GROUPE AGÉCO

Comparative Analysis of the Performance of Poultry Sector Regulatory Systems in Canada, United States, France and Australia

SUMMARY

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In choosing to have a supply management system with quotas for the production and sale of live chickens, and eggs, Canada chose a specific route. In that context, the principle objective of this research project is to analyse poultry sector regulatory systems being used in various countries and to discuss their relative performances.

Furthermore, we should point out that the entire Canadian poultry industry is organised on a supply management model, with the hatching egg and turkey sectors having chosen the same route. Thus, there is no *a priori* reason to think that the conclusions we draw from our analysis would not also apply in those two sectors as well.

1. REGULATORY SYSTEMS IN THE EGG AND CHICKEN SECTORS

In spite of the uniqueness of the Canadian model, the chicken industry, be it in Australia, Canada, the United States or France, always has the same characteristics. Those include a successful industry, highly industrialised, and one that knows better than any other how to adapt to changes in consumer habits, in order to achieve increases at the expense of other meats.

In Australia, the United States and France, the idea of a close relationship between producers and processors automatically translates to the use of production contracts and vertical integration – the dominant modes of trade organisation. Production contracts remain the most popular model, especially because they provide a better sharing of risk and promote greater specialisation. Firstly, these contracts are characterised by their unusual payment formula: payment to the producer is based on a fixed rate that can be revised upwards or reduced depending on its technical performance. The contracts tie producers to a specific buyer who supplies the feed, the chicks, and the technical support. The producer owns only the fixed assets: poultry barns, equipment, machinery and land. Total vertical integration, in which the processor owns the production assets and the producer is a salaried employee, is still, in the countries studied, much less widespread.

In the table egg sector, it is more common for the farm owners to also own the grading and egg packaging units and, as a result, total vertical integration is seen more often. The fragile nature of the product itself favours this type of arrangement and makes the matter of transportation crucial; the best way to limit distances is to have the first stages of marketing in the same operation.

The poultry sector regulatory system in Canada differs from those in other countries particularly due to the position occupied by the producers. Unlike the majority of their counterparts in other countries, the vast majority of producers in Canada are owners and managers of their entire operation. In addition, the provincial organisations that represent them are stakeholders in the process that defines the orientation of the chicken, turkey and egg sectors and, as such, they are important players. In systems based on contracts and integration, the producers are usually nothing more than operators who have very little decision-making power because it is the processors who are in charge.

It is these features of regulation through supply management with quotas which make a comparative analysis so interesting. Initially, we evaluated performance based on economic variables such as trends in production, consumption and prices. Secondly, our analysis paid more attention to social aspects such as the sharing of activities across the region, environmental impacts and producers' working conditions.

Before moving to the presentation of our principal results, it is important to mention the factors that led us to use the three countries, other than Canada, which we used in our comparison. Clearly, the choice of the United States was the easiest; in addition to being Canada's closest neighbour, it is the largest chicken producer in the world and the second-largest exporter (Brazil has been in first place, since 2004). Also, the difference in intervention philosophy between Canada and United States was a significant factor in the selection.

For its part, France is the largest producer of poultry in the European Union and chicken production there has the peculiarity of splitting itself into two distinct streams. The first, the more "industrialised", is based on an intensive, large-scale production model and has adopted the dominant styles of organisation – contracts and vertical integration. The second uses more traditional methods that favour raising birds outdoors and low-density production and depend on recognition based on a series of standards and strict specifications.

Australia is an interesting case because it is the only country that encouraged the establishment of a form of regulation that resembles Canada's. In allowing collective negotiation among the States, the Australian government, in the early 1980s, gave a common voice to the chicken producers, in order to standardise their relationship with the processors. In some of Australia's States, the marketing authorities even had the power to control the supply level. This situation lasted barely more than a decade and ended with the implementation of economic reforms in 1995.

When it comes to egg production, Australia was a real pioneer, having implemented marketing boards during the 1920s. On the other hand, these were the object of a revision process in the late 1970s and the principal producing States put an end to the work of these boards in the 1980s. The deregulation process was subsequently completed in the mid-1990s. As with chicken, the United States government did not intervene in either the production or marketing of eggs. Considering that egg consumption shows a tendency to decline or to remain stable, it will be interesting to see if supply management has the same influence as it does with chicken.

2. COMPARATIVE ECONOMIC PERFORMANCE

2.1 THE CHICKEN SECTOR

In United States, France and Australia it is exclusively the abattoirs and the processors who define the sector's orientation. In Canada, however, by opting for an approach that is firmly anchored in a regulatory framework that defines the rules of the game and is meant to be more inclusive, the system lets the processors make their own decisions but allows Canadian chicken producers a voice.

This being said, no matter what the country, one cannot help but notice the general performance of the broiler sector. Whether the consumer is American, Australian, Canadian or French it is almost certain that they are now eating more chicken than at any time in the last two or three decades.

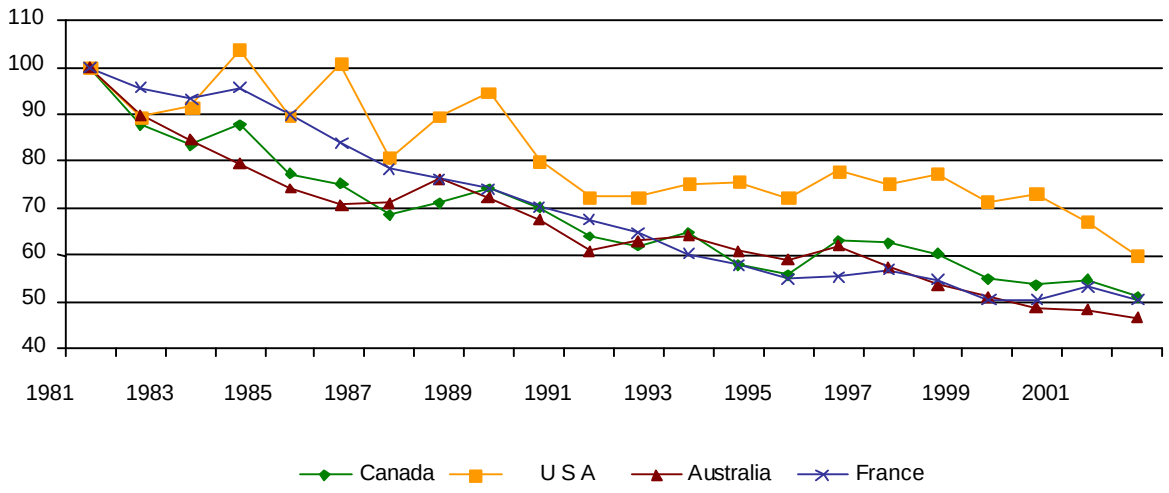
Farm-gate prices, retail prices and per-capita consumption are among the variables used to compare the economic performances of the broiler sectors of these countries. We also paid particular attention to the trend in production of each country in order to see if the presence of a supply management system with quotas, in Canada, affects the vitality of its sector.

2.1.1 PRODUCER PRICE TRENDS

Figure 2.1 shows that, generally, the real price to chicken producers has continued to decrease. For all of the countries, it can be said that in 2003, for each kilogram of chicken produced, chicken producers received only half of what they pocketed in 1981. It must therefore be recognised that the price the producer receives depends little on the regulatory system in place. In its quest for new market share, at the expense of other meats, this sector must take advantage of the short production cycle to try to make some efficiency gains that are transferred from the production sector to the other links in the chain.

These gains allow the processors to always obtain their raw material at a real cost that is steadily decreasing, whatever payment formula is used. Thus, in the Canadian chicken industry, the supply management joint plan does not protect producers from this onerous trend anymore than it deprives processors of the benefit of cheaper chicken that allows them to better compete with their competitors in the beef and pork industries.

Figure 2.1 Comparative Trends of Producer Price for Chicken by Country, in Constant National Currency, 1981 to 2003 (1981 = 100)

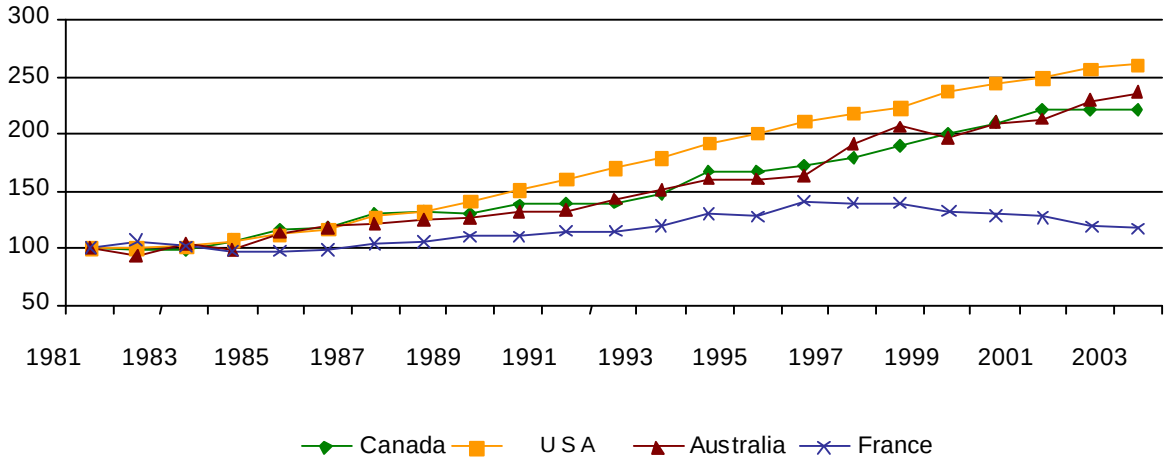


Source: Statistics Canada, USDA-ERS, BSL, ABARE, ABS, INSEE and our calculations.

2.1.2 TRENDS IN PRODUCTION VOLUMES

Production in Australia, Canada and United States has more than doubled between 1981 and 2002, having experienced an almost uninterrupted period of growth, while in France levels have dropped since 1997 (cf. Figure 2.2).

Figure 2.2 Comparative Trends in Chicken Production by Country, 1981 to 2003 (1981 = 100)



Source: AAFC, Statistics Canada, ABARE, USDA-ERS, INSEE and our calculations.

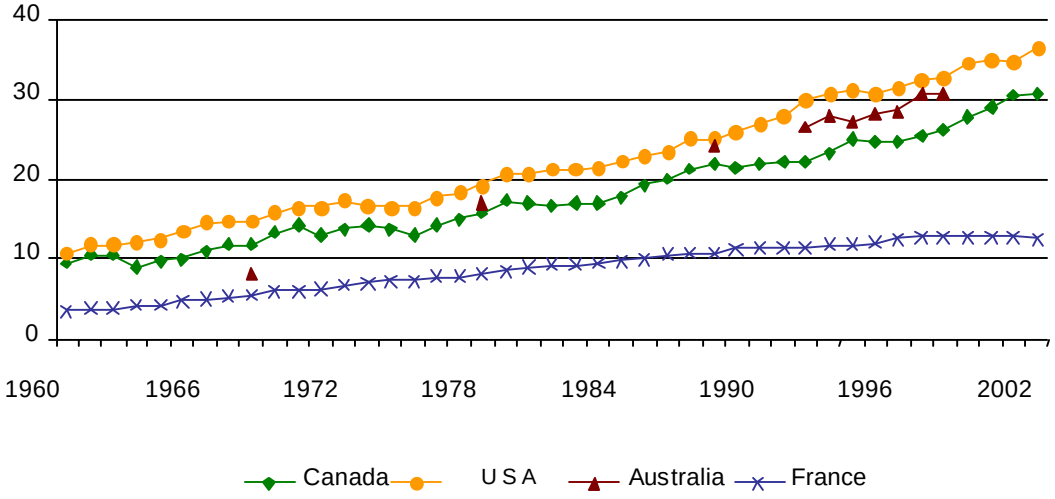
The growth of the French broiler industry was based on foreign trade, however the new trade rules, in effect since the Uruguay Round Agreement, have reduced its competitiveness in its traditional markets in North Africa and the Middle East. France's exports of chicken peaked at 500,700 tonnes in 1998 compared to 362,800 in 2003, a reduction of 28% in 5 years.

So, it does not seem that a regulatory framework (or the absence thereof) exercises influence over the vitality of the chicken industry. It is, rather, the favourable economic context that the industry created that is responsible for it.

2.1.3 INCREASE IN CHICKEN CONSUMPTION

Chicken sales in all of the countries analysed have grown continuously since the early 60s (cf. Figure 2.3). However, in France per capita consumption of approximately 12 kg is clearly less than elsewhere[1]. If one looks only at the meats eaten, chicken accounts for 35% of consumption in Canada and 38 % in the United States compared to 30% in Australia and about 15% in France.

Figure 2.3 Trends of Chicken Consumption, by Country, 1960 to 2003 (in kg/capita/year)



Source: AAFC, Statistics Canada, ABARE, USDA-ERS, INSEE and our calculations.

[1] It must be pointed out that, for 2002, poultry meat consumption in France reached 25 kg/capita and that this included other poultry (mostly turkey, duck and guinea fowl).

2.1.4 CONSUMER PRICE TRENDS

As Figure 2.4 shows, consumer prices in real terms (1981 currency) have fallen everywhere, but at different rates. In Canada and the United States, chicken was able to displace other meats in spite of a drop in real-term consumer prices that was smaller than in France and Australia. However, it must be noted that, in Australia, the downward trend in real-term consumer prices ended in the mid-1990s, corresponding to the implementation of sector deregulation. Thus, at first glance, deregulation does not seem to have automatically benefited the consumer.

Based on these observations, it seems that the regulatory system in place has little effect on variations in the retail price of chicken. As to consumption levels, they depend a lot on the ability of the processing industry and the retail trade sector (including restaurants) to vary the supply of chicken-based products, in order to make this meat more attractive to the consumer.

Figure 2.4 Consumer Price Trends for Chicken, by Country, in Constant National Currency, 1981 to 2004 (1981=100)
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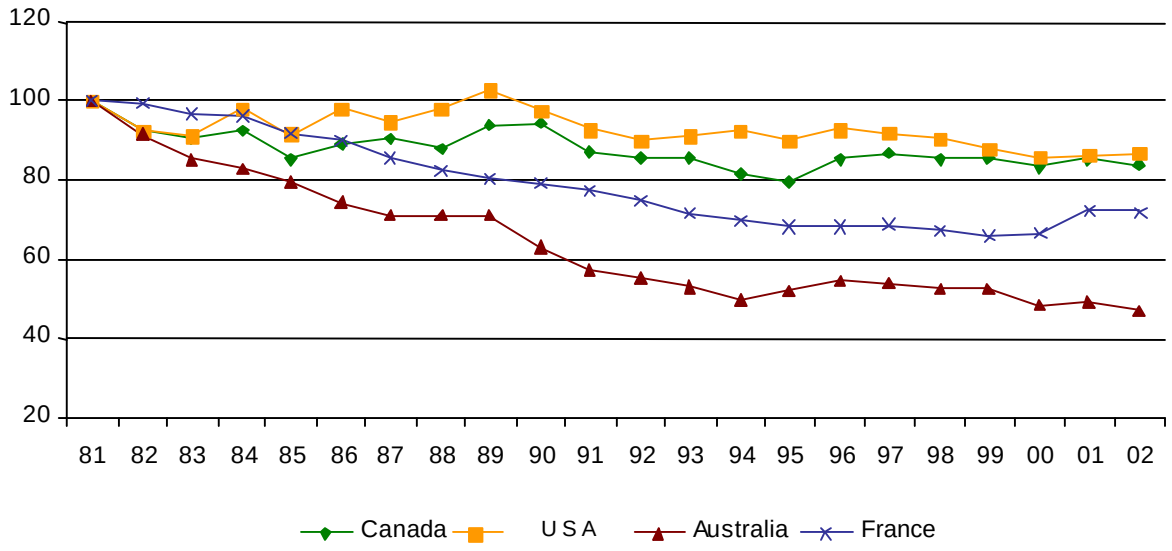
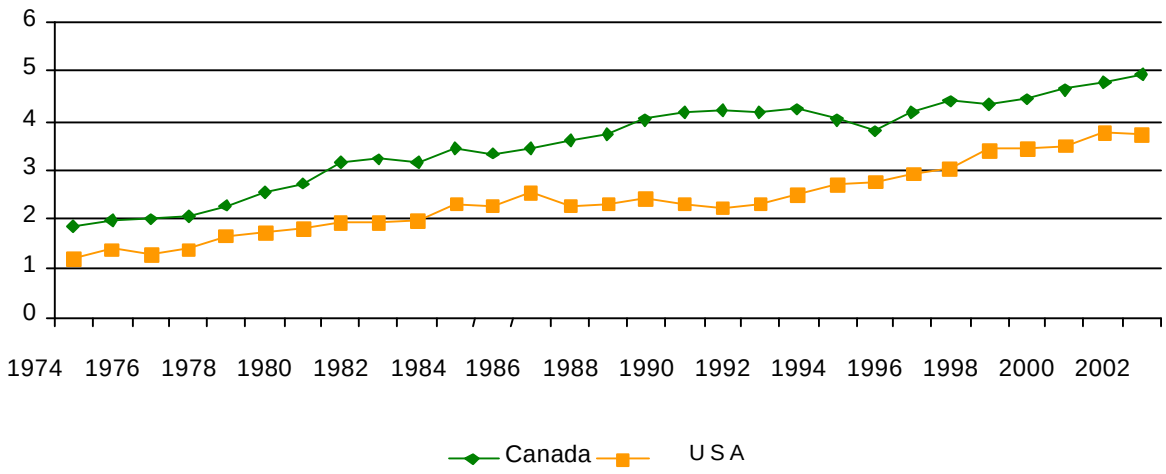


Source: Statistics Canada, BLS, ABS, INSEE and our calculations

As the previous Figure shows, chicken meat prices in Canada and the United States followed much the same paths between 1981 and 2002. Price data in $CA/kg, shown in Figure 2.5, leads to a similar conclusion. American and Canadian prices evolved similarly between 1974 and 2002, even though the American price remained lower than the Canadian price throughout the entire period. On the other hand, the relative spread between the two prices tended to shrink after 1993. While the average spread was 33.5%, in favour of the American price, from 1974 to 1988, it was reduced to an average of 26% from 1994 to 2002.

Figure 2.5 Retail Price Trends for Whole Broiler Chicken in the United States and Canada, 1974 to 2002 (in $Can/kg)



Sources: Agriculture Canada, BSL, Statistics Canada and our calculations

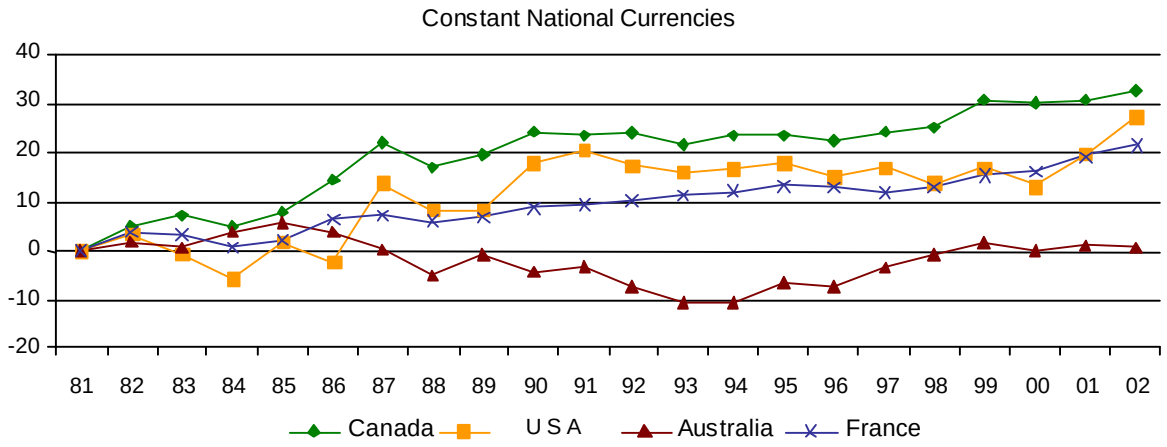
Thus, in spite of the dissimilarities in their organisational styles, the Canadian and American chicken industries have progressed in more or less the same way, when compared over almost three decades. But, it seems there is no ignoring the fact that a structural gap has always existed between the two, even before the implementation of supply management in Canada, in 1978.

2.1.5 CHICKEN PROCESSING AND DISTRIBUTION

The key focus of our study hinges on changes in the spread between the consumer price index and the producer price index. A positive spread indicates that consumer prices have increased faster than producer prices and that the overall margin of chicken processing and distribution has increased. However, it must be pointed out that this sort of analysis does not allow for conclusions to be drawn regarding the profit margin of each level in the chain.

Figure 2.6 shows that differences between the organisation of chicken marketing in Canada and in the United States do not seem to have much influence on variation in the overall margin, in constant dollars. The two curves follow similar trends in as much as, between the two, the spreads between the start and the end of the period are insignificant. In fact, the spread widens rapidly at the start of the period, then remains relatively constant afterwards, before shrinking back almost entirely between 2000 and 2002.

Figure 2.6 Trend in Chicken Processing and Distribution Aggregate Margin on the Basis of the Difference between the Consumer Price Index and the Producer Price Index, by Country, 1981 to 2002 (Index 100=1981)



Sources: Statistics Canada, BLS, USDA-ERS, ABS, ABARE, INSEE and our calculations

Generally speaking, it can be seen that the spread between the retail price and the producer price widened less rapidly in France than in Canada and the United States. Two factors, which can explain this discrepancy, are the stagnation of chicken consumption in France and the relative weakness of the place chicken cuts and other processed products occupy.

Only Australia stands out with an aggregate processing and distribution margin that had no overall increase between the start and end of the period in question. However, deregulation in the mid-1990s marked the start of a trend reversal and, from 1996, the overall margin began to increase, to the benefit of the processors and distributors.

Lastly, in Canada as in the United States and France, one can see that the spread between producer prices and consumer prices continued to grow throughout the entire period. And, the trend in Australia, in the latter years, is in the same direction.

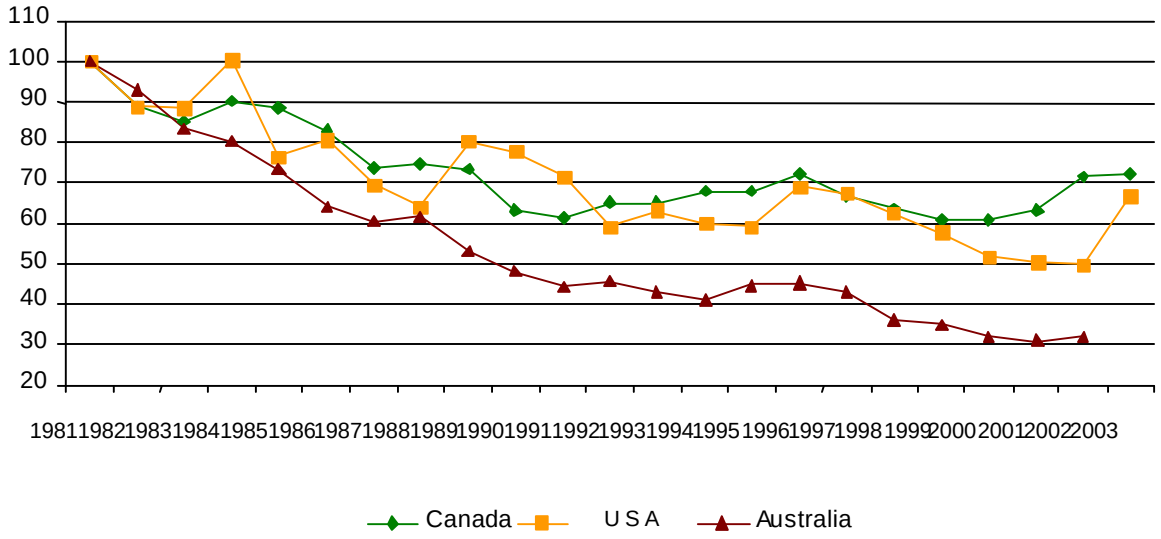
2.2 THE EGG SECTOR

The egg sector, too, has been characterised by rapid increases in productivity but in an environment of flat consumption. With the state of available data, we are not in a position to analyse the specific situation for the industrial egg market and we therefore have to confine ourselves to the fresh table egg market. Furthermore, the lack of available data in France obliges us to limit our analysis to the other three countries.

2.2.1 PRODUCER PRICE TREND

Figure 2.7 indicates that the long-term trend in changes in the producer price for eggs, in constant dollars, is basically the same in Canada and the United States. However, in spite of the same downward trend, Canadian prices fluctuated noticeable less, from year to year, than those in the United States. The Australian situation differed a bit in that the producer prices for eggs posted a significantly greater reduction than in the other two countries, since the end of the 1980s.

Figure 2.7 Producer Prices, by Country, Constant National Currencies 1981 to 2003 (index 100=1981)

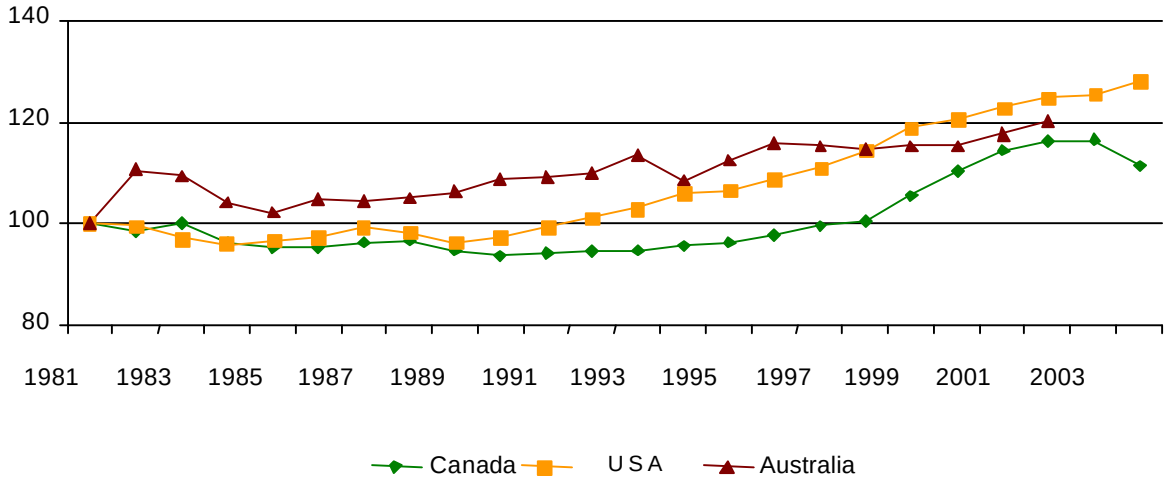


Sources: Statistics Canada, USDA NASS, ABARE and our calculations

2.2.2 PRODUCTION VOLUMES

Figure 2.8 shows that egg production increased 12% in Canada, 20% in Australia and 25% in the United States during the period. However, production in Canada did not experience sustained growth except from 1999 to 2003, with an increase of 16%. The United States had a relatively fast period of growth from 1991. As for Australia, growth there was more gradual, starting in 1985. But, for the overall period, growth curves for all three countries looked pretty much the same.

Figure 2.8 Egg Production by Country, 1981 to 2004 (index 100=1981)

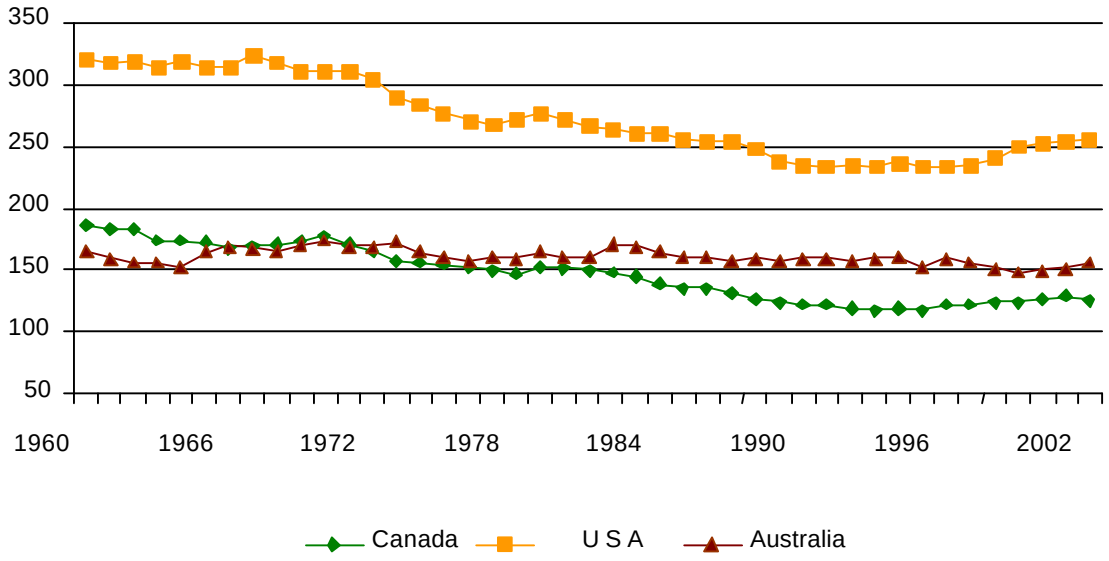


Sources: FAO, Statistics Canada, USDA ERS, AECL, INSEE and our calculations

2.2.3 PER CAPITA CONSUMPTION

Figure 2.9 shows consumption statistics for the three countries and we have chosen to use 40 years of data in order to give a better picture.

Figure 2.9 Egg Consumption Trend by Country, 1960 to 2003 (in eggs/capita/year)



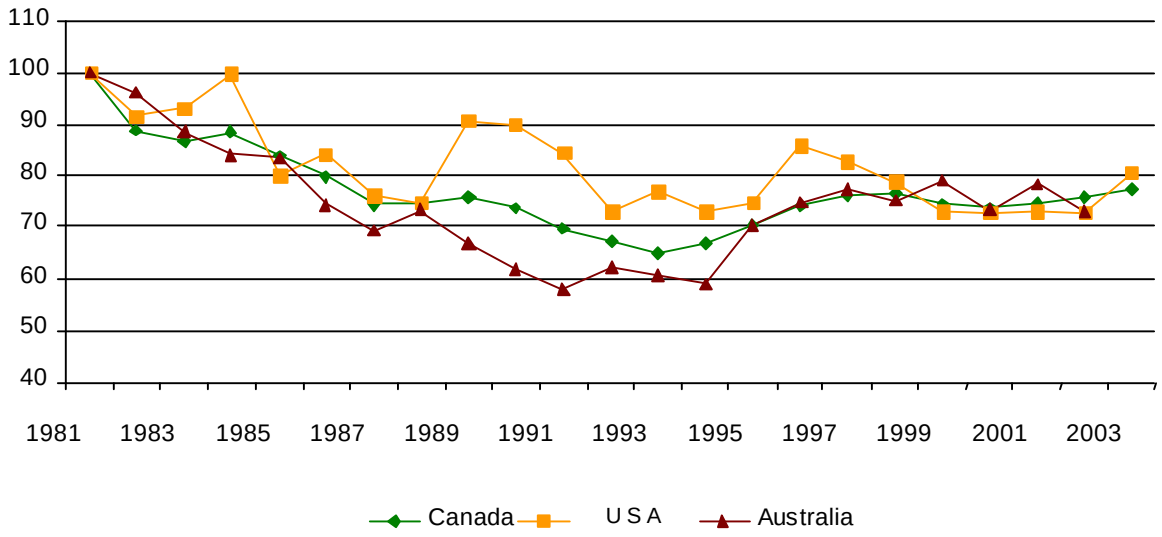
Sources: Statistics Canada, USDA-ERS, AECL, INSEE

It can be seen at the outset that, even though Americans have always eaten more eggs per capita than Canadians, the changes in consumer habits in these two countries are similar: per capita consumption declined for three decades before stabilizing at the start of the 1990s and then seeing a small rebound towards the end of that decade. There is really little to say about the Australian experience other than the absence of any significant variation in consumption patterns.

2.2.4 CONSUMER PRICES

Figure 2.10 clearly shows that while the consumer price of eggs changed in a rather different way, from one country to another, the trends came together at the end of the period, for the three countries analyzed. In the United States the price trend from 1988 to 1998 was less favorable to the consumer while in Australia, from 1988 to 1996, it was just the opposite. The price shift in Australia in 1995, following the implementation of reforms and deregulation, is noticeable.

Figure 2.10 Trends in the Consumer Price of Eggs, Constant National Currency, 1981 to 2002, (Index 100=1981)



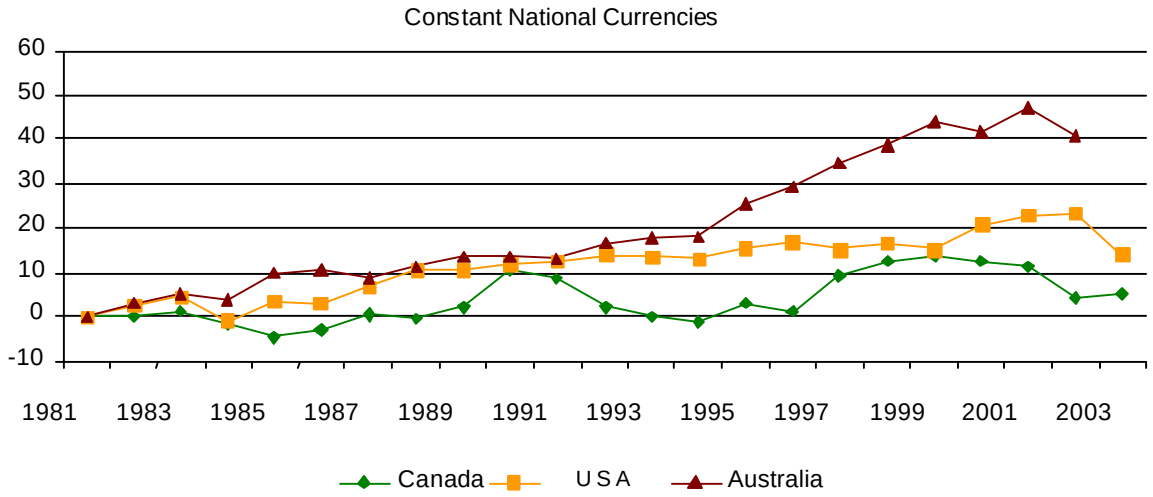
Source: Statistics Canada, BSL, AECL, INSEE and our calculations

2.2.5 EGG DISTRIBUTION

Figure 2.11 shows a sharp increase in margin, in Australia, for the sectors downstream from egg production, from the mid 1990s on. Thus, deregulation in this area of activity translated into a decrease in producer prices, together with an increase in consumer

prices, to the benefit of the downstream segments which were able to markedly increase their margin. It should be noted that, between 1995 and 2001, a similar but smaller trend occurred in Canada, with a reduction in producer price and a parallel increase in margins for the downstream segments of the industry. That being said, the margins for this industry segment, in Canada, still increased the least over the entire period. In the United States, margins for the downstream segments fell between those for the other two countries.

Figure 2.11 Trends in Egg Distribution Margin Based on the Difference between Consumer Price Index and the Producer Price Index for Eggs, by Country, 1981 to 2003 (Index 100=1981)



Sources: Statistics Canada, USDA-NASS, BSL, ABARE, AECL and our calculations

2.3 TRADE ISSUES

In keeping with its trade agreements with United States, Canada imports each and every year, without tariffs, chicken meat amounting to 7.5% of its annual national production of the previous year. And, what is more, during 2004 and the first seven months of 2005, Canada imported, respectively, 1.4 and 3.6 million dollars of chicken products over and above its tariff rate quota -- that is to say at full tariff (Statistics Canada). These are not significant volumes when compared to Canada's total chicken production, but it is, nevertheless, an indication of the extent of the border protection that the supply management system benefits from. These imports came primarily from the United States but, in 2005, Brazil also became a not-insignificant supplier with a little more than one quarter of this trade value.

This situation indicates the increasingly dominant position that Brazil represents in the international chicken market. Chicken production there has been growing increasingly, helped by very competitive production and processing costs that have allowed it to post

rapid growth in its international market presence. In 2004, Brazil became the number one chicken exporter in the world, pushing the Americans into second place.

In this context, over-quota tariffs take on a major strategic importance for the Canadian chicken industry, since they allow it to continue to generate significant economic activity across Canada. The flexibility available seems very limited, looking at an eventual reduction in these tariffs.

3. SOCIAL PERFORMANCE

Analysis of the relative performances of the poultry sector regulatory systems would not be complete without taking into consideration social aspects such as possible impacts of production concentration on the environment and the matter of contractual relationships in the different types of vertical integration.

3.1 GEOGRAPHICAL DISTRIBUTION

Canada and Australia are similar in the way that the distribution of production activities follows population distribution. Thus, the Canadian provinces that have the highest chicken production are also the most heavily-populated provinces. The location of production in the United States and France follows a different plan, with processing operations showing a distinct preference for sparsely-populated areas.

In the latter two countries, the geographic concentration of production is accompanied by a collection of abattoirs and processing facilities. This effectively concentrates the environmental impacts of production (in particular, high volumes of animal waste to be disposed of) in a relatively small area. In these two countries, a number of studies have shown that waste from chicken production has negative effects on the environment.

In Canada and Australia, the more balanced distribution of production activities seems to have reduced the sector's environmental impact. In Australia, however, processing and production activities in New South Wales and Victoria are starting to experience the problems of coexistence in the outskirts of some large urban centers

3.2 WORKING CONDITIONS

As we have already pointed out, Canada stands alone in the world of chicken production with its supply management system. In addition to limiting the power of the abattoirs and processors vis-à-vis the producers, it gives the latter a real voice in the setting of the sector's priorities and directions. Far from being a minor factor, this different view of the producers' role turns out to be a defining one because it allows them to remain owners and

managers of their businesses. By comparison poultry producers in the United States, France and Australia assume the risk associated with business ownership while having only a slight hand in management. Thus, American, Australian and French chicken producers never own the inputs (feed and chicks) required to operate farms and, in fact, they don't even own the chickens they deliver to the slaughter houses. Furthermore their remuneration is not based on price but rather on a fixed rate, tied to performance.

Generally speaking chicken producers do not receive any guarantee, from the processors, as to the length of their employment. The producers therefore find themselves in a situation where the term of the loan required to finance the purchase of chicken barns is much longer than the length of the normal contract. It also seems that the decision to not renew contracts represents the usual way to eliminate producers or buildings, without any regard to the producer's financial commitments. By the same token, this also allows a certain form of supply management by businesses that practice integration.

To summarize, Canada's supply management system seems to have led not only to a better distribution of production across the country but also to a situation that supports a better sharing of revenues and power between producers and processors.

4. CONCLUSION

Production contracts and vertical integration are the dominant systems used in the production and marketing of live chickens for slaughter, with the processors in charge. For the table egg sector, the industry's vertical integration phase is a producer-driven approach.

At the start of the 70s Canadian poultry and egg producers chose a different route that ensured that they would keep greater control of their future. They did this by opting to organize the production and marketing of live chickens and eggs under supply management with quotas. We have to ask ourselves if Canada, in doing this - by keeping in place such a distinct system – had not condemned itself to a performance that would suffer in comparison to those of the other countries.

Looking at our comparative analysis of the economic and social performance of the Canadian chicken and table egg sectors, our answer to this question is a simple no. Whether one uses economic indicators or the evaluation of the social impacts of the organizational style, we come to the conclusion that Canada performs as well as and sometimes better than Australia, the United States and France. In fact our analysis allows us to state that, in the case of chicken, it is the development of consumption, rather than the regulatory style, that stands out as the most important factor in achieving good performance. On that score, the Canadian chicken sector has shown that, like its U.S. counterpart, it knows how to take advantage of market opportunities and make chicken the most-consumed meat.

Far from hurting this growth, Canadian chicken producers have shown their ability to support the processing industry's efforts. The gains they have achieved in production efficiency have allowed the industry to develop a range of increasingly varied products that have made it possible to replace beef as the most popular meat. Whether one compares trends in producer prices or consumer prices, the Canadian poultry industry looks very similar to its American counterpart.

At the end of the 1990s, the Canadian table egg industry showed, like those in the other countries, its ability to reverse a falling trend in egg popularity. The Canadian supply management system, for its part, seems to have an effect on variations in consumer and producer prices. A comparison with the other countries shows that prices follow similar downward trends but that prices in Canada suffer less-pronounced fluctuations. Such a comparison also shows that the economic reforms, undertaken by Australia in 1995, resulted in a sharp increase in the price paid by consumers and a more rapid reduction in the price received by producers. Generally, 1995 marked a break from the preceding period.

It is in social performance that the Canadian poultry sector sets itself apart from the other countries. Production units in Canada, as in Australia, are better spread across the country, which seems to have reduced the sector's impacts on the environment. The Canadian system also results in a better lot in life for its producers who are, for the main part, owners of their own businesses and, through their provincial representation, true industry partners. By comparison, poultry producers in Australia, the United States and France take on the risks of business ownership while having little management freedom.

To sum up, Canada's supply management system seems to have led to not only a better distribution of poultry production across the country but also to its taking place in a context which supports a better sharing of revenues and powers between producers and processors. When you add to the social advantages the fact that they are not obtained to the detriment of the poultry chain's economic results, one can then say that, taken in its entirety, the Canadian poultry sector posts a better performance than those of Australia, the United States and France.

In spite of the good general performance of the Canadian poultry production sector, one should not downplay the fact that there remains a significant structural gap between Canada and the United States. The greater geographic concentration of processing and production activities in the United States notwithstanding, the average size of operations there is significantly larger. In this context, even a small reduction in import tariffs could lead to the creation of unfair competition for the Canadian poultry industry. The maintenance of tariff-rate quotas and the level of tariffs protecting the Canadian market from massive imports thus have great strategic importance for the Canadian poultry industry. Maintaining these two aspects allows the industry to continue to generate major economic activity across Canada and to maintain those aspects that give it major advantages, in particular in terms of environmental impacts and the role of the poultry producer.