

Economic Impact of U.S. Pork Trade, 1986-2012

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The changes in U.S. pork trade in the past 27 years are dramatic. U.S. pork exports have grown from 86 million pounds carcass weight equivalent in 1986 to 5.383 billion pounds in 2012, an increase of 6159%. During this period, U.S. pork imports declined by 28%. The U.S. has gone from importing 1.036 billion pounds more pork than we exported in 1986 to exporting 4.581 billion pounds more pork than we imported in 2012 (Table 1). In 2012, exports equaled 23.15% of U.S. pork production and imports equaled 3.45% of production.

The value of pork and pork byproduct exports has grown from \$1.97 per hog slaughtered in 1986 to \$55.87 per head slaughtered in 2012 (Table 2).

Japan is the largest U.S. pork customer, purchasing 25.6% of our exports in 2012. Mexico is a close second. Combined these two countries purchased 10.9% of total 2012 U.S. pork production. China and Canada are third and fourth in pork purchases from the U.S. Table 3 shows our most important foreign pork customers in 2012 by their percentage share of U.S. pork exports purchased based on carcass weight equivalent.

Changes in trade have permitted the pork industry to grow at an average additional rate of 1% per year over the last 27 years. The U.S. pork industry was 24 million head larger in 2012 than it would have been had pork imports and exports remained at 1986 levels.

Not only has the changes in the quantity of pork traded allowed faster growth of the U.S. pork industry, but it has also added to producers' incomes in the years when net exports grew. Table 4 shows our effort to calculate the effect of imports and exports on the price of hogs. Using a demand elasticity of -0.3, we assume a 1% increase (decrease) in net exports as a share of total U.S. pork production will result in a 3.33% rise (fall) in hog prices. We also assume that changes in pork trade are not anticipated and any herd size change due to price changes are fully accomplished in 12 months. The total income of all U.S. pork producers has been improved by \$11 billion over the last 27 years due to the increase in net exports (Table 4).

Pork producers can take credit for much of this export growth. They have funded foreign promotion efforts and improved the quality of pork which has made it more competitive on world markets. Efforts by the U.S. government to liberalize trade, as well as improved per capita incomes in many countries are also important factors in increasing exports.

Three major groups in the U.S. have contributed to the promotion of pork exports. They are USDA, the U.S. meat packing industry, and hog producers. Pork producers alone have spent \$90.6 million in the last 26 years to promote exports through Pork Checkoff funds. Less than 1% of the \$11 billion benefit from increased pork trade since 1986 would be required to repay the \$90.6 million in Checkoff money spent on export promotion during this period.

Table 1
U.S. Pork Imports and Exports
(million pounds of carcass weight equivalent)

Year	Pork Imports	Pork Exports	Net Pork Exports
2012	802	5383	4581
2011	803	5189	4386
2010	859	4224	3365
2009	834	4094	3260
2008	832	4651	3819
2007	968	3141	2173
2006	990	2995	2005
2005	1024	2668	1642
2004	1099	2181	1082
2003	1185	1717	532
2002	1071	1612	541
2001	951	1559	608
2000	967	1287	320
1999	827	1277	451
1998	705	1230	525
1997	634	1044	410
1996	619	970	351
1995	664	787	123
1994	744	549	-195
1993	740	446	-294
1992	646	420	-226
1991	775	290	-485
1990	898	243	-655
1989	896	268	-628
1988	1137	195	-942
1987	1195	109	-1086
1986	1122	86	-1036

Table 2
Value to the Pork Industry of U.S. Pork and Byproduct Exports
Per Head of U.S. Hog Slaughter

Year	Value of Pork	Value of Byproducts	Total
2012	\$ 48.21	\$7.66	\$ 55.87
2011	47.99	7.10	55.10
2010	37.02	6.35	43.37
2009	31.74	6.36	38.10
2008	35.35	6.59	41.94
2007	25.21	3.68	28.89
2006	23.97	3.38	27.35
2005	22.01	3.43	25.44
2004	18.15	3.38	21.53
2003	13.80	2.38	16.18
2002	13.42	2.02	15.44
2001	14.17	2.23	16.40
2000	12.34	2.00	14.34
1999	10.86	1.83	12.69
1998	10.17	2.13	12.30
1997	11.36	2.46	13.82
1996	11.02	1.82	12.84
1995	8.79	1.83	10.62
1994	5.73	1.80	7.53
1993	5.20	1.61	6.81
1992	4.76	1.66	6.42
1991	3.79	1.71	5.50
1990	3.84	1.51	5.35
1989	3.72	1.35	5.07
1988	2.84	1.62	4.46
1987	1.59	1.10	2.69
1986	1.05	0.92	1.97

Table 3
U.S. Pork Exports by Country in 2012
Percent Share of Tonnage

Country	% of U.S. Exports
Japan	25.6
Mexico	21.6
China (Mainland)	11.9
Canada	10.9
South Korea	7.7
Russia	5.1
Australia	3.7
Hong Kong	2.6
Philippines	1.9
Honduras	1.0
Colombia	1.0
Others	6.9

Table 4
Checkoff Funding of Export Promotion, Net Pork Trade as % of U.S. Production,
and Estimated Benefit to Producers from Changes in Exports and Imports

Year	Checkoff Funding mil. \$	Net Import or Export ² %	Benefit ¹ to Producers from Enhanced Pork Trade		
			Total ³ mil. \$	Per cwt. \$	Per hog \$
2012	6.8	19.70 net exp.	268.1	0.87	2.37
2011	4.8	19.27 net exp.	2,479.4	8.25	22.37
2010	4.7	15.00 net exp.	437.1	1.46	3.96
2009	5.7	14.18 net exp.	-987.3	-3.24	-8.69
2008	4.7	16.36 net exp.	2,615.7	8.48	22.46
2007	4.7	9.90 net exp.	170.1	0.58	1.56
2006	4.2	9.53 net exp.	663.8	2.37	6.34
2005	4.8	7.94 net exp.	1,127.5	4.09	10.89
2004	4.4	5.27 net exp.	1,146.9	4.20	11.08
2003	4.7	2.67 net exp.	- 30.8	- 0.12	- 0.31
2002	4.8	2.75 net exp.	- 132.2	- 0.50	- 1.32
2001	5.2	3.18 net exp.	553.2	2.17	5.65
2000	5.2	1.69 net exp.	- 249.0	- 0.98	- 2.54
1999	4.9	2.33 net exp.	- 129.2	- 0.49	- 1.27
1998	5.7	2.76 net exp.	114.7	0.45	1.14
1997	4.8	2.37 net exp.	136.0	0.58	1.48
1996	2.5	2.05 net exp.	563.4	2.45	6.10
1995	1.8	0.69 net exp.	604.9	2.52	6.28
1994	1.3	1.11 net imp.	202.6	0.85	2.12
1993	1.2	1.73 net imp.	- 154.3	- 0.67	- 1.66
1992	1.1	1.31 net imp.	568.2	2.44	5.99
1991	1.0	3.04 net imp.	443.8	2.05	5.03
1990	0.7	4.28 net imp.	- 120.3	- 0.58	- 1.41
1989	0.5	3.98 net imp.	638.6	2.99	7.20
1988	0.3	6.03 net imp.	483.0	2.27	5.50
1987	0.1	7.59 net imp.	-66.9	-0.34	-0.83
1986		7.40 net imp.	-216.5	-1.14	-2.72
Total	90.6		11,130.3	avg. 1.52	avg. 3.95

¹ Benefit is the increase in prices attributable to the changes in domestic supply resulting from trade.

² Net import or export as percent of U.S. production.

³ Used -0.3 demand elasticity

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