Application of Porter's five forces model to the Czech dairy industry after the abolition of milk quota

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Abstract

One of the important factors for successful management is the knowledge of the competitive environment in which the business operates and the ability to adequately respond to changes. The article describes the creation of Porter's five forces model for the Czech dairy industry after the abolition of milk quota. As part of a comprehensive analysis, the forces to determine the intensity of competition in dairy industry and its profitability level of milk producers and processors in the Czech Republic are identified and described in detail. Their significance for the affected subjects is quantitatively evaluated. The results show that in the case of milk producers, the most significant competition appears to be current competition in the industry and the bargaining power of the customers, followed by suppliers' bargaining power. In contrast, existing competition in the sector and the bargaining power of customers have the greatest importance for milk processors. The model can be applied to the situation of specific businesses operating in this area.

Keywords: Porters´s five forces model, milk, milk quotas, Czech dairy industry

Introduction

At the turn of the 1970s and 1980s, Western Europe had overproduction of milk. The problem was dealt with by subsidizing its export, which had a global impact on its price (Hrdličková and Mikulka, 2015). For this reason, milk quotas with the aim of stabilizing the market and purchase price were introduced in 1984 (Andersson and Lingheimer, 2015). Each EU country had domestic wholesale and direct sales quotas, any exceeding was sanctioned. In 2008, the European Commission published specific legislative proposals to remove the quotas and the system of milk quotas was abolished in the European Union on 31 March 2015 in accordance with Regulation (EU) No. 1308/2013 of the European Parliament and of the Council of 17 December 2013 (Andersson and Lingheimer, 2015). As of that day, every producer can produce any amounts of milk, which may affect significantly the entire industry (Hrdličková and Mikulka, 2015). By abolishing the quotas after more than thirty years, the European Union made the market more liberal, which is the reason why European countries of so-called "milk belt" (the Netherlands, Germany, etc.) have been preparing for this situation from the moment when the change was first proposed and they are able to increase their production promptly by tens of percents (Hrdličková and Mikulka, 2015). A gradual growth in the production in other countries is expected, especially in Poland and Hungary, by contrast, producers who do not adapt to the new conditions will be forced to exit the dairy industry (Bosková, 2013). The situation in the market is impacted by the EU embargo on Russia (Petříček and Vlková, 2015), a promising region where increased dairy production could be exported are Asian countries (Hrdličková and Mikulka, 2015). With respect to the number of factors, the particular impacts of quota abolition may differ across EU countries; the objective of this paper is to describe systematically possible impacts of this legislative change on Czech producers and processors by applying Porter's five forces model.

Methods and Data

Porter's model of five competitive forces

The model was created in the 1980s as a tool of exploring competition (Porter, 1994). The idea is that the attractiveness of market and its overall profitability can mainly be defined by the market structure. According to the model, the degree of competition in an industry is conditioned by five basic forces that affect companies in the industry, while their joint influence determines the intensity of the competitiveness of the environment (Eskildson, 2010; Narayanan and Fahey, 2005). According to Porter, the "awareness of these forces can help a company stake out a position in its industry that is less vulnerable to attack" (Porter, 1979). The greater influence of forces affecting a company, the lower profitability of investment can be expected (Ormanidhi and Stringa, 2008). The basic competitive forces are: industry rivalry, bargaining power of buyers, bargaining power of suppliers, threat of new entrants and threat of substitutes (Shevchuk, 2007).

Rivals in an industry compete on a constant basis (Martínková, 2008). A company tries to achieve a competitive advantage (Eskildson, 2010) by employing tools such as technological innovations and advertising (Shalloo, 2007). Intensity of rivalry is subsequently demonstrated as a consequence of several interlinked structural factors (Shevchuk, 2007), the most important one being the type of market competition, cost items (Ormanidhi and Stringa, 2008), industry growth and its dynamics (Grundy, 2006), differentiation of goods and services as well as rival differentiation (Shevchuk, 2007), increase resulting from expanding capacities and intensity of strategic effort (Jiříček,

2007) and costs linked with the company's entry to the market and exit costs (Eskildson, 2010).

Buyers can influence profitability of the industry by exerting downward pressure on prices or product quality (Martínková, 2008). It can be said that with an increasing dependence of a producer on one buyer increases such buyer's bargaining power and more intense competition in the industry can be expected. That is why it is a good idea to define clearly supplier-buyer relationships when setting up a business strategy (Shevchuk, 2007). Bargaining power of buyers can be assessed using criteria such as the number, importance and profitability of customers (Eskildson, 2010), the importance of goods or services for customers, threat of backward integration (Jiříček, 2007) and costs of customer switching (Narayanan and Fahey, 2005).

Similarly to buyers, also suppliers can influence the profitability in an industry (Martínková, 2008). If they exercise their dominance over other participants when bargaining and they enhance it with threat of increasing prices or decreasing quality of the goods and services they provide, they can achieve more favourable conditions, complicating the conditions for companies buying from them (Shevchuk, 2007). Bargaining power of suppliers can be assessed using criteria such as the number and importance of suppliers (Eskildson, 2010), threat of new entrants (Narayanan and Fahey, 2005), importance of buyers for the supplier (Shevchuk, 2007), existence of substitutes and their threat to the supplier (Narayanan and Fahey, 2005) and arrangement of labour in the industry (Jiříček, 2007).

The seriousness of threat of new entrants to existing markets depends primarily on the extent of barriers to entry and exit (Jiříček, 2007). New entrants bring to the industry new production capacity often together with sources while trying to seize the largest market share possible. Further development of the situation is also conditioned by the response of the existing participants (Shevchuk, 2007). The higher the barriers to entry and exit, the more attractive a segment is for a participant, while the threat of new entrants is relatively small since overcoming such barriers requires considerable effort and means (Jiříček, 2007). The main sources of barriers include economies of scale (Narayanan and Fahey, 2005), investment exigency and access to distribution channels (Eskildson, 2010), product differentiation, customer loyalty and government policy (Martínková, 2008), need for know-how, patent, licence or special technology, access to materials, power supplies, labour (Jiříček, 2007), cost disadvantage independent of scale, improvement of services provided by existing market participants (Shevchuk, 2007).

Last but not least, it is necessary to mention substitutes. The greater the pressure on the product from the part of substitutive products and the lower the pressure from the part of complementary products, the tougher the competition in the industry observed (Shevchuk, 2007), since the easier it is to replace a product with a substitute, the less attractive the industry is becoming (Martínková, 2008), which is due to a price decrease and thus lower company profits (Jiříček, 2007). Achieving technological innovation in a substitute sphere has the same effect. Threat of substitutes can be assessed using criteria such as number of substitutes and complements in the market (Grundy, 2006), possibility of substitutes entering the market in the future (Martínková, 2008), competition in a substitute sphere (Narayanan and Fahey, 2005), development of substitute prices and their utility features (Jiříček, 2007).

Porter's model once had significant influence on the development of strategic management (Ormanidhi and Stringa, 2008), later it was criticised particularly for its static view of competition operating with fixed industry boundaries, excessive accentuation of profit at the expense of other important factors, insufficient elaboration of the model on the micro-level and for suppressing the concept of collaboration among companies in the market (Downes, 1997; Grundy, 2006).

In order to create Porter's model, it was first necessary to identify the forces in the dairy industry in the Czech Republic following the theoretic framework. Subsequently, the factor intensity was evaluated using expert assessment. The outcome is two models: a model of a Czech producer and a model of a Czech processor.

Results and Discussion

Porter's model of a Czech producer

Rivalry among existing competitors – due to globalization, it is currently complicated to define boundaries of the market (Mann, 1994); for the purpose of this article, all milk producers registered in the Czech Republic represent the relevant market. In the previous six months before milk quotas were abolished, Czech producers produced 1,486 million litres of milk (Brož, 2015). Milk from producers associated under various interest groups (Bosková, 2013), especially marketing cooperatives (there are over thirty such cooperatives in the Czech Republic) (Pecinová, 2010) accounted for approximately 67% of the total volume, same as in the previous years.

The producers are most significantly influenced by the Agrarian Chamber of the Czech Republic which, however, it promotes interests of producers from different industries. The biggest specialized interest group is the Mlecoop marketing cooperative that associates several marketing cooperatives on the regional level including (Pecinová, 2010). Besides Mlecoop, there are several interest groups whose share in the total milk production in the Czech Republic is below 1-2% (Bosková, 2013). The share of producers who are not part of any interest group is negligent (Havel, 2003). With respect to the number of milk producers in the Czech Republic, it can be said that rivalry among them is rather strong, with no company being so dominant so that it could determine prices.

After the removal of milk quotas, some producers experienced an increase in milk production, although there is no demand for such an increased production due to the embargo on Russia and competition among producers is getting tougher (Mikulka, 2015). What is becoming crucial are contracts with big dairies, as milk production exceeds local consumption (Brož, 2015). Small or less efficient farmers (there is a quite a larger number of them in the Czech Republic) (Petříček and Vlková, 2015), can either terminate producing milk or start processing milk themselves which, however, requires significant investments and entrepreneurial spirit (Beneš, 2015). Another factor are foreign producers who can deliver milk to Czech dairies for lower prices because of subsidies they receive from their governments (Šrámková, 2015), thus exerting further downward pressure on prices (Hrdličková and Šenk, 2015). Therefore, it is very important for producers to meet their buyers' requirements in order to decrease likelihood of terminating collaboration, which can be safeguarded more easily as long as their production is efficient (Jobson, 2013). The solution lies in investing in modern technologies, endeavour to minimize costs (McCoy, 2000) and possibly in an innovative approach (Bosková, 2013). In case of a farmer exiting the market, it cannot be presumed that such a person would ever return to production with respect how demanding it is to run a business in this industry (Beneš, 2015).

The above stated clearly shows that competition among milk producers after the abolition of quotas is one of the most significant forces in the Porter's model, which is why it was assigned five points on a five-point scale, meaning it is most significant.

Bargaining power of buyers – the most significant milk buyers are dairies, from whom a group of key players is established (Antonyová, 2010). With respect to surplus of milk produced in the Czech Republic (Brož, 2015) these buyers, regardless of their importance and size, have huge bargaining power. The simplest way for producers to ensure sales are long-terms with dairies (Ryan, 2007), which is a certain assurance of income (Králová, 2013). Losing a contract with a dairy may prove to be liquidating for some producers, which allows dairies to exert downward pressure on prices and to achieve their decrease eventually (Hrdličková and Šenk, 2015; Hrdličková, 2015).

Another option is export. Historically, the greatest buyers are dairies in Germany, Austria, Italy and France (Králová, 2013). However, after the quota abolition, the production of Dutch and German (Hrdličková and Mikulka, 2015) as well as some other producers, e.g., in Poland and Hungary rose, which – together with Russian ban on dairy product import (Petříček and Vlková, 2015) decreased the demand for Czech milk. This is the reason why producers try to find other selling channels (e.g. milk vending machines, European programme "Milk for Schools", producers processing milk themselves, etc.).

Taking into consideration the volumes of milk produced, it can be concluded that there are not enough buyers (Hanžlová, 2015), their switching costs are not very high, and the price or quality of the production is not compromised (Hrdličková and Šenk, 2015) with the end consumer hardly noticing any change. This is the reason why dairies have no reason to stick to their habits (Šrámková, 2015) and they are capable of responding to a more advantageous offer from other producers quite flexibly.

In consequence of quota abolition we can thus see an increase in bargaining power of buyers, which is why it was assigned five points on the five-point scale – most significant.

Bargaining power of suppliers – suppliers of milk producers include encompass suppliers of power, fuel, various devices, technology and equipment, employees who take care of the entire process and farmers supplying feed in case the producer does not have own sources. In some cases we can even include landowners of fields where cattle are kept (Ryan, 2007). All suppliers have impact on the final price of the milk produced. Most of the suppliers are dependent on the development of global prices of materials that influence the price of their goods, which means that production costs of milk producers are – to a great extent – also dependent on the global economy (Petříček and Vlková, 2015). The item with the highest price variability is fodder mixtures, their price depending not only on economic trend, but also on the weather (Beneš, 2015). An alternative is import from other parts of the world that remained unaffected by adverse climatic conditions (Uhlíř, 2015).

As to a change in this bargaining power in Porter's model after milk quotas were removed, it is evident that there has been no transformation. Still, it is necessary to consider milk producers an important force, which is why it has been assigned four points on the five-point scale – rather significant.

Threat of new entrants – possibilities of new producers entering the industry have improved after the abolition of milk quotas (Hrdličková and Mikulka, 2015), on the other hand, there has been an increase in the volume of the milk produced by producers who had been restricted by the quotas, which raised the global production to levels that it cannot be sold under the current conditions (Vöneki et al., 2015; Hrdličková and Šenk, 2015). It is generally true that producers increasing production are the most efficient ones who are able to sell their production, by which they push out of the market the less efficient ones, which in turn increases the competition in the industry and conditions for new entrants are becoming more difficult (Hrdličková and Mikulka, 2015; Hrdličková and Šenk, 2015). Other barriers to entry are, e.g., purchase of cattle, technologies and special equipment (Ondersteijn et al., 2006), establishing a customer network (Antonyová, 2010) and searching for reliable suppliers (Eskildson, 2010).

This force was assigned two points on the five-point scale – rather insignificant, since it can be expected that market situation will be influenced by current producers, especially foreign ones, rather than by new entrants (Hrdličková and Mikulka, 2015).

Threat of substitutes – milk substitutes are any kind of food that have similar use to milk, but their nutrition values differ from cow milk (Rodná, 2015). The closest substitutes are sheep and goat milk and various drinks made of almonds, soy, rice, coconut, other nuts and cereals. The reason for their consumption may be health issues caused by cow milk consumption (Fuchs, 2015) as well as by new dietary trends (Marketing & Media, 2014).

The force of milk substitutes has not changed in any way whatsoever as compared with the situation before the abolition of quotas, which is why it was assigned three points, meaning medium significant, which is linked particularly with the modern lifestyle that concerns more and more consumers (Čermák, 2013).

Porter's model of a Czech processor

Abolition of quotas has undeniably affected also Czech milk processers (Mikulka, 2015), which is why a Porter's model was created also for this sphere of milk industry, attention being paid particularly to factors that are subject to change due to deregulation.

Rivalry among existing competitors – market participants are, for the purpose of this model, all processors registered in the Czech Republic. It proved convenient to classify them by their turnover as small ones (with local reach), mid-sized (with regional reach) and large ones with a turnover of more than one billion CZK (they offer a wide product assortment with distribution in the entire Czech Republic) (Zábojník, 2009). Furthermore, a group of key players who set trends in the market can be found in the last category (Antonyová, 2010). The model is conceived from their perspective.

Competitiveness in the market among current rivals has been very tough recently (Antonyová, 2010), for the Czech market is rather saturated with dairy products. Great pressure is exerted on processors in terms of product quality, innovation, new forms and flavours (Balšínková, 2009), they are forced to pay increased attention to promotion and pricing. There are enough processors in the market (Ondersteijn et al., 2006), none of them being dominant in pricing. Due to low customer loyalty, everyone needs to conform to the current situation (Mikulka, 2015).

Dairy farming is a rather dynamically growing industry (Christiansen, 2014) that only offers growth opportunities for processors who can keep pace with trends. The situation is complicated by sanctions on Russia, which is one of the main reasons of dairy product surplus in the Czech market and decrease of their prices. This also concerns other EU countries, particularly former Visegrád Group states (Hanžlová, 2015). Another factor affecting the situation in the Czech market is the increasing production of some foreign processors after the quota abolition in April 2015, expansion efforts are anticipated (Hanžlová, 2015). In this particular situation, the Czech market is a suitable location for export, since transport costs will not increase the product price much and the production will remain competitive when compared with Czech production (Hrdličková and Mikulka, 2015). This will further increase competition in the processor market due to tough battle for key buyers. A solution for existing Czech processors to staying in the market is to focus on other business activities, not merely on milk processing (Shalloo and Horan, 2007) while striving for maximum production efficiency, focusing on cost minimization and achieving economies of scale and – last but no least – on investing in new technologies (McCoy, 2000).

Existing rivals are the most significant force in Porter's model, which is why this force has been assigned five points on the five-point scale – the most significant one. Therefore, processors should watch closely what is going on in their industry (Christiansen, 2014) in order to avoid neglecting an important factor in their tough competitive environment, which could result in devastating consequences for them (Shalloo and Horan, 2007).

Bargaining power of buyers – the most important buyers buying from processors are, with respect to the volume of the production bought, retail chains, which are part of food sale network, the main group of buyers being retailers (Zábojník, 2009). The Czech market has a very low concentration of such buyers, while it has a very dense and diversified network, which is unique in Europe (Nevyhoštěný, 2012). According to experts, we can expect several big players to exit the industry in the years to come, however, bargaining power of buyers with respect to processors is already considerable, with great downward pressure on reducing prices as low as possible (Vejvodová, 2014). It is apparent that quota abolition increased the bargaining power of buyers. The situation could be changed with a government intervention in the form of subsidies or buying certain products for state material reserves (Šrámková, 2015; Mikulka, 2015). However, such interventions may damage the industry over the long term (Holman, 2005).

This force was assigned four points on the five-point scale – rather significant. It will be hard for processors to find new customers if they lose an important one.

Bargaining power of suppliers – suppliers are all producers who supply milk processors with milk to be processed. Their classification was sketched in the text above. They are predominantly national and local suppliers, however, it is necessary to take into account also foreign suppliers (Beneš, 2015). Larger suppliers, and/or possibly suppliers guaranteeing constantly high quality of milk supplied (Antonyová, 2010), who usually demand higher prices and longer term contracts may have stronger bargaining power (Ryan, 2007). It is necessary to mention other suppliers such as power, technology, chemical, food and other companies who are not affected by the quota abolition, which is why they are no longer taken into consideration.

It is apparent that after removal of quotas the bargaining power of suppliers dropped even more, on a five-point scale it was assigned two points – rather insignificant.

Threat of new entrants – milk processing is a rather complicated procedure that is subject to legislative regulation, which affects the total costs of the procedure. Also, the technology needed for dairy production is typically single-purpose, unit costs can be decreased particularly by distributing fixed costs among the highest number of products; they are not sufficiently differentiated among producers though (Zábojník, 2009). It is the reason why a new competitor entering the industry is very exigent in terms of capital (Ondersteijn et al., 2006) as well as building a distribution network (Antonyová, 2010). Experience and knowledge of technology are not an important aspect, since the industry is not, with some exceptions, protected by patents (Zábojník, 2009). A new processor would struggle trying to find new suppliers who do not require too high prices and can deliver high quality milk on a constant basis (Zábojník, 2009). Well-established brands play an important role here and unknown brands can hardly compete with them (Balšínková, 2009).

After the abolishing of quotas, there is an opportunity for some suppliers to increase their production. There is a certain room for buying milk for a lower from Czech producers as well as from abroad. This means that the most efficient producers will probably push out of the market competitors who cannot produce milk at sufficiently low costs.

A new rival entering the industry is not very likely, which is why this force was assigned two points on the five-point scale – rather insignificant. The situation on the market can be influenced by the current players in the years to come, while we can anticipate some of them being forced to exit the market (Bosková, 2013), rather than a massive entry of new rivals in the industry (Šrámková, 2015).

Threat of substitutes – substitutes of milk and dairy products are all types of food replacing milk made of sunflower, rape, olives, nuts, soy, buckwheat, rice and other plants. Another alternative are products made of milk other than cow milk, although they are not very popular with Czech consumers (Kučera, 2008). Especially thanks to intense promotion of a "healthy lifestyle", the position of substitutes in the market has been reinforced over the long term (Rodná, 2015), which affects negatively the demand for dairy products. The more developed a society is, the more significant determinant of human decision making a healthy lifestyle becomes (Čermák, 2013).

From the perspective of quota abolition, dairy product substitutes are not a significant threat, but what cannot be ignored is the growing media pressure on the population, which is enhanced by measures taken by various institutions that, e.g., in case of life insurance favour individuals leading a healthy lifestyle that is linked, although questionably, with substitutes (Mašek, 2014).

The abovementioned factors are not much affected by the quota abolition, which is why this force was assigned three points, same as before these legislative measures, meaning it is still medium significant.

Conclusion

The article presents an analysis of Porter's forces in the dairy industry after the removal of milk quotas on two entities: a producer and a processor from the Czech Republic.

Results are shown in Table 1.

Tab. 1: Porter's five forces model

	Producers	**Manufacturers**
Rivalry among existing competitors	5	5
Bargaining power of buyers	5	4
Bargaining power of suppliers	4	2
Threat of new entrants	2	2
Threat of substitute products	3	3

Source: Authors.

As concerns milk producers, it was found that two forces have the greatest significance and they were assigned five points on a five-point scale. One of them is the existing competition in the industry which has increased after the abolition of milk quotas in combination with an embargo on Russia, which is why it is important for producers to focus particularly on production efficiency. The other one is the bargaining power of buyers. Their position has also gained significance due to a greater volume of global milk production. A slightly less important was the bargaining power of suppliers that was assigned four points. Suppliers in many cases influence significantly producers' costs, while costs are crucial for producers to stay in a highly competitive market. Threat of substitutes is of medium significance with three points: it is influenced, in particular, by modern lifestyle linked with massive promotion of vegetable products and growing number of food allergies. The least significant force was the threat of new entrants in the industry with two points: its influence is currently considered less significant in the Czech market.

As for milk producers, it was found that the existing industry rivalry, assigned with five points, is of the greatest significance, which is why it is necessary for processors to keep watching their competitors and adapting to the changing situation in the market. The second most significant force is the bargaining power of buyers with four points: if a milk producer loses some of its important buyers, it can only hardly sell its production on the existing market. What we found of medium significance was the threat of substitutes with three points, significantly influenced, as the case is with substitutes concerning milk producers, by a modern lifestyle and consumers' health issues. Two forces were assessed to have rather insignificant influence, i.e. they were assigned with two points. One of them is the threat of new entrants when a prospective competitor would have to be able to face very high costs linked with entering the industry, the second one being the bargaining power of suppliers who find it hard to sell their production.

References

ANDERSSON, E. and LINGHEIMER, I., 2015. *The effect of abolishing milk quotas: a study of comparative advantages amongst European member states*: Dissertation Thesis. Uppsala: Swedish University of Agricultural Sciences.

ANTONYOVÁ, J., 2010. *Strategická analýza podniku.* Praha. Master's Thesis. Vysoká škola ekonomická v Praze.

BALCOMBE, K., DOUCOULIAGOS, H. and FRASER, I., 2007. Input usage, output mix and industry deregulation: an analysis of the Australian dairy manufacturing industry. *Australian Journal of Agricultural and Resource Economics*. **51**(2), 137–156.

BALŠÍNKOVÁ, J., 2009. *Hodnocení finanční situace podniku a návrhy na její zlepšení.* Brno. Master's Thesis. Vysoké učení technické v Brně.

BENEŠ, J., 2015. Nízké výkupní ceny drtí malé chovatele. Část farmářů začala mléko i zpracovávat. *Mladá fronta DNES*. **185**, 1. ISSN 1210-1168.

BOSKOVÁ, I., 2015. Collaboration in the Czech Dairy Chain. *AGRIS On-line Papers in Economics and Informatics* [online]. **5**(4), 35-45 [2015-10-10]. Available at: http://search.proquest.com.zdroje.vse.cz/docview/1492831733?accountid=17203.

BROŽ, J., 2019. Češi si na farmářské trhy zvykli, loni tam utratili čtvrt miliardy. In: *iDNES.cz*, *News*. iDNES.cz [online]. [2015-11-1]. Available at: http://ekonomika.idnes.cz/cesi-si-zvykli-na-farmarske-trhy-trzby-cinily-ctvrt-miliardy-pt4-/ekonomika.aspx?c=A151029_213019_ekonomika_rych.

ČERMÁK, M. 2013. Žít zdravě není levičácká manipulace. *Ekonom*. **58**(8), 10. ISSN 1210-0714.

ESKILDSON, L. E., 2010. 5* Michael Porter's Five Competitive Forces. *Basil & Spice.* ProQuest Natural Science Collection [online]. [2015-07-30]. Available at http://ezproxy.techlib.cz/login?url=http://search.proquest.com.ezproxy.techlib.cz/docview/189678633?accountid=119841.

FUCHS, M., 2015. Potravinová alergie. *Postgraduální medicína.* **3**, 15. ISSN 1212-4184.

GRUNDY, T., 2006. Rethinking and reinventing Michael Porter's five forces model. *Strategic Change* [online]. **15**(35), 213-229 [2015-07-31]. Available at: http://onlinelibrary.wiley.com.ezproxy.techlib.cz/doi/10.1002/jsc.764/abstract.

HANŽLOVÁ, J., 2019. Zemědělci varují před eskalací krize na trhu s mlékem. Žádají o pomoc. In: *News, Radio, Radiožurnál* [online]. [2019-05-16]. Available at: http://www.rozhlas.cz/zpravy/domaciekonomika/_zprava/zemedelci-varuji-pred-eskalacikrize-na-trhu-s-mlekem-zadaji-stat-o-pomoc--1494545.

HOLMAN, R., 2005. Ekonomie. 4th ed. Praha: C. H. Beck. ISBN 80-7179-891-6.

HRDLIČKOVÁ, L., 2019. Madeta znovu jedná s Kauflandem. In: *Ihned.cz, News.* Hospodářské noviny [online]. [2015-08-12]. Available at: http://byznys.ihned.cz/c1-64420850-madeta-znovu-jedna-skauflandem-mlecne-vyrobky-firmy-mohou-byt-v-regalech-nejdrive-v-rijnu?

HRDLIČKOVÁ, L. and MIKULKA, M., 2015. Mléčná revoluce: kvóty končí, cena půjde dolů. *Hospodářské noviny*. **63**, 1. ISSN 0862-9587.

HRDLIČKOVÁ, L. and ŠENK, M., 2015. Česko se topí v "levném" mléce. *Hospodářské noviny*. **111**, 1. ISSN 0862-9587.

CHRISTIANSEN, S., 2014. UN to the EU. *Dairy Industries International* [online]. **79**(12) [-2015-07-30]. ISSN 0308-8197. Available at: http://search.proquest.com.zdroje.vse.cz/docview/1630361606?accountid=17203.

JIŘÍČEK, K., 2007. *Využití Porterova modelu konkurenčních sil při návrhu strategie firmy.* Praha. Master's Thesis. Mendelova zemědělská a lesnická univerzita.

KRÁLOVÁ, T., 2019. Do Německa odtéká stále více českého mléka. In: *Euro E15*, News [online]. [2015-09-15]. Available at: http://zpravy.e15.cz/byznys/zemedelstvi/donemecka-odteka-stale-vice-ceskeho-mleka-952042.

KUČERA, J., 2008. *Význam mléka a mléčných výrobků ve výživě*. Brno. Bachelor's Thesis. Masarykova univerzita.

MANN, M., 2019. How Britain Gets Milked by EU Production Quotas. *Wall Street Journal* [online]. [2015-07-25]. Available at: http://search.proquest.com.zdroje.vse.cz/docview/308153285?accountid=17203.

Marketing & Media, 2014. V obchodech se zdravou výživou nakupuje čtvrtina dotazovaných. *Marketing & Media.* **41**, 6. ISSN 1212-9496.

MARTÍNKOVÁ, D., 2008. *Analýza vnějšího prostředí vybraného podniku.* České Budějovice. Master´s Thesis. Jihočeská univerzita v Českých Budějovicích.

MAŠEK, F., 2014. Chcete-li ušetřit na životním pojištění, snažte se žít zdravě. *Hospodářské noviny*. **224**, 18. ISSN 0862-9587.

McCOY, D., 2019. Rodgers spells out challenges. In: *The Belfast News Letter* [online]. Belfast: Johnston Press New Media [2015-07-29]. Available at: http://search.proquest.com.zdroje.vse.cz/docview/324632588?accountid=17203.

MIKULKA, M., 2015. Stát připlatí výrobcům mléka. *Hospodářské noviny*. **138**, 1. ISSN 0862-9587.

NARAYANAN, V. K. and FAHEY, L., 2005. The Relevance of the Institutional Underpinnings of Porter's Five Forces Framework to Emerging Economies: An Eistemological Analysis. *Journal of Management Studies* [online]. **42**(1), 207-223 [2015-07-30]. Available at: http://ezproxy.techlib.cz/login?url=http://search.proquest.com.ezproxy.techlib.cz/docview/19 4222120?accountid=119841. ISSN 0022-2380.

NEVYHOŠTĚNÝ, J., 2019. České řetězce jsou unikátní, žádný z nich nemá ani desetinu trhu. In: *iDNES.cz*, News [online]. [2015-08-12]. Available at: http://ekonomika.idnes.cz/podily-obchodnich-retezcu-na-trhu-v-cr-dxv-/ekoakcie.aspx?c=A121128_134049_ekoakcie_neh.

ONDERSTEIJN, C. J. M., GIESEN, G. V. J. and HUIRNE, R. B. M., 2006. Perceived environmental uncertainty in Dutch dairy farming: The effect of external farm context on strategic choice. *Agricultural Systems* [online]. **88**(2-3), 205-206 [2015-07-30]. Available at: http://www.sciencedirect.com.ezproxy.techlib.cz/science/article/pii/S0308521X05000703.

ORMANIDHI, O. and STRINGA, O., 2008. Porter's Model of Generic Competitive Strategies.

Business Economics [online]. **43**(3), 55-64 [2015-07-31]. Available at: http://ezproxy.techlib.cz/login?url=http://search.proquest.com.ezproxy.techlib.cz/docview/199815038?accountid=119841. ISSN 0007-666X.

PECINOVÁ, P., 2010. *Zájmové skupiny ve vybrané oblasti národního hospodářství*. Brno. Bachelor´s Thesis. Masarykova univerzita.

PETŘÍČEK, M. and VLKOVÁ, J., 2019. Mléko je nejlevnější za šest let. Jenže zákazník to v obchodech nepozná. In: *iDNES.cz*, News [online]. [2015-07-29]. Available at: http://ekonomika.idnes.cz/mleko-prudce-zlevnilo-ne-ale-v-obchodech-f0n-/ekonomika.aspx?c=A150724_121516_ekonomika_rny.

PORTER, M.,E., 1979. How Competitive Forces Shape Strategy. *Harvard Business Review.* **57**(2), 137-145.

PORTER, M. E., 1994. *Konkurenční strategie: metody pro analýzu odvětví a konkurentů.* Praha: Victoria Publishing. ISBN 80-85605-11-2.

RODNÁ, K., 2015. Posedlost zdravým stravováním. *Psychologie dnes*. **15**(1), 38. ISSN 1212-9607.

RYAN, P., 2007. Planning for an Increased EU Milk Quota. In: *Exploiting the Freedom to Milk*: National Dairy Conferences 2007, Kilkenny - Lyrath Hotel. Teagasc, *Waterford Dairy Farmer*.

SHALLOO, L. and HORAN, B., 2007. Profitable Dairying in an Increased EU Milk Quota Scenario. In: *Exploiting the Freedom to Milk*: National Dairy Conferences 2007, Kilkenny Lyrath Hotel. Teagasc, *Moorepark Dairy Production Research Centre*.

SHEVCHUK, R., 2007. *Strategická analýza firmy. Praha. Masters´s Thesis.* Vysoká škola ekonomická v Praze.

ŠRÁMKOVÁ, J., 2019. Ceny mléka padají. Měl by nám pomoci stát, říkají zemědělci z Plzeňska. In: *iDNES.cz*, News [online]. [2015-08-12]. Available at: http://plzen.idnes.cz/ceny-mleka-klesaji-037-/plzen-zpravy.aspx?c=A150710_154029_plzenzpravy_pp.

UHLÍŘ, M., 2019. Pšenice na houpačce. In: *respekt.cz*, News. [online]. Economia, a.s. [2015-10-13]. Available at: http://www.respekt.cz/spolecnost/vykyvy-pocasi-narusievrospkou-produkci-psenice.

VEJVODOVÁ, A., 2019. Tvrdá konkurence a vybíraví zákazníci vyhánějí řetězce z Česka. In: *Česká televize – ČT 24*, News. [online]. Česká televize [2015-08-12]. Available at: http://www.ceskatelevize.cz/ct24/ekonomika/1044164-tvrda-konkurence-a-vybiravizakaznici-vyhaneji-retezce-z-ceska.

ZÁBOJNÍK, M., 2009. *Prostředí odvětví mlékárenského průmyslu v ČR.* Praha. Bachelor´s Thesis. Mendelova zemědělská a lesnická univerzita.

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