

### **Examiner's commentary**

One reason why this essay is commendable, is that it investigates a topic and question where the candidate really does not know the answer before starting the investigation. As the essay progresses, it clearly illustrates the voyage of discovery that the candidate is undertaking. The process is also commendable because, from the outset, the focus and method of the research is clear; there is excellent, widespread, secondary data collection and usage; and the addition of relevant primary data, while not obligatory, adds more weight to the arguments being constructed. There is very good knowledge and understanding of the economic concepts that have been introduced and it is refreshing to see a candidate move beyond the syllabus, into areas such as monopsony and oligopsony. The conclusions that are reached are drawn from an impressive argument that has been constructed in the process of the essay writing and they are fully reflective of the evidence presented in the essay.

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## **Economics**

**Title:** *Market failure: abuse of oligopsonistic power in the French butter market*

**Research question:** *To what extent did abuse of market power by large retailers create butter shortages in French supermarkets between 2016 and 2017?*

**Report word count:** 3687

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## Introduction

In 2016-2017, butter shortages and empty shelves were observed in French supermarkets and justified by an “unprecedented shortfall in raw materials which is causing supply problems”<sup>1</sup>.

This crisis has been observed in France but in no neighbouring country, and “French consumers alone confront empty shelves”<sup>2</sup>. The shortages primarily concerned the supermarkets’ own-brands while the more expensive varieties remained, most of the time, available.<sup>3</sup>

The butter shortages occurred in a developed country, whose agri-food sector has been for long an important part of its economy, on a good considered a commodity and derived from milk which is at first sight easily accessible.

These considerations raised my interest as I wondered how such a situation could happen in an advanced economy. Theoretically, shortages could originate from an issue in either the availability of raw materials, either in the production chain or in the market dynamics.

Butter is made by agitating the fat component of milk. Farmers produce milk, which is sold to producers which produce butter sold to large retailers. Consumers buy their butter primarily from large retailers. This is an established process which did not undergo significant changes over the years and is represented in figure 1.

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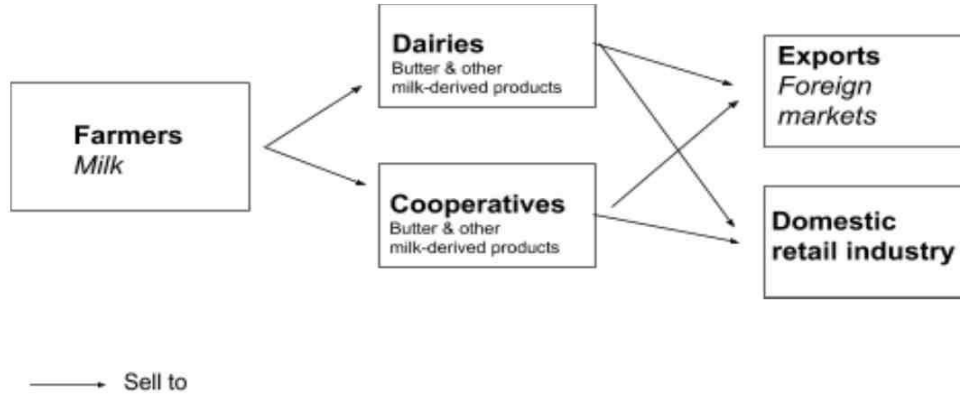
<sup>1</sup> Hugo, Schofield “Is there a butter crisis in France?”. *BBC News*, Paris, October 28 2017. <https://www.bbc.com/news/world-europe-41766352> . Accessed March 23 2018.

<sup>2</sup> «Why France is facing a butter squeeze ». *The Economist*, November 6 2017. <https://www.economist.com/the-economist-explains/2017/11/06/why-france-is-facing-a-butter-squeeze>. Accessed July 24 2018.

<sup>3</sup> Hugo, Schofield “Is there a butter crisis in France?”. *BBC News*, Paris, October 28 2017. <https://www.bbc.com/news/world-europe-41766352> . Accessed March 23 2018.



**Figure 1: the levelled butter market**



Source: diagram by author, September 2018

Ending the European milk quotas in 2015 resulted in increased milk production, which consequently lowered prices and forced some farmers to exit the market<sup>4</sup>.

As the French production of butter has traditionally been in surplus, farmers were asked to reduce the fat content of their milk<sup>5</sup>. This lowered the availability of a factor of butter production at the same time as the world demand increased, causing tension on the French market. In 2016-2017, there hasn't either been a drastic change in the butter consumption habits of French households<sup>6</sup>.

These factors alone do not seem sufficient to me to have triggered shortages limited only to the French supermarkets, so I suspected there had to be another contributing factor.

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<sup>4</sup> Aurelien, Breeden "France, Land of Croissants, Finds Butter Vanishing From Shelves". *New York Times*, October 30 2017. <https://www.nytimes.com/2017/10/30/world/europe/france-butter-shortage.html>. Accessed October 2 2018.

<sup>5</sup> C dans l'air, "Beurre : pourquoi la pénurie ? #cdanslair 24.10.2017". Youtube video, 1:04:23 (00:05:20), October 24 2017. [https://www.youtube.com/watch?v=sZQY\\_8IgDUA&t=351s](https://www.youtube.com/watch?v=sZQY_8IgDUA&t=351s). Accessed May 21 2018.

<sup>6</sup> Chris, O'Brien "Beurre-Pocalypse: The Great French butter crisis of 2017". *Medium*, Toulouse, November 21 2018. <https://medium.com/au-milieu/beurre-pocalypse-the-great-french-butter-crisis-of-2017-b277cce9166>. Accessed March 23 2018.

In an attempt to limit price fluctuations, the French government imposed annual price-setting negotiations between producers and retailers. Through further research, I've realised that supermarkets have an extensive market power, exacerbated by this price-setting mechanism, and also that French consumers are extremely price-sensitive<sup>7</sup>.

This led me to the research question **“To what extent did abuse of market power by large retailers create butter shortages in French supermarkets between 2016 and 2017?”**, which this essay will answer with regards to imports and exports, market structures, butter production process and elasticities of supply and demand. My main hypothesis is that the butter shortages in French supermarkets were primarily caused by an abuse of oligopsonistic power from supermarkets in price-setting negotiations. This hypothesis was developed after research and consultation with an expert.

This question is worthy of investigation as it addresses the problem of market failure by abuse of oligopsonistic power as supermarkets focused on their desire to provide low-price goods without decreasing their profit margins, and were, therefore, reluctant to pay more for butter from producers. It also raises the question of free markets against interventionism.

Cooperatives process 55% of French milk, and private companies 45%<sup>8</sup>. I assumed that both follow the same process to distribute their butter, and, as such, the word “producers” in this essay will refer to both dairies and cooperatives. The words retailers and supermarkets will be used interchangeably.

My research for this essay will comprise various online sources such as newspaper articles in French and English and official publications. I will rely on primary information from an expert for economic analysis of the shortages and information focused on the butter market.

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<sup>7</sup> Emmanuelle, Ducros. French journalist for L'Opinion, specialised in agricultural matters. Phone interview with author. August 17th and September 27th 2018. Appendix.

<sup>8</sup> “50 facts about the French dairy Industry” *The Dairy Sector*. <http://www.filiere-laitiere.fr/en/key-figures/50-facts-about-french-dairy-industry>. Accessed 11 August 2018

## Evaluation of Consumer Behaviour

### Theoretical hypothesis

As butter is an agricultural commodity, its supply is very price-inelastic in the short-run. Demand is also very price-inelastic in the short-run. This means that small shifts in supply or demand will result in greater changes in the price of butter. If French supermarkets were already faced by butter shortages, and, in reaction, French people increased their demand for butter by fear of future shortages (hoarding), this could have worsened the shortages. This situation is shown in the figure below. As the domestic demand increases (D1 to D2), the price increases from P1 to P2, and the Quantity Demanded increases from Q1 to Q2. However, due to the relative price inelasticity of supply in the short-run, producers cannot adjust and can only produce at Q1. The difference between Q2 and Q1 could represent further shortages.

**Figure 2: French butter market in 2016-2017**



French butter market

## Consultation with expert

Emmanuelle Ducros identified consumer behaviour as having a considerable effect in exacerbating the butter crisis, as she reckons they are the reason supermarkets were so reluctant to bring the price of butter up to their consumers. She explained that following the crisis and extensive unemployment, “consumers paid more attention to their budget and made choices. The part of their budget reserved to food decreased”. Consumers also worsened the shortages by buying more butter than they needed “to avoid lacking it”, and professionals such as bakers “went and shopped in regular supermarkets, which they usually do not do” because the price of wholesale retailers had gone up, and was, therefore, more expensive than in supermarkets. “This worsened the shortage, which in turn worried more consumers, which worsened the shortage”. In her opinion, the media is also to blame in that “had the media not warned of possible shortages, the crisis would have been solved before the shelves could have emptied”.

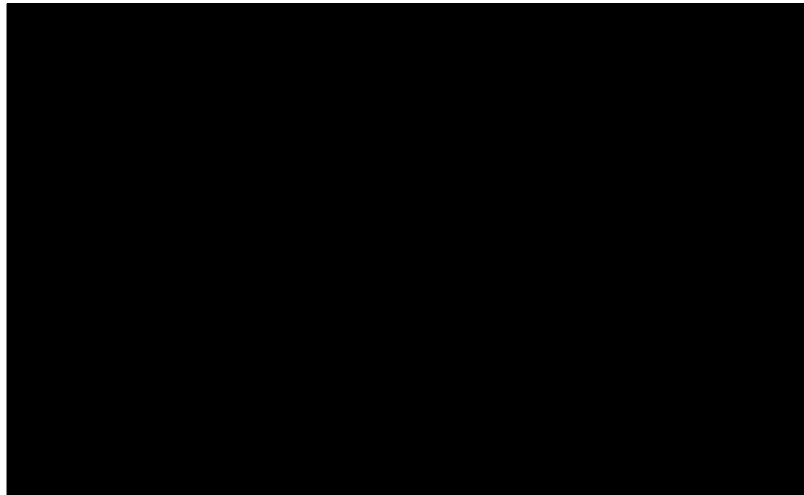
## Research & Evaluation

I wondered whether it was a rise in domestic demand which created shortages in French supermarkets but found no evidence that there had been a rise in demand significant enough to result in shortages. Once shortages were observed, the French Minister of Agriculture expressed that “the fear of shortages creates shortages” and “increases consumption”<sup>9</sup>, an opinion relayed by an article published in *LeParisien* entitled “Butter shortages: do not stock!” suggesting that warnings of shortages incited consumers to hoard, thus abruptly increasing the domestic demand.

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<sup>9</sup>“Beurre: ‘la crainte de la pénurie crée la pénurie’, selon le ministre”. *Le Point*, Paris, October 31 2017. [http://www.lepoint.fr/economie/beurre-la-crainte-de-la-penurie-cree-la-penurie-selon-le-ministre-31-10-2017-2168794\\_28.php#xtmc=beurr&xtnp=31](http://www.lepoint.fr/economie/beurre-la-crainte-de-la-penurie-cree-la-penurie-selon-le-ministre-31-10-2017-2168794_28.php#xtmc=beurr&xtnp=31). Accessed May 21 2018.

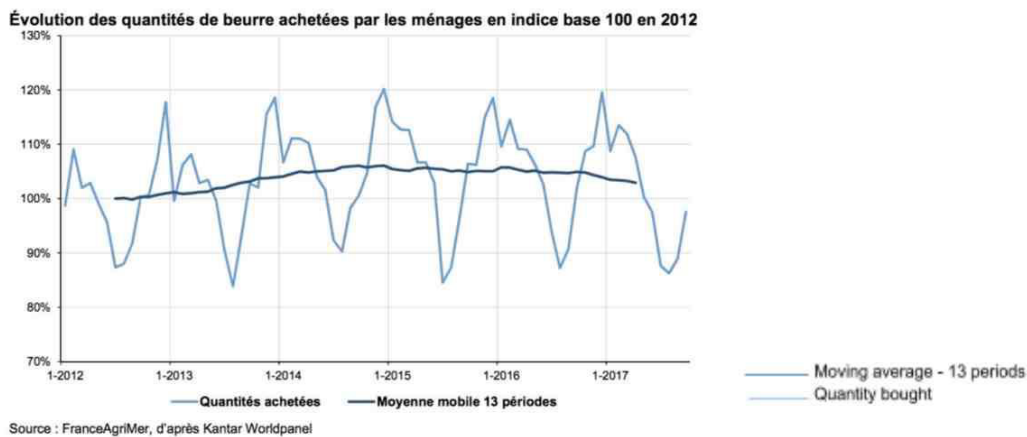
**Figure 3: More and more shortages in stores - in percentage of unsatisfied demand<sup>10</sup>**



Source: Delphine, Denuit, “Pénurie de beurre : ne stockez pas !”. Le Point, November 1 2017.  
<http://www.leparisien.fr/economie/penurie-de-beurre-ne-stockez-pas-01-11-2017-7366464.php>.

Accessed August 16, 2018

**Figure 4: Evolution of the quantities of butter bought by households in index 100 in 2012<sup>11</sup>**



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Source: France AgriMer, “Note de Conjoncture”. France AgriMer, November 6 2017. PDF.

<http://www.franceagrimer.fr/content/download/54044/522360/file/NCO-LAI-Le%20march%C3%A9%20du%20beurre%20en%202017%20-%20v2.pdf>. Accessed August 10 2018.

<sup>10</sup> Translated by author.

<sup>11</sup> Translated by author.

<sup>12</sup> Translated by author.

The fact that the percentage of unsatisfied demand rises as the quantity of butter bought by consumers rises after mid-2017 suggests that French households had increased their demand for butter, following reports of empty shelves.

In addition, the part of French households' budget dedicated to food (including non-alcoholic drinks) went from 13.6% in 2011<sup>13</sup> to 10% in 2017<sup>14</sup>, suggesting a customer tendency to consume cheaper goods, further put in light by the fact that “supermarket own-brands have become scarce” and it often was “only possible to find more expensive varieties for sale”<sup>15</sup>. This can be understood as a factor of the butter crisis, as consumer appetite for lower-priced goods put pressure on supermarkets to keep their prices down, and therefore to not accept to pay a higher price for butter in fear of seeing their profit margins shrink. Although theoretically, the interdependence of oligopolistic large retailers would mean none of them was incentivized to pay a higher price, supermarkets Super U, Intermarche and Auchan did accept to pay 10 to 15% more for the butter they have on offer at the end of October 2017<sup>16</sup>. This suggests that the consumer appetite for lower-price butter was not the most significant factor of the butter crisis. Further, by increasing their prices and offering butter they most likely gained customers.

My hypothesis that consumer behaviour could have worsened the shortages was therefore supported by evidence.

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<sup>13</sup>La Finance pour tous, “La consommation des ménages”. *Le Portail de l'Économie, des Finances, de l'Action et des Comptes Publics*, 2013. <https://www.economie.gouv.fr/facileco/consommation-des-menages>. Accessed August 16 2018.

<sup>14</sup>“Consommation effective des ménages par fonction en 2017”. *Insee*. <https://www.insee.fr/fr/statistiques/2830276#graphique-Donnes>. Accessed August 16 2017.

<sup>15</sup>Hugo, Schofield, “Is there a butter crisis in France?”. *BBC News*, Paris, October 28 2017. <https://www.bbc.com/news/world-europe-41766352>. Accessed March 23 2018.

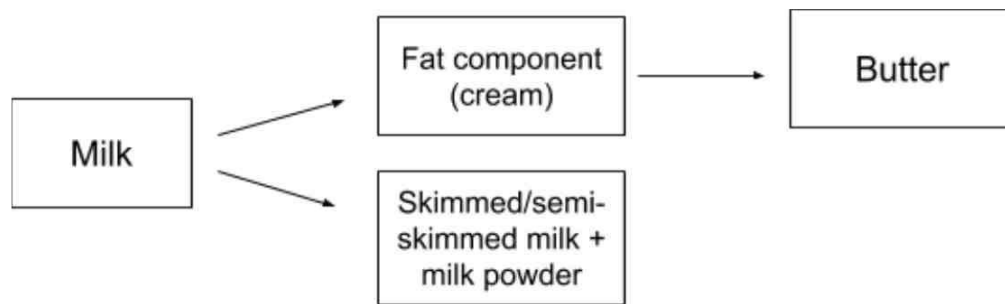
<sup>16</sup>Thibaut, Le Meneec, “Beurre : la fin de la crise est-elle proche?”. *Europe 1*, November 1 2017. <http://www.europe1.fr/economie/beurre-la-fin-de-la-crise-est-elle-proche-3480665>. Accessed August 16 2017.

## Evaluation of the end of EU milk quotas in 2015

### Theoretical Hypothesis

Figure 5 shows the butter production process. Only the fat component of milk is used to produce butter, and the rest of the milk makes skimmed or semi-skimmed milk and milk powder.

**Figure 5: Butter production process**



Source: diagram by author, November 2018

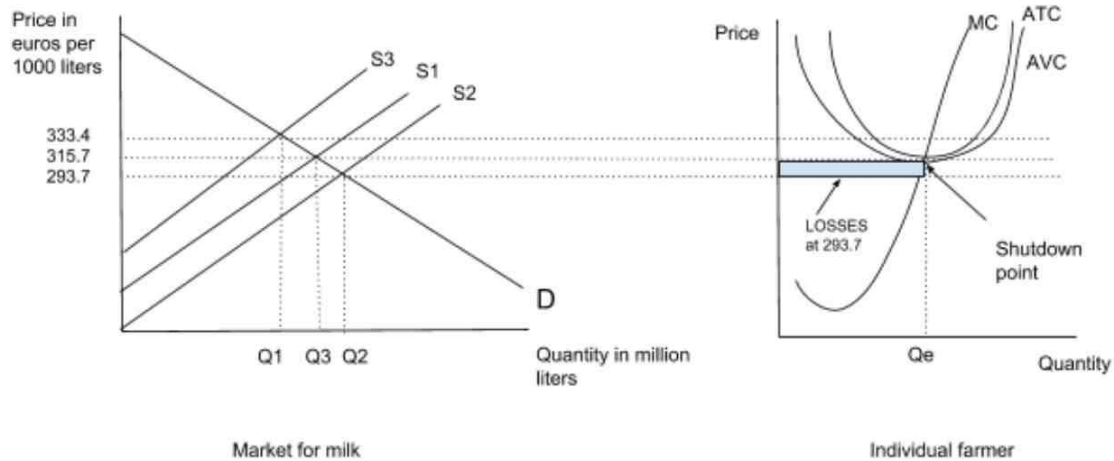
The end of the European milk quotas in March 2015 incentivized farmers in Europe to produce more milk which lowered the prices (315.7 euros/1000 litres in 2015 to 293.7 in 2016<sup>17</sup> in figure 6), as the quantity supplied at each price point increased. As the milk market is perfectly competitive (milk is undifferentiated, little barriers to entry or exit, many producers) farmers are price-takers, meaning they have no influence over the market price. Firms in perfect competition are considered to produce where Price equals Marginal Cost, and all firms have different marginal cost curves and produce different quantities but all firms have different average variable costs and average total costs. A firm will continue to produce in the short-run (when at least one variable is fixed) if the  $P = ATC$ , but will shut-down if the price falls below the firm's AVC. The decrease in the price of milk therefore meant that some producers were driven out of the market as the price was below their shutdown price,

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<sup>17</sup> "L'Économie laitière en chiffres" *CNIEL*, 2018. Page 84.  
<https://fr.calameo.com/read/0022300512e7144bdeba5>. Accessed September 18 2018.

reaching a new market equilibrium with a lower output ( $Q_3$ ) and a higher price in 2017 (333.4 euros per 1000 litres<sup>18</sup>), assuming no changes in the market demand.

**Figure 6: French market for milk and individual farmer**



Source: adapted from Ellie Tragakes, *Economics for the IB Diploma*. (Cambridge: Cambridge University Press, 2013), 26-33

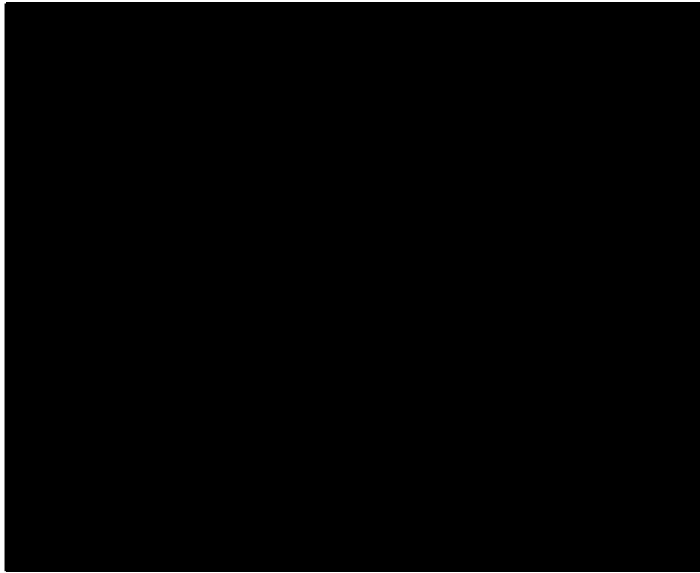
Figure 7 represents the changes in the butter market. As milk is an input for butter, the higher milk price represented an increase in the cost of butter production, which decreased the supply of butter ( $S_1$  to  $S_2$ ), resulting in a higher price for butter (shift from  $P_1$  to  $P_2$ ) and a lower quantity on the market (from  $Q_1$  to  $Q_2$ ). As the world demand for butter rose in 2017 ( $D_1$  to  $D_2$ ), the lower quantity of output would create momentary shortages ( $Q_3 - Q_2$ ) as butter supply, like other agricultural commodities, is price inelastic in the short run<sup>19</sup>.

<sup>18</sup> “L’Économie laitière en chiffres” *CNIEL*, 2018. Page 84.  
<https://fr.calameo.com/read/0022300512e7144bdeba5>. Accessed September 18 2018.

<sup>19</sup> “Determinants/Factors of Price Elasticity of Supply”. *Economicconcepts.com*.  
[http://economicconcepts.com/determinants\\_of\\_price\\_elasticity\\_of\\_supply.htm](http://economicconcepts.com/determinants_of_price_elasticity_of_supply.htm). Accessed November 27 2018.



**Figure 7: French butter market**

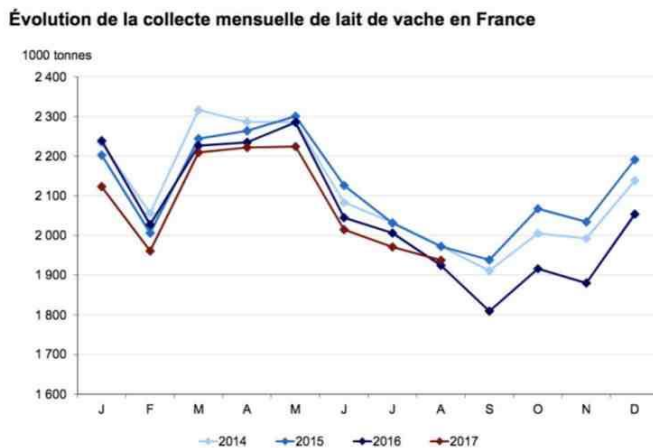


Source: adapted from Sean Maley and Jason Welker, *Economics*. (Pearson Baccalaureate, 2015), 146.

### Consultation with expert

Emmanuelle Ducros reckoned that the end of the European Union milk quotas in 2015 was an “important” factor in the butter crisis. She argued that ending the milk quotas “urged milk producers to find commercial opportunities on global markets” which resulted in “a skewed market”, an imbalance which in turn contributed to causing the lack of butter in French supermarkets.

**Figure 8: Evolution of monthly cow milk collection in France<sup>20</sup>**



Source: France AgriMer, “Note de Conjoncture”. France AgriMer, November 6 2017. PDF.

<http://www.franceagrimer.fr/content/download/54044/522360/file/NCO-LAI-Le%20march%C3%A9%20du%20beurre%20en%202017%20-%20v2.pdf>. Accessed August 10 2018.

Figure 8 shows a sharp increase in the amount of milk collected from April 2015 onwards, which corresponds to the end of the EU milk quotas on the 31st of March 2015<sup>21</sup>, confirming that ending milk quotas led to “an immediate rush to produce dairy”<sup>22</sup> followed by a decrease in the quantity of milk collected due to farmers shutting down.

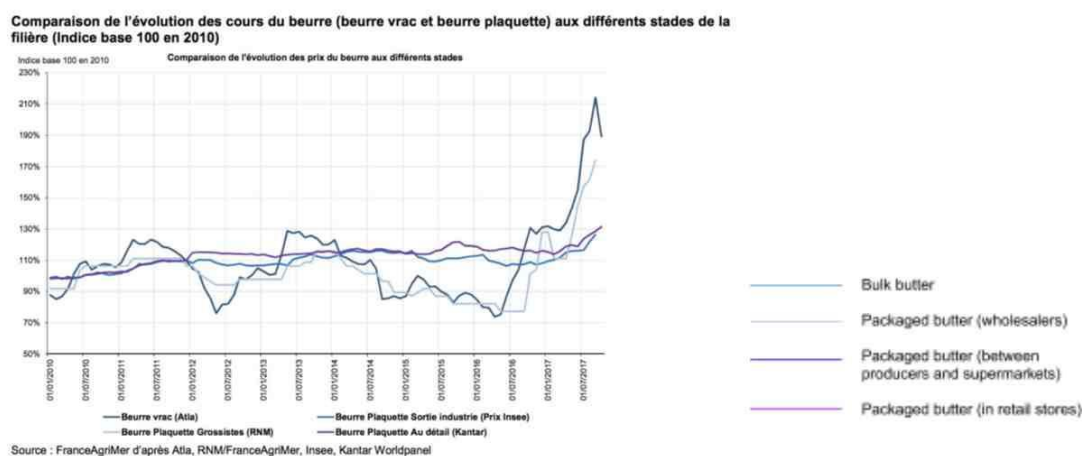
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<sup>20</sup> Translated by author.

<sup>21</sup>“The end of milk quotas”. *European Commission*. [https://ec.europa.eu/agriculture/milk-quota-end\\_en](https://ec.europa.eu/agriculture/milk-quota-end_en). Accessed August 16 2018.

<sup>22</sup>Hugo, Schofield, “Is there a butter crisis in France?”. *BBC News*, Paris, October 28 2017. <https://www.bbc.com/news/world-europe-41766352>. Accessed March 23 2018.

**Figure 9: Comparison of the evolution of butter prices (bulk and packaged butter) at the different stages of the chain (100 base Index in 2010)<sup>23</sup>**



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Source: France AgriMer, “Note de Conjoncture”. France AgriMer, November 6 2017. PDF.

<http://www.franceagrimer.fr/content/download/54044/522360/file/NCO-LAI-Le%20march%C3%A9%20du%20beurre%20en%202017%20-%20v2.pdf>. Accessed August 10 2018.

Figure 9 shows the prices of butter at different stages of the chain from 2010 to 2017. The “beurre vrac” (bulk butter) is the most representative of the butter prices and can be seen decreasing significantly between January and July 2015, then increasing dramatically a year later, showing the repercussions of the milk market fluctuations on the butter prices. Bad weather in 2016 has also contributed to poor milk yields.<sup>25</sup> However, the decrease in milk collection in 2016 didn’t bring the milk prices up significantly as 350 000 tonnes of stocked milk powder (substitute for milk), collected by the European Union after the end of the milk quotas, weighed on the market<sup>26</sup>.

<sup>23</sup> Translated by author.

<sup>24</sup> Translated by author.

<sup>25</sup> Aurelien, Breeden “France, Land of Croissants, Finds Butter Vanishing From Shelves”. *New York Times*, October 30 2017. <https://www.nytimes.com/2017/10/30/world/europe/france-butter-shortage.html>. Accessed October 2 2018.

<sup>26</sup> Philippe, Brochen, “Pourquoi le prix du beurre flambe-t-il ?”. *Liberation*, June 19 2017. [https://www.liberation.fr/futurs/2017/06/19/pourquoi-le-prix-du-beurre-flambe-t-il\\_1577926](https://www.liberation.fr/futurs/2017/06/19/pourquoi-le-prix-du-beurre-flambe-t-il_1577926). Accessed August 6 2018.

The increase in the price of butter can, therefore, be attributed to strong competition for the fat component of milk<sup>27</sup> rather than to a decrease in milk production. An EU official declared that “the butter situation results from strong competition for the fat component of milk”, which created a tense situation for farmers willing “to satisfy demand for milk fats while not adding to price-depressing surpluses of other milk products such as skimmed milk powder”<sup>28</sup>.

As French farmers were asked to reduce the fat content of their milk through a change in breeding methods<sup>29</sup>, there was a decrease in the fat content of milk as well as a decrease in milk collection. Consequently, producers directed milk “to cheese production to meet strong demand for cheese, whose manufacture offered better returns than butter production”<sup>30</sup>.

The French butter production reduced by 3% from 2015 to 2016 and 6% from 2016 to 2017. Cheese production reduced by 3% from 2015 to 2016, but only by 1% from 2016 to 2017<sup>31</sup>.

This could also be justified by the fact that, as butter production yields more milk powder than cheese production<sup>32</sup>, and the milk powder prices remained low, producers might have stopped considering the

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<sup>27</sup> Chris, O’Brien, “Beurre-Pocalypse: The Great French butter crisis of 2017”. *Medium*, Toulouse, November 21 2018.  
<https://medium.com/au-milieu/beurre-pocalypse-the-great-french-butter-crisis-of-2017-b277c9166>. Accessed March 23 2018.

<sup>28</sup> Samuel, White, “EU heading for butter shortages by year end”. *Euractiv*, August 30 2017.  
<https://www.euractiv.com/section/agriculture-food/news/eu-heading-for-butter-shortage-by-year-end/>. Accessed March 23 2018.

<sup>29</sup> C dans l’air, “Beurre : pourquoi la pénurie ? #cdanslair 24.10.2017”. Youtube video, 1:04:23 (00:05:20), October 24 2017. [https://www.youtube.com/watch?v=sZQY\\_8IgDUA&t=351s](https://www.youtube.com/watch?v=sZQY_8IgDUA&t=351s). Accessed May 21 2018.

<sup>30</sup> Samuel, White, “EU heading for butter shortages by year end”. *Euractiv*, August 30 2017.  
<https://www.euractiv.com/section/agriculture-food/news/eu-heading-for-butter-shortage-by-year-end/>. Accessed March 23 2018.

<sup>31</sup> France AgriMer, “Données et bilans de FranceAgriMer Les produits carnés et laitiers” *FranceAgriMer*, August 2018. PDF.  
<http://www.franceagrimer.fr/content/download/57362/556220/file/STA-VIA-LAIT-Donn%C3%A9es%20statistiques%202017.pdf>. Accessed August 16 2018.

<sup>32</sup> Samuel, White, “EU heading for butter shortages by year end”. *Euractiv*, August 30 2017.  
<https://www.euractiv.com/section/agriculture-food/news/eu-heading-for-butter-shortage-by-year-end/>. Accessed March 23 2018.

opportunity gain of selling a side-product of butter production. This might have influenced their decision to switch from butter production to cheese production, which now appeared more financially attractive. Yves Puget, journalist and director of the LSA magazine expressed, exaggerating it, “the more butter producers produced, the more money they lost”<sup>33</sup>.

I’d expect more butter would have been produced had there been less competition for the fat component of milk, perhaps resulting in a more moderate rise in the price of butter, which itself could have led to less tension between dairies and retailers. The reduced fat content of milk can thus be considered a moderate factor of the butter crisis. Likewise, it is likely that a more moderate increase in the price of butter would have still created tensions between the supermarkets and dairies, and so long as the butter is worth more on foreign markets than on the domestic market, producers would tend to choose to export.

My hypothesis that the end of the EU milk quotas, by engendering important fluctuations on the milk and milk powder markets, reduced the quantity of butter available in France and therefore contribute to the butter shortages, is supported by evidence. The bad weather in 2016 also contributed to the fall in the world supply. This factor has been exacerbated by the fall in the fat content of milk.

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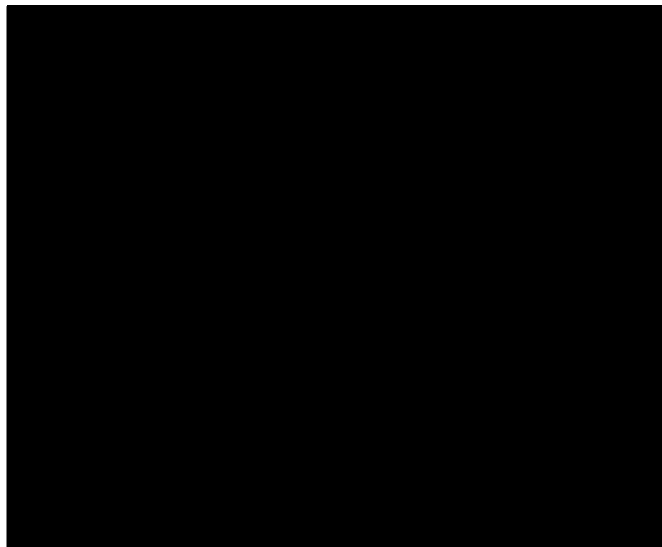
<sup>33</sup>C dans l’air, “Beurre : pourquoi la pénurie ? #cdanslair 24.10.2017”. Youtube video, 1:04:23 (00:07:23), October 24 2017. [https://www.youtube.com/watch?v=sZQY\\_8IgDUA&t=351s](https://www.youtube.com/watch?v=sZQY_8IgDUA&t=351s) . Accessed May 21 2018.

## Abuse of market power by retailers

### Theoretical Hypothesis

A firm's ability "to adjust or control the market price or volume of production of a product/s in the market"<sup>34</sup> is called market power and results in the market "no longer producing where it is efficient"<sup>35</sup>. As only a few big French retailers buy the butter from the dairies, their power is oligopsonistic. I would expect monopolistic power and oligopsonistic power to present the same negative effects on the market, as both are imperfectly competitive structures. In the butter market, where dairies are sellers and supermarkets are buyers, the supermarkets having oligopsonistic power could have caused the butter shortages in French supermarkets. This situation is shown in the graph below.

**Figure 10: firm with monopsonistic power**



Source: adapted from Sean Maley and Jason Welker, *Economics*. (Pearson Baccalaureate, 2015), 146

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<sup>34</sup>"Market Power: Monopoly and Oligopoly". *University-essays*.  
[http://university-essays.tripod.com/monopoly\\_oligopoly.html](http://university-essays.tripod.com/monopoly_oligopoly.html). Accessed 11 August 2018.

<sup>35</sup> Sean, Maley and Jason Welker. *Economics*. (Pearson Baccalaureate, 2015), 146-147.

The market equilibrium price and quantity,  $P_e$  and  $Q_e$ , occurs where supply (S) equals demand (D) and are the allocatively efficient (socially optimal) price and quantity. However, the oligopsonistic retailers choose to buy where their Marginal Factor Cost (MPC) equals the Demand ( $Q_1$ ) and set the price from the supply curve ( $P_1$ ), hence driving the price down and buying less than would be socially optimal ( $P_e$  and  $Q_e$ ). The difference between  $Q_e$  and  $Q_1$  could represent empty butter shelves in French supermarkets.

Butter producers, theoretically, operate in an oligopolistic market. Game theory is a model used in order to understand this market structure<sup>36</sup>. A payoff matrix is used to show in a simplified manner the trade-offs faced by two firms in an oligopolistic situation. The first entry in each cell represents theoretical profits for dairy A, and the second entry corresponds to theoretical profits for dairy B.

**Figure 11: butter-producing firms in an oligopolistic situation**

		Dairy A			
		Accept price		Higher price	
Dairy B	Accept price	100K	100K	50K	75K
	Higher price	75K	50K	50K	50K

Source: hypothetical data, diagram by author, August 2018

Assuming that in price-setting negotiations the producers can either accept the price offered by supermarkets, either bid to higher it, both producers are better off accepting the price set by supermarkets as their objective is to maximize their profit. In that, allocation by price mechanism theory suggests that they will sell their butter to the supermarket offering the most profitable price.

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<sup>36</sup> “Market Power: Monopoly and Oligopoly”. *University-essays*. [http://university-essays.tripod.com/monopoly\\_oligopoly.html](http://university-essays.tripod.com/monopoly_oligopoly.html). Accessed 11 August 2018.

## Consultation with expert

When asked what the primary cause of the butter crisis was, Emmanuelle Ducros, journalist for l'Opinion and agricultural specialist, cited a "lack of negotiations" between producers and retailers as "supermarkets chose to stick to the price that was agreed upon". They were able to do so due to their market power, which they further developed by forming "alliances with other retailers" - a situation Ducros described as "almost monopolistic". This allowed supermarkets to exert a greater pressure on the producers, as, were they to refuse the supermarkets' price, they would miss out on "big volumes". She explained that producers had found new customers offering greater prices on the export market, but that producers would have sold to the French supermarkets had they increased their prices as it is rather complicated to find new customers within the industry (there are established channels).

Emmanuelle Ducros emphasized that only the supermarkets benefit from the way the agro-food sector is organised, stating that "the agro-food sector only benefits the final link".



**Figure 12: the distribution of industries according to the importance of annual butter production<sup>37</sup>**

Class (in tonnes of butter produced)	2016			
	Number of firms	%	Annual production in tonnes	%
Less than 10	67	47.2	253	0.1
From 10 to 100	38	26.8	749	0.2
From 100 to 1000	10	7.0	4,383	1.2
From 1000 to 5000	11	7.7	23, 913	6.6
From 5000 to 15000	6	4.2	47, 372	13.0
15000 and more	10	7.0	287, 224	78.9

Source: diagram by author, November 2018. data: "L'Économie laitière en chiffres" *CNIEL*, 2018.

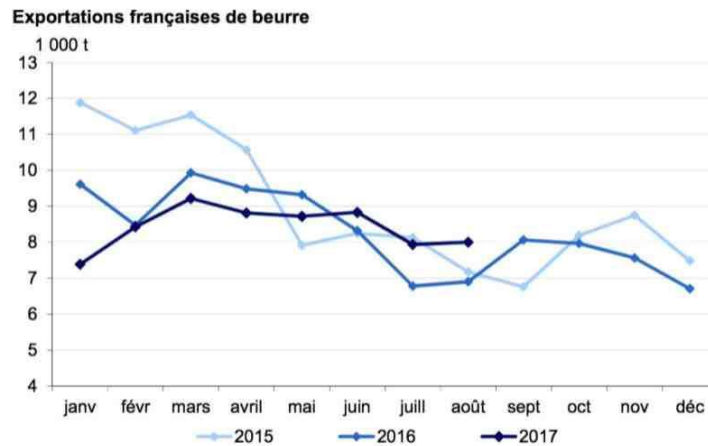
Page 55. <https://fr.calameo.com/read/0022300512e7144bdeba5>. Accessed September 18 2018

Figure 12 shows the distribution of producers according to their annual butter production in tonnes. From the information presented, it can be argued that producers are operating in an oligopoly, as 7% of all firms (10 biggest) account almost 80% of the overall annual production. They also face high barriers to entry, such as safety and regulation costs and earn relatively high profits. In theory, they have a relatively high price-setting power, although it is compromised by the price-setting negotiations in France. Butter can also be considered an undifferentiated product, and there is a relatively low number of firms. However, the fact that 74% of all firms represent 0.3% of all

<sup>37</sup> Translated by author.

production and the relative lack of advertising suggest there might be some aspects of monopolistic competition.

**Figure 13: French butter exports<sup>38</sup>**



Source: France AgriMer, “Note de Conjoncture”. France AgriMer, November 6 2017.

<http://www.franceagrimer.fr/content/download/54044/522360/file/NCO-LAI-Le%20march%C3%A9%20du%20beurre%20en%202017%20-%20v2.pdf>. Accessed August 10 2018.

Figure 13 shows a rise in French butter exports of 6% in June, 17% in July, and 16% in August, corresponding to 2 763 additional tonnes of butter exported<sup>39</sup>. This significant increase in the quantity of butter exported, with no decline in domestic demand, can be interpreted as an inability to increase prices on the domestic market<sup>40</sup>, making exports more attractive to producers.

<sup>38</sup> Translated by author.

<sup>39</sup>France AgriMer, “Note de Conjoncture”. *France AgriMer*, November 6 2017. PDF. <http://www.franceagrimer.fr/content/download/54044/522360/file/NCO-LAI-Le%20march%C3%A9%20du%20beurre%20en%202017%20-%20v2.pdf>. Accessed August 10 2018.

<sup>40</sup>Mathilde, Golla “La crise du beurre ‘illustre les dysfonctionnements de la grande distribution’ ”. *Le Figaro*, October 24 2017. <http://premium.lefigaro.fr/conso/2017/10/24/20010-20171024ARTFIG00285-la-crise-du-beurre-illustre-les-dysfonctionnements-de-la-grande-distribution.php>. Accessed May 21 2018.

This observation is strengthened by a fall in European exports over the same period of time<sup>41</sup>, meaning that the French domestic rise in exports was not caused by or following an increase in European butter exports to other countries. The fact that the rise in exports was somewhat offset by a 4.8% increase in butter imports from 2016 to 2017<sup>42</sup> suggests it isn't a matter of quantity being produced or a problem with domestic supply and demand but rather an issue with the pricing of butter and therefore the dynamic of the domestic market. Furthermore, the fact that butter exports were greater than butter imports can only have resulted in shortages, as France was usually a net importer<sup>43</sup>.

According to Kantar Retail, the top 7 supermarket chains “account for 85% of all grocery sales in the country”, and they are “determined to squeeze prices to a minimum, these giants have formed various buying partnerships with each other to gain even greater leverage over producers”<sup>44</sup>, suggesting an oligopsonistic market structure leading to a “lack of competition”<sup>45</sup>.

Moreover, Emmanuel Macron's speech in which he addresses his desire to better the system of negotiations by having the price of agricultural commodities originate from the farmers to reflect the costs of production seems to confirm that the butter crisis was caused by a failure within the French

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<sup>41</sup>France AgriMer, “Note de Conjoncture”. *France AgriMer*, November 6 2017. PDF.  
<http://www.franceagrimer.fr/content/download/54044/522360/file/NCO-LAI-Le%20march%C3%A9%20du%20beurre%20en%202017%20-%20v2.pdf>. Accessed August 10 2018.

<sup>42</sup>France AgriMer, “Données et bilans de FranceAgriMer Les produits carnés et laitiers” *FranceAgriMer*, August 2018. PDF.  
<http://www.franceagrimer.fr/content/download/57362/556220/file/STA-VIA-LAIT-Donn%C3%A9es%20statistiques%202017.pdf>. Accessed August 16 2018.

<sup>43</sup> France AgriMer, “Note de Conjoncture”. *France AgriMer*, November 6 2017. PDF.  
<http://www.franceagrimer.fr/content/download/54044/522360/file/NCO-LAI-Le%20march%C3%A9%20du%20beurre%20en%202017%20-%20v2.pdf>. Accessed August 10 2018.

<sup>44</sup>Chris, O'Brien, “Beurre-Pocalypse: The Great French butter crisis of 2017”. *Medium*, Toulouse, November 21 2018.  
<https://medium.com/au-milieu/beurre-pocalypse-the-great-french-butter-crisis-of-2017-b277c9166>. Accessed March 23 2018.

<sup>45</sup>“The French are fretting over sudden butter shortages”. *The Economist*, November 4 2017.  
<https://www.economist.com/europe/2017/11/04/the-french-are-fretting-over-a-sudden-butter-shortage>. Accessed March 12 2018.

market<sup>46</sup>. Minister of Agriculture Stephane Travert also talked of a “price war” and “a form of blocking”<sup>47</sup> between producers and supermarkets, implying that supermarkets seek to pay the lowest possible price for butter, and accordingly pressure producers. Furthermore, the French National Interprofessional Centre for the Dairy Economy (CNIEL) explained “the absence of certain products on the shelves” by “tensions between certain supermarkets and their suppliers”<sup>48</sup>.

My hypothesis, which is that oligopsonistic power from the retailers could be the primary cause of the butter shortages, is therefore supported by evidence. However, it can also be considered that the government intervening in the market, by establishing annual price-setting negotiations, is the origin of the market failure and that letting a free market operate would increase the total surplus. This can be considered government failure, a situation in which government intervention worsens the market outcome. Price-setting negotiations protect farmers’ revenues from the volatility of butter prices, but appear rather superfluous in a relatively stable market as both demand and supply are highly price-inelastic<sup>49</sup> in the short-run. In (rare) times of important fluctuations, the system’s imposed stability becomes a vice as the responsiveness to a change in price normally observed in free markets isn’t present, distorting the market outcome. The farmers are protected if the price falls but do not

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<sup>46</sup>Laurence, Girard, “Etats généraux de l’alimentation : le donnant-donnant de Macron aux agriculteurs”. *Le Monde*, October 11 2017.  
[https://abonnes.lemonde.fr/economie/article/2017/10/11/le-donnant-donnant-de-macron-aux-agriculteurs\\_5199303\\_3234.html](https://abonnes.lemonde.fr/economie/article/2017/10/11/le-donnant-donnant-de-macron-aux-agriculteurs_5199303_3234.html). Accessed August 15 2018.

<sup>47</sup>“Beurre: ‘la crainte de la pénurie crée la pénurie’, selon le ministre”. *Le Point*, Paris, October 31 2017.  
[http://www.lepoint.fr/economie/beurre-la-crainte-de-la-penurie-cree-la-penurie-selon-le-ministre-31-10-2017-2168794\\_28.php#xtmc=beurr&xtnp=31](http://www.lepoint.fr/economie/beurre-la-crainte-de-la-penurie-cree-la-penurie-selon-le-ministre-31-10-2017-2168794_28.php#xtmc=beurr&xtnp=31). Accessed May 21 2018.

<sup>48</sup>Beurre : des agriculteurs dénoncent "l'intox" de la "pénurie". *Le Point*, October 21 2017.  
[http://www.lepoint.fr/societe/beurre-des-agriculteurs-denoncent-l-intox-de-la-penurie-27-10-2017-2168013\\_23.php](http://www.lepoint.fr/societe/beurre-des-agriculteurs-denoncent-l-intox-de-la-penurie-27-10-2017-2168013_23.php). Accessed May 21 2018.

<sup>49</sup> “Commodity and Primary Markets”. *Economics Online*.  
[http://economicsonline.co.uk/Competitive\\_markets/Primary\\_markets.html](http://economicsonline.co.uk/Competitive_markets/Primary_markets.html). Accessed November 18 2018.

benefit if the price increases, which happened in 2016-2017 and makes the price-setting negotiations barely beneficial.

## Conclusion

My primary and secondary research alike indicate that the extensive market power of the large retailers can be considered the primary factor of the butter crisis in 2016-2017. Other factors however also contributed to causing empty butter shelves. The second most decisive determinant is the end of the European Union milk quotas in 2015 and more specifically the resulting large stocks of milk powder weighing upon the milk powder prices, an important by-product of butter production, which disincentivized butter production. Other significant factors are consumer behaviour during the butter crisis and French shoppers' general avidity for low prices. The reduced fat content of milk also played a role in the butter crisis, although its effect was much smaller than the factors previously mentioned.

The theoretical hypothesis that an abuse of oligopsonistic power from supermarkets created butter shortages in French supermarkets in 2016-2017 contained in this essay is supported by evidence.

Thanks to their extensive market power, gained mainly by gathering their purchasing offices, retailers were able to refuse to pay higher prices for butter, thus artificially creating shortages. The rise in exported quantities, while there were domestic shortages, further suggests that the shortages were artificial, hence why they weren't observed in neighbouring countries.

The main assumption made in this essay was that cooperatives and dairies faced the same challenges to distribute their butter. The extent to which this is true is an area for further investigation. It seems however fair to consider that the analysis presented in this essay is still valid. Because France was hit by butter shortages unlike other European countries, it seems logical to argue that the challenges faced by dairies with respect to supermarkets were most likely the same for cooperatives, and those can be assumed to have followed the same logic as dairies and chosen to export rather than supply on the domestic market at a lower price.

The assumption that oligopsonistic power presented the same negative effects as monopsonistic power was also made and is a limitation of the essay. Emmanuelle Ducros mentioned that the firms “almost” had a monopsonistic power, but the possible differences between monopsonistic and oligopsonistic power weren’t investigated further. I however do not believe this significantly weakens my essay as the supermarkets’ market power would have been even greater had they been in a monopsonistic situation.

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## Appendix

### *Curriculum Vitae and Interview Transcript – Emmanuelle Ducros*

Emmanuelle Ducros is a journalist for French newspaper L'Opinion and is specialized in agricultural questions. I contacted her by email at educros@lopinion.fr and asked her questions by telephone.

*1st interview - 17th August 2018*

#### **According to you, what caused the butter crisis in France?**

Not a shortage at all, there was enough butter for everyone to eat. I think it was caused by a lack of negotiations when it came to agreeing on a price for butter. Logically, producers should have gotten more for their butter as the price of butter had increased. The supermarkets chose to stick to the price that was agreed upon, and so producers decided to sell elsewhere where higher prices were offered.

#### **Had the retailers accepted to raise their purchasing prices, do you think there would have been no empty shelves in France?**

There would have been less as the producers would have exported less. There are regular “channels” between producers and retailers, and it is complicated for producers to change clients, so had they had a choice they would definitely have stuck to their original clients.

A part of the industry is cooperative, but the agro-food governs the industry.

#### **To what extent has the fear of shortages created shortages?**

That is absolutely true - when one starts to hear butter is in short supply, and there are empty shelves, as a consumer one tends to buy more butter than needed to avoid lacking it. It is also true for the professionals (bakers, restaurants..) who, seeing the wholesalers had raised the price of butter, went and shopped in regular supermarkets which they usually do not do. This worsened the shortage, which in turn worried more consumers, which worsened the shortage. In my opinion, had the media not warned of possible shortages, the crisis would have been solved before the shelves could have emptied.

**Was the rise in global demand extra-ordinary? Since when had there not been a similar rise in demand?**

There hasn't been a rise in France, however worldwide I do not know. For around twenty years now consumption patterns have changed in Asia, they consume more fat and sugar, so the demand in Asia for European milk (and baby milk notably) rose.

Milk has a lot of derived products, such as butter, milk powder, and lactoserum.

**Was there enough butter worldwide to meet global demand, or was a shortage somewhere inevitable?**

There was not a shortage situation, however, there was a tension on the market, which as a matter of fact caused the price of butter to rise.

**Do you think that the French people progressively returning to neighbourhood stores contributed significantly to the butter crisis?**

I do not think, it is a problem which took place within the channels of mass distribution. Neighbourhood stores do not change a lot as they represent small volumes.

**Who of the producers or retailers would you hold the most "responsible"?**

I would be tempted to say the retailers, although it is the whole chain which had issues. Firstly retailers, and then the consumers who are very wary of price changes and have forgotten the value of agro-food commodities. French retailers have also been practising -70% sales for example, which further devalued the value of goods in general and led to French people being increasingly far from the value of the goods they buy, and more expectant of low prices.

**Can it be concluded that the predominant factor of the butter crisis has been the rigidity of retailers, caused by their market power?**

Yes, I think one can say so, as well as an annoyance for the agro-food sector which only benefits to the final link and which destroyed prices for all the other links. The agro-food, in general, isn't used to functioning in a chain, so each element of the chain accused the other. That and the fact that the actors were really concentrated (few producers, and retailers having concentrated their buying power and

formed alliances with other retailers, which resulted in the producers having a lower negotiation power as if they missed the contract they missed big volumes). This is an almost monopolistic situation, which benefitted no one in the end. The authority for competition doesn't find anything wrong in that situation. I believe the butter crisis would not have been this big if the supermarkets hadn't had this much power. Leclerc for example brings the competition down in terms of prices. The main factor of the crisis was a disagreement between producers and supermarkets on the price of butter. This is a very French problem which results from our system of negotiations which fails to reflect the market fluctuations. It is also a problem of the production chain and abuse of market power by the supermarkets. In Italy for example, distributors and producers discuss more, the producers have more power to impose higher prices. In France, however, it is beginning to change as the law is going to try and put some order.

**Was the change in the fat content of milk a significant factor of the butter crisis?**

It had a minor effect, the end of milk quotas in the EU has more importance. When these quotas ended, it urged producers to find commercial opportunities on global markets. I'd argue the butter crisis, in that sense, is the result of a skewed market following European markets. Ireland began to produce a lot of butter which engendered a lot of fluctuations. The milk and butter prices fluctuate tremendously, which is called volatility. There is no unified milk price quotation/valuation mechanism worldwide.

**How is butter made? What is the "link" between milk and butter?**

When you agitate milk, the fat (cream) comes at the top and is agitated to make butter. There is lactoserum and milk powder remaining. The bottled milk one finds in supermarkets is a very little part of consumption. You could find statistics on the CNIEL website!

**How do you think this production chain problem will be solved?**

The law should put logic back into the price construction, it should come from the farmers. It is however very difficult to put in place because of the pressure force of the agro-food sector and of the retailers. The problem was raised at the Alimentation Estates General.

**Is there the same pressure between the farmers and producers as between the producers and supermarkets?**

Yes, I think so, because of consumers too eager for low prices.

**Is this a French-only or European problem?**

With the crisis, the unemployment, consumers pay more attention to their budget. People make choices and the part of their budget dedicated to food has reduced.

*2<sup>nd</sup> interview - 27th September 2018*

**Would you happen to have an estimation of the dates of the butter crisis?**

The butter crisis you could say happened over the Fall in 2017. The milk crisis around 2016.

**Would you mind clarifying for me the government's intervention in the market?**

The government imposes price-setting regulations, and these prices are agreed upon for a year. It is setting a contractualisation framework and not the prices. I suggest you have a look at the LMA law from 2010 which details that information.

**With what goal in mind does the government impose price-setting negotiations?**

It does so in order to regulate the agro-food industry and to make contractualisation easier. It also protects farmers in case of lower prices, but incidentally stops them from benefitting when prices do rise.

# EE/RPPF

For use from May/November 2018

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Candidate personal code

## Extended essay - Reflections on planning and progress form

**Candidate:** This form is to be completed by the candidate during the course and completion of their EE. This document records reflections on your planning and progress, and the nature of your discussions with your supervisor. You must undertake three formal reflection sessions with your supervisor: The first formal reflection session should focus on your initial ideas and how you plan to undertake your research; the interim reflection session is once a significant amount of your research has been completed, and the final session will be in the form of a viva voce once you have completed and handed in your EE. This document acts as a record in supporting the authenticity of your work. The three reflections combined must amount to no more than 500 words.

**The completion of this form is a mandatory requirement of the EE for first assessment May 2018. It must be submitted together with the completed EE for assessment under Criterion E.**

**Supervisor:** You must have three reflection sessions with each candidate, one early on in the process, an interim meeting and then the final viva voce. Other check-in sessions are permitted but do not need to be recorded on this sheet. After each reflection session candidates must record their reflections and as the supervisor you must sign and date this form.

### First reflection session

Candidate comments:

Because I am interested in a lot of topics it has been difficult to settle on one, but upon weighing the pros and cons of each topic I settled on the butter crisis in France, which I am really looking forward to investigating. Some topics such as Hollande's labour reforms, Doughnut Economics by Kate Raworth or Behavioural Economics appeared as either too political, too broad, or hard to get reliable information on, but my topic allows for various sources to be used, from online material newspaper articles, governmental statistics and documentaries in both French and English to interviews with economists, journalists, customers, dairies, supermarkets, and bakers, allowing a concrete application of microeconomics to the world around me. Having read several articles arguing that another butter crisis is dawning, I believe investigating the previous one is crucial in understanding why another one might happen. It also represents the struggle between free markets and interventionism which I am passionate about.

Date: June 1, 2018

Supervisor initials



## Interim reflection

Candidate comments:

This summer I drafted my Extended Essay. I didn't know how and where to start the writing process but had settled on a research question and done most of my research before which made it less intimidating. At first, I was a bit confused as to what structure to choose to effectively convey my evaluation, but talking to one expert helped me figure out what the most fitting outline would be, which showed me the importance of being a good communicator. Waiting for other experts' information is a difficulty I am encountering, and I left some words for their input. I was puzzled by citations, but discussing with my school's librarians made it clearer. My supervisor advised me to reformulate my introduction, some parts of my conclusion and some explanations. I am very happy with my topic and where I am in the process.

Date: June 1, 2018

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## Final reflection - Viva voce

Candidate comments:

Upon finishing my essay I have realized that I have enjoyed this process a lot more than I had thought I would, which encourages me to be open-minded. I feel I have grown as a student by developing my research and communication skills, but also as a person by learning to be more flexible in my approach to projects. I have also improved my time-management capacities. Being evaluative in the essay and being the one writing the analysis as opposed to reading analyses was likewise a very enriching experience for me. This made me more knowledgeable on my topic and a better thinker. I feel I could have done better in prioritizing which parts of the essay to work on, as I ended up leaving what I enjoyed the least for the end, which made it a bit difficult to stay motivated. In hindsight, I realize that adding another primary source would have added depth to my EE. Seeing several months of work and research into one finished product has been very satisfying and I am sure that learning to conduct research and write an essay autonomously as I did will be very useful in university.

Date: June 1, 2018

Supervisor initials