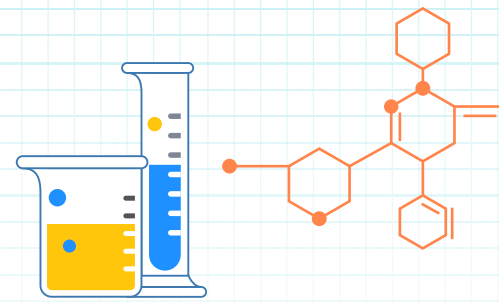


Meat Production and Marketing



Summary

This research studies the production and marketing of a beef product. Four countries are considered, where two of them are beef producers and two beef importers. The beef producer countries include the United States and China while consumer beef countries include Japan and Russia. The analyzes reveal that the United States is the largest beef producer in the world, accounting for over 90% of the total production while China accounts for less than 10%. The research also shows that Japan is the largest beef importer, where it imports over 74% of the total beef produced while Russia imports less than 26% of the total production. Lastly, the research reveals that the rate of exportation and importation of beef has reduced during the past 20 years. The reason for this is that countries are producing beef that is consumed locally, rather than importing.

Introduction

The data used is obtained from WITS database. This data comprises of the two largest meat producer countries and two largest meat importer countries. The meat producers are the United States and China while the consumer meat countries are Japan and Russia. The data has five variables (columns). The first variable is the Reporter Name, which the country that provided the data and the second variable is the partner name, which is the country that is trading with the reporter country. The third variable is the year; the fourth is trade flow and the fifth is the value, which is in thousand

USD. The data used is for 20 years, starting from 1990 to the year 2010 (Appendix 1).

Analysis and Results

The United States is the world biggest beef producer and exporter. The second largest exporter is China. Below is the descriptive statistics of the exports made by China and United States.

Descriptive Statistics

Country that supplied the data			Statistic	Std. Error	
TradeValue in 1000 USD	China	Mean	9.7618E4	2.01277E4	
		95% Confidence Interval for Mean	Lower Bound	5.7281E4	
			Upper Bound	1.3795E5	
		5% Trimmed Mean	8.0808E4		
		Median	1.0424E4		
		Variance	2.269E10		
		Std. Deviation	1.50622E5		
		Minimum	1.44		
		Maximum	5.18E5		
		Range	5.18E5		
		Interquartile Range	1.47E5		
		Skewness	1.653	.319	
		Kurtosis	1.583	.628	

Country that supplied the data		Statistic	Std. Error		
TradeValue in 1000 USD	United S	Mean	9.1928E5	1.24084E5	
		95% Confidence Interval for Mean	Lower Bound 6.7070E5 Upper Bound 1.1678E6		
		5% Trimmed Mean	8.6712E5		
		Median	6.4150E5		
		Variance	8.776E11		
		Std. Deviation	9.36814E5		
		Minimum	5.32		
		Maximum	2.86E6		
		Range	2.86E6		
		Interquartile Range	1.89E6		
		Skewness	.653		.316
		Kurtosis	-.969		.623

From the table above, we can see that during the 20-year period, from 1990 to 2010, China exported an average of 97618 USD, with the standard error of this mean being 20127 USD. During this 20-year period, the minimum amount China exported is 1440 USD while the maximum exported is 518000 USD. The standard deviation of these values is 150520 USD. On the other hand, United stated exported an average of 919280 USD, with a standard error of 124080 USD. The minimum amount exported was 5.32 USD while the maximum amount was 2860000 USD. The standard deviation of the exports is 366810 USD.

China is the largest importer of beef meat, followed by Russia. Below is a table

of descriptive statistics of the imports made by these two countries.

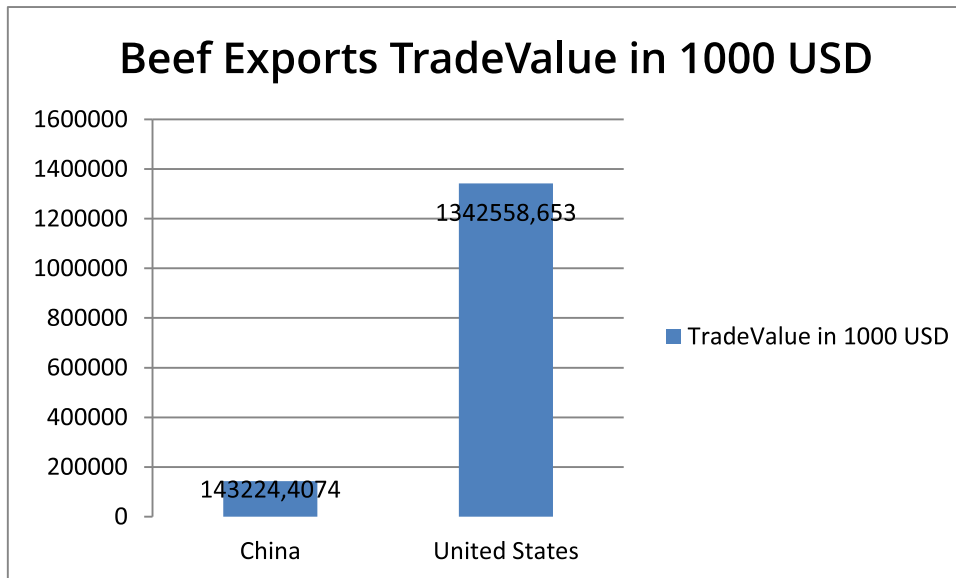
Descriptive statistics

Country that supplied the data			Statistic	Std. Error	
TradeValue in 1000 USD	Japan	Mean	6.6689E5	1.16312E5	
		95% Confidence Interval for Mean	Lower Bound		4.3466E5
			Upper Bound		8.9911E5
		5% Trimmed Mean	5.8881E5		
		Median	1.0279E4		
		Variance	9.064E11		
		Std. Deviation	9.52056E5		
		Minimum	5.32		
		Maximum	2.86E6		
		Range	2.86E6		
		Interquartile Range	1.41E6		
		Skewness	1.117		.293
		Kurtosis	-.384		.578
	Russian	Mean	2.8661E5	5.24648E4	
		95% Confidence Interval for Mean	Lower Bound		1.8094E5
			Upper Bound		3.9228E5
		5% Trimmed Mean	2.5528E5		
		Median	1.1372E5		
	Variance	1.266E11			

	Std. Deviation	3.55834E5	
	Minimum	1.44	
	Maximum	1.30E6	
	Range	1.30E6	
	Interquartile Range	5.76E5	
	Skewness	1.154	.350
	Kurtosis	.241	.688

From the above table, we can see that the mean average import of Japan was 666890 USD per year, with a standard error of 116310 USD. During this 20-year period, the minimum amount that Japan imported was 5320 USD while the maximum import was 2860000 USD. The standard deviation of Japan's imports is 9520500 USD. On the other hand, Russia imported an average of 288610 USD per year, with a standard error of 116310 USD. The minimum of the Russia's imports was 1440 USD while the maximum imported was 1300000 USD. The standard deviation of Russia's imports is 355830 USD.

Next, we look at the proportion of the United States and Russia's exports. Below is a bar graph comparing the exports made by China and United States.

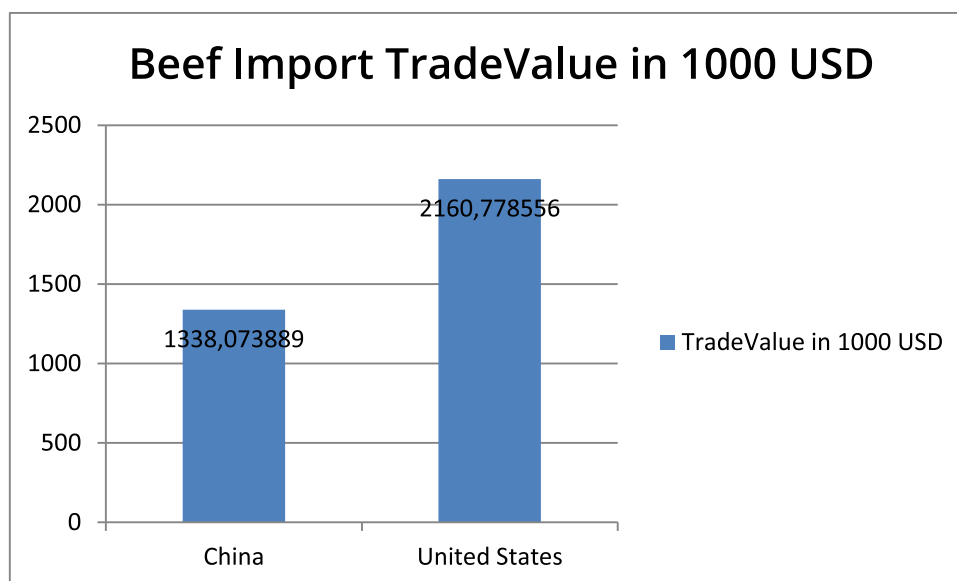


From the above graph, we can see that United States has the largest export share, where it exports an average of 134255653 USD to the global market, which is 90.4% of all exports. China on the other hand has recorded an average value of 143224407 USD, which is 9.6% of the market share.

Next, we will look at the destination of China's exports. Below is a bar graph showing the imports of China's beef products by Japan and Russia.

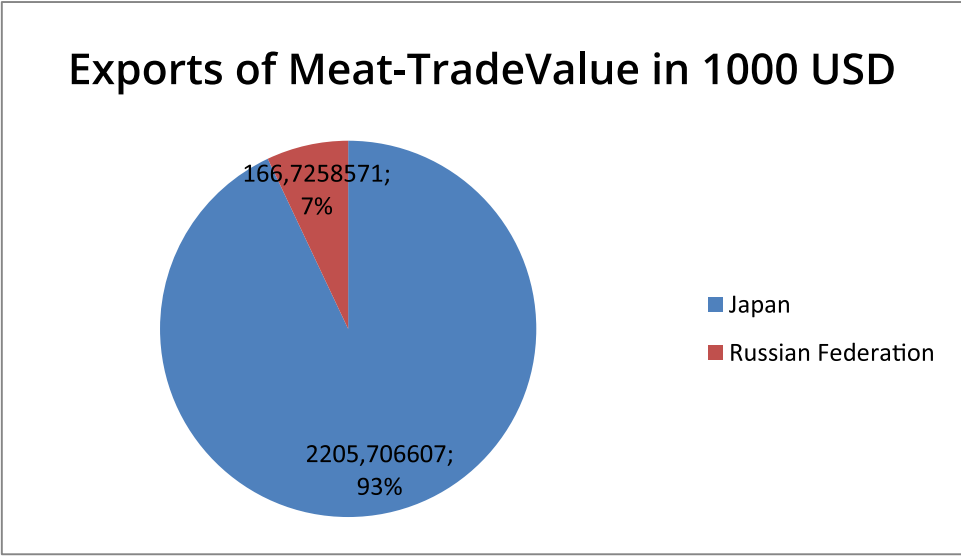


From the above graph, we see that Russian Federation imports most of the China's beef, recording an average of 214116397 USD annually. This is 74% of the total exports. Japan only accounts for an average of 76029360 USD annually, which is 26% of the total exports made by China. We will try to study the beef imports by the United States and China. Below is a bar chart showing the proportion imported by these two countries.



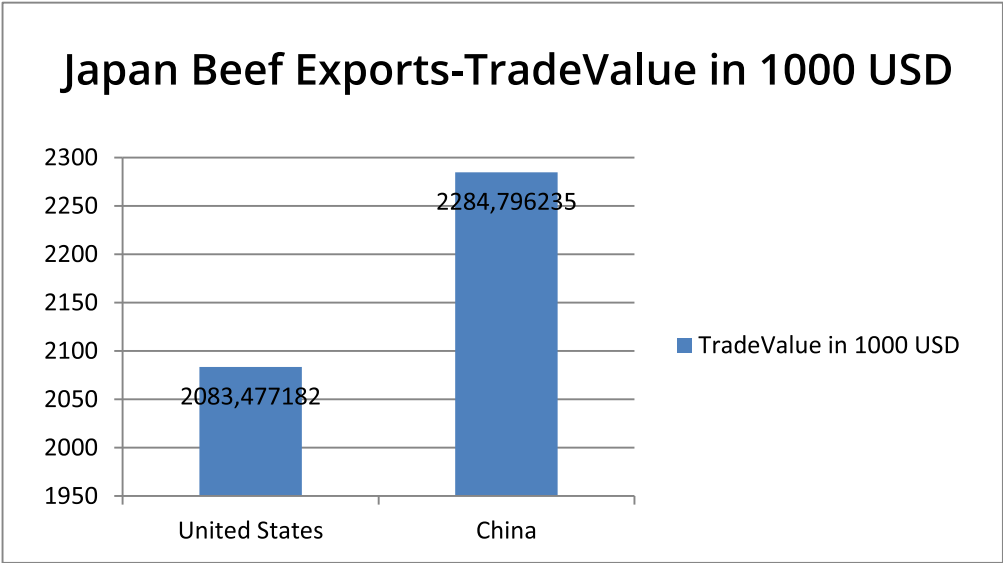
The above bar graph shows that United States imports more beef than China. The imports made by the United States amount to an average of 2160779 USD, which is 61.8 % of the total imports. On the other hand, China imports an average of 1338074 USD, which is 38.2% of the imports.

Next, we look at the exports of meat by Japan and Russia. Below is a bar graph showing the proportion of exports made by Japan and Russia between 1990 and 2010.



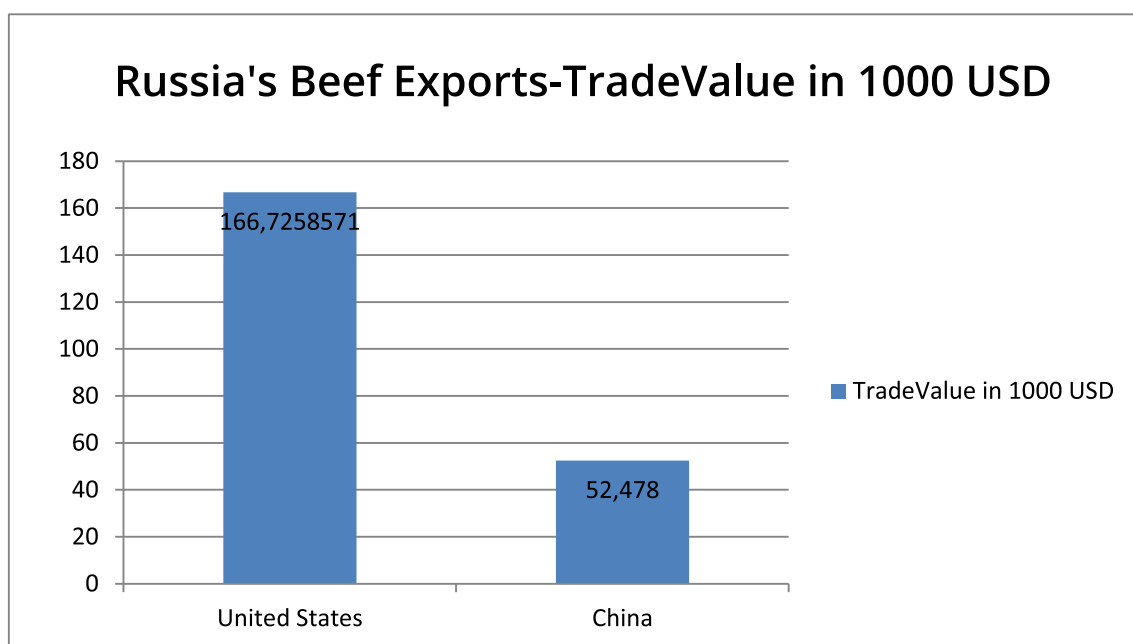
From the pie chart above, we can see that Japan produces more meat than Russia. During the 20-year period, Japan produced an average of 2205707 UDS annually, which is 93% of the total exports. On the other hand, Russian Federation produced an average of 166726 USD annually, which is only 7% of the total exports.

We then look at the countries which import Japan and Russia meat products. Below is a bar graph showing the destination of the beef produced in Japan.



From the above graph, it is clear that most of the Japan's beef products are exported to China, where China has made an average annual import of 2284796 USD, which is 52.3% of the total exports. On the other hand, United States had imported an average of 2083477 USD annually from Japan, which is 47.7% of the total exports.

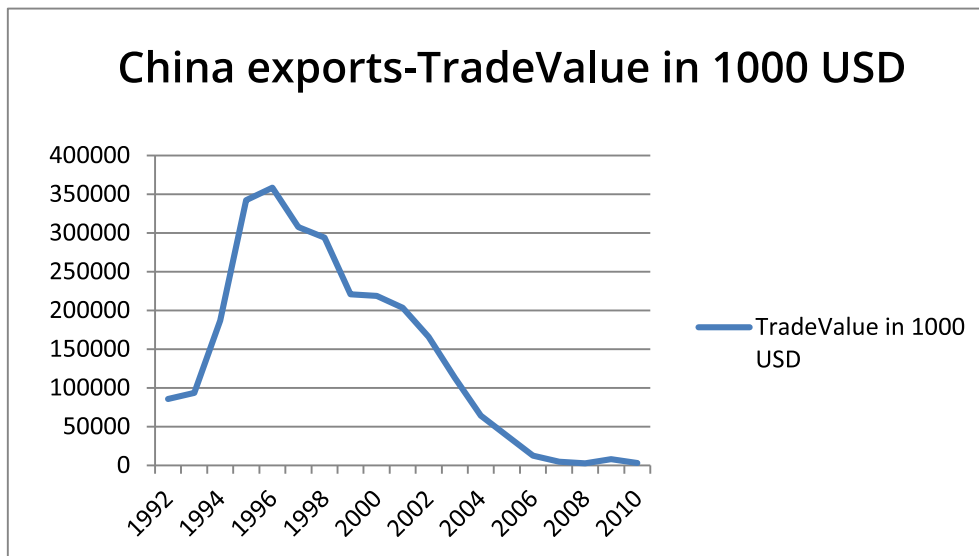
The next major thing to look at is the beef production in Russia. Below is a bar chart showing the destination of the beef produced in Russia.



From the above graph, we can see that most of the beef produced by Russia are exported to the United States. The annual imports of United States are 166723 USD, which is 76% of the total exports. On the other hand, the exports to China are 52478 USD annually, which is 24% of the total exports.

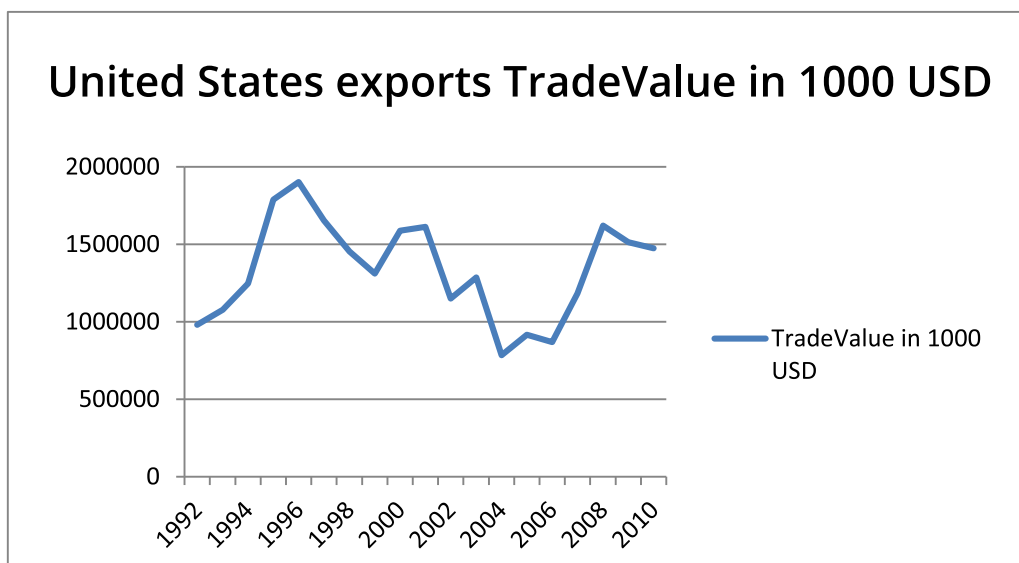
Lastly, we look at the trend of production of beef meat by China and United States. We will also look at the trend of import by Japan and Russia. Below is

a trend line showing China's exports.



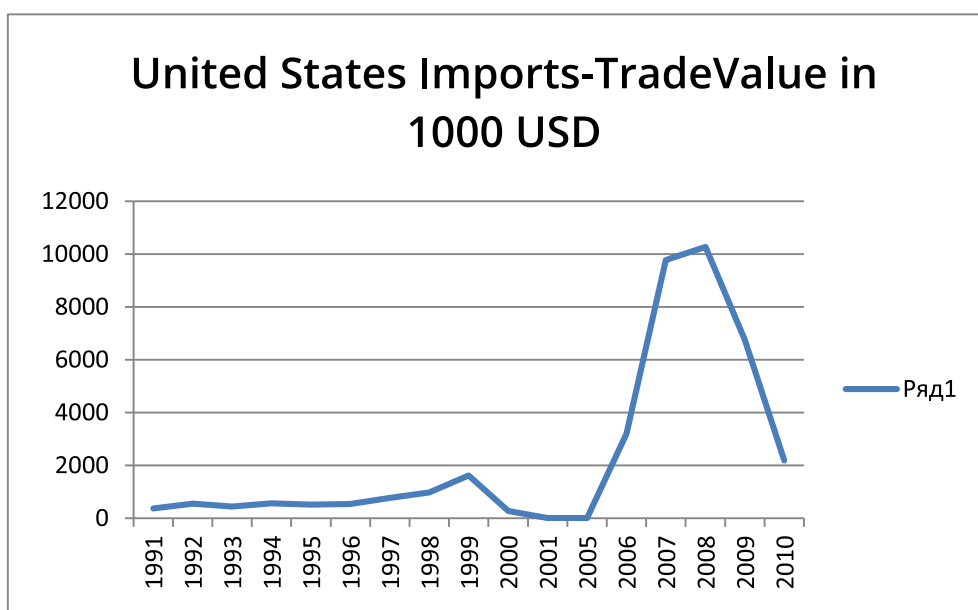
From the graph above, we see that the exports first increased from 1990 to 1996, but decreased from 1996 to 2010. In the year 2010, its exports dropped to almost zero.

Next, we look at the United States exports, over a period of 20 years (1990 to 2010).



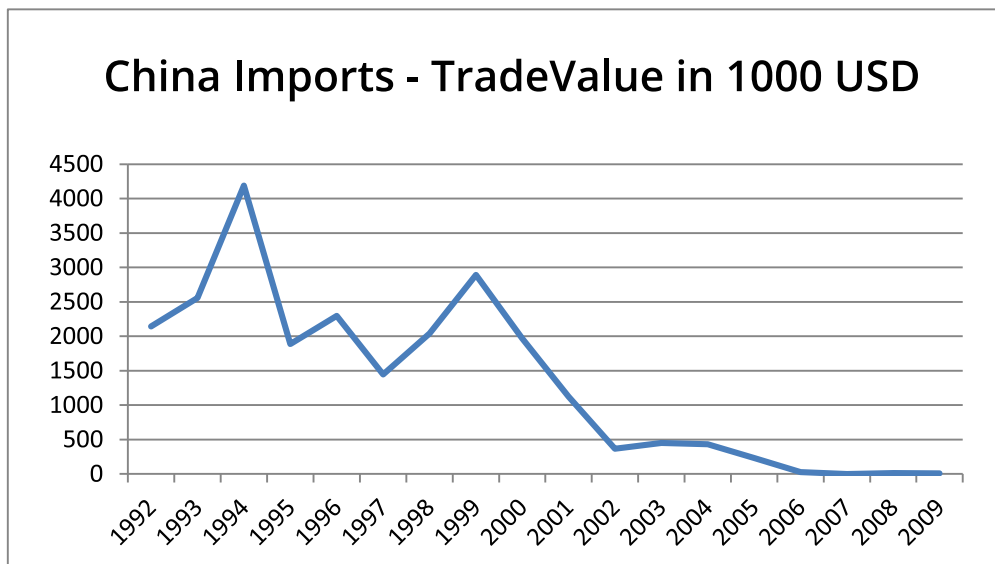
From the above graph, it is clear that the exports of United States have experienced alternating cycles of increase and decrease. From 1990 to 1996, there was an increase in the production, which reduced from 1996 to 2008. U.S then experienced an increase in production from 2008 to 2009, then a decrease from 2009 to 2010.

The next line graph shows the imports of United States from 1990 to 2010.



From the graph above it is clear that the United States imports were very low from 1990 to 1999. Between 1999 and 2005, the country imported very little meat, but this trend changed where the import increased from 2005 to 2008. From 2009, the imports reduced to the year 2010.

Lastly, we look at the trend of importation of China. Below is a line graph showing the amount China imported from 1990 to 2010.



It can be seen that China has been reducing its beef imports. The imports increased from 1992 to 1994 but reduced from 1994 to 1997. From 1997, the imports increased up to 2000 but reduced after that up to 2010. Between 2006 and 2010, the imports were almost zero.

Conclusions

From the analysis above, it is clear that the United States is the leading beef producer in the world. Of all the exported beef, United States accounts for over 90% of the market share. The proportion accounted by China is less than 10%.

Also, it is clear that Japan is the leading importer of beef, accounting for over 74% of all the beef products sold while Russia accounts for less than 26%. Lastly, all the countries have been reducing the number of imports and exports. The reason for this is that the beef produced is consumed locally, and there is no surplus to export. Countries have opted to produce their beef,

than to import. Also, this conclusion can be contributed by the fact that there has been an increase in demand for beef in the local markets. The increase in demand locally leads to a reduction of exports.

Appendices

Appendix 1: Data

Reporter Name	PartnerName	Year	TradeFlow Name	TradeValue in 1000 USD
China	Japan	1992	Export	147703.904
China	Japan	1993	Export	149546.752
China	Japan	1994	Export	306574.816
China	Japan	1995	Export	504821.312
China	Japan	1996	Export	518321.376
China	Japan	1997	Export	463428.448
China	Japan	1998	Export	421370.208
China	Japan	1999	Export	419742.379
China	Japan	2000	Export	431911.868
China	Japan	2001	Export	362470.668
China	Japan	2002	Export	201828.614
China	Japan	2003	Export	112521.981
China	Japan	2004	Export	13854.81
China	Japan	2005	Export	4512.793
China	Japan	2006	Export	5446.274
China	Japan	2007	Export	2130.923
China	Japan	2008	Export	560.735
China	Japan	2009	Export	1056.87

Reporter Name	PartnerName	Year	TradeFlow Name	TradeValue in 1000 USD
China	Japan	2010	Export	406.819
United States	Japan	1991	Export	1551617.332
United States	Japan	1992	Export	1943061.245
United States	Japan	1993	Export	2041073.248
United States	Japan	1994	Export	2157841.726
United States	Japan	1995	Export	2862875.372
United States	Japan	1996	Export	2828325.792
United States	Japan	1997	Export	2433748.789
United States	Japan	1998	Export	2282581.118
United States	Japan	1999	Export	2475185.166
United States	Japan	2000	Export	2616708.803
United States	Japan	2001	Export	2479722.41
United States	Japan	2002	Export	1851811.475
United States	Japan	2003	Export	2132858.252
United States	Japan	2004	Export	997117.234
United States	Japan	2005	Export	1115478.264
United States	Japan	2006	Export	1119800.187
United States	Japan	2007	Export	1410162.76
United States	Japan	2008	Export	1939644.636
United States	Japan	2009	Export	2007317.079
United States	Japan	2010	Export	2304531.734

Reporter Name	PartnerName	Year	TradeFlow Name	TradeValue in 1000 USD
China	Russian Federation	1992	Export	23652.628
China	Russian Federation	1993	Export	36926.88
China	Russian Federation	1994	Export	67424.528
China	Russian Federation	1995	Export	179631.584
China	Russian Federation	1996	Export	198310.256
China	Russian Federation	1997	Export	151435.376
China	Russian Federation	1998	Export	166586.512
China	Russian Federation	1999	Export	21500.576
China	Russian Federation	2000	Export	5204.772
China	Russian Federation	2001	Export	44160.351
China	Russian Federation	2002	Export	129344.889
China	Russian Federation	2003	Export	112992.86
China	Russian Federation	2004	Export	114440.295
China	Russian Federation	2005	Export	71861.915
China	Russian Federation	2006	Export	18999.867
China	Russian Federation	2007	Export	6992.907
China	Russian Federation	2008	Export	4756.447
China	Russian Federation	2009	Export	14305.828
China	Russian Federation	2010	Export	5787.461
United States	Russian Federation	1992	Export	16239.491
United States	Russian Federation	1993	Export	111622.24

Reporter Name	PartnerName	Year	TradeFlow Name	TradeValue in 1000 USD
United States	Russian Federation	1994	Export	336459.768
United States	Russian Federation	1995	Export	713407.106
United States	Russian Federation	1996	Export	974148.02
United States	Russian Federation	1997	Export	871543.244
United States	Russian Federation	1998	Export	625291.994
United States	Russian Federation	1999	Export	144585.797
United States	Russian Federation	2000	Export	559200.356
United States	Russian Federation	2001	Export	746543.177
United States	Russian Federation	2002	Export	448087.528
United States	Russian Federation	2003	Export	439443.309
United States	Russian Federation	2004	Export	571690.489
United States	Russian Federation	2005	Export	717770.711
United States	Russian Federation	2006	Export	614880.699
United States	Russian Federation	2007	Export	953102.805
United States	Russian Federation	2008	Export	1302374.275
United States	Russian Federation	2009	Export	1020436.352
United States	Russian Federation	2010	Export	641497.499
China	Japan	1992	Import	2144.9
China	Japan	1993	Import	2556.605
China	Japan	1994	Import	4190.134
China	Japan	1995	Import	1886.745

Reporter Name	PartnerName	Year	TradeFlow Name	TradeValue in 1000 USD
China	Japan	1996	Import	2296.66
China	Japan	1997	Import	1444.602
China	Japan	1998	Import	2040.286
China	Japan	1999	Import	2894.359
China	Japan	2000	Import	1973.769
China	Japan	2001	Import	1123.983
China	Japan	2002	Import	366.206
United States	Japan	1991	Import	370.208
United States	Japan	1992	Import	557.53
United States	Japan	1993	Import	441.577
United States	Japan	1994	Import	564.983
United States	Japan	1995	Import	519.514
United States	Japan	1996	Import	541.225
United States	Japan	1997	Import	777.593
United States	Japan	1998	Import	979.47
United States	Japan	1999	Import	1614.732
United States	Japan	2000	Import	278.499
United States	Japan	2001	Import	6.178
United States	Japan	2005	Import	5.316
United States	Japan	2006	Import	3193.079
United States	Japan	2007	Import	9774.241

Reporter Name	PartnerName	Year	TradeFlow Name	TradeValue in 1000 USD
United States	Japan	2008	Import	10279.138
United States	Japan	2009	Import	6750.197
United States	Japan	2010	Import	2188.056
China	Russian Federation	1992	Import	450.151
China	Russian Federation	1993	Import	433.422
China	Russian Federation	1994	Import	232.363
China	Russian Federation	1995	Import	26.088
China	Russian Federation	1999	Import	1.444
China	Russian Federation	2000	Import	14.095
China	Russian Federation	2001	Import	9.518
United States	Russian Federation	2005	Import	52.478