 2017 and 2018, and rice in the first months of 2019. Pilot program of agricultural production insurance from 2011 but so far the results are not clear yet.

In the European Union, the income stabilization tool was amended to support if average annual income drops by more than 20%. Further, support for insurance contracts becomes available when more than 20% of a farmer's average annual production is destroyed (OECD, 2018a).

In Korea, the scope and coverage of the agricultural disaster insurance scheme were expanded to three additional products (citron, fig, and crown daisy raised in facilities). Turkey extended the coverage of support provided to agricultural insurance in 2018 to more products and risks (OECD, 2018a).

New Zealand provided relief funding in response to several medium-scale adverse events in 2017. Relief funding was made available for repairing essential infrastructure along with repairs to uninsurable infrastructure. Affected producers could also apply for Rural Assistance Payments. The United States implemented a number of measures to provide disaster assistance to producers affected by hurricanes and wildfire in 2017 (OECD, 2018a).

In Vietnam, when farmers meet natural disaster, the government usually provides famers basic food, basic cloths, and some fund to rebuild damaged houses and production tools. In some cases, the government can give priority lending program for farmers to buy new fixed assets or repair fixed assets.

### 3.3.3 Policy for Market and Trade Promotion

This group of policies is usually applied to advertise products domestically and internationally. The Russian Federation announced the development of agricultural export potential as a new policy orientation. Switzerland's Ordinance on "Swissness" came into force, which defines the regulations which have to be fulfilled in order to use the Label "Swiss" and the label of the Swiss cross (OECD, 2018a).

In Vietnam, the Prime Minister approved a rice export development strategy for 2017-2020, with a vision to 2030. MARD sets up the market-decision board to promote agriculture export in 2016 and annually set up the targets, for example, the target export values in 2018 and 2019 are 40 billion USD and 43 billion USD respectively.

### 3.3.4 Other General Service Support Policies

Beside above general service support policies, there are some many other general service support policies that are widely applied below:

- Transportation investment (Roads such as highways, inter-provincial and inter-district roads), helping goods to be transported faster and cheaper to consumers.
- Investment in power transmission helps boost production via cheaper electricity prices.
- Investment in irrigation helps provide more irrigation water, faster drainage, and then boost production.

## 4. Key Economic and Market Development

The development of agricultural markets are heavily influenced by macro-economic variables for example gross domestic product (GDP) growth because it supports demand for agricultural commodities) and energy prices, especially for crude oil which determines the price of inputs into agriculture, such as fuel, chemicals and fertilizer, and influences demand for cereals, sugar crops, and vegetable oils through the market for biofuels.

### 4.1 Macro-economic Variables

#### 4.1.1 GDP Growth

The global economy strengthened in 2017, growing at 3.6%, its fastest rate since 2011. Growth in the OECD economies strengthened to 2.4% in 2017, up from 1.8% in 2016. In the United States, economic growth increased in 2017. Growth in the Euro area continued steadily in 2017. In Japan, growth rebounded to 1.5% in 2017, aided by stronger international trade and fiscal stimulus (OECD, 2018a).

Growth in the Emerging Economies is lower than in the past. After recessions in 2016, growth in Brazil and the Russian Federation recovered in 2017. Growth has resumed in Brazil - initially driven by agriculture, the recovery is now becoming firmer and more broad-based. In the Russian Federation, investment and consumption picked up on the back of higher oil prices and low inflation, and the economy continued to grow slowly. China strengthened somewhat in 2017, driven by services and some strategic industries (OECD, 2018a). The Vietnam's GDP growth slowed in 2015 and 2016 and

then increased faster in 2017 and 2018 (MARD, 2018).

#### 4.1.2 Unemployment Rate

OECD unemployment rate fell below its pre-crisis level. In the United States, unemployment was at its lowest level since 2000 (OECD, 2018a). The unemployment rate is reducing in Vietnam, 2.3% in 2017, 2.01% in 2018 (Ha Vu, 2018).

#### 4.1.3 International Trade Growth

Global trade has rebounded since the first half of 2016 and become increasingly broad-based across economies. Global trade growth was 4.8% in 2017, compared with 2.6% in 2016 and 4.7% on average in the period 2005-2014 (OECD, 2018a). The annual international trade growth of Vietnam in the last 20 years have been usually higher than 15%, only slow down at 14% in 2018 (CIS, 2018).

**Table 1. Key Economic Indicators**

	Average 2005-2014	2015	2016	2017
	Per cent			
Real GDP growth <sup>1</sup>				
World <sup>2</sup>	3.8	3.3	3.1	3.6
OECD <sup>2</sup>	1.5	2.4	1.8	2.4
United States	1.5	2.9	1.5	2.2
Euro area	0.8	1.5	1.8	2.4
Japan	0.6	1.1	1.0	1.5
Non-OECD <sup>2</sup>	6.2	4.0	4.1	4.6
Brazil	3.5	-3.8	-3.6	0.7
China	10.0	6.9	6.7	6.8
Colombia	4.7	3.1	2.0	1.7
Russia	3.5	-2.8	-0.2	1.9
South Africa	3.1	1.3	0.3	0.7
Vietnam	10.8	6.5	6.2	7.2
Output gap <sup>3</sup>	-0.9	-1.4	-1.2	-0.5
Unemployment rate <sup>4</sup>	7.2	6.8	6.3	5.8
Inflation <sup>1,5</sup>	2.0	0.8	1.1	1.9
World real trade growth <sup>1</sup>	4.7	2.7	2.6	4.8

1. Percentage changes; last three columns show the increase over a year earlier.

2. Moving nominal GDP weights, using purchasing power parities.

3. Per cent of potential GDP.

4. Per cent of labor force.

5. Private consumption deflator.

Source: Modified from Table 1.1 in OECD (2018a) and MARD (2018).

In general, the macro-economic indicators in years 2015-2017 have been improved annually, contributing to develop agricultural markets and then increase agricultural production including Vietnam.

#### 4.2 Prices of non-agricultural Commodities

##### 4.2.1 Crude Oil Price

World prices for primary non-agricultural commodities rose in 2017, partly reflecting strong industrial demand as well as geopolitical risks and supply constraints following the agreement amongst Organization of the Petroleum-Exporting Countries (OPEC) and select non-OPEC members to restrict oil production through to March 2018. Crude oil prices increased by 25% in nominal terms in 2017, however, prices are still considerably below the historical peaks of 2011-2013, and hence did not induce increases in agricultural commodity prices (OECD, 2018a).

##### 4.2.2 Biofuel Price

Demand for biofuels was sustained by obligatory blending and by higher demand for fuel due to lower energy prices, which remained low despite higher crude oil prices (OECD, 2018a).

##### 4.2.3 Fertilizer Price

Fertilizer prices were lower during the first 9 months of 2017 as markets continued to face relatively weak global demand due to low crop prices. Markets remain well supplied with adequate stocks and growing low-cost capacity (OECD, 2018a).



**Figure 5. Commodity World Price Indices, 2007-2017 (2002-2004=100)**

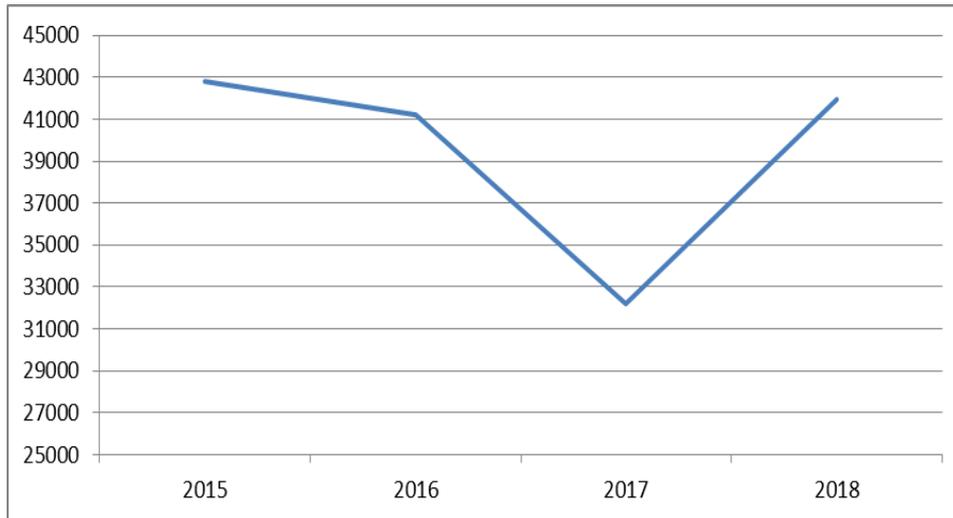
Source: Modified from the Figure 1.1 in the OECD (2018a).

#### 4.3 Prices of Agricultural Commodities

##### 4.3.1 Meat Price

World meat production rose moderately in 2017, driven by increases in the United States mainly, but also in Argentina, China, India, Mexico, Turkey and the Russian Federation. Despite this, world meat

prices increased by 9% in 2017, underpinned by increasing import demand for bovine and pig meat and short supplies of sheep meat. The highest price increase was for sheep meat (OECD, 2018a). Unlike world trend, meat prices of Vietnam reduced in years 2015-2017, and increased in 2018.



**Figure 6. Farm-gate Price of Liveweight Pig Meat in Vietnam, 2015-2018 (VND/kg)**

Source: MARD (2018).

#### 4.3.2 Food Price

Food commodity prices increased slightly between January 2016 and January 2017, and saw some further increases thereafter, supported by the global economic recovery and rising production costs. In comparison to the preceding years, however, commodity prices remained relatively low. Production in 2017 of most cereals, meat types and dairy products exceeded the already high levels recorded in previous years. Together with high stocks and stagnant demand, this offset the drivers for increased prices discussed above, so that prices for most commodities moved relatively little. Low prices persisted for cereals as global production, notably of maize and rice, reached historical highs in 2017 (OECD, 2018a).

#### 4.3.3 Dairy Price

Dairy production growth was moderate in 2017, below the average growth rate of the last decade. Prices increased strongly in 2017, driven by declines in milk production in the last quarter of 2016 and first quarter of 2017. This resulted in strongly diverging developments for butter and skim milk powder prices. Butter prices showed a spectacular jump in the first half of 2017, but came down by the end of 2017. On average butter prices were 65% higher than in 2016. Strong demand for milk fats in the form of butter, but also in other products (e.g., cream, full-fat milk and cream yogurts) exceeded the moderate growth in dairy supplies. Constant low prices of skim milk powder (+3% in 2017) were also linked to high stock levels in the European Union (and to a lesser extent in the United States). The price of whole milk powder increased by 46% (OECD, 2018a).

#### 4.3.4 Oilseed Price

Prices of oilseeds did not change, with production remaining broadly at 2016 levels. After increasing strongly in 2016, sugar prices fell sharply in 2017 as production rose in 2017 following two years of shortages. Cotton prices increased even as production continued to recover from the strong drop in 2015. Production grew in all major producing countries except China (OECD, 2018a).

### 5. Developments in Agricultural Support

#### 5.1 Total Support Estimate (TSE) and Percentage in TSE (%TSE)

The burden of agricultural support on countries' economies has generally declined. The overall burden of agricultural support on the OECD countries' economies has declined since the mid-1990s, as measured by total support as percentage of GDP. In the OECD countries on average, total support to agriculture declined from 1.3% of OECD aggregate GDP in 1995-1997 to 0.7% in 2015-2017 (OECD, 2018a). TSE of Vietnam is 1.5 billion USD in 2017, about 0.7% of GDP (%TSE).

There are contrasting trends in the overall burden of agricultural support on the emerging and developing economies covered in this report. The %TSE has declined significantly in Colombia, the Russian Federation and South Africa. %TSE has increased substantially in China (from 1.4% to 2.3%) and the Philippines (from 3.0% to 4.7%), and to a lesser extent in Costa Rica and the Philippines, despite the declining importance of agriculture to the economy (OECD, 2018a).

Total support to agriculture averaged USD 620 billion (EUR 556 billion) a year in 2015-2017 over all the countries covered in the report. The monetary value of agricultural support in OECD countries and in the emerging and developing economies covered by this report is roughly the same in years 2015-2017. TSE to agriculture in the OECD countries averaged USD 317 billion (EUR 285 billion) a year on average, compared with USD 297 billion (EUR 266 billion) a year on average in the emerging and developing countries (OECD, 2018a).

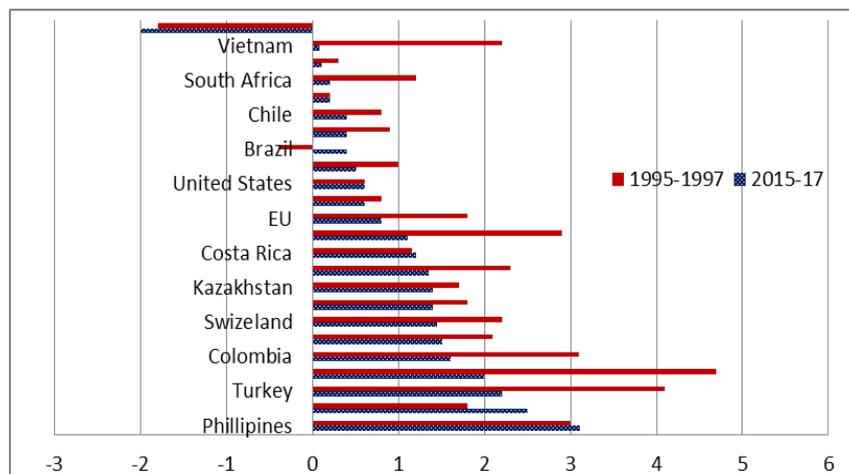


Figure 7. Total Support Estimate by Country, 1995-1997 and 2015-2017 (% of GDP)

Source: Modified from the Figure 1.2 in the OECD (2018a).

Vietnam is one of countries having lowest level of the total producer support, and reduced sharply between the two periods.

**Table 2. Agriculture Production Value and %TSP in 2017**

No.	Name	Agricultural production value in 2017 (million USD)	%TSP (of GDP)
1	Australia	45,317.00	0.1
2	Brazil	171,042.00	0.3
3	Canada	45,662.00	0.4
4	Chile	16,532.00	0.3
5	China	1,396,971.00	2
6	Colombia	25,590.00	0.9
7	Costa Rica	5,264.00	0.7
8	EU	434,349.00	0.6
9	Iceland	315.00	1.1
10	Israel	8,051.00	0.5
11	Japan	78,337.00	1.1
12	Kazakhstan	12,547.00	0.5
13	Korea	42,988.00	1.8
14	Mexico	52,465.00	0.5
15	New Zealand	18,058.00	0.3
16	Norway	3,794.00	0.8
17	Philippines	27,214.00	3
18	Russia	77,147.00	0.7
19	South Africa	20,844.00	0.2
20	Switzerland	8,514.00	1
21	Turkey	55,940.00	1.9

Source: OECD (2018a).

In terms of the agricultural production value, Vietnam ranked 12<sup>th</sup> in the total of 24 countries in above table in 2017. In terms of % TSE, Vietnam ranked 13th in the total of 24 countries.

## 5.2 Producer Support Estimate (PSE) and Percentage in PSE (%PSE)

### 5.2.1 PSE Accounting almost Total Support

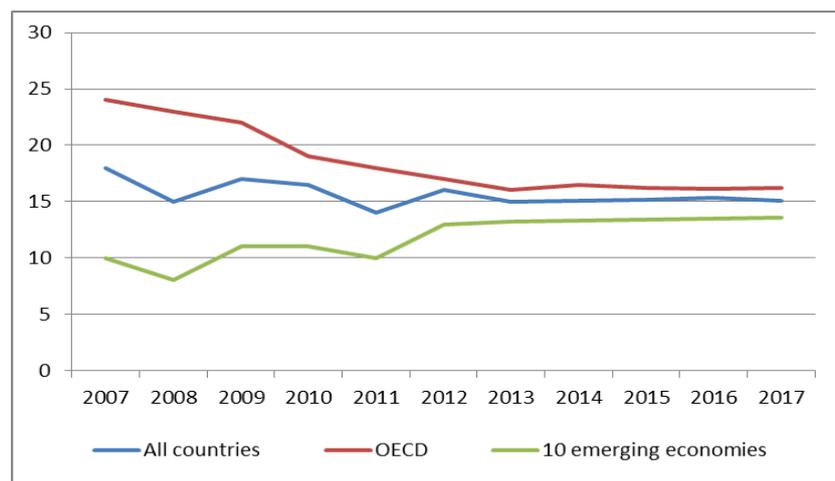
As measured by the PSE, around 78% of total support was provided to individual agricultural producers - USD 484 billion (EUR 434 billion) a year on average in 2015-2017. In contrast, only a small share of total support was provided for general services across all the countries examined - 14% of total support or USD 86 billion (EUR 78 billion) a year in 2015-2017 (OECD, 2018a). PSE of

Vietnam is 960 million USD in 2017. Vietnam's %PSE is 2.3% of total agricultural producer's revenue. For the OECD countries on average, the PSE accounted for around 72% of total support provided to the agricultural sector in 2015-2017, with support for general services that create enabling conditions for the agricultural sector accounting for almost 13% of total support. As exceptions to this, support to general services accounted for over 70% of total support in New Zealand, and over 50% of total support in Australia and Chile. In these countries, %TSE is around 0.3% of GDP. In the United States, around 49% of total support is provided to consumers. In most other countries, 80% or more of support is provided directly to producers (OECD, 2018a).

### 5.2.2 PSE Converging and Having Similar Trend between OECD Area and Emerging Economies

On average, the level of support provided to individual producers in the countries covered by this report has followed a declining trend over time. In 2017, around 14.5% of gross farm receipts were due to policies that support farmers, down from 16% in 2016. The monetary value of this support was USD 461 billion (EUR 409 billion) in 2017, down from USD 499 billion (EUR 451 billion) in 2016 (OECD, 2018a).

The trend in the average %PSE masks differences between the OECD countries and the emerging and developing economies. The average level of producer support in the OECD countries has followed a declining trend, from just under 30% of gross farm receipts in 1995-1997 to around 18% in 2015-2017. In the mid-1990s the emerging and developing economies on average provided very low levels of support to agricultural producers. Since then, the level of producer support in the emerging and developing economies has increased to around 14% of gross farm receipts in 2015-2017 (OECD, 2018a).



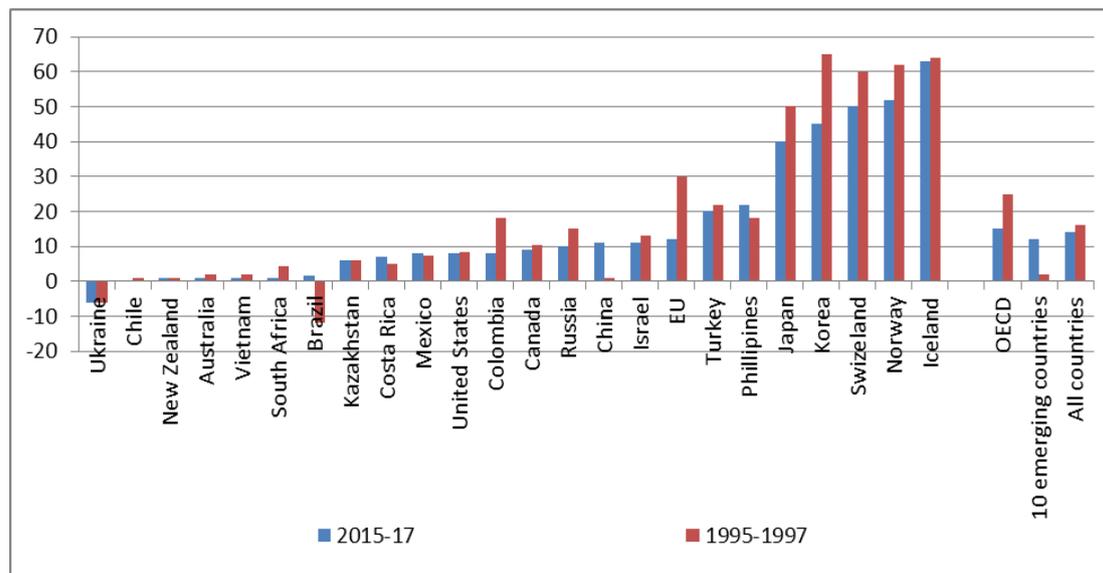
**Figure 8. Evolution of the Producer Support Estimate, 1995 to 2017**

*Source:* Modified from the Figure 1.4 in the OECD (2018a).

In most countries, producer support has declined since the mid-1990s. Levels of producer support have fallen by two-thirds or more in Australia, Chile and South Africa, while producer support in Canada,

Colombia and the European Union fell by over 40%. However, producer support has increased since the mid-1990s in some emerging and developing countries, including China, Costa Rica and the Philippines, and also in Mexico (OECD, 2018a).

Nevertheless, current levels of producer support continue to vary widely across countries. New Zealand, Australia, South Africa, Chile and Brazil provide very low levels of support to producers, with %PSEs below 3% in 2015-2017. In contrast, Japan, Korea, Switzerland, Norway and Iceland support the producers at levels above 45% of gross farm receipts, despite reductions in support since the mid-1990s. Of the emerging and developing economies, only the Philippines provide support at higher levels than the OECD average (PSE of 26% in 2015-17 compared with the OECD average of 18%).



**Figure 9. Producer Support Estimate by Country, 1995-1997 and 2015-2017 (% of GDP)**

Source: Modified from the Figure 1.5 in the OECD (2018a).

Vietnam is one of countries having lowest level of the total producer support, however increased in the last 3 years.

**Table 3. Agriculture Production Value and %PSE in 2017**

No.	Name	Agricultural production value in 2017 (million USD)	%PSE 2017
1	Australia	45,317.00	1.7
2	Brazil	171,042.00	2
3	Canada	45,662.00	9.6
4	Chile	16,532.00	2.4
5	China	1,396,971.00	14
6	Colombia	25,590.00	9

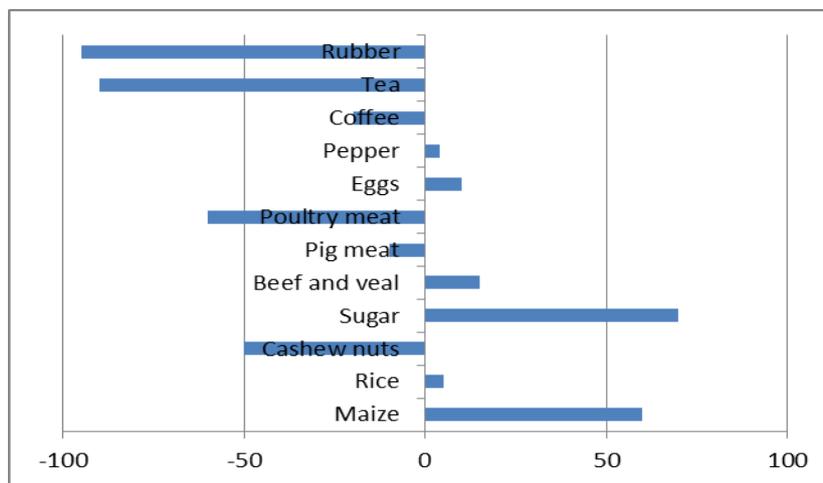
7	Costa Rica	5,264.00	5.9
8	EU	434,349.00	18.3
9	Iceland	315.00	55.7
10	Israel	8,051.00	17.3
11	Japan	78,337.00	49.2
12	Kazakhstan	12,547.00	3.8
13	Korea	42,988.00	53.5
14	Mexico	52,465.00	7.5
15	New Zealand	18,058.00	0.8
16	Norway	3,794.00	53
17	Philippines	27,214.00	24.8
18	Russia	77,147.00	12.3
19	South Africa	20,844.00	1.9
20	Switzerland	8,514.00	50.9
21	Turkey	55,940.00	22.8

*Source:* OECD (2018a).

In terms of the agricultural production value, Vietnam ranked 12<sup>th</sup> in the total of 24 countries in above table in 2017. In terms of % PSE, Vietnam ranked 19th in the total of 24 countries.

### 5.2.3 The High Variation of PSE between Commodities in Many Countries

On average, single commodity transfers (SCTs) have declined from 17% of the gross farm receipts for each commodity in 2000-2002 to 11% in 2015-2017. Importantly, variability across commodities has also declined - significant differences in SCTs across commodities can impede adjustment in the agricultural sector and efficient resource use. Support has declined for some of the commodities that received the highest relative levels of support in 2000-2002, such as rice, milk, sugar, sheep meat and palm oil. However, support for some heavily supported commodities has trended up over time compared with 2000-2002, in particular cotton, rapeseed and wheat. In Vietnam, there is the too much difference of producer supports between commodities. For example, sugarcane and maize farmers (main Vietnamese agricultural imports) receive much support from current policies. In contrast, rubber, tea, cashew, and pig farmers, on the other hand, are suffering from current policies. The difference between the level of benefits and losses of these two producer groups is very large.



**Figure 10. Vietnam: Transfer to Specific Commodities (SCT), 2015-2017**

Source: Modified from the Figure 26.3 in the OECD (2018a).

### 5.3 Market Price Support (MPS)

For the OECD as a whole, MPS was around 45% of the PSE in 2015-2017. MPS represents a significant component of producer support in Israel, Japan and Turkey (more than 80% of the PSE) and more than 90% of the PSE in Korea. However, the share of MPS is notably less in countries that rely to a greater extent on direct payments to support producers like Mexico, the United States, the European Union, and also high support countries like Norway and Switzerland. MPS is also significant in the emerging and developing economies, accounting for over 90% of producer support in Costa Rica, the Philippines, more than 80% in Colombia, and more than 50% in China, the Russian Federation and South Africa (OECD, 2018a). In contrast, MPS was negative in Ukraine and Vietnam as producers of some commodities receive prices below those on world markets (OECD, 2018a). MPS of Vietnam is 545 million USD, accounting for 65% of PSE.

### 5.4 Payment Based on Output and Input

Payments based on area, animal numbers, farm receipts or farm income are increasing in the OECD countries. In 2015-2017, such payments accounted for a large share of producer support in the European Union (64% of the PSE in 2015-2017), the United States (45% of the PSE), Norway (40%), Australia (54%) and Switzerland (32%). These types of payments are also increasing in China and Kazakhstan, where they represented 14% and 15% of the PSE in 2015-2017. However, they are less common in the other emerging and developing economies, accounting for less than 5% of the PSE on average (OECD, 2018a).

A payment based on output of Vietnam is 208 million USD in 2017. A payment based on output of Vietnam is 207 million USD in 2017. These two payments accounted for about 43% of PSE in 2017.

### 5.5 Consumer Support Estimate (CSE)

Consumers in almost all countries are harmed by agricultural policies, although to different degrees. In 2015-2017, the implicit tax on consumers - as indicated by a negative %CSE - ranged from less than

one percent in Brazil, Chile and Mexico, to more than 40% in Iceland, Japan, Korea and Norway. In all cases, this negative CSE is due to market price support, implying transfers from consumers to domestic producers and, for importing countries, to taxpayers. In some emerging and developing countries, increasing use of market price support has increased the implicit taxation of consumers. In China, Costa Rica, the Philippines and the Russian Federation, the %CSE is more negative in 2015-2017 relative to its value in the mid-1990s (OECD, 2018a). CSE of Vietnam is about 4 billion USD in 2017, accounting for about 11% of consumer's expenditure on agricultural products.

A minority of countries provide positive net-support to their consumers, specifically Ukraine (%CSE of 11% in 2015-2017), the United States (14%) and, to a lesser extent, Kazakhstan (3%). In Ukraine and Kazakhstan, domestic market prices are, on average, below prices on world markets, which benefits consumers at the expense of agricultural producers. In contrast, the United States has significant domestic food assistance programs for specific groups of the population, more than offsetting the somewhat higher domestic prices. The %CSE has more than tripled since the mid-1990s, as a result of declining market price support and the expansion of the nutrition programs, making it the highest consumer support among the countries covered in this report - in value terms, relative to consumer expenditures, and as a share of the Total Support Estimate (OECD, 2018a).

### *5.6 General Service Support Estimate (GSSE)*

#### *5.6.1 General Service Support Accounting Small Weight in the Total Support Estimate*

On average, the general service support that creates enabling conditions for the agricultural sector is very small, accounting for almost 13% of total support. The relative importance of general services in total support varies across countries. As shown, Australia (54% of total support), Chile (51%) and New Zealand (71%) provide most of their support to agriculture through financing sector-wide services, while South Africa provides 38% of total support, and Brazil and Canada just under 30% of total support. General services account for a much smaller share of total support in most other countries. In some countries, the %GSSE has declined since the mid-1990s, most significantly in China (from almost 45% of total support in the mid-1990s to 15% in 2015-2017) but also in Iceland, Japan, Korea, Mexico, the Russian Federation and Turkey (OECD, 2018a).

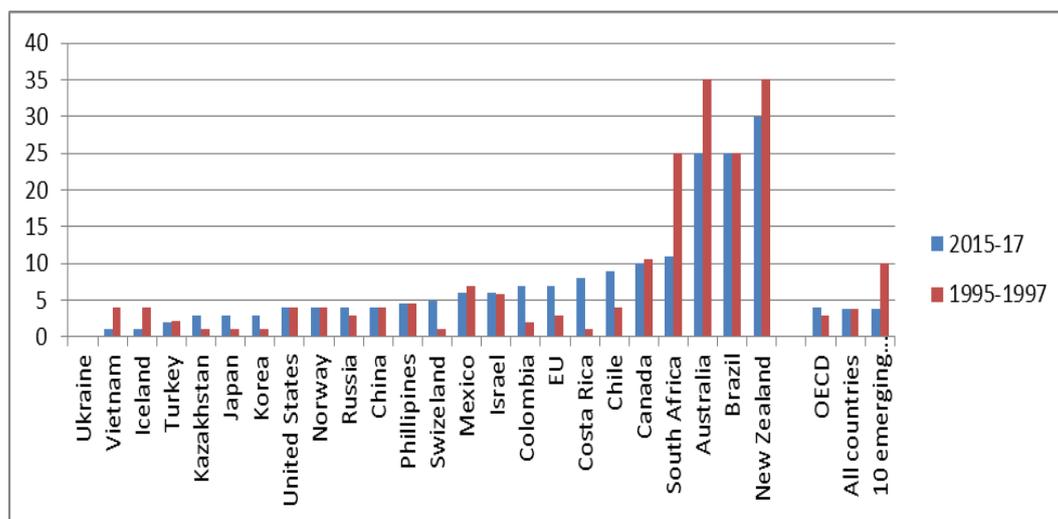
#### *5.6.2 General Service Support Focusing Mainly for Infrastructure*

Investments in agricultural infrastructure are prioritized in a number of countries. More than 70% of expenditure on general services is on infrastructure in Japan, Turkey and Vietnam, and infrastructure represents more than half of general services expenditure in Chile, Korea and the Philippines - often to improve irrigation coverage and quality. The agricultural innovation system (AIS) is prioritized in Australia, Brazil, Colombia, the European Union, Israel, Mexico, New Zealand, Norway, Switzerland and Ukraine, and plays a key role in many other countries as well. For the OECD countries on average, infrastructure (44% of the GSSE) and the AIS (32% of the GSSE) accounted for more than three-quarters of all expenditures on general services. Expenditures on inspection and control systems accounted for between 30% and 50% of general services expenditure in Canada, Iceland, Kazakhstan,

New Zealand and Ukraine. Expenditures on public stockholding accounted for a significant share of the GSSE in China and Iceland (OECD, 2018a). GSSE of Vietnam is 554 million USD in 2017, accounting for 36% of the TSE.

### 5.6.3 General Service Support Increasing for Innovation but not much

Agricultural innovation is emphasized by a large number of countries and regions, including Australia, Canada, Costa Rica, the European Union, Japan, Korea, Norway, Switzerland and Turkey. In the European Union, for example, fostering knowledge transfer and innovation, and the promotion of resource efficiency are two of the six priority areas of Pillar 2 of the Common Agricultural Policy for 2014-2020, which funds programs specifically dedicated to research and innovation in agriculture. Canada's agricultural policy framework until 2018, Growing Forward 2 (GF2), stresses three broad priority areas, one of which is innovation. Provinces must spend a minimum of 25% of their funding envelope on innovation programming. The agricultural policy framework for the 2018-2022 period, the Canadian Agriculture Partnership, will focus on enhancing the competitiveness of the sector through research, science and innovation, and the adoption of innovative products and practices, with an emphasis on sustainable growth. In Costa Rica, the State Policy for the Costa Rican Agri-food Sector and Rural Development 2010-2021 emphasizes innovation and technological development, in addition to competitiveness and sustainability objectives. In Australia, the Agricultural Competitiveness White Paper aims to boost innovation within the sector, amongst other objectives. Agriculture is also an explicit priority of a number of national innovation strategies, such as the National Science and Technology Plan 2002-2020 (NSTP) in the Philippines and the 13th Five Year Plan for Science and Technology Innovation in China (OECD, 2018a).



**Figure 11. Government Expenditure on Agricultural Innovation Systems as a Share of TSE by Country, 1995-1997 and 2015-2017**

Source: Modified from the Figure 1.17 in the OECD (2018a).

The public sector continues to be the main source of funding for agricultural R&D. In both the OECD and emerging and developing regions, R&D accounts for the majority of public expenditure on AIS as a share of total support. In the OECD region in 2015-2017, agricultural R&D accounted for 2% of total support, marginally higher than that of developing and Emerging Economies (1.9%) during the same period (OECD, 2018a).

In countries such as Australia and New Zealand, co-funding instruments, with contributions from producers, are also used to leverage private participation in R&D. In New Zealand, for example, 29% of public expenditure on agricultural R&D in 2017 was directed to Primary Growth Partnerships (PGP) schemes, which normally receive 50-50 matching funds from the industry. In Australia, rural research and development corporations (RDCs) are the Australian Government's primary vehicle for supporting rural innovation and drive agricultural productivity growth. RDCs are a partnership between the government and industry created to share the funding and strategic direction setting for primary industry R&D, investment in R&D and the subsequent adoption of R&D outputs. A levy system provides for the collection of contributions from farmers to finance RDCs, and the Australian Government provides matching funding for the levies, up to legislated caps (OECD, 2018a).

#### 5.6.4 Research Collaboration

Governments play a key role in the facilitation of regional and international research collaboration in projects, networks and capacity building. R&D collaboration is a valuable means for countries to optimize their domestic research resources and benefit from specialization and international research spillovers, and thus more efficiently address mutual challenges. The Consultative Group on International Agricultural Research (CGIAR), the Global Forum for Agricultural Research (GFAR), the Global Research Alliance on Agricultural Greenhouse Gases (GRAAGG), and the Global Conference on Agricultural Research for Development (GCARD) are just a few notable examples. In some regions, cross-country research collaboration is explicitly required by innovation policy - the European Union is one such example. While the main objective of this policy is the co-ordination of research across EU Member States, third countries can also participate in some cases (OECD, 2018a).

## 6. Conclusion

The OECD recommends policies which would not distort markets. Prices of commodities and resources should reflect the scarcity of goods and services. It can be achieved by reducing the most distortive types of policies, especially market price support, payments based on outputs and payment based on input use. If applied, the support should not be commodity specific to avoid distortions across commodities. The OECD recommends the application of a wide range of policies called general services to enhance long-term productivity growth sustainably in the context of many types of risks including disease, business, natural disaster and climate change. Such policies include investment in agricultural research, education and extension services, agricultural infrastructure and market information systems. Generally, many countries have moved into these directions, but much more

needs to be done to achieve the goal of sustainable productivity growth.

In the last 70 years, the development of world and regional trade has made the commodity movement more freely and price gaps narrowing between countries. This trend made agricultural markets developed more toward reflecting the scarcity of good and services. Vietnam is the country having fastest rate of international trade integration in the last 25 years.

In the last 20 years, the total agricultural support, on average for the whole world, has been reducing. However, the reduction is mainly conducted by developed countries like OECD countries. Emerging and developing countries have increased their supports for producer. Total support to agriculture has reduced strongly in Vietnam in the last 20 years. Producer support estimate was negative in 2015 and 2016, only small positive in 2017 with the total monetary value of 900 million USD.

Inside the total agricultural support, producer supports accounted 78% while general service support accounted only for 14%. Inside the producer support, market price support accounted for more than 50% in many countries, that in Vietnam is 56%. Payments based on outputs and inputs also accounted more than 50% in many countries, that in Vietnam is 43%. In Vietnam, the producer support is very small, negative level in 2015 and 2016 and became positive in 2017 and 2018. The agricultural producer support in 2017 is about 900 million USD. In many countries, in the overall level of support services, spending on infrastructure investment is too large, for example in Vietnam is over 70%. While investing in other items is too small.

Inside each country, policies of payments based on outputs, payment based on inputs, and general service support are applied widely and differently. In many cases, these support policies distort the scarcity of goods and services. Some commodities are given much more monetary supports compared to the others, and producers will receive wrong market price signals to give appropriate decision.

Vietnam's agricultural policies have been better and better. The performance of its agricultural production and markets are better in the last 3 years. However, similar to many other countries, level of agricultural support and type of agricultural support of agricultural policies are still far from OECD's recommendation. MPS is accounting for 65% of the PSE. Payments are accounting for 43% of the PSE. Investment on irrigation infrastructure is accounting for 70% of the GSSE. GSSE is accounting for only 36% of TSE.

OECD suggests that market price support should be reduced and finally eliminated. Similarly, output and input payments should be reduced and eliminated. OECD suggests that future investment should increase in general support services. Appropriate investments in research, together with efforts to ensure that the outputs of this research reach farmers will increase producers' capacity to respond to evolving needs and challenges. Collaboration on knowledge generation and transfer with public and private actors - nationally, regionally and internationally should be encouraged. Public funds should primarily target innovations that the private sector does not deliver.

OECD suggests that helping producers to better manage risk is a key policy objective for a number of countries. As an alternative to more distorting forms of support, facilitating access to risk management

tools can improve producers' resilience to risks emanating from both domestic and international sources, and provide a more stable operating environment for investment in innovation.

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## Appendix

### Abbreviation

%CSE	Percentage Consumer Support Estimate
%GSSE	Percentage General Services Support Estimate
%PSE	Percentage Producer Support Estimate
%TSE	Percentage Total Support Estimate
ACI	Agrifood Consulting International
BRM	Business Risk Management
CETA	Canada-European Union Comprehensive Economic and Trade Agreement
CGIAR	Consultative Group on International Agricultural Research
CIF	Cost Insurance and Freight
CIS	Center for Informatics and Statistics
CP- TPP	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
EU	European Union
EFC	Excess Feed Cost
FOB	Free On Boat
GCARD	Global Conference on Agricultural Research for Development
GDP	Gross Domestic Product
GFAR	Global Forum for Agricultural Research
GRAAGG	Global Research Alliance on Agricultural Greenhouse Gases
GSSE	General Services Support Estimate
MARD	Ministry of Agriculture and Rural Development
MPS	Market Price Support
OECD	Organization of Economic Co-operation Development
OTC	Other Transfer from Consumers
PACER Plus	Pacific Trade and Economic Agreement
PSE	Producer Support Estimate
R&D	Research and Development
RDC	Research and Development Co-operation
TSE	Total Support Estimate
TCT	Transfer to Consumer from Tax payer
TPC	Transfer to Producers from Consumers
VILASEM	Vietnam Livestock Spatial Equilibrium Model