

**The CAP and national priorities
within the EU budget
after 2020**



INSTITUTE OF AGRICULTURAL
AND FOOD ECONOMICS
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The CAP and national priorities within the EU budget after 2020

Editors:

dr Marek Wigier

prof. dr hab. Andrzej Kowalski

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Institut Ekonomiki Rolnictwa i Gospodarki Żywnościowej

– Państwowy Instytut Badawczy

ul. Świętokrzyska 20, 00-002 Warszawa

tel.: (22) 50 54 444

faks: (22) 50 54 636

e-mail: dww@ierigz.waw.pl

<http://www.ierigz.waw.pl>

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10. Comparison of potential effects on the profitability of the US MPP application on dairy farms in Veneto (Italy) and Wielkopolska (Poland)

MSc Federico Vaona¹, PhD Cristian Bolzonella¹, Prof. Martino Cassandro¹, Prof. Tomasz Szwaczkowski²

¹Università degli Studi di Padova, Italy

²Poznań University of Life Sciences, Poland

federico.vaona@studenti.unipd.it, cristian.bolzonella@unipd.it, tomasz@up.poznan.pl

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Abstract

The American agricultural policy has introduced a form of insurance to guarantee the specific income for dairy producers called the Dairy Margin Protection Program. The program aims to protect farmers from the volatility of prices of both milk and production, without having distorting effects on the market. Joining the DMPP program is voluntary, but with the obligation to remain in the insurance system until the end of the program. The program ensures a share of the perceived income, chosen annually by the producer, of a quantity of reference milk assigned to the individual producer on a historical basis. The insurable theoretical income is defined monthly by the difference between the average milk price and the feed cost index calculated on the basis of a standard ratio. Farmers, who are members of the DMPP program, are entitled to compensation when the theoretical milk income is below the level of income coverage chosen by the producer for a two-month period. This work describes the operating mechanism of the US Dairy MPP with simulation in Veneto (Italy) and in Wielkopolska (Poland) regions of costs that would have been incurred in the in the period from 2007 to 2017 and the effects on profitability of dairy farms. Finally, a comparison was made between the costs actually incurred by the Community agricultural policy in support of the milk sector and what would have cost a potential application of the MPP.

Keywords: dairy economy, agricultural insurance, dairy farm management, risk assessment, CAP

JEL codes: D24, E52, H54, H72, Q14, Q18

10.1. Introduction

In the 1970s and early the 1980s the effects of the first European CAP based on the guaranteed price levels produced a milk oversupply. To face the increasing public expenditure, the milk quota regime was introduced in 1984 in order to address the growing stocks of butter and milk powder and to subsidise the export. In 2003, after the Luxembourg agreement, it was decided to remove the quota system in 2015 to allow the EU dairy producers to benefit from an estimated rising global demand for dairy products in those years.

In response to a worldwide macroeconomic and dairy recession in 2009, both the EU and the United States introduced new dairy policy instruments. In the EU, the measures focused on increasing producer bargaining powers and public support for private storage of dairy commodities. In the US the new Farm Bill introduced the Margin Protection Program for Dairy Producers (MPP-Dairy) in 2014.

The American agricultural policy has introduced this form of insurance to guarantee a specific income for dairy producers. The program aims to protect farmers from the volatility of prices of both milk and production, without having distorting effects on the market.

Unlike previous price support programs, the Dairy Margin Protection Program (MPP-Dairy) is the first of its kind to recognize that both the price of milk and the cost of feed inputs are important to protect producer profitability. Therefore, protecting a margin between these two would ensure that an adequate return to cover non-feed costs is available.

The DMPP program started in August 2014 and will end on 31 December 2018. Membership is voluntary but with the obligation to remain in the insurance system until the end of the program.

Dairy producers have the option to purchase MPP-Dairy at coverage levels from USD 4.00 per cwt to USD 8.00 per cwt, depending on their risk preference and financial position. They may also choose to insure from 25% to 90% of their milk production history as determined by the highest of 2011, 2012, 2013 annual milk marketing.

The insurable theoretical income is defined monthly by the difference between the average milk price and the feed cost index calculated on the basis of a standard ratio.

Previous Farm Bill programs provided limited support for larger dairies, whereas the MPP program provides a two-tier cost structure but eliminates caps based on farm size or adjusted gross income.

Farmers who are members of the DMP program are entitled to compensation when the theoretical milk income is below the level of income coverage chosen by the producer for a two-month period.

10.2. Materials and methods

The prices considered are those of the foods that most affect the cost of the feed ration. In order to work on standard data, the values are all calculated on a monthly average basis and converted into EUR 100 kg.

The period that we analysed is eleven years long and the methodology is based on monthly average price (from 2007 to 2017) of: milk, corn, soybean meal and alfalfa hay (in Veneto), and milk, corn, soybean meal and meadow hay in Wielkopolska. The calculation of the IOFC (Income over Feed Cost) assessment of the margin (EUR/kg of milk) is settled, for small, medium and large farms (no MPP, 0.07 protection level and 90% of historical production, 0.15 protection level and 25% of historical production, 0.15 protection level and 90% of historical production). Assessment of the risk reduction by coverage level was included as well.

The Italian milk data was collected by the Chamber of Commerce of Lodi and, for what concerns the raw materials, the Chamber of Commerce of Bologna. The Polish data are based on databases of Wielkopolski Farm Advisory Centre in Poznań.

The research is then compared on the basis of a sample of Italian and Polish farms. We settled the average production of those two regions and we calculated the value of insurable milk quantity per year.

In the end, the IOFC (Index of Feed Costs) is calculated and it is in relation to the FADN samples to have a simulation of the application of this tool on the profitability of the farms.

During this study we discovered that, although the two regions have comparable “working factors”, there are so many differences in terms of climate, market and also currency that they influence the results of the program.

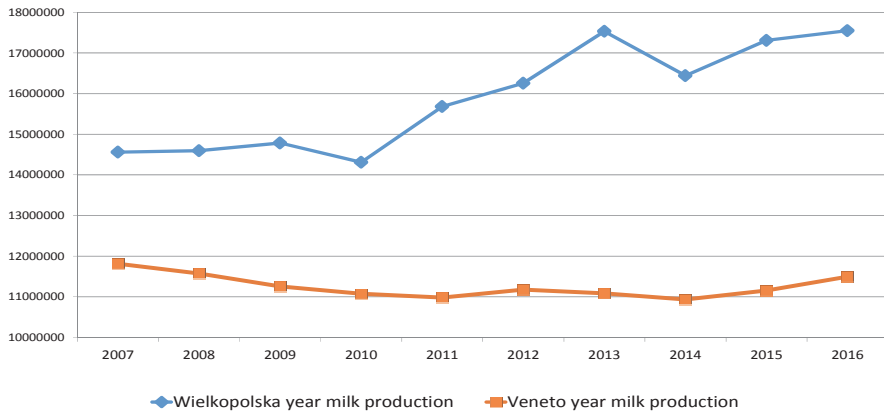
Farms in the eastern part of Europe tend to be smaller (under 150 cows), and most often grow forages needed for their herds. In contrast, farms in the west and southwest of Europe are larger, and purchase most of their feed.

The dynamics of milk production and the number of milk producers in the two regions (Wielkopolska and Veneto) are very different.

The data show us how the production of Wielkopolska has grown a lot while that of Veneto has remained stable.

The number of farms in Veneto is in sharp decline, while in Poland there is a slight increase. Especially in Veneto, the number of large farms with a strong managerial capacity is much higher than in Poland, where the average size of a herd is around 80 cows.

Figure 1. Comparison between Wielkopolska and Veneto annual milk production (in 100 kg)



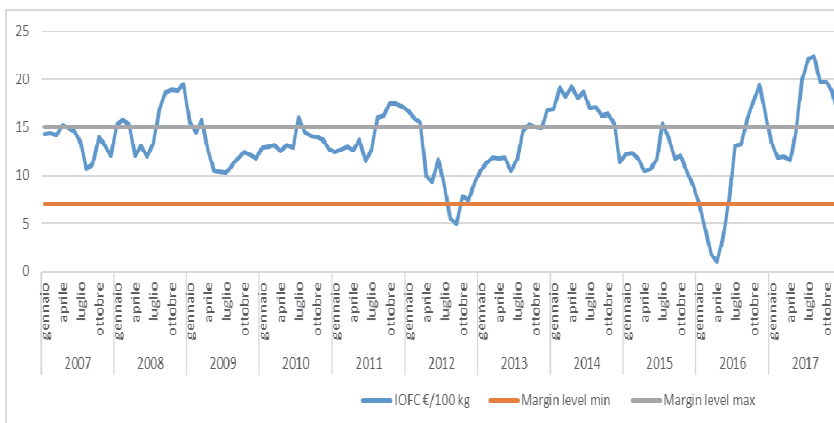
Sources: *Wielkopolska: G.U.S., Rocznik Statystyczny Rolnictwa; Veneto: A.Pro.La.V.*

10.3. The situation in Veneto

The comparison between the milk price and the feed costs in Veneto is presented over an average time. The graphic shows two different critical situations, first one between August and September 2009, where there is a huge increment in price that cause the IOFC value decreasing, and the second one during March 2016, when there was a fall in milk price after the abolition of milk quotas.

The two lines describe the maximum and the minimum level of coverage in the MPP program. The higher one is set on the euro 0.15 level and the lower is euro 0.7.

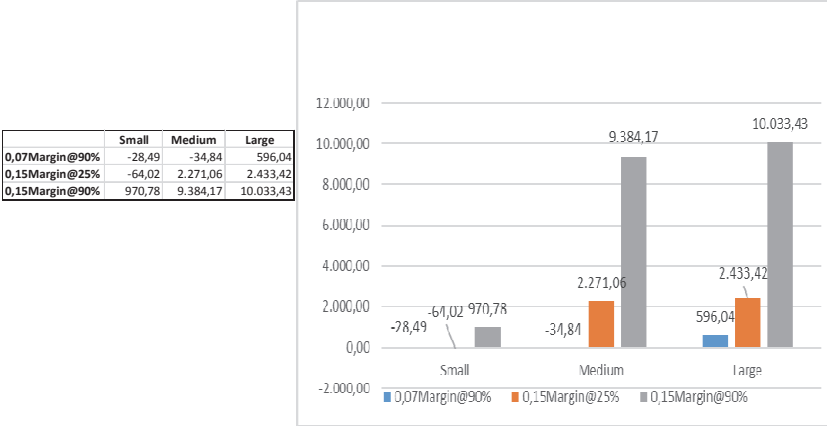
Figure 2. IOFC Veneto 2007-2017



Source: *author's elaborations.*

The graph shows the value of the ratio between the sum of the money received and the amount paid to enrol in the insurance program throughout the entire period. The three series of columns represent the farms analysed divided by categories: small (from 1 to 50 cows), medium (from 51 to 150) and large (more than 150 cows).

Figure 3. Average MPP payment per farm size (EUR/year) – Veneto



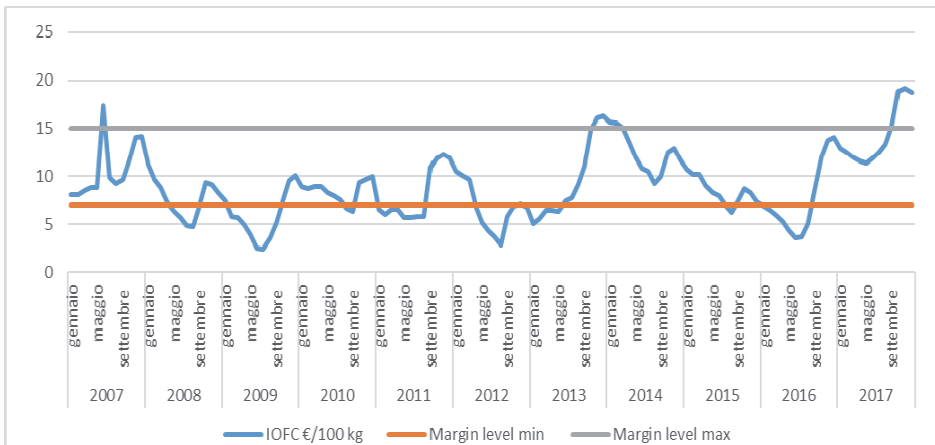
The three values show the revenue received for three different selected coverage examples. The first column indicates the minimum level of coverage, the central one the maximum coverage level, but insured on 15% of the total milk and the last one – the highest level of coverage.

We can see that for small and medium-sized farms insuring at lowest level is not convenient, in fact the cost of insurance is higher than the premium received. On the other hand, if we consider the highest level, we notice how small and medium-sized farms receive much more in relation to the larger one that have to pay much more to ensure a greater quantity of milk. This leads the smaller producers to choose higher levels of coverage, while large farms have the convenience to choose the lowest level.

10.4. The situation in Wielkopolska

In Wielkopolska the situation is more complicated, because the price of milk has a more volatile trend. This changes a lot from year to year and varies over a much longer period. The cost of raw materials, on the other hand, changes much more quickly and with increases and falls in prices. For this reason, the value of the IOCF does not have a linear trend and falls many times below the minimum level of coverage.

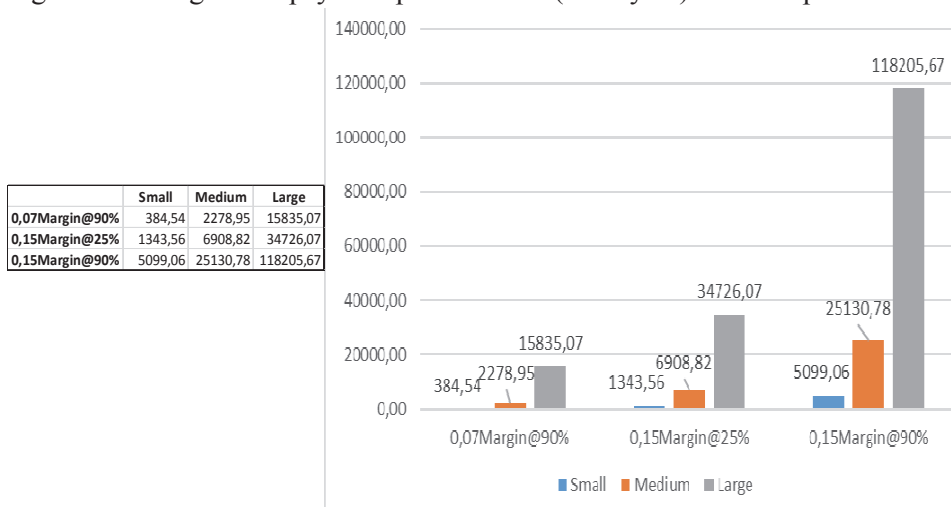
Figure 4. IOFC Wielkopolska 2007-2017



Source: author's elaborations.

This means that comparing the above data with those collected in Italy and maintaining the same parameters, Polish farmers collect much more money than the Italian ones. Thus, in the graphic that shows the amount of income of the breeders, the situation is not comparable to the situation in Italy. In fact, all three classes of farms always get a lot of money.

Figure 5. Average MPP payment per farm size (EUR/year) – Wielkopolska

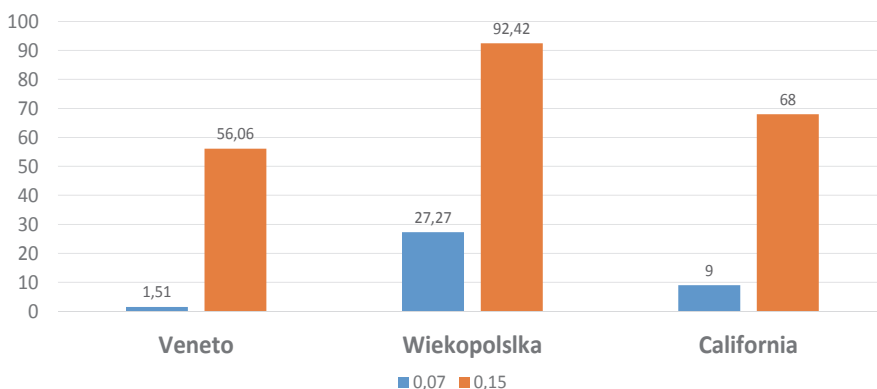


In such a situation expires the system that favours small and medium-sized companies and the prize received becomes closely linked to the quantity of milk. In short, the more it produces, the more it earns.

10.5. Summary and conclusions

It was concluded that application of the US levels of coverage the risk reduction of margin is higher in Wiekopolska than Veneto because the Wielkopolska's IOFC is lower. A comparison was made between the costs actually incurred by the Common Agricultural Policy (CAP) in support of the milk sector and what would have cost a potential application of the MPP. The comparison shows that the potential compensation generated by MPP in Veneto, is aligned for the large farms and higher for medium and small farms.

Figure 6. Comparison risk reduction (%) Veneto, Wiekopolska, California



To reach the same level of risk as in California, the minimum level of coverage has to be:

- 0,10 €/100 kg in Veneto **(+0,03 €/kg)**
- 0,04 €/100 kg in Wielkopolska **(-0,02 €/kg)**

Compared with the American MPP, the American researchers find a similar situation in different US states because the basis tends to be more positive in the Upper Midwest, and negative and large in California and Idaho. This has caused some concerns about using a single national MPP-Dairy margin formula [Bozic et al., 2016].

To reach the same payment level with the MPP program we have to change the minimal level of coverage for the two regions. We set the Veneto level from 0.07 euro/l up to 0.9 euro/l, and we moved down the Wielkopolska level down from 0.7 euro/l to 0.04 euro/l.

A larger point to be made here is that insurance policies like MPP-Dairy can only address short-term inadequacies of profit margins. MPP-Dairy cannot solve long-term structural disadvantages.

Recently introduced MPP-Dairy program, has yet to demonstrate its effectiveness in the US. Only a very small fraction of the US milk production is protected at a coverage level comprehensive enough to offer meaningful support in very low margin environments such as experienced in 2009 and 2012.

In general an average stable market framework makes MPP effective, intended as an instrument capable of remedying a momentary crisis situation and not as a long-term payment method.

By itself, farm-level heterogeneity in milk prices and feed costs do not present an insurmountable obstacle for implementing a program similar to MPP-Dairy in the EU. Other than a few countries (Malta, Cyprus, Greece, and Finland) most of the EU countries have very similar dynamics of farm-level milk prices.

However, expectations regarding the forthcoming consolidation and spatial restructuring of the EU dairy sector necessitate complementing short-term risk management program like MPP-Dairy with supports for gradual transition towards more market-friendly environment.

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