
Summary: This paper was devoted to the evolution of agricultural policies conducted by three powers of great importance in agricultural production – the United States, the European Union and the People’s Democratic Republic of China. The article presents the history of the origin and evolution of agricultural support instruments of all three entities. The current instruments of the agricultural sector support were compared within these economies. There were relationships and dependencies between various agricultural policies described. On the basis of the experience gained by countries in the previous years, the authors try forecast future paths of development of agriculture policies in these entities after 2013.

Keywords: China, USA, European Union, Agriculture Policy, International Trade.

1. INTRODUCTION

Agriculture is a strategic element of global economy and a very important aspect of policy for all countries’ governments, due to its essential value in covering still growing food demand\(^1\). It is more and more substantial in the terms of globalization process. The reduction of trade barriers, which was an effect of GATT and WTO negotiations, had various influence on these entities. It is very important in solving poverty problem in China\(^2\). Agriculture is significant export category based mainly on comparative advantages in the USA\(^3\). In the EU, agricultural policy is a subject of continuous change by reforms of used instru-

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ments and reduce in the support of agriculture. It is clear, that EU, USA and China have very different agricultural policies. They have different production structure, demand and supply of agricultural raw materials, which forms differences in mechanisms of support. The main objective of this paper is to present the evolution of agricultural support policies and to anticipate the future trends of their development in next few years. The research was founded on deduction based on literature and induction based on data published by Organisation for Economic Cooperation and Development (OECD), Food and Agriculture Organisation of United Nations (UN FAO) and national statistics of examined countries.

2. AGRICULTURAL POLICY EVOLUTION IN USA

First agricultural support programs were created in the 30s of twentieth century. They were temporary actions taken by government to avoid dropping job by farmers facing the Great Depression. Since that, programs supporting agricultural markets have been realised and new law acts have been introduced. There was first Farm Bill in the 1965 released. Its’ idea is being still developed by the government to face the problems of modern agriculture in the USA and to prevent transmission of negative effects from world agricultural markets.

Until the 80s, there were intervention buying institutions, Land Bank which aimed to compensate resting fields, preferential credits for purchasing arable land, minimal prices guaranteed by government in use. In 1985 subsidiaries for decreasing milk and tobacco production were introduced and resting compensations were significantly increased. In 90s Farm Acts were being published and access to payments became more common. There was a reform of instruments used to support agriculture and provide new ones such as: contractation, price guarantees and payments to insurance protecting from income loss. Those actions were repeated in next Farm Acts 1996–2002, 2002–2008 and 2008–2013.

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6 Food and Agricultural Act of 1965.
Despite the opinion that the USA subsidize prices of agricultural products, after analyzing list of those products and volume of subsidies, it is obvious that it is not a big scale action. The subsidized agricultural raw materials are feed grains (corn mostly), oilseeds (soybeans), wheat, cotton, rice, sugar, peanuts, milk products and niche commodities such as sheep and goat wool or honey. They are the most noticeable element of whole Farm Bill, however they generate only 13% of total spendings. Federal government is considering actions on agricultural raw markets by agricultural intervention policy and ignores wider spectrum of programs with intermediate influence on agriculture such as environment protection or demand stimulation by SNAP program. In 2010 the budget of American agriculture ministry was 134 billion dollars and $46 billion were spent on direct support for farmers in various programs. It is comparable with the sum of resources for the same purposes in EU (EUR 40 billion). Farmers’ income was supplied by government in approximately 25% of all net income of agricultural sector in 2008. It is, however, lower than in 2000, when this income was supplied in 40%. Decrease in support of farmers’ income has been caused by action taken by WTO.

Support featured in actual Farm Bill is based on various instruments. One of the most important mechanisms is the system of direct payments. They are paid in value depending on sown area and independently of later harvest. Federal government supports farmers with guaranteed prices, which protects them from loses connected with low market prices and releases government from need of buying overproduction in system of intervention buying. There is also support for milk producers, which guarantees not only the procurement price but mostly the profit of farmer. Similarly to direct payments guaranteed prices have been varied. The USA introduced mechanisms, which stop production on areas with high environmental and natural value or exposed to harmful effects of agricultural production.

### 3. EVOLUTION OF AGRICULTURAL POLICY IN EU

In the European Union 77% of the territory are rural areas, which consist of 47% agricultural areas and rest of the forests. Agriculture and food industry determines 6% of GDP of EU, and are connected with 46 million jobs in 15

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It makes agriculture one of the most strategic points of the European economy. Common Agricultural Policy (CAP) of the European Union was implemented in the 50s of XX century. It has been introduced as a solution of problem concerning feeding people after II World War. Main goal of CAP was to increase food production, save affordable food prices and make food production profitable for the farmers.

Since the introduction of CAP it has been leaded in active way, because of its relevance. It was described in the Roman Treaty. In 1968 a new vision of the EU agricultural policy appeared with Mansholt’s Plan proposition. It featured arable land concentration and closing small and not profitable farms. There were next reforms in the 80s implemented. They introduced agricultural stabilizers, which consisted of the establishment of the guaranteed production thresholds beyond which a state guarantee cease to apply and the farmers have to sell the surplus on their own and at their own risk. There was Maastricht Treaty in 1992 signed. It contained many revolutionary solutions such as McSharry’s reform. It’s main goal was balancing on agricultural market, increasing competitiveness of the whole sector, production extensification with environment protection, lowering overproduction, redistribution of assets for agriculture to more farms and providing sufficient quantity of farms to save full production ability in the European Union. Agenda 2000 brought crucial changes in CAP such as earlier retirements for farmers, support in developing high-tech agriculture, competitiveness promotion, making young farmers’ start easier and rising up their qualifications.

During those decades Common Agricultural Policy has changed and evolved, but the goal of the policy remained unchanged. Main goals are liquidation of trade barriers between members of the EU in agricultural products trade, introducing common agricultural market regulations for all the member countries and prioritizing products from EU over imported ones. Main targets of this policy for agricultural sector are: development of technological progress and increase in production, full usage of production factors, balanced and rational progress of agriculture with providing fair level of life for farmers, stabilizing agricultural and food markets with continuity of supply and affordable price level.

After year 2000 CAP started to be similar to the present one, because of the partition of CAP to first and second pillar. First one is connected with price and market policy and it is formed by financing interventionism, outside protection and direct payments for farmers. Actions taken in as part of pillar I are directed to stabilize market, increase productivity and holding appropriate income level for farmers by income redistribution from other parts of economy. Second pillar

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includes structural policy, which main purpose is to equalize the conditions for
the development and provision of adequate living conditions for rural people.
Distribution of assets between pillars in 2013 is on the level EUR 43,2 billion
for pillar I and EUR 13,9 billion for pillar II.

In the financial perspective 2007–2013 CAP focused on natural assets sav-
ing and management. However, there is noticeable drop of financing agricultural
sector to 37,6% in comparison to 2000–2006 perspective, where it amounted up
to 48,6% of the whole budget. In all 2007–2013 period EUR 371 244 billion
have been spent on equalization of farmers’ income, rural areas development
get/fin_ue/NPF_2007_2013.pdf [25.11.2013].}

4. EVOLUTION OF AGRICULTURE POLICY IN CHINA

Whereas awareness of the need to support the agricultural sector was wide-
spread among Chinese policy makers basically from the moment when the
country entered the path of market-oriented reforms in 1978, organized form of
agricultural policy support wasn’t implemented in China until the turn of the XX
and XXI century.\footnote{Z. Lei, \textit{Chinese Agricultural Development Policies and Characteristics since the Reform
and Opening up in China}, “Asian Culture and History” 2013, Vol. 5, No. 2, s. 111.}

At the basis of changes lies good macroeconomic situation of the country, which allowed to generate budgetary resources essential to support
the implementation of the policy, as well as China’s accession in 2001 to the
WTO which accelerated introduction to the country modern tools of agriculture
support.\footnote{F. Gale, \textit{Growth and Evolution in China’s Agricultural Support Policies}, United States
Department of Agriculture, 2013, s. 5.}

Since 2004 guidelines for agricultural policy for the following years
are also formulated in official papers called „Document No. 1”.

From its very beginning, China’s agricultural policy is focused on the solv-
ing so-called „three rural issues” – agriculture, rural areas and farmers. In the
context of agriculture, problems with food security, productivity, farm moderni-
ization and regulation of the agricultural building are raised. Regarding to the
rural areas essence of the problem is their infrastructure scarcity and the lack of
non-agricultural activities. Farmers are burdened with the huge income disparity,\footnote{In 2011, the annual per capita net income of rural inhabitants amounted to 6 977 yuan,
while the average disposable income in the city stood at 21 810 yuan, which means a disparity in
and uncertainty of work on lands with unclear ownership status. A wide range
of agricultural policy tools used to tackle inequalities in the development of the
city and rural China can be summarized in 10 points (Table 1.).
Table 1. China’s policy aimed at eliminating the disparity of income between urban and rural areas.

<table>
<thead>
<tr>
<th>Area of intervention</th>
<th>Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terms of trade between industry and agriculture</td>
<td>guaranteed minimum procurement price, subsidies to inputs, subsidies for the purchase of agricultural tools, comprehensive subsidies for the purchase of agricultural materials</td>
</tr>
<tr>
<td>The Utilization of Savings Deposits</td>
<td>reform of rural credit cooperatives, strengthening credit action in Post Bank, decentralization of the Agricultural Bank of China, widening credit action of Agricultural Development Bank of China, deregulation of local financial markets, preferential credit conditions for rural people</td>
</tr>
<tr>
<td>Land Requisitioning</td>
<td>limitation of government requisitioning entitlements and enhancement of land-use compensation system, allowing farmers to participate in investment projects, giving rural collectives access to construction land market, enabling reclassification of lands from agricultural to construction</td>
</tr>
<tr>
<td>Labour Transfer</td>
<td>promoting concentration processes in the farm sector, enabling farmers to sell the rights of use of land and move to the city, reform of the household registration system, the inclusion of workers from the countryside to the urban social security system</td>
</tr>
<tr>
<td>Ecological Dividends</td>
<td>compensation for afforestation, the creation of the institution responsible for afforestation, the collection of fees from the towns lying along the river to improve retention in its upper reaches, the amount of water, the development of afforestation absorbing impurities</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Rural Drinking Water Safety Plan, investment of the vehicle acquisition tax in rural road construction, public investments in biogas and rural power grid</td>
</tr>
<tr>
<td>Compulsory Education</td>
<td>„two waivers and one contribution” program, improvement of primary and middle school buildings, guaranteed teacher’s wages</td>
</tr>
<tr>
<td>Medical and Health Care</td>
<td>improving rural medical and health infrastructure, new rural cooperative medical system</td>
</tr>
<tr>
<td>Social Security</td>
<td>new rural social and old-age pension system, „five-guarantees” system</td>
</tr>
<tr>
<td>Public Finance</td>
<td>abolition of the agricultural tax, increase in budgetary subsidies to local authorities</td>
</tr>
</tbody>
</table>


Majority of the utilized production support measures refers to the cereals market, what indicates their stimulating nature for this market. Chinese agricultural sector operates under specific conditions of permanent shortage of domestic production. Demand for food in China still exceeds domestic supply. Despite the
The evolution of agriculture policy in the United States, the European Union...

fact that China is the largest producer of many food products, there is still a need to import them due to the growing consumption. According to FAO data in 2011, China was the largest producer of cereals (20% of world production volume) and meat (26% of world production volume), but also the largest consumer – 21% of the world consumption of cereals and 28% of the consumption of meat (in 2009). This structure of domestic supply and demand lead to imbalances in agricultural commodities trade. In case of cereals, ratio of imports to exports was 4.28, and in the case of meat 1.16. Furthermore, along with rising incomes in Chinese society also eating habits changes. In 1961, the average Chinese citizen ate everyday meals with a total value of 1,426 kcal of energy, of which only 4% came from animal products. In 2009, the energy value of the daily consumption was more than twice higher (3036 kcal), and the share of animal products increased to 23%. Additionally, the population of the country increased in this period from 681 million to 1 366 million. In the face of these facts, food security is still an crucial element of agricultural policy in China, but gradually gaining importance issues are agricultural incomes and rural development.

5. DEPENDENCIES BETWEEN AGRICULTURAL POLICIES IN THE USA, CHINA AND THE EU

As so far, under considerations have been taken issues of the evolution of agricultural policies in different countries, but further deliberations, without presenting determinants of occurring changes and showing in comparable units value of agriculture, would be worthless.

Table 3. Basic structural indicators of agriculture in the USA, China, and the EU in 2012.

<table>
<thead>
<tr>
<th>Feature</th>
<th>China</th>
<th>USA</th>
<th>EU</th>
<th>World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour productivity ($ per worker)</td>
<td>312,91</td>
<td>35780,11</td>
<td>7121,98</td>
<td>660,87</td>
</tr>
<tr>
<td>Capital productivity ($ per $)</td>
<td>2,87</td>
<td>1,48</td>
<td>1,10</td>
<td>1,69</td>
</tr>
<tr>
<td>Land productivity ($ per ha)</td>
<td>299,00</td>
<td>208,98</td>
<td>381,84</td>
<td>177,13</td>
</tr>
<tr>
<td>arable land (ha) per worker</td>
<td>1,05</td>
<td>171,2167</td>
<td>18,6518</td>
<td>3,7309</td>
</tr>
<tr>
<td>capital per arable land ($ per ha)</td>
<td>1041,69</td>
<td>1408,03</td>
<td>3482,34</td>
<td>1045,15</td>
</tr>
<tr>
<td>capital per labour unit ($ per worker)</td>
<td>1090,13</td>
<td>241077,91</td>
<td>64952</td>
<td>3899,37</td>
</tr>
</tbody>
</table>


Chinese agriculture can be described as intensive. Relatively high land productivity is achieved mainly due to high labor input. Limited use of capital increases its productivity. The structure of capital investments is dominated by

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expenditure on improving the land, which can be interpreted as fertilization\textsuperscript{20}, while the share of expenditure on mechanization is relatively low. Moreover, the average farm size in China is very small – in 2010 it was 0.6 ha and from 1985 decreased by 0.1 ha\textsuperscript{21}. This structural ineffectiveness is caused by the China’s egalitarian land distribution system, according to which the right of use is the „substitute for welfare and insurance systems in the rural areas”\textsuperscript{22}. Agriculture of the United States can be, for change, given as an example of extensive economy based on abundant reserves of arable land and favorable agrarian structure, with a dominant number of large farms – average size of a farm producing cereals in 2007 was 241 acres (approximately 97.5 ha.)\textsuperscript{23}. With lower than in the EU capital input, United States agriculture also achieves a significantly lower productivity of the land. However, labor productivity in the USA is very high.

EU agriculture, like the Chinese one, we can define as intensive, but the crucial difference is the fact that in the EU it is based on intensification of mechanization, rather than on labor resources and fertilization. As a result, in the EU agricultural production value of one hectare is the highest, although it should be remembered that within the EU variation in the structure of agriculture production is significant. Details of agriculture and rural development policy in the countries provides OECD. The organization estimates the number of indicators, among which the most important for international comparisons are the Nominal Assistance Co-Efficient (NAC), the Nominal Protection Co-Efficient (NPC), the Producer Support Estimate (PSE), the General Services Support Estimate (GSSE), The Consumer Support Estimate (CSE) and the Total Support Estimate (TSE). Coverage of consumption by domestic production informs about food self-sufficiency of the country. In the United States and the European Union indicator value exceeds 1, which means that there is produced more food than is consumed, however, while over the years in the USA surplus grew, and in the EU decreased. Situation in China is exactly opposite – domestic demand doesn’t meet domestic supply, and the disparity in this aspect is still growing. In the USA and the EU observed is decline in the PSE, indicating the extent to which the farmer’s income is dependent on government support, but the EU still remains at almost 2,5 times higher level than the USA. Meanwhile, in China in years 1995–97 there has been an almost 6-fold increase in support. Nevertheless, support level is still lower than in the EU.

Another group of indicators shows the impact of national support for international trade. NPC shows, if domestic prices for consumers and producers

\textsuperscript{20} In 2010, consumption of phosphorous and nitrogen fertilizers in China was 4-fold higher than in the EU and the USA.


\textsuperscript{22} L. X. Zhang, Agricultural And Rural Development In China, Center for Chinese Agricultural Policy, Chinese Academy of Science, Beijing 2001, s. 3.

\textsuperscript{23} J. M. MacDonald, P. Korb, R. A. Hoppe, Farm Size and the Organization of U.S. Crop Farming, USDA, 2013, s. 7.
differ from international prices. Also in this aspect, the EU and the USA statistics indicate a reduction of trade protectionism while in China we observe its growth. However, it should be noted, that in the case of all three countries, in all the examined periods ratio exceeded 1, which means that trade protectionism has been used there. In the same way NAC indicator can be interpreted, bearing in mind that it indicates the amount of overall support. An interesting case turns out to be the United States, where the NAC takes values smaller than 1. This means that the agricultural sector in the country is strongly supported by demand channel. This preliminary conclusion is confirmed by the value of the CSE indicator, which illustrates precisely the impact of agricultural policy tools to consumption increase. Value of the index above 0 illustrates the effect of budgetary transfers to consumers on the growth of domestic consumption of agricultural products.

In addition to identified differences in the level of support you also their structure can be analyzed. This area of analysis the most clearly demonstrates the differences between countries. In the USA, we observe a relatively diversified support system. The most important support channel are payments based on input use and payments based on current A/An/R/I\textsuperscript{24} with production required. The third major source of support payments are payments based on non-current A/An/R/I with production not required. All of these tools cause relatively minor interference in market mechanisms. However, even less invasive are solutions adapted by the EU, where a single source is dominant – payments based on non-current A/An/R/I, with production not required, which can be identified as the direct payments paid under the CAP, regarding principles of cross-compliance. Completely different support system is applied in China, where almost 63% of the support is based on commodity output, interfering heavily market mechanisms. But aid to the agricultural sector is not transferred there only through direct support, but also through the rural development policy and budget consumers support.

The structure of the TSE in the EU and China is similar, but the Chinese assistance to a much greater extent interferes with market mechanisms. The USA has a much more diversified structure, in which plays a significant role plays support of services for agriculture (mainly marketing and promotion) and consumer support.

An area which the particular visualize the interactions between different agriculture support policies is trade. Any intervention in the area of agriculture policy affects to a lesser or greater extent on the international competitiveness of domestic agricultural products and the structure of imports and exports. It is perfectly illustrated by the example of China. Extremely important impulse to the development of China’s agricultural policy is the country’s membership in the WTO, which significantly increased the value of trade in agri-food products in China. Exports increased from $12 billion in 2001 to $43 billion in 2011,

\textsuperscript{24} A – area planted, An – animal number, R – receipts, I – income.
while imports from 10 to 90 billion dollars. According to the classical theory of comparative advantages, China should import agricultural commodities requiring large land input (mainly cereals), export the products of labor intensive production (vegetables, fruits). With so huge, as in the case of China’s rural labor force resource, it should provide a balanced in agricultural commodities trade. This does not happen, because of the policy of self-sufficiency in grain, which forces China to preserve the country’s cereal production on a large scale. This production, however, consumes resources that could be better used in the production for export. The large-scale import of agricultural goods is carried out only in the case of non-strategic goods such as soybeans (used as fodder) and cotton (used in the textile industry)\textsuperscript{25}, which are mostly imported from the USA\textsuperscript{26}. In the context of trade relations between the EU and China importance of the exchange of agri-food products is marginal. In 2012, their share in the total value of EU exports to China amounted to 4.2%, in the case of imports to 1.6%. The value of goods exported from the EU was amounted to approximately EUR 8 billion and EUR 4.5 billion for import\textsuperscript{27}. The reason for such low turnover is on one hand a small price competitiveness of European products, compared for example to American goods and on the other hand, low quality of Chinese products which do not meet stringent European phytosanitary standards.

6. PERSPECTIVE OF AGRICULTURAL POLICY DEVELOPMENT OF CHINA, USA AND EU AFTER 2013

On January 1st 2014 new, 7-year-long CAP perspective has started. Main changes which are going to take place are planned to adjust the policy to the market situation for the new period. In the new policy direct payments are going to be more focused on the need of judicial farmers’ income support and repaying them for serving public goods such as environment protection and landscape of rural areas. The support for young people starting their agricultural activity will be more prioritized. The risk management mechanisms will be simplified and more effective. There are big changes planned in RDP (Rural Development Program). It will be directed to support innovation and competitiveness. It is also very important to introduce new solutions protecting farmers from price changes and income level in agricultural sector. Crucial part of new CAP is greening. The part of direct payments will be relative to meeting rigorous environmental criteria. At


\textsuperscript{26} The structure of trade on the line US-China is very peculiar. Typically, this is a less developed country which pays for import of industrial goods with agri-food commodities export. In the case of China and the United States the situation is reversed.

least 30% of RDP will be focused on agri-environmental programs, supporting organic farming and projects, which are nature-friendly\textsuperscript{28}.

Agriculture in the USA is in a very good condition nowadays. This country is the biggest exporter of food and agricultural products and it discounts profits connected with high prices of agricultural commodities in the past. At the same time, facing big variability, more effective agricultural policy instruments are needed much more than ever. However, because of the rising debt and permanent deficiency of government many instruments may be discontinued. The problem is so complex that „emergency” extension of solutions from Farm Bill 2008 were made, because of the lack of agreement between Senate and House of Representatives about new Farm Bill policy shape. Finally Senate version of the document has been accepted. It included spending cuts in Food Stamps program, agri-environmental programs and direct payments, what made system of subsidized agricultural insurances main support instrument\textsuperscript{29}.

Chinese agricultural policy reforms are directed in opposite direction than in the USA. In Document No. 1 for 2013 the government declared to continue previous policy of building food safety and rural areas development. To fulfil this target, all farmers’ income supporting instruments have to be preserved. The functioning of agricultural markets is going to be improved by creating a futures market and streamlining retail channels. Special protection will be addressed to people migrating from the countryside to the city and their families remaining in the country. For this purpose there will be facilities the registration law and the instruments of social assistance for families\textsuperscript{30}. In the long term, the Chinese agriculture is, however, still going to face many challenges, among which man can mention: the protection of arable land resources, reform of agricultural production towards concentration and mechanization, the continuation of the expansion of rural infrastructure and social communication, reduce disparities in development between urban and rural areas and the rationalization of migration from the countryside to the cities.

### 7. CONCLUSIONS

After the exact review of agricultural policies of the USA, the EU and China we can state that actions taken within them not only protect agricultural production but also retransfer surplus of income from other economy sectors to agricultural one. What’s more, very important aspect in those countries is provid-


ing food safety and low, affordable food prices with maximizing farmers profit. The support of agriculture was present in all of these countries, independently of structural conditions. It is dependent from specificity of agricultural production. It is worth noting that developed countries (on the example of the EU and the USA) use more advanced support forms which don’t interfere in the market mechanism as much as possible. Those instruments aim to be very effective with low negative aspects for the rest of economy. In China, which still has a problem with providing food security and is net importer of agricultural products, government spendings on supporting agriculture are relatively high. The EU simplifies actions taken in support of the agriculture to lowest cost and getting highest effects. In the USA, which has comparative advantages in food production from structural and environmental factors, concentrates support on consumers instead of producers and on rural areas development.

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Słowa kluczowe: Chiny, USA, Unia Europejska, Polityka Rolna, Handel Międzynarodowy.

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