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2016 Potato Update

Report Categories:
Potatoes and Potato Products

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Report Highlights:
2015 Korean potato production decreased eight percent to 546,000 metric tons (MT) from 591,000 MT in 2014. Although 2014 planted area was larger than 2015, it decreased more than 21 percent from 2013. Large production in 2013 suppressed domestic prices, thus plantings decreased in 2014. 2015 U.S. exports of fresh potatoes to Korea exceeded 22,000 MT, which generated $12.7 million in value, a 49 percent increase in quantity over 2014, as a result of increased demand for chipping potatoes. Comparing 2015 to 2012, U.S. exports of prepared potato products were 38 percent higher in value, primarily a result of reduced tariffs under the KORUS FTA.

General Information:

Production:

With cropping patterns varying from Spring, Autumn, and Highland, potatoes are produced and marketed at different periods in Korea. The majority of production consists of the "Sumi" variety, a potato that is high in starch and used as table stock. Korea also grows the "Daeji" potato, a variety planted in the southern parts of the peninsula during autumn. The "Atlantic" variety is a chipping potato that's grown when farmers have contracts with potato-chip manufacturers.

Table 1 provides hectares (Ha) planted and production (TMT) from 2012 to 2015. 2015 Ha planted decreased four percent from 2014 to 20,704, and production decreased eight percent to 546 TMT. Spring led all cropping patterns with 67 percent of production, followed by Highland with 24 percent. Adverse weather conditions, such as colder weather in the growing season and excessive rain during harvest, may affect yields. Although the 2014 planted area was larger than 2015, it decreased more than 21 percent from 2013. Large production in 2013 suppressed domestic prices, thus plantings decreased in 2014. Table 2 provides the Production, Supply, and Demand (PSD) of Korea's potato industry from 2012 to 2015. This table shows a trend of increasing imports, and a declining self-sufficiency rate in Korea.

Table 1. Korea: Area planted (Ha), Production (TMT) from 2012-2015

	2012		2013		2014		2015	
Cropping Pattern	Ha	TMT	Ha	TMT	Ha	TMT	Ha	TMT
Spring	17,424	417	20,977	571	15,596	432	14,545	367
Highland	3,793	126	3,751	111	2,975	109	3,403	132
Autumn	3,713	64	2,702	45	2,901	50	2,756	47
Total	**24,930**	**608**	**27,430**	**727**	**21,472**	**591**	**20,704**	**546**

Source: Korea Rural Economic Institute (KREI)

Table 2. Korea: Production, Supply, & Demand (MT) from 2012-2015

PSD	2012	2013	2014	2015
Total Supply	736,536	874,512	739,287	723,554
Domestic Production	607,534	727,438	590,532	546,130
Net Imports	129,002	147,074	148,755	177,424
Imports	**129,846**	**148,763**	**150,312**	**178,602**
Exports	844	1,689	1,557	1,179
Self-Sufficiency Rate (%)	**82.5**	**83.2**	**79.9**	**75.5**

Source: Korea Rural Economic Institute (KREI)

Consumption:

From 2010 to 2014, per capita consumption of potatoes remained consistent (Table 3). 2014 consumption was 16 percent less than a year earlier, due to high domestic production in 2013. Lower prices in Korea had incentivized farmers to decrease plantings in 2014.

Table 3. Korea: Per Capita Potato Consumption (2010-2014)

	2010	2011	2012	2013	2014

Per Capita Consumption (kg)	14.32	14.70	14.75	17.45	14.69

Source: Korea Rural Economic Institute (KREI)

Since 2014, domestic prices for No.1 grade potatoes have trended higher at both the retail and wholesale level (See Table 4). Figure 1 presents the annual average of these prices from 2011 to June of 2016. Lower production had caused prices to increase at both levels. For 2013, high production put downward pressure on wholesale prices (i.e. wholesale price decreased 37 percent from 2012 to 2013).[1]When observing the annual import prices for U.S. fresh potatoes (denominated in ₩), Korea wholesale prices were significantly higher. For 2015, Korea wholesale prices were 142 percent higher, on average, than U.S. fresh potatoes.

Table 4. Annual Retail & Wholesale Price for No.1 Potatoes (2011-[1/16 – 6/16])

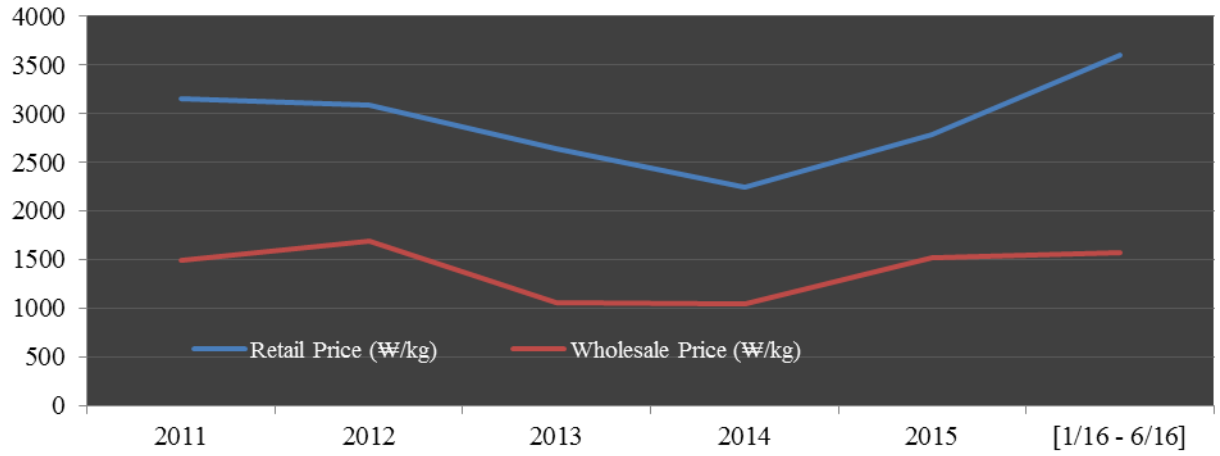
Year	Average Annual Retail Price (₩/kg)	Average Annual Wholesale Price (₩/kg)	Annual Average Exchange Rate (₩/$)	U.S. Import Price (₩/kg)[1]
2011	3,150	1,486	1,107	593
2012	3,090	1,684	1,127	618
2013	2,640	1,062	1,094	584
2014	2,240	1,042	1,052	549
2015	2,780	1,520	1,130	628
2016	3,600	1,577	1,181	655

Note: 2016 data for Retail & Wholesale Price is average from 01/2016 – 06/2016;[1]CNF (Configuration): CIF annual average of imported U.S. HS 0701900000 (Fresh Potatoes) adjusted to Annual Average Exchange Rate (₩/USD)

Source: Korea Agro-Fisheries & Food Trade Corporation (aT) (Retail & Wholesale Price); Bank of Korea (Annual Average Exchange Rate); Korea International Trade Association (U.S. Import Value and Import Quantity)

Figure 1.

Annual Retail & Wholesale Price for #1 grade potatoes from 2011-[1/16 - 6/16] (₩/kg)



Source: aT

Trade:

Imports

Fresh Potatoes (HS 0701900000)

[1]Production in 2013 was 19.6 percent higher than 2012.

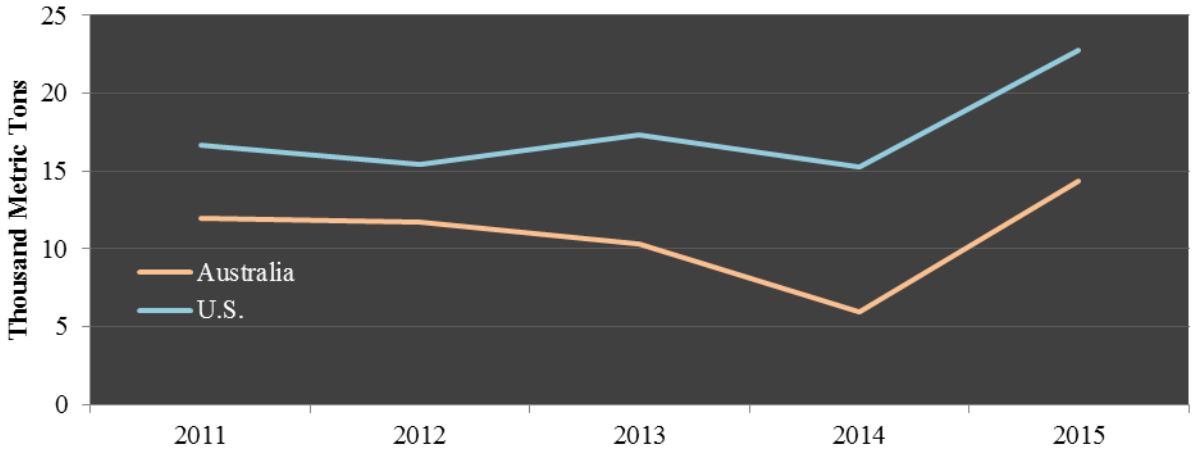
"Fresh potatoes" represent both table (usually eaten as a side dish) and chipping (used for potato chip processing) stock. 2015 Korea imports of fresh potatoes exceeded 37 TMT, which generated $21.2 million in value, and 75 percent higher quantity than 2014 (See Table 5). Imports are primarily sourced from Australia and the U.S., as Figure 2 presents both countries' exports from 2011 to 2015. During this period, the U.S. had sustained higher market share each year. 2014 U.S. exports decreased from 2013, due to West Coast labor disputes that occurred from 2014 to 2015. 2015 U.S. exports of fresh potatoes to Korea exceeded 22 TMT, which generated $12.7 million in value, and 49 percent higher quantity than 2014. This was a result of increased demand from Korea processors for chipping potatoes. Processors expanded production to meet demand for honey-butter potato chips, a sensationally popular snack in Korea (see the Wall Street Journal article http://www.wsj.com/articles/the-potato-chip-frenzy-in-korea-1436371078 for more information).

Table 5.**Korea: Fresh Potato Import $ & MTs from 2012-2015**

	2012		2013		2014		2015	
Country	$(1,000)	MTs	$(1,000)	MTs	$(1,000)	MTs	$(1,000)	MTs
Australia	9,752	11,736	8,533	10,310	4,282	5,942	8,559	14,345
U.S.	8,469	15,439	9,253	17,344	7,967	15,257	12,658	22,780
Other	0	0	0	0	22	13	0	0
Total	**18,220**	**27,176**	**17,786**	**27,654**	**12,272**	**21,212**	**21,217**	**37,125**

Source: Korea International Trade Association (KITA)

Figure 2.
Korea: Fresh Potato Imports (TMT) from Australia & U.S. (2011-2015)



Source: Korea International Trade Administration (KITA)

A recent FTA between Australia and Korea (effective December 2014), as well as an appreciation of the Korean Won (₩) over the Australian Dollar (AUD), has strengthened Australia's competiveness in the fresh potato market (See Figure 6 in Appendix for an AUD/₩ time trend). In contrast, the U.S. Dollar (USD) had appreciated against the Korean Won (See Figure 7 in Appendix for ₩/US). Furthermore, increased demand from the U.S. and abroad (e.g. Canada and Japan) had put upward pressure on prices. From January to May of 2016, U.S. exports were down 65 percent compared to the same time last year, while Australian exports were up 69 percent.

Prepared Potato products (HS 2004100000)

When compared to 2012, 2015 imports of prepared potato products (primarily French Fries) were 38 percent higher in Korea (See Table 6). Moreover, 2015 imports exceeded $132 million, as U.S. exports generated 81 percent of the total value. Compared to 2012, 2015 U.S. exports were 24 percent higher, hence the importance of KORUS FTA. Figure 3 shows import quantity (% of MT) for various exporters, with the U.S. exporting the largest quantity each year. Note the minimum percent (y-axis) is set at 80 to clearly observe changes between other exporters. One noticeable trend is Canada's increasing market share since 2013, which is somewhat a result of the FTA with Korea in 2014.

Table 6.

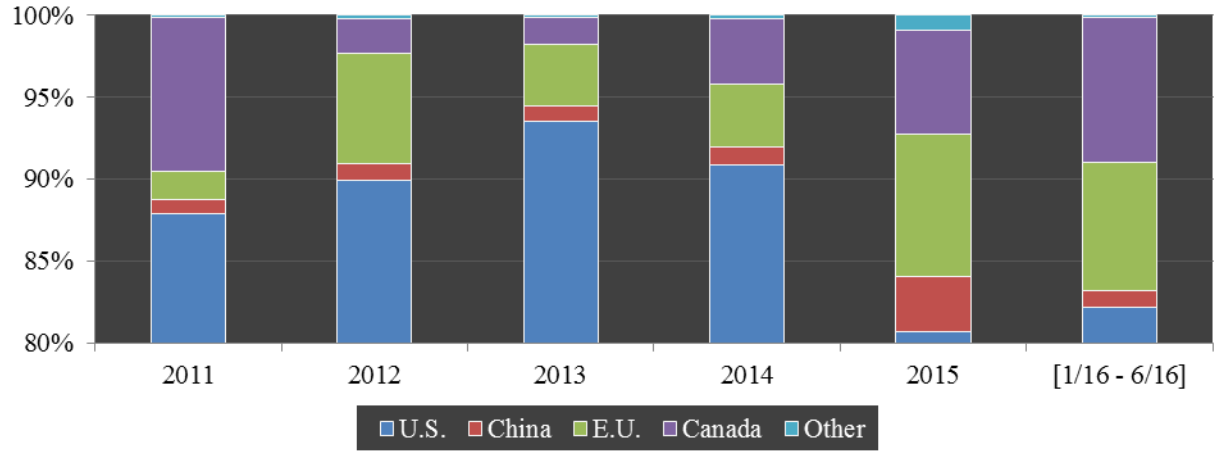
Korea: Prepared Potato Import Dollars & Metric Tons from 2012-2015

	2012		2013		2014		2015	
Country	$(1,000)	MT	$(1,000)	MT	$(1,000)	MT	$(1,000)	MT
U.S.	77,834	65,807	93,963	78,284	105,126	83,222	107,131	81,821
Canada	2,172	1,520	2,221	1,382	4,940	3,628	9,914	6,406
China	1,576	777	1,565	825	1,928	1,026	5,120	3,396
Belgium	883	833	1,842	1,453	1,516	1,332	5,139	4,774
Netherlands	3,898	3,818	1,417	1,205	2,285	1,954	3,973	3,921
Other	535	440	947	574	879	439	1,603	1,092
Total	**86,897**	**73,195**	**101,955**	**83,723**	**116,673**	**91,602**	**132,881**	**101,411**

Source: KITA

Figure 3.

Korea: Import quantity (% of MT) of prepared potato products from 2011 to [1/16 - 6/16]



Note: E.U. represents Belgium, Germany, and the Netherlands;
Source: KITA

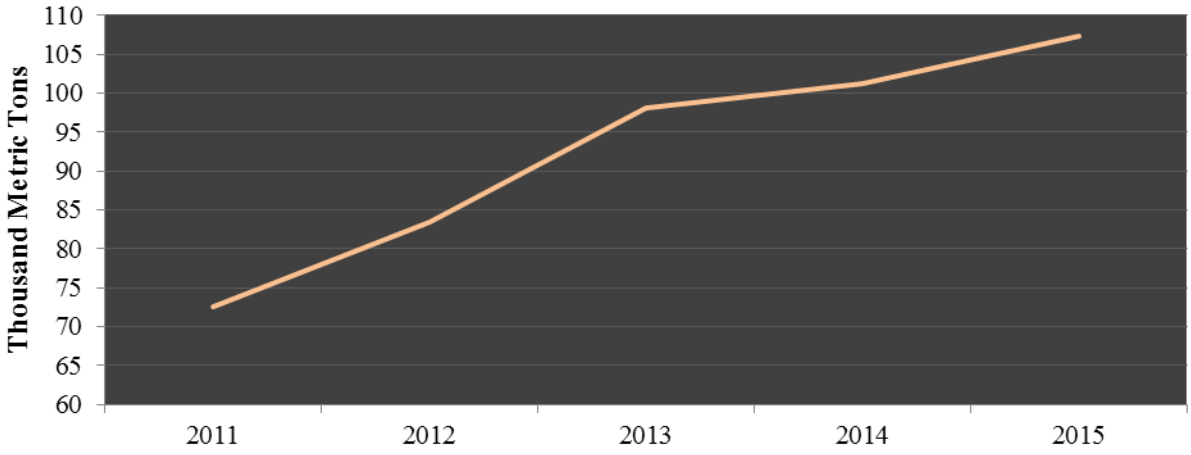
Frozen Potatoes (HS 0710100000)

With 2015 exports at 2,700 MT, frozen potato products constitute a smaller share of total potato exports. 2015 U.S. exports made up 61 percent of frozen potato exports to Korea. The major consumers are the hotel, restaurant, and institution sectors, which utilize frozen potatoes for meal preparations.

U.S. Exports of Fresh, Frozen, and Prepared potato products (2011-2015)

As seen in Figure 4, exports of fresh, frozen, and prepared potato products trended higher from 2011 to 2015 (note that the y-axis starts at 60,000 metric tons). Reduction in tariffs for U.S. potato products, as a result of KORUS FTA, has been noticeably favorable for producers. As a result, 2015 exports were 39 percent higher than 2012 (KORUS FTA went into effect March 2012).

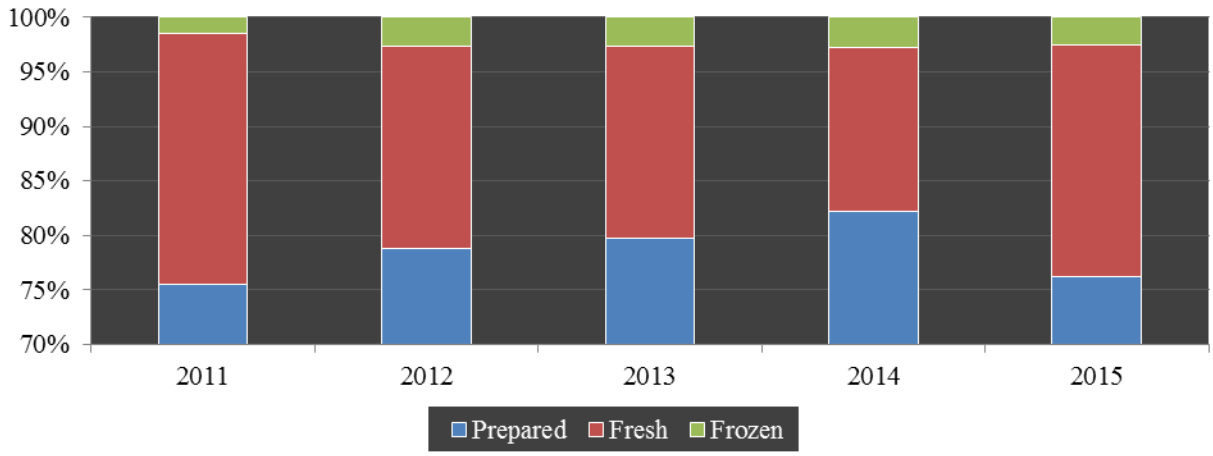
Figure 4.
Korea: Potato Imports[1] from U.S. (2011-2015)



Note: [1]Imports include Frozen Potatoes (HS 0710100000), Prepared Potato products (HS 2004100000), and Fresh Potatoes (HS 0701900000)
Source: KITA

Figure 5 presents annual U.S. potato exports from 2011 to 2015, which are differentiated by product category. Notice that the minimum percent (y-axis) is set at 70 percent, signifying the significant quantity of prepared potato products. One can clearly note the year-to-year changes between fresh, frozen, and prepared potato products. The increased percentage of fresh potatoes in 2015 was a result of increased demand from chip processors in Korea.

Figure 5.
Korea: U.S. Potato Exports[1] (% of MTs) from 2011-2015



Note: [1]Imports include Frozen Potatoes (HS 0710100000), Prepared Potato products (HS 2004100000), and Fresh Potatoes (HS 0701900000)
Source: KITA

KORUS FTA:

Fresh Potato Products (HS 0701900000)

- **Table Stock Potatoes (HS 0701900000a)[2]**

For table stock, 3,377 MT can be imported with zero duty in 2016, and a 304 percent duty will be imposed for volume exceeding the quota, as the TRQ is set to increase 3 percent annually (See Table 7). In contrast with the U.S., Korea has no TRQ set for Australian table stock potatoes.

Table 7. Korea: Table Stock Potato (0701900000a) TRQ

	2016	2017	2018	2019	2020
In-quota rate (%)	0	0	0	0	0
Out-of-quota rate (%)	304	304	304	304	304
TRQ (MT)	3,377	3,478	3,583	3,690	3,801

- **Chipping Potatoes (HS 0701900000b & HS 0701900000c)[3]**

Chipping potatoes are imposed with zero duties from December 1st through April 30th, while a 304 percent duty is imposed from May 1st to November 30th (See Table 8). The seasonal duty of 304 percent will be eliminated in equal stages from 2019 through 2026 (i.e. declining 20 percent on an annual basis). Regarding Korea's recent FTA with Australia, the same TRQ applies to Australian chipping potatoes. As a result of demand from chip processors all year round, Korea allows the seasonal window for U.S. and Australian chipping potatoes due to limited domestic supply.

Table 8. Korea: Chipping Potatoes (0701900000b & 0701900000c) TRQ

	2016	2017	2018	2019	2020

[2]Table stock potatoes are primarily used as a side dish in Korea
[3]Chipping potatoes are primarily used for processing into potato chips

b: May 1st – Nov.30th rate (%)	304	304	304	260.6	217.1
c: Dec. 1st – April 30th rate (%)	0	0	0	0	0

- **Prepared Potatoes (HS 2004100000)**

As of 2012, prepared potato products have entered the Korea market duty free.

- **Frozen Potatoes (HS 0710100000)**

As of 2016, duties on U.S. frozen potato products enter the Korea market duty free.

Inspection & Quarantine for U.S. Potatoes:

Due to quarantine regulations, 30 U.S. states (Maryland, Pennsylvania, West Virginia, New York, Utah, Nebraska, California, Montana, Arizona, Colorado, New Mexico, North Dakota, Kansas, Wyoming, Delaware, Oklahoma, South Dakota, Nevada, Maine, Michigan, Minnesota, Mississippi, New Hampshire, Ohio, Wisconsin, Texas, Idaho, Oregon, Washington, North Carolina) are not allowed to export fresh potatoes to Korea. Oregon, Washington, and Idaho (except Bingham and Bonneville counties) are allowed to export chipping potatoes.

Potato spindle tuber viroid, *Synchytrium endobioticum* (potato wart), *Globodera rostochiensis* (golden nematode), *Globodera pallida*, and Zebra chip are the main quarantine pests of concern to Korea. Accordingly, shipments from all origins are subject to quarantine inspection for the related pest list. Imported fresh potatoes must be washed and be reasonably free of soil and foreign materials.

Market Characteristics, Threats, & Opportunities:

Recently, Australia, Canada, and China signed FTAs with Korea, thus creating a more competitive environment for U.S. potato producers. The U.S. competes with these countries in various potato products in Korea (See Table 9). Recently, other constraints have been an appreciating USD and the West Coast Port Strike of 2014-2015. The strike created opportunities for competitors to access the Korea market, while U.S. producers dealt with logistical issues that prevented exports.

Table 9. Effective FTAs & Competitive Category

Country	FTA Effective	Competitive Category
Canada	2014	Prepared Potatoes
Australia	2014	Fresh Potatoes
China	2015	Frozen Potatoes

Korea is one of the top export markets for U.S. potato products, with positive progress made in quick service restaurants (QSRs). This growth included business opportunities in value-added and non-fried frozen products. There was expansion into pubs, coffee shops, retail outlets, and other venues, making the U.S. a major supplier of fresh, prepared, and frozen potato products.

Socioeconomic changes have helped incentivize growth in the food industry, as well as Korea's expanding preference for diversity in consumption. With ease of service attracting consumers, large-scale restaurants and

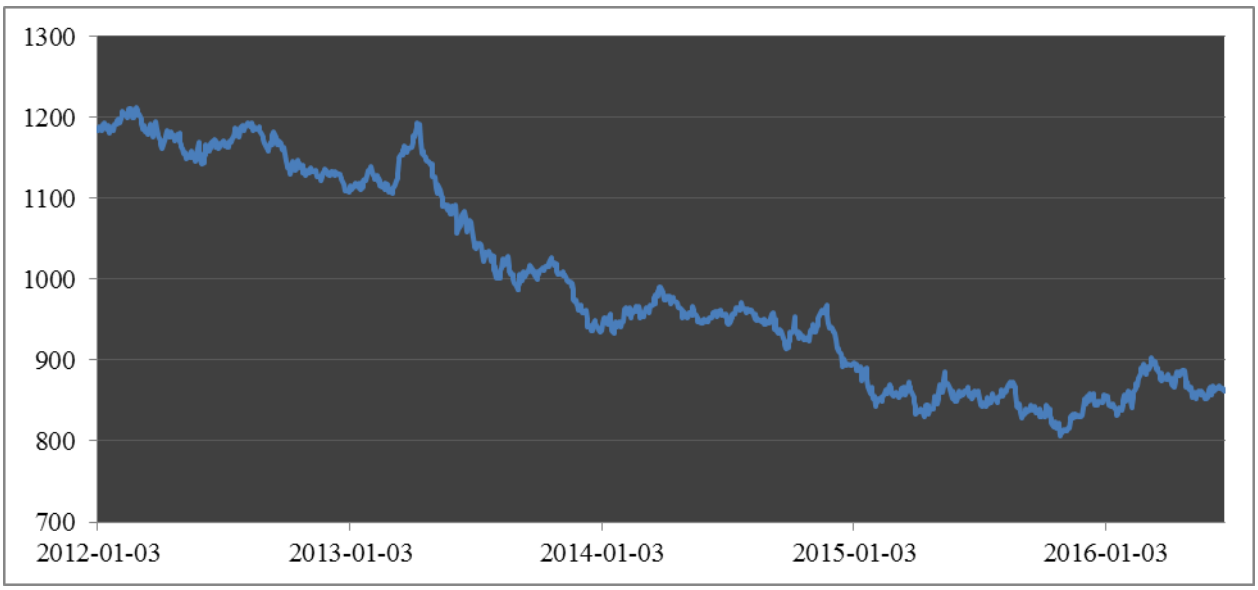
foodservice processors have continued to develop market opportunities, while U.S. producers have provided competitively-priced supply. Increasing demand from large retailers, such as hypermarkets and convenience stores, has helped spur changing food behaviors. Thus, U.S. exporters have helped provide Korean firms with a consistent supply of high quality, potato products and the capacity for growth.

With the majority of fresh potato imports devoted to processing (chipping potatoes), Korea is reliant on U.S. exports for intermediate ingredients. As Korea seeks to export more processed food to global markets, demand for fresh chipping potatoes should increase, especially with snack manufacturers as the primary consumer.

Demand for U.S. prepared potato products (e.g. French Fries) is greatest among QSRs, as the U.S. is highly reputable concerning quality. Initial sales started with QSRs, but recently have expanded to pizza, buffet, and potato kiosk chains, as well as craft beer pubs and independent high-end dining. In the future, there should be opportunities to supply a vast array of market segments.

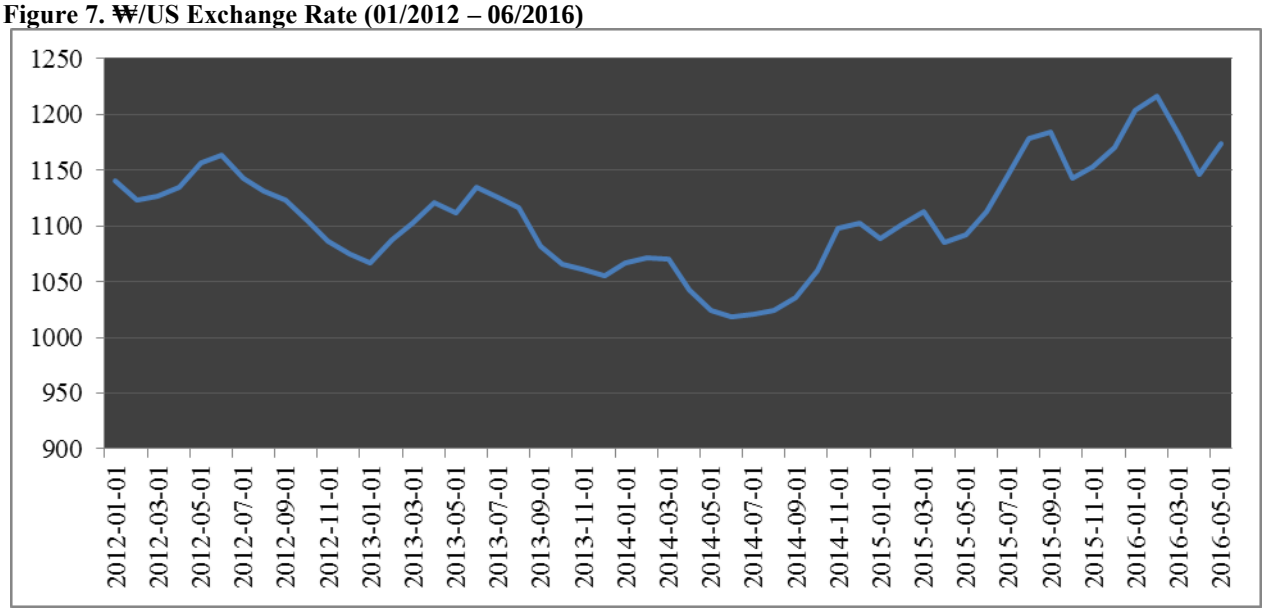
Appendix:

Figure 6. AUD/₩ Exchange Rate (01/2012 – 06/2016)



Source: Reserve Bank of Australia

Figure 7. ₩/US Exchange Rate (01/2012 – 06/2016)



Source: Federal Reserve Bank of St. Louis