Trade Liberalization in the Presence of Domestic Regulations: Likely Impacts of the TTIP on EU-U.S. Wine Markets

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Our Focus on TTIP and F&Vs

- Our primary interest is to study the effects of reform in F&V industries characterized by:
  - Production and trade in highly differentiated products (with differentiated tariffs)
  - Policies that apply to outputs in some regions and inputs in other regions
    - Consumer response to changes in policies that occur downstream
  - Domestic regulations that influence inter/ra-national trade patterns

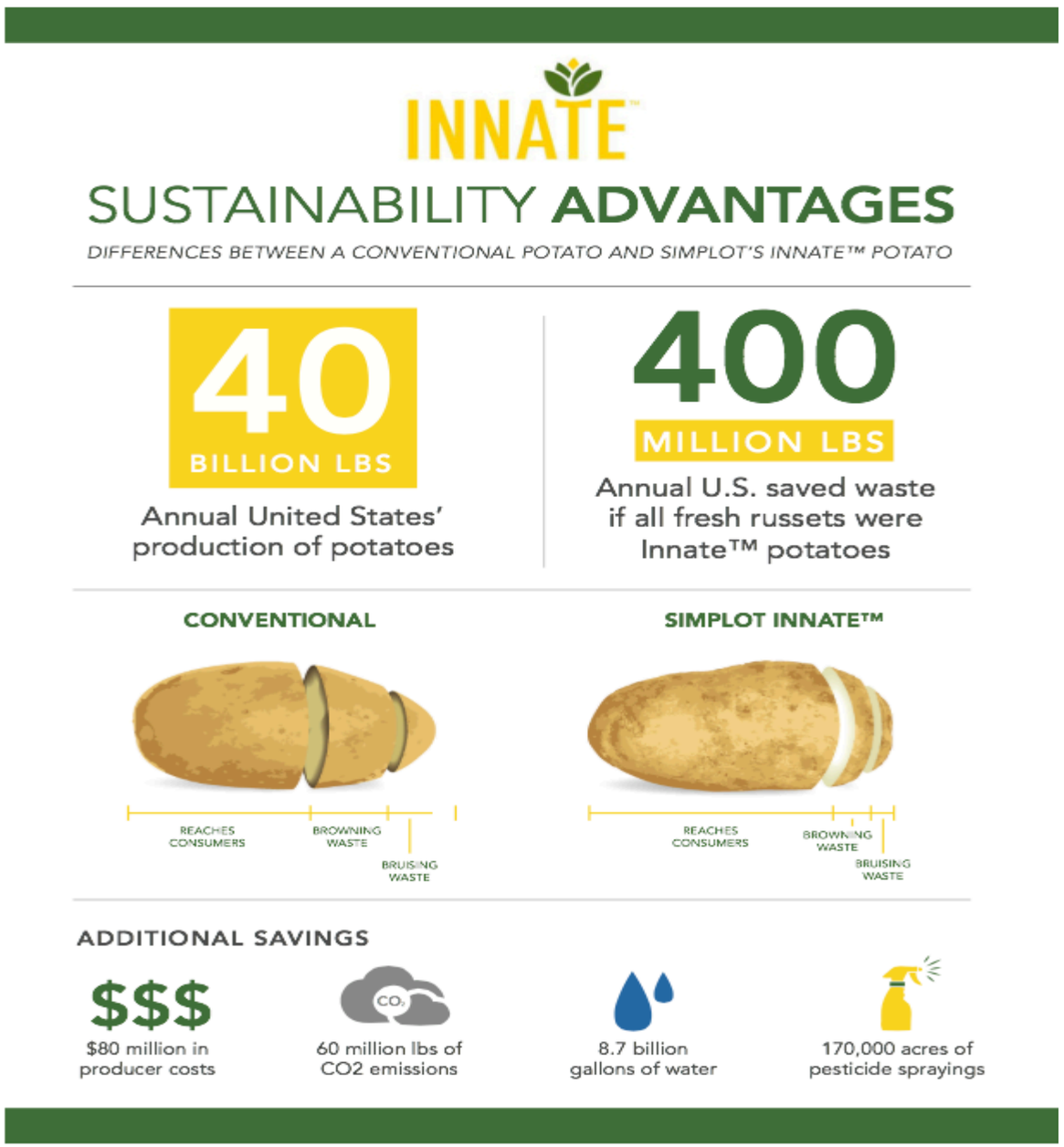
Economic Literature on the Interaction Between Trade Policy and Domestic Regulations

- **Bagwell & Staiger (*QJE* 2001) on the links between trade agreements and national sovereignty**
- **Peterson & Orden (*JARE* 2005, *AJAE* 2008): Tariffs and SPS measures for chicken and avocados**
- **Rickard and Sumner (*AJAE* 2008): Tariffs and CAP payments for processed F&Vs**

Tariffs matter

- **Here we develop a framework with differentiated products and inter-industry linkages to study a wide range of domestic and trade policies in F&V markets**
- **Wine is an important and complicated F&V market**
- **The framework that can be extended to examine a host of potential trade issues for F&Vs (coexistence)**

Differentiation by GMOs and Implications for F&V Trade



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Background on GMOs in the wine market

- There has been a substantial amount of research conducted in the biotechnology and enology literature examining the use of GMO yeast in wine
  - Peréz-Torrado et al. *Trends in Food Science and Technology* 2015
  - Plahuta et al. *Journal of Wine Research* 2006
  - Cebollero et al. *Biotechnology Letters* 2007
- GMO yeasts have been in development since the 1990s, but only 2 GMO yeasts in the US have been deregulated: ML01 (simplifies) and ECMo01 (toxins)
- GMO yeasts may lead to improved fermentation and resistance to antimicrobial compounds, but they have not been widely adopted commercially

Motivation to Examine U.S.-EU Wine Trade

Source: Foreign Agricultural Service, United States Department of Agriculture

Products	U.S. Exports to EU (thousand $)	% of Total Ag. Exports to EU
Edible Tree Nuts	1,732,092	17.22
Soybeans	1,480,536	14.72
Heparin and Its Salts; Other Animal Subsets	938,634	9.33
Wine & Wine Products	470,831	4.68
Soybean Cake & Meal	406,674	4.04
Essential Oils	402,278	4.00
Wheat	316,280	3.14
Animal/Vegetable Fats & Oils	246,855	2.45
Beef & Veal,Fr/Ch/Fz	221,725	2.20
Feed, Ingredient & Fodder	208,831	2.08
Flue-Cured, stm	207,557	2.06
Fruit Juices	199,203	1.98
Sugar & Tropical Products, Misc	194,282	1.93
Fruit, Dried	189,625	1.89
Leather	182,712	1.82
Grain & Feed Misc	181,098	1.80
Flours, Isolates, Concentrate	152,054	1.51
Corn Oil	148,220	1.47
Horses, Purebred Breeding, Live	145,983	1.45
Vegetables, Prepare or Preserve	143,053	1.42
U.S. Total Agricultural Exports to EU-27	10,057,333	100

Products	U.S. Imports from EU (thousand $)	% of Total Ag. Imports from EU
Wine & Wine Products	3,454,046	20.66
Essential Oils	1,924,419	11.51
Beer	1,586,895	9.49
Cocoa & Cocoa Products	842,700	5.04
Olive Oil	788,414	4.72
Sugar & Tropical Products	745,611	4.46
Grain & Feed Misc	685,278	4.10
Licensed Cheese Items	630,579	3.77
Pork Fresh, Chill Etc	367,511	2.20
Ot Oilseeds Product Nag	332,916	1.99
Olives, Prepare or Preserve	311,878	1.87
Coffee & Coffee Products	301,162	1.80
Vegetables, Prepare or Preserve	249,645	1.49
Feed, Ingredient & Fodder	245,574	1.47
Sugar & Related Product	235,610	1.41
Horses, Live, NESOI	233,979	1.40
Casein	233,129	1.39
Wheat Products	219,012	1.31
Non-Licensed Cheese	214,074	1.28
Nursery Products Exclude Cut Flowers	198,670	1.19
U.S. Total Agricultural Imports from EU-27	16,720,085	100

U.S.-EU Wine Trade (volume), 2008 to 2012

Trade	Year	Quality	
		High quality (Two liters or less)	Low quality (Over two liters)
U.S. Import from EU(1000 liters)	2008	346,937	33,908
	2009	332,573	22,763
	2010	364,049	14,941
	2011	393,813	33,571
	2012	395,137	43,771
EU Import from the U.S. 1000 liters)	2008	121,989	150,688
	2009	84,877	131,253
	2010	80,301	156,826
	2011	77,713	148,235
	2012	89,355	127,669

Source: U.S. international Trade Commission. 2013. “Interactive Tariff and Trade Data Web.” Available at: http://dataweb.usitc.gov/

TTIP stumbling blocks for wine

- Tariffs differentiated by product
- Rules on the use of semi-generic wine names
  - Some of this was covered in the 2006 Agreement
- EU quality regulations (yields, alcohol, enological practices), EU quantity regulations (planting restrictions, surplus tools)
  - Nice summary see Meloni & Swinnen (*JWE* 2013)
  - OECD (2010) PSE ranges between 7 & 12%
  - Slightly higher estimates in Anderson et al. (2008)
- U.S. distribution laws: Alcohol availability at retail outlets, interstate wine shipping laws

U.S. Distribution Regulations

- The presence of state-specific regulations that affect the retail availability of wine (Rickard 2012; Rickard, Costanigro, and Garg 2013).
- Another set of state-specific regulations that affect the distribution of wine due to laws on interstate sales of wine (Riekhof and Sykuta 2005; Ellig and Wiseman 2013).
- We observe clear differences in consumption rates across states with different distribution regulations (lower per capita demand of wine in certain eastern and southern states)

State-by-State Wine Availability in Grocery Stores

No (or limited) Alcohol Sales	Only Beer Sales Allowed	Only Beer and Wine Sales Allowed	Beer, Wine, and Spirit Sales Allowed
Alaska	Connecticut	Alabama	Arizona
Colorado	Kentucky	Arkansas	California
Delaware	Mississippi	Florida	Hawaii
Kansas	New York	Georgia	Illinois
Massachusetts	Tennessee	Idaho	Indiana
Minnesota	Wyoming	Maine	Iowa
New Jersey		Montana	Louisiana
North Dakota		New Hampshire	Maryland
Oklahoma		North Carolina	Michigan
Pennsylvania		Oregon	Missouri
Rhode Island		South Carolina	Nebraska
Utah		Texas	Nevada
		Vermont	New Mexico
		Virginia	Ohio
		Washington	South Dakota
			West Virginia
			Wisconsin
Average Consumption Levels of Wine, 1970 to 2010 (gallons/person/year)			
1.40 to 2.65		1.65 to 3.05	

A Summary of Policies that Affect U.S. & EU Wine Markets

Policy	Product	Region		
		Europe	Western U.S.	Eastern U.S.
		Ad valorem rates of support		
Tariffs[a]	Non-premium (bulk)	12.7	17.8	17.8
	Commercial-premium	5.6	2.5	2.5
	Super-premium	2.8	1.3	1.3
	Sparkling	8.9	1.8	1.8
U.S. domestic regulation[b]	Non-premium & Commercial-premium			2.1
EU domestic regulation[c]	Grapes	11.3		

Our approach here

- **Simulate the effects of TTIP on wine markets given 1) tariff reduction, 2) reduction in EU support to grape producers, and 3) partial deregulation in U.S. distribution and sales laws.**
- **We consider trade between 4 regions (EU, U.S. east, U.S. west, and ROW) for 4 "wine products" that each use 2 inputs (farm and marketing input):**
  - i) bulk wine (>2 litres), ii) commercial premium, iii) super premium, iv) sparkling wine
- **Develop a model that is general to consider other policy-related changes in highly differentiated F&V markets with trade between the U.S. and EU.**

Detailed Consumer Welfare Results

	Europe				United States				Rest of the World				Total
	Non-premium	Commercial-premium	Super-premium	Sparkling	Non-premium	Commercial-premium	Super-premium	Sparkling	Non-premium	Commercial-premium	Super-premium	Sparkling	
50% cut in EU and U.S. tariffs													
Europe	2.16	4.78	3.31	2.21	14.03	5.69	0.55	0.37	0.10	0.28	0.07	0.01	33.57
Western US	0.72	3.48	0.45	0.72	-0.86	-2.68	-6.83	-0.47	0.003	0.02	0.01	0.0002	-5.44
Eastern US	4.09	19.71	2.53	4.09	-4.86	-15.19	-38.68	-2.66	0.02	0.12	0.03	0.001	-30.80
US	4.81	23.18	2.98	4.81	-5.71	-17.87	-45.50	-3.13	0.02	0.14	0.04	0.001	-36.24
ROW	0.12	0.88	0.28	0.31	-0.26	-1.49	-0.47	-0.09	0.67	1.21	1.19	0.39	2.73
All regions	7.09	28.85	6.57	7.33	8.05	-13.67	-45.42	-2.85	0.79	1.63	1.30	0.41	0.07
50% cut in U.S. regulations affecting wine availability in the Eastern U.S.													
Europe	0.51	1.25	0.87	0.58	0.19	0.24	0.06	0.01	-0.005	0.01	0.003	0.001	3.73
Western US	0.0005	0.02	0.01	0.01	0.16	0.59	1.51	0.10	-0.0001	0.001	0.0003	0.00001	2.40
Eastern US	0.43	15.44	0.03	0.03	11.56	38.06	8.50	0.58	1.33	9.14	0.001	0.00005	85.11
US	0.43	15.46	0.04	0.04	11.72	38.66	10.01	0.69	1.33	9.14	0.002	0.0001	87.51
ROW	0.03	0.23	0.07	0.08	0.05	0.33	0.11	0.02	-0.03	0.05	0.05	0.02	1.01
All regions	0.97	16.94	0.98	0.70	11.96	39.23	10.18	0.72	1.29	9.20	0.06	0.02	92.25
50% cut in EU supply control measures													
Europe	45.38	84.41	58.53	39.10	0.33	0.34	0.08	0.01	1.23	3.50	0.86	0.14	233.90
Western US	0.04	1.32	0.36	0.39	0.26	0.84	2.14	0.15	0.04	0.26	0.07	0.002	5.87
Eastern US	0.25	7.46	2.05	2.23	1.49	4.77	12.14	0.83	0.21	1.45	0.40	0.01	33.29
US	0.29	8.78	2.41	2.62	1.76	5.61	14.28	0.98	0.25	1.70	0.47	0.02	39.16
ROW	2.52	15.63	4.95	5.42	0.08	0.47	0.15	0.03	8.09	14.93	14.67	4.85	71.78
All regions	48.19	108.81	65.88	47.13	2.17	6.42	14.51	1.02	9.57	20.13	16.00	5.00	344.84

Net Welfare Effects Across Three Scenarios

	Change in surplus of input suppliers		Total change in producer surplus	Total change in consumer surplus	Total change in net surplus
	grape	marketing			
50% cut in EU and U.S. tariffs					
Europe	-2.10	-6.72	-8.82	33.57	24.75
Western US	17.81	27.15	44.96	-5.44	39.53
Eastern US	—not applicable—			-30.80	-30.80
US	17.81	27.15	44.96	-36.24	8.72
ROW	-1.32	-2.21	-3.53	2.73	-0.80
All regions	14.39	18.23	32.61	0.07	32.68
50% cut in U.S. regulations affecting wine availability in the Eastern U.S.					
Europe	0.23	-2.53	-2.30	3.73	1.42
Western US	3.07	-12.95	-9.88	2.40	-7.48
Eastern US	—not applicable—			85.11	85.11
US	3.07	-12.95	-9.88	87.51	77.64
ROW	1.21	-1.37	-0.16	1.01	0.85
All regions	4.50	-16.85	-12.34	92.25	79.91
50% cut in EU supply control measures					
Europe	-134.68	-9.36	-144.04	233.90	89.86
Western US	-4.43	-9.56	-13.99	5.87	-8.12
Eastern US	—not applicable—			33.29	33.29
US	-4.43	-9.56	-13.99	39.16	25.17
ROW	-13.54	-29.97	-43.51	71.78	28.27
All regions	-152.65	-48.89	-201.54	344.84	143.30

A Summary of the Results
(in order of economic importance)

1. Policies in the EU applied "upstream" have a surprisingly large impact on EU markets and on trade and consumers of bottled wine products elsewhere (including the ROW); grapes are a large share of wine

2. The U.S. domestic policies are more "downstream", and changes here have relatively large impacts on U.S. consumer markets for bottled wines

- Under some scenarios, reform here could be most important to wineries selling premium wine products

3. Different from much of the earlier work, lower tariffs (primarily on bulk wines) matter relatively less as this segment has significantly lower unit prices

Thank you!

Questions or Comments?

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