

TRADE, TARIFFS, AND THE ECONOMY

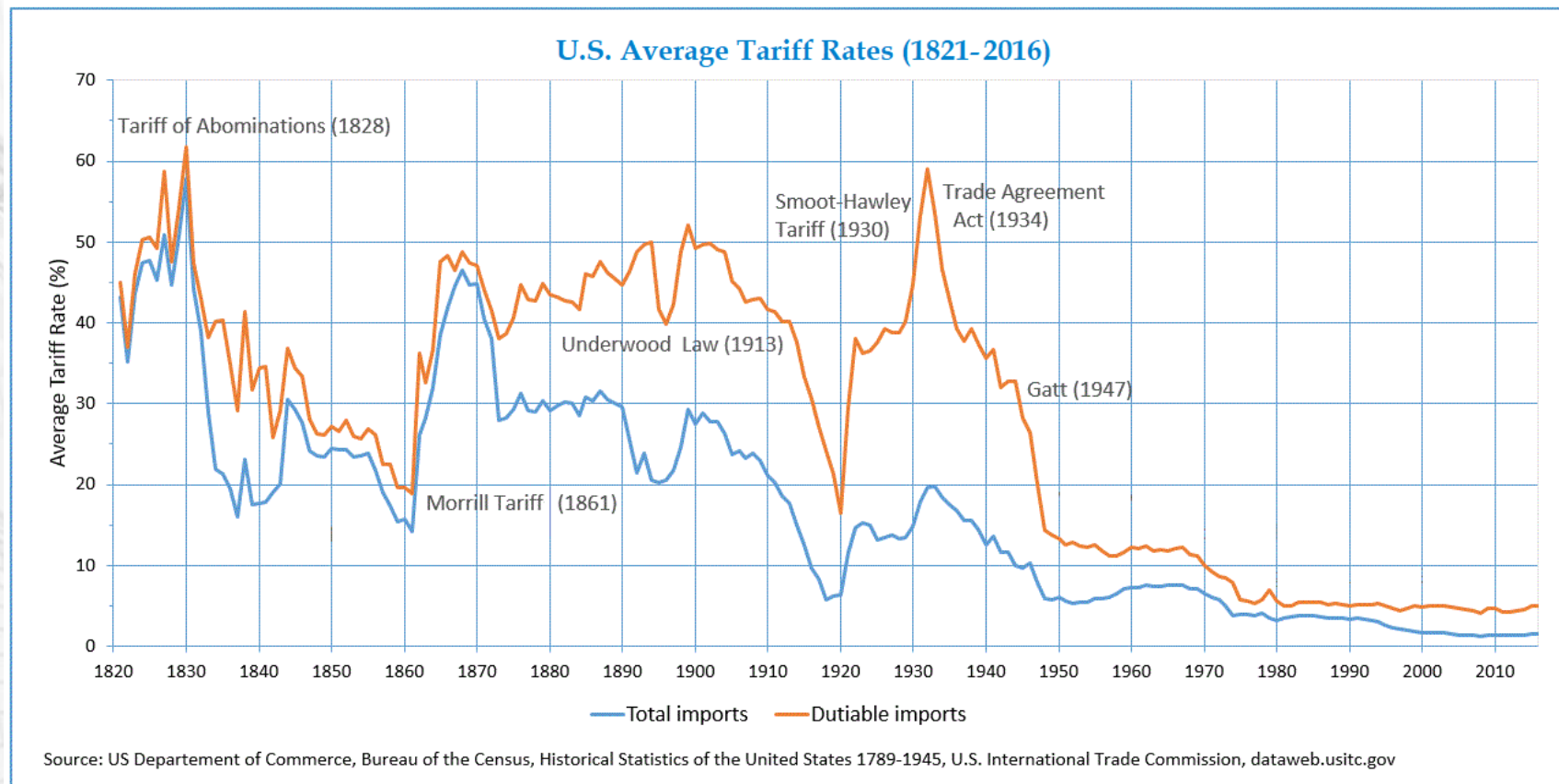
REMI D.C. POLICY CONFERENCE
JUNE 7, 2018

President's Tariff Plan



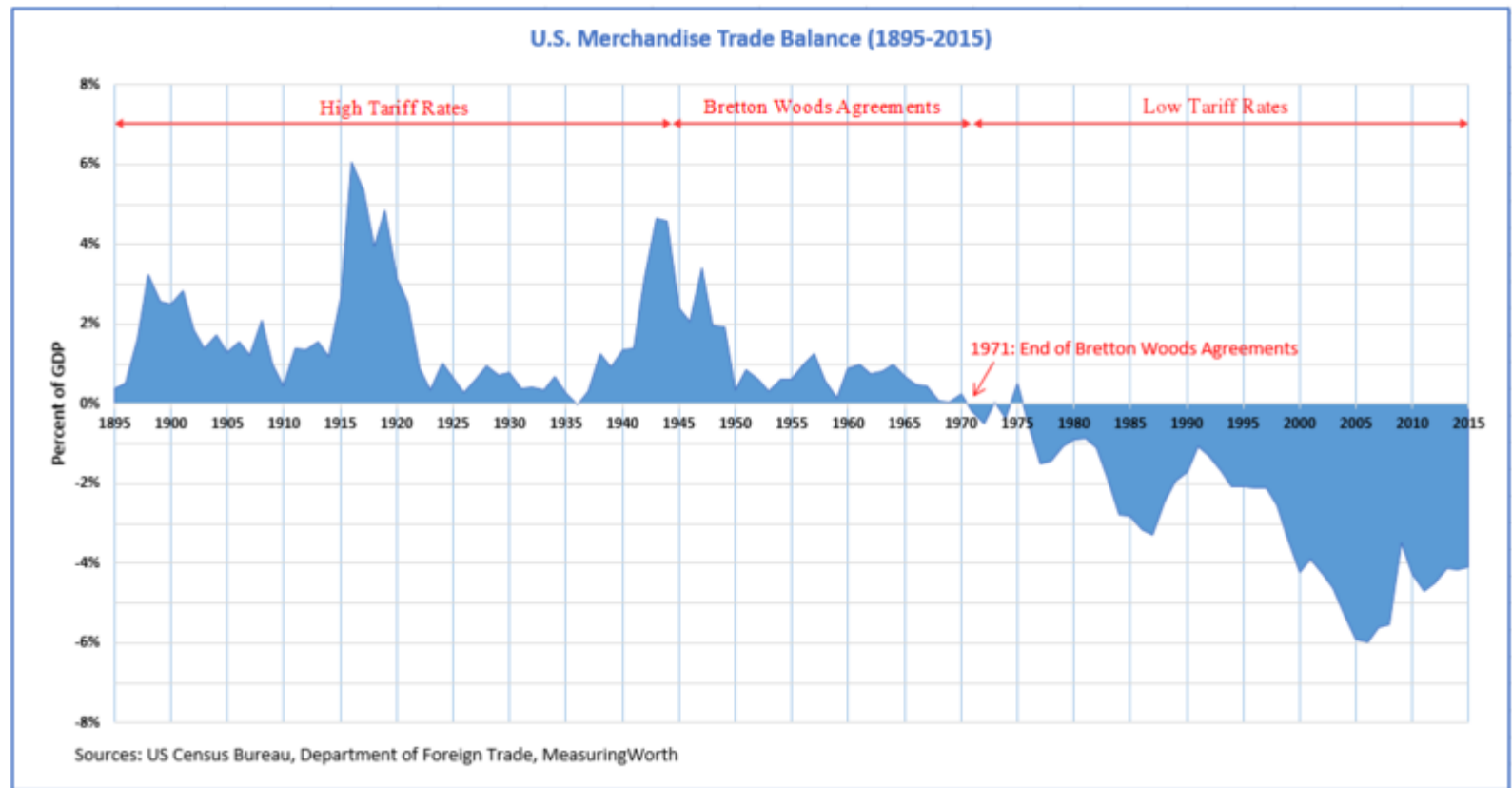
- **25%** ad valorem on **steel** imports
- **10%** ad valorem on **aluminum** imports
- Trump on tariffs: ***“We’re going to be very flexible, at the same time, we have some friends and some enemies where we have been tremendously taken advantage of over the years.”***
 - ▣ Temporary exemptions on U.S. allies including Canada, Mexico, and the EU have expired

History of US Tariffs



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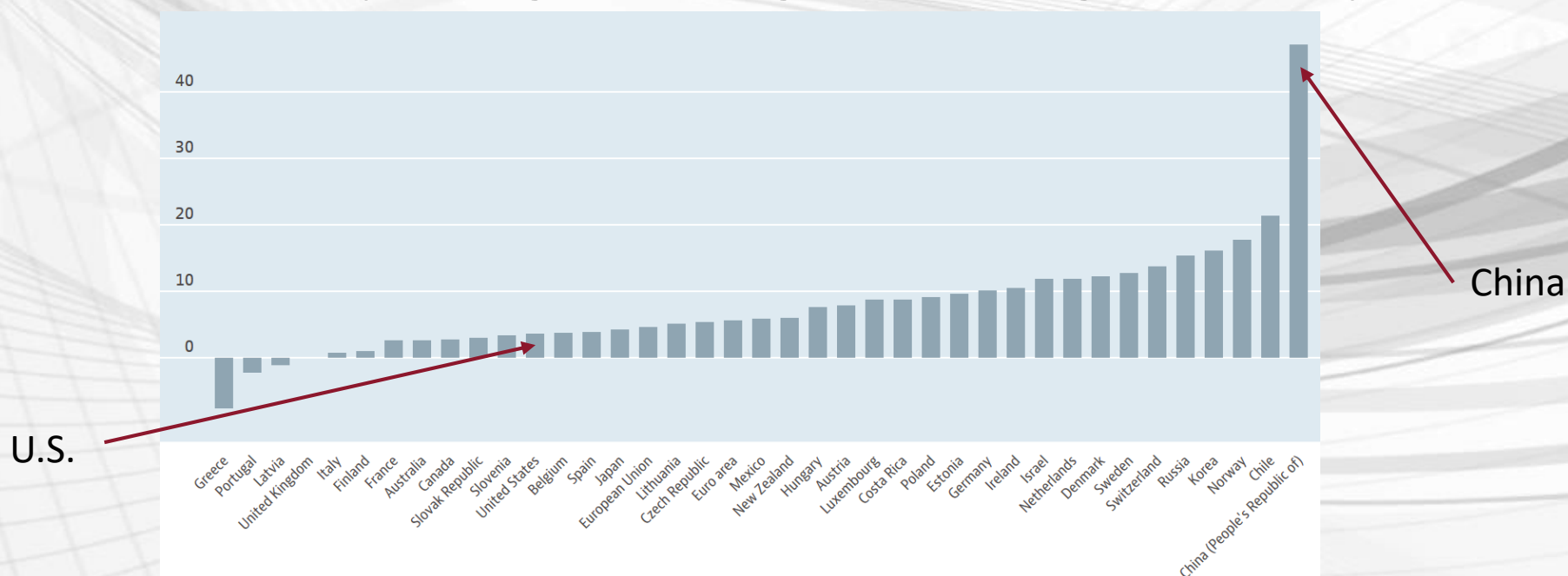
U.S. Trade Balance



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U.S. Trade Balance

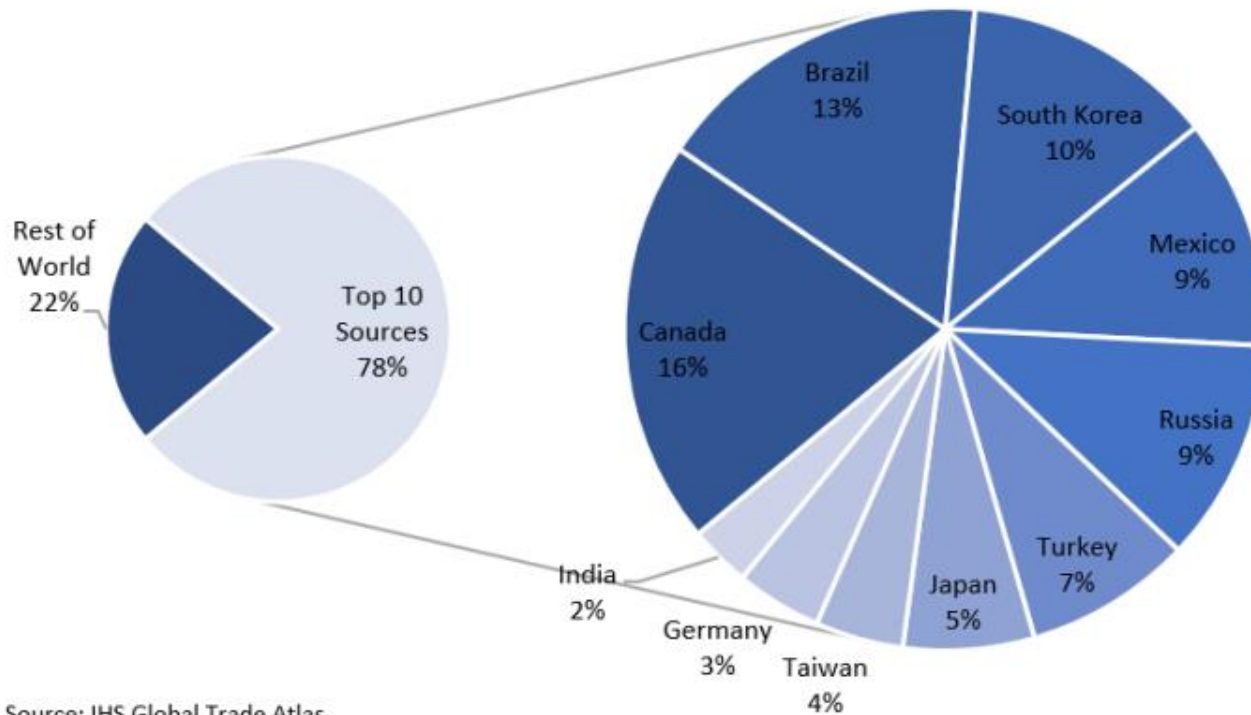
- $GDP = C + I + G + (X - M) = C + S + T \rightarrow$
- $(X - M) = (S - I) + (T - G) \rightarrow$
- All else equal, higher savings rate \rightarrow higher net exports



U.S. Steel Imports



U.S. Steel Imports - Top 10 Sources
YTD 2017 - Percent of Volume



Source: IHS Global Trade Atlas
YTD through September 2017

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U.S. Aluminum Imports



Table 5. U.S. Aluminum Industry Information for Primary Sector and Semi-finished Products

	Primary Sector	Semi-finished Products
Domestic Production (Thousands of Metric Tons)	5,456	8,491
Imports (Thousands of Metric Tons)	3,397	1,599
Exports (Thousands of Metric Tons)	362	1,255
U.S. Consumption (Thousands of Metric Tons)	8,491	8,835

Source: Aluminum Association, 2015 Aluminum Statistical Review

Source: NERA study, 2017.

NERA Aluminum Tariff Study



- In 2017, NERA Economic Consulting published: “Impacts of Potential Aluminum Tariffs on the U.S. Economy”
- Provided in-depth research about U.S. aluminum sector production and international trade flows
- Analyzed impacts of hypothetical aluminum tariffs using the REMI model

Aluminum Supply Chain



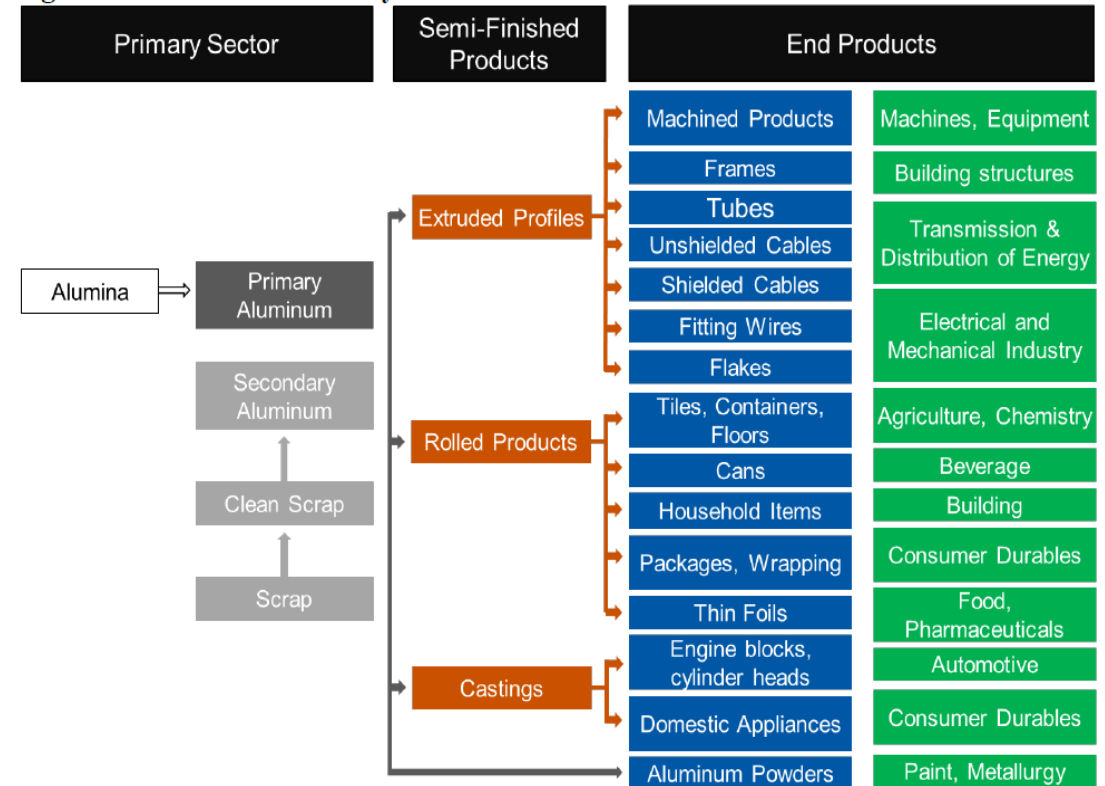
□ Primary Sector Products

- ▣ Alumina refined from bauxite, smelting and casting alumina into aluminum

□ Secondary Sector Products

- ▣ Extruded profiles generally for lighter, smaller components
- ▣ Rolled products include things like plates, sheets and foils
- ▣ Castings generally used in bulkier, heavier end products

Figure 1. Aluminum Industry Value Chain



Source: Derived from LUISS (2015)

Source: NERA study, 2017.

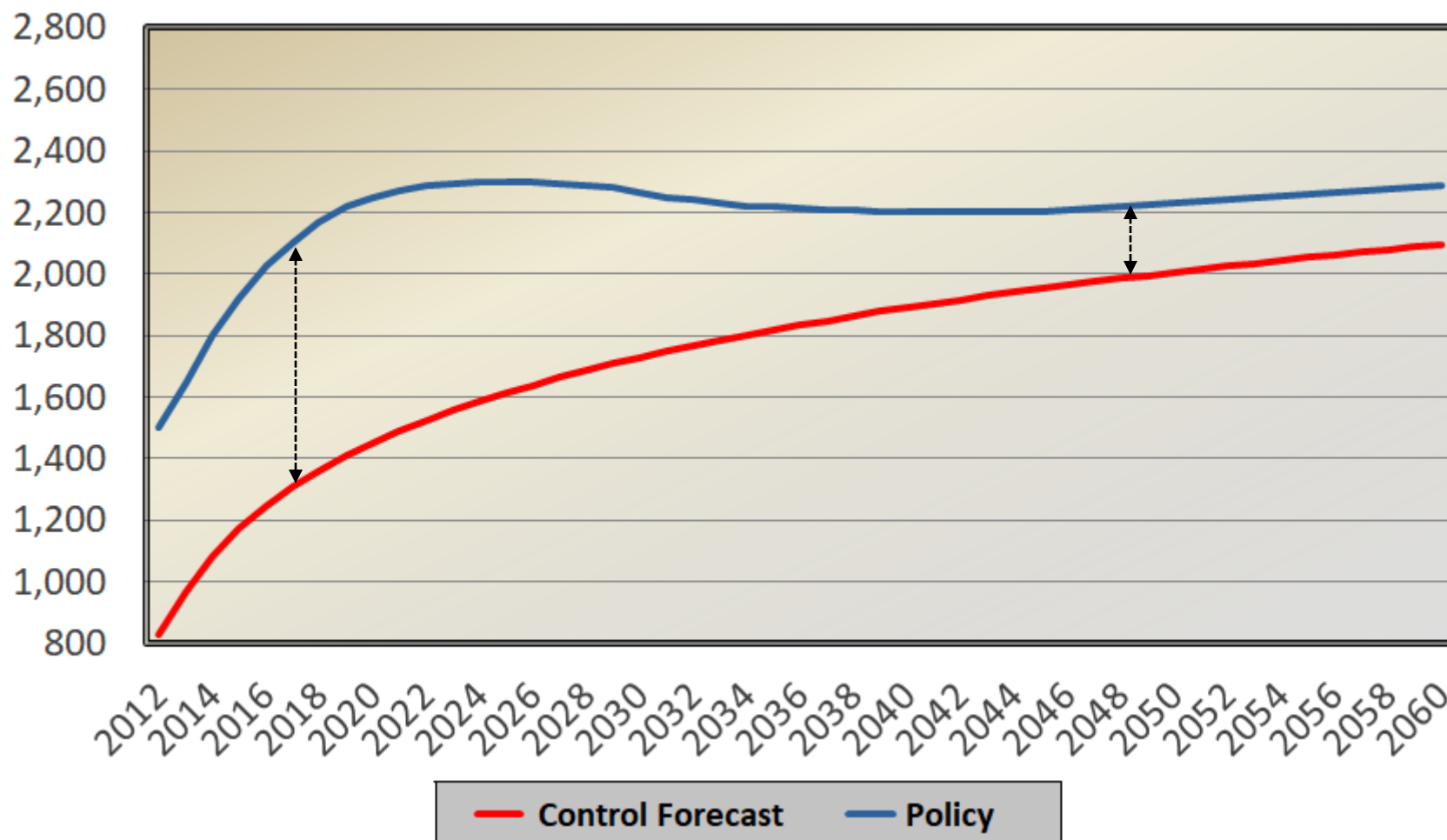
Steel & Aluminum Tariffs



- Increase in Foreign Import Costs in Primary Metal Manufacturing
 - Accounts for 25% steel tariffs and 10% aluminum tariffs
- Assume tariff revenue returned to consumers via subsidy
 - Decrease in Personal Taxes
 - Tariff percentage of Primary Metal Manufacturing imports
 - Other ways to inject tariff revenue into the economy include:
 - Direct government spending
 - Transfer payments (benefits, entitlements, training, public assistance, etc.)
 - Industry subsidies
- Model: 50 states + D.C., Period of Study: 2018-2027

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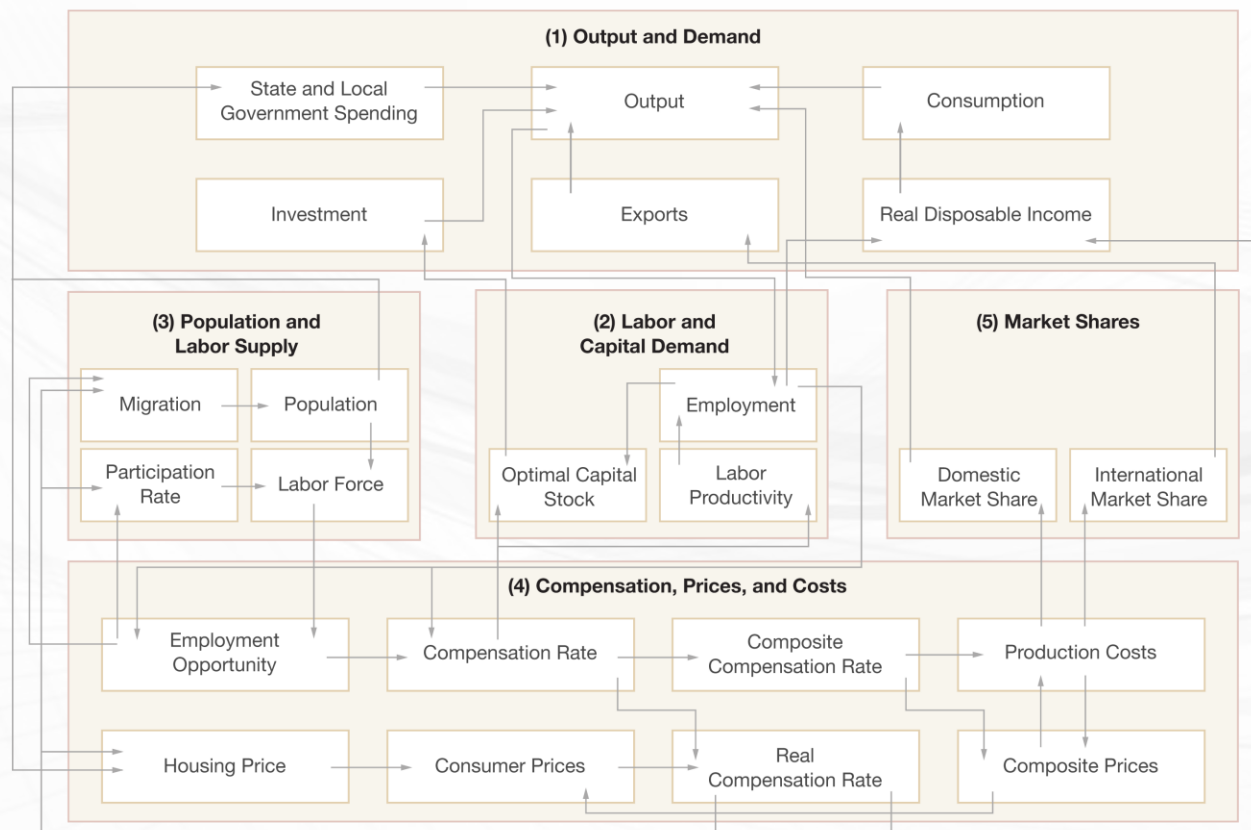
Model Framework



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Model Structure

REMI Model Linkages (Excluding Economic Geography Linkages)

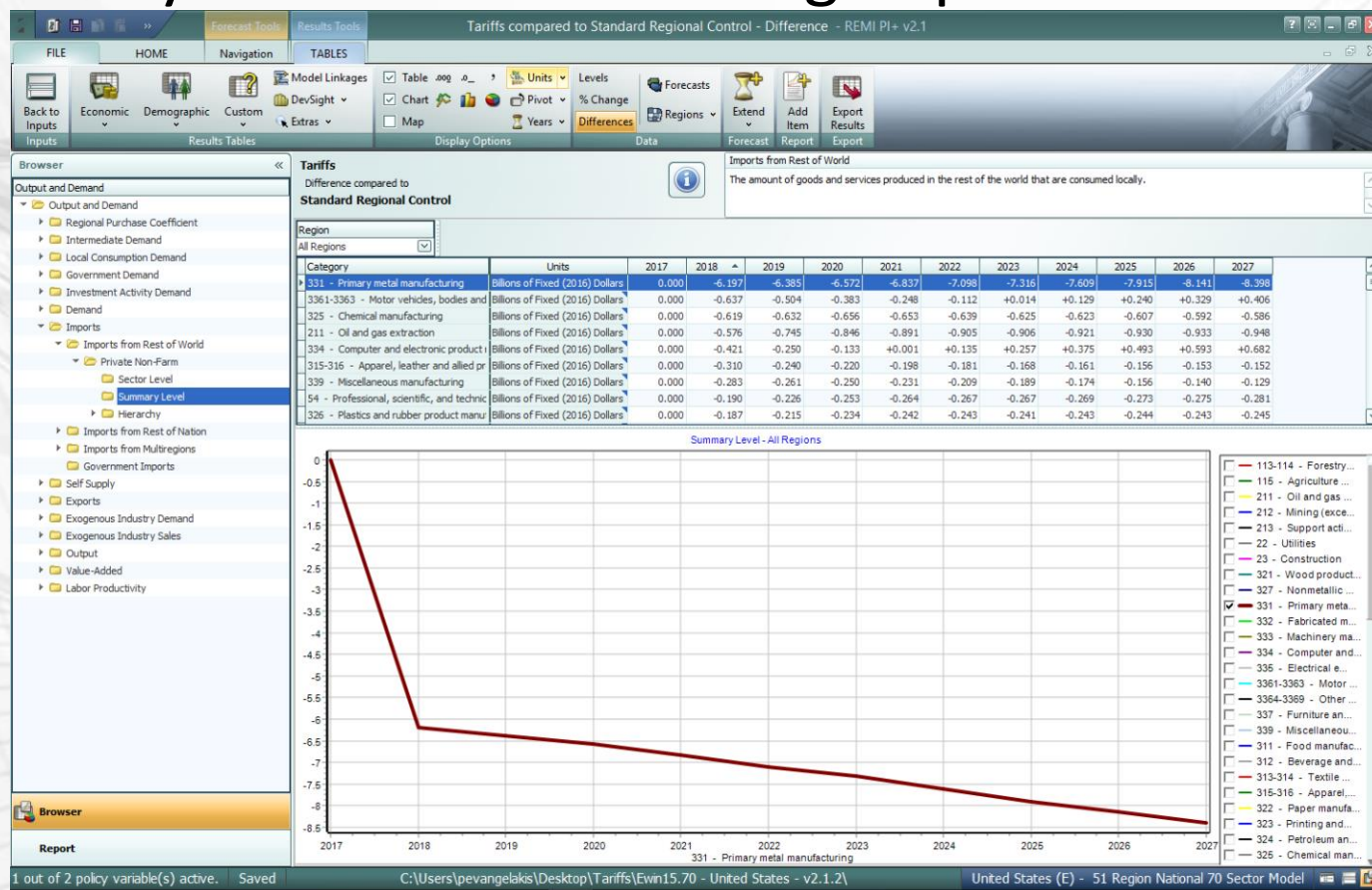


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Steel & Aluminum Tariffs



□ Primary metal manufacturing imports

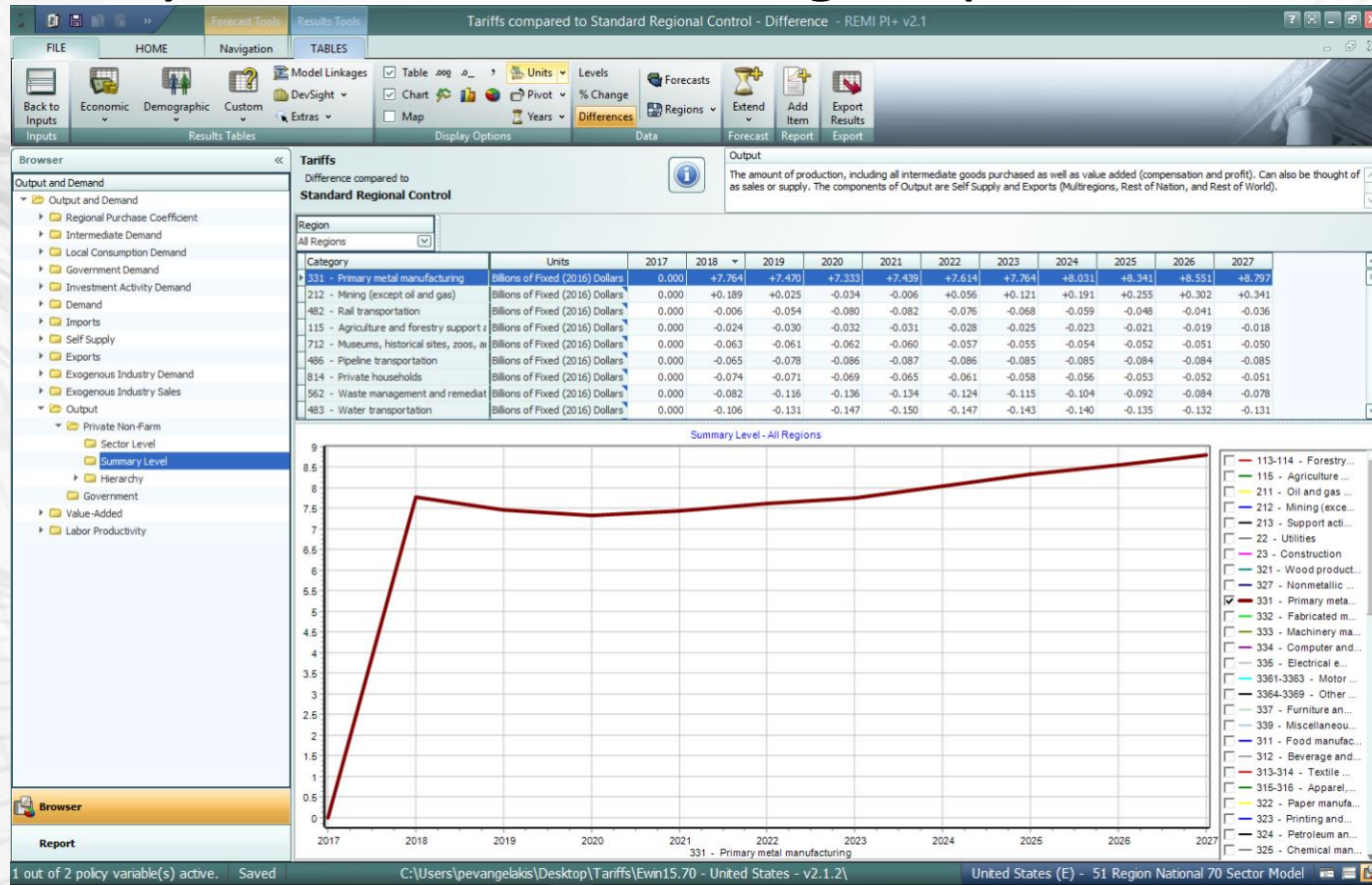


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Steel & Aluminum Tariffs



□ Primary metal manufacturing output

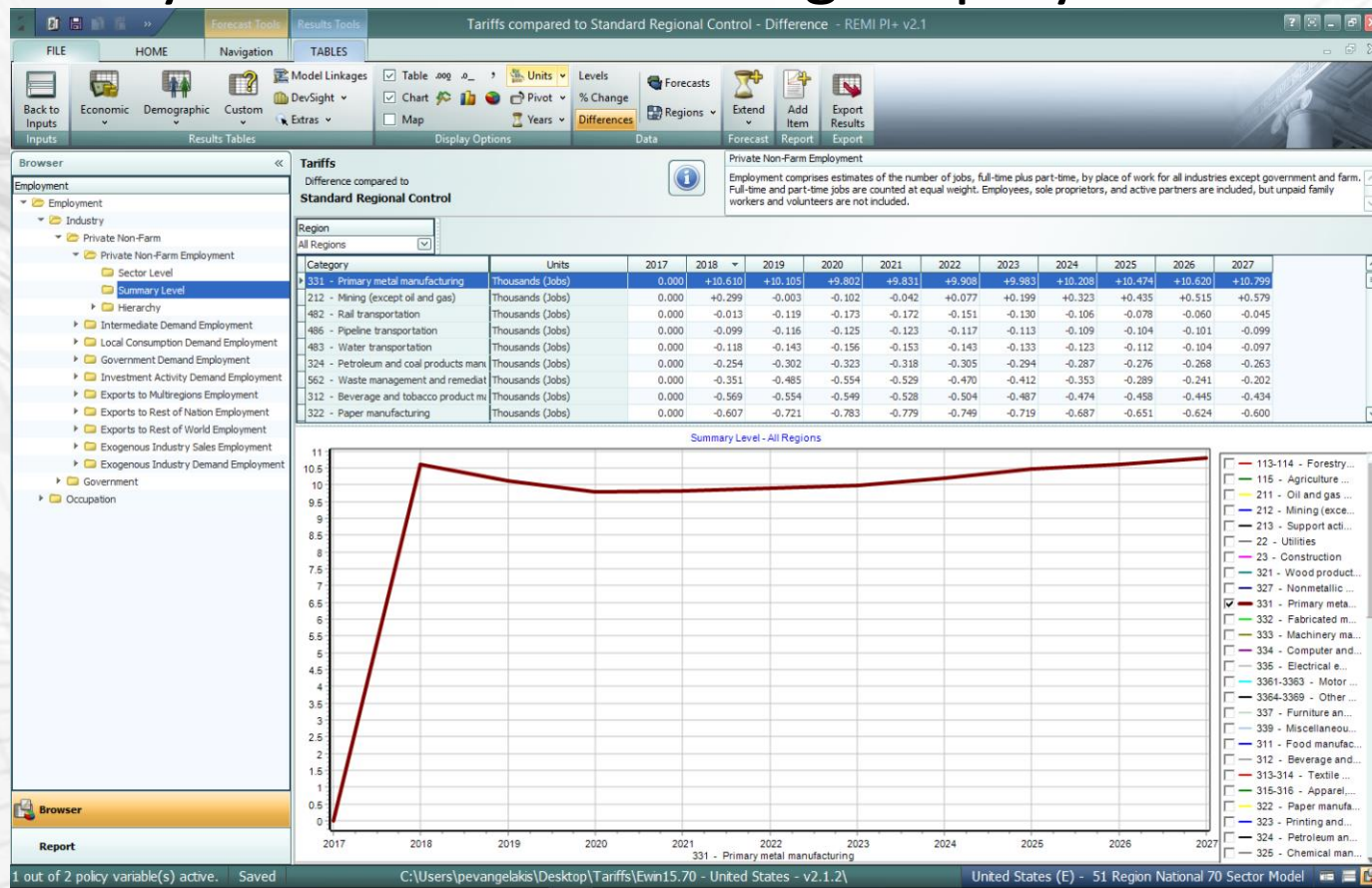


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Steel & Aluminum Tariffs



□ Primary metal manufacturing employment

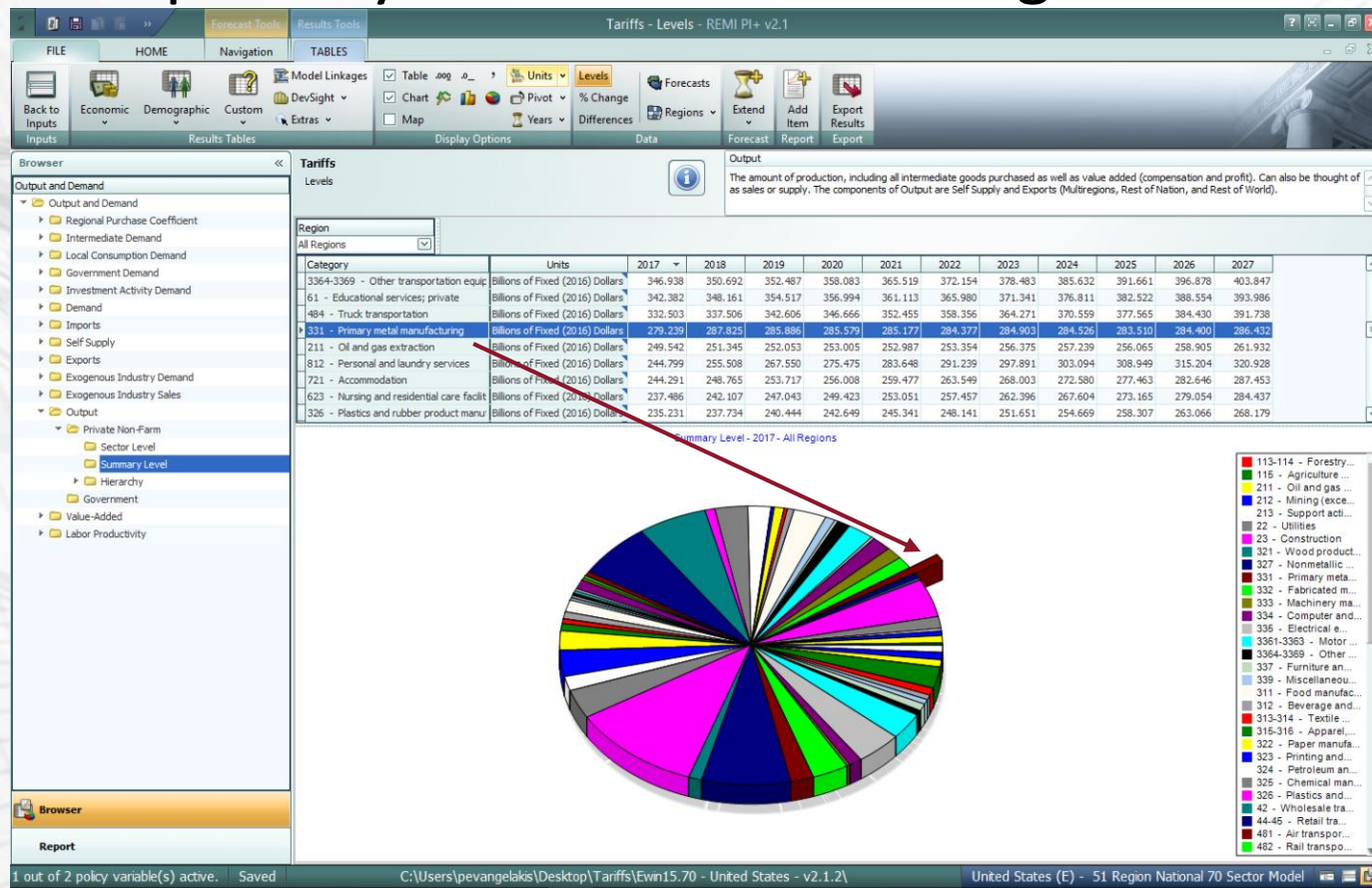


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Steel & Aluminum Tariffs



□ Size of primary metal manufacturing sector

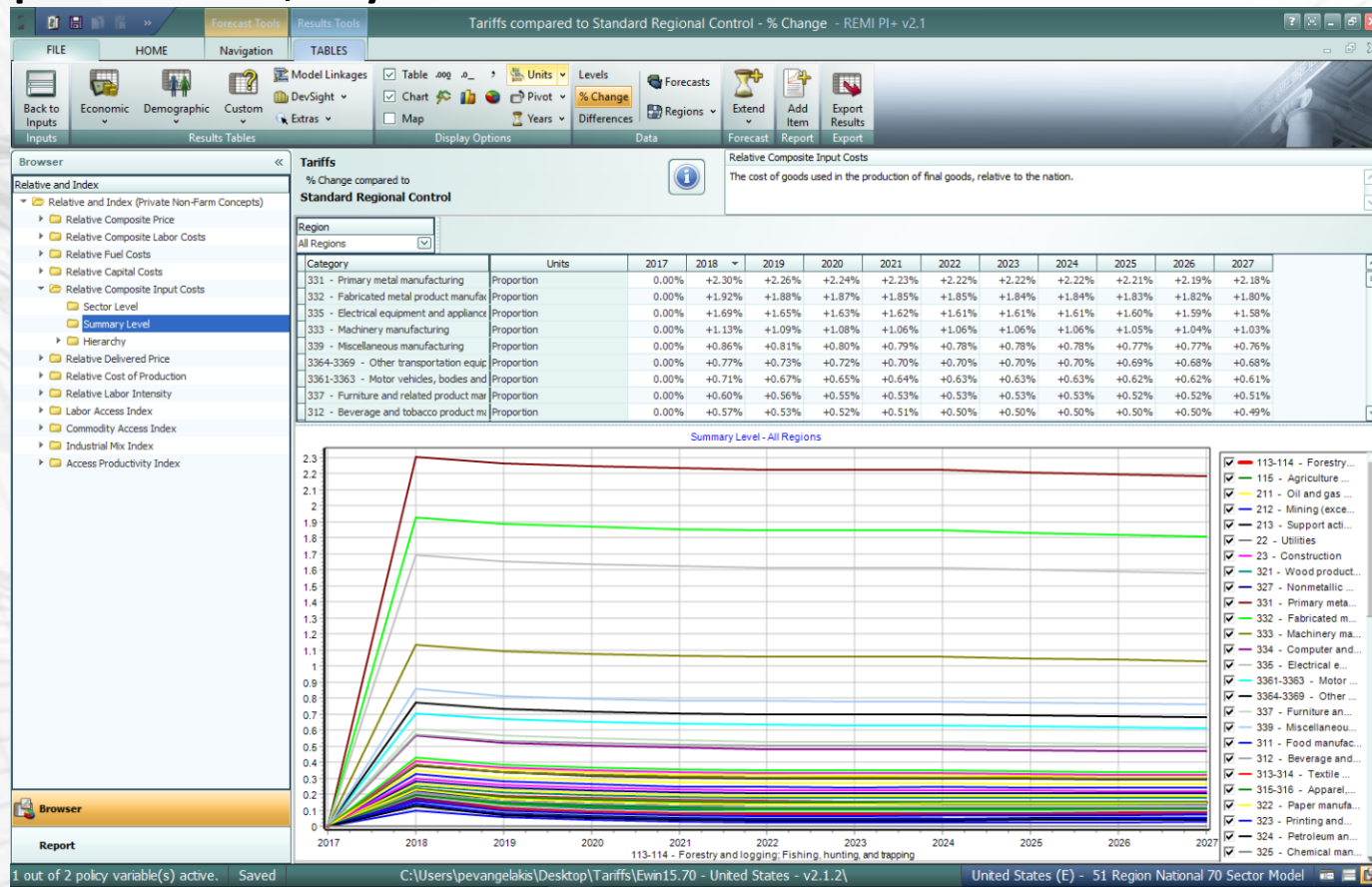


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Steel & Aluminum Tariffs



□ Input costs, by sector

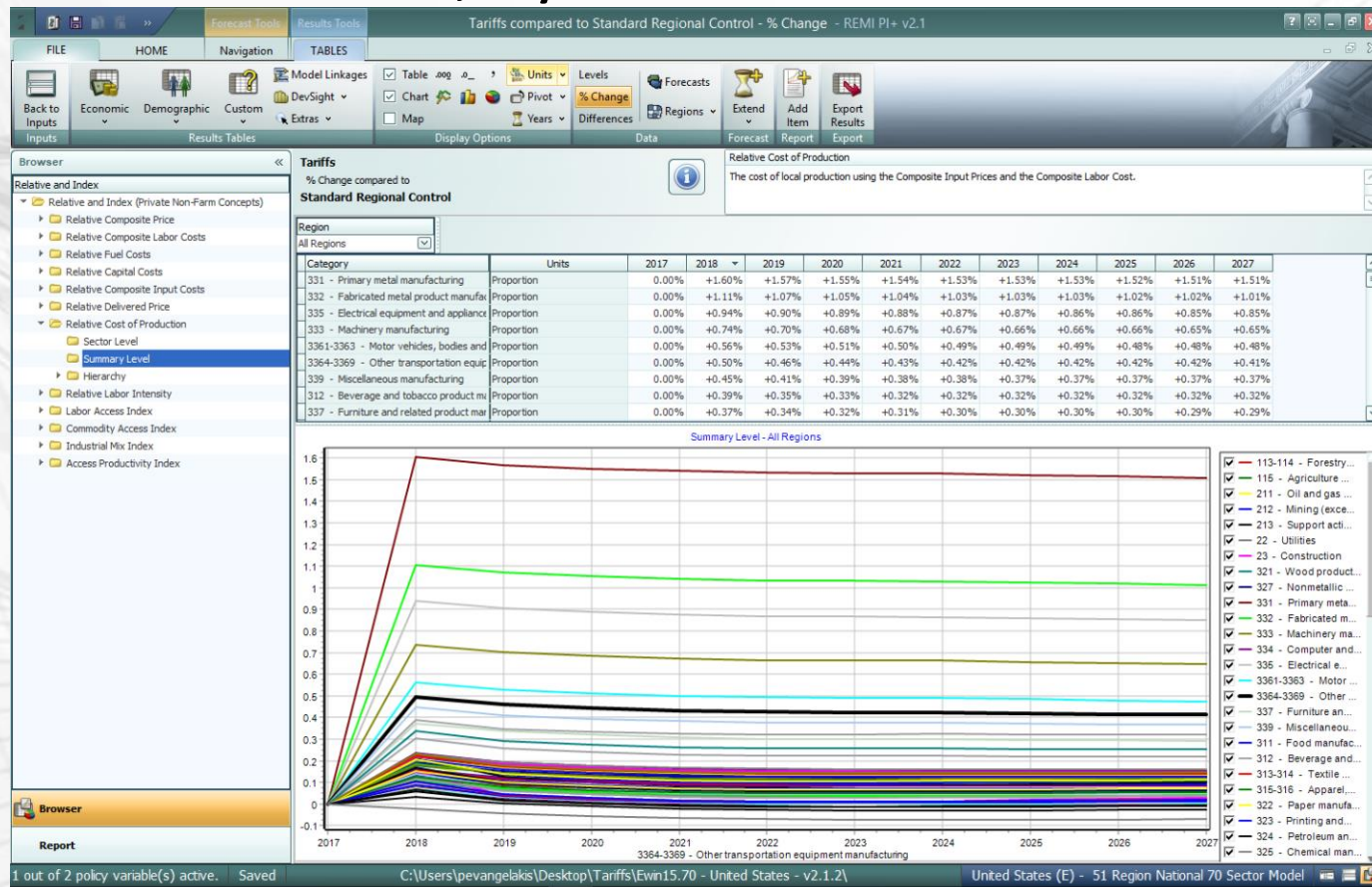


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Steel & Aluminum Tariffs



□ Production costs, by sector

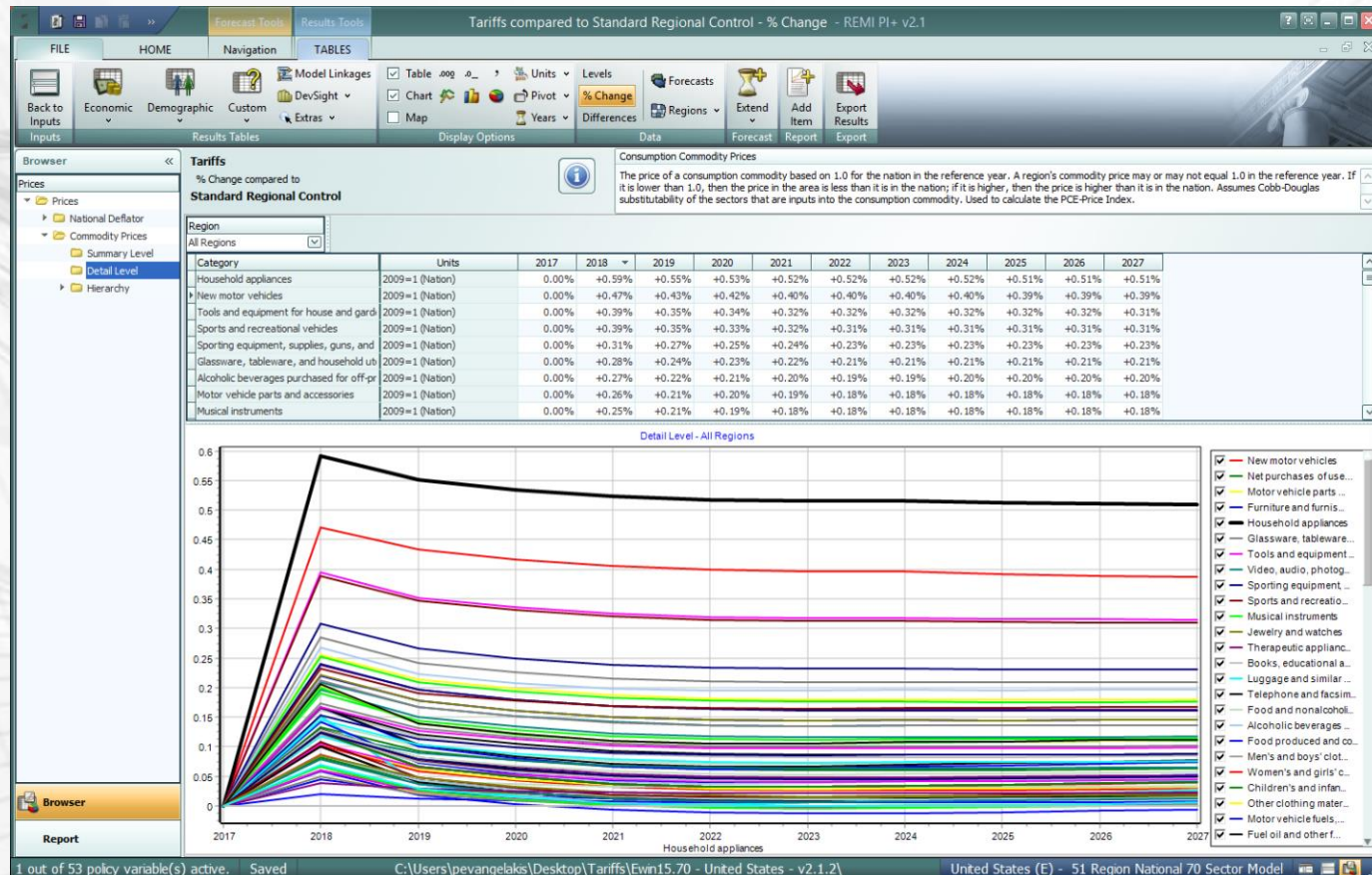


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Steel & Aluminum Tariffs



□ Prices, by consumption category



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Steel & Aluminum Tariffs



□ Impact on Retail Trade sector via I-O Table

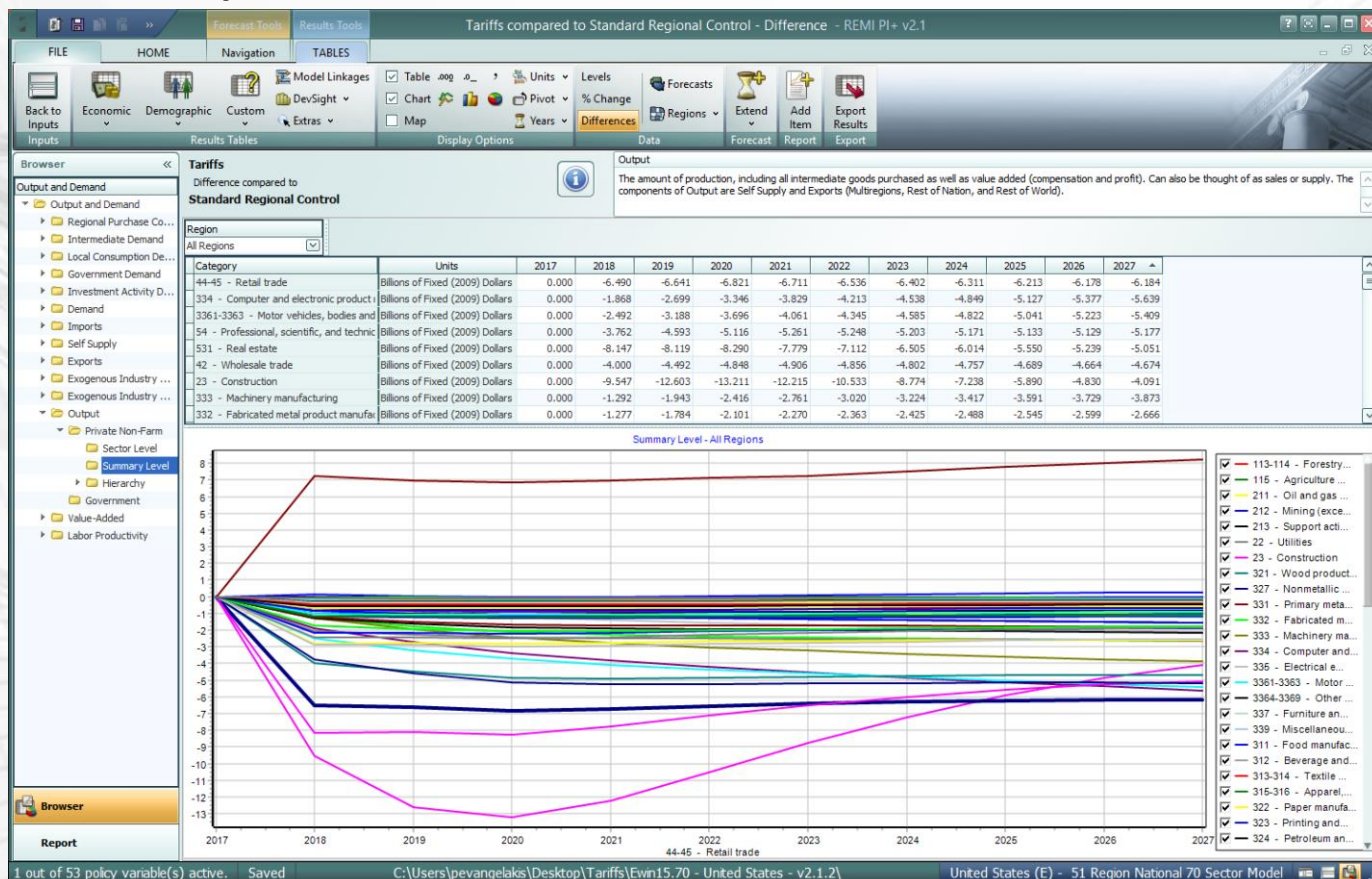
Ind	Row Names	New motor vehicles	Net purchases	Motor vehicle	Furniture and	Household appliances
1	113-114 - Forestry and logging; Fishing, hunting, and trapping	0.00000	0.00000	0.00000	0.00000	0.00000
2	115 - Agriculture and forestry support activities	0.00000	0.00000	0.00000	0.00000	0.00000
3	211 - Oil and gas extraction	0.00000	0.00001	0.00001	0.00001	0.00000
4	212 - Mining (except oil and gas)	0.00000	0.00001	0.00001	0.00001	0.00001
5	213 - Support activities for mining	0.00001	0.00004	0.00004	0.00003	0.00002
6	22 - Utilities	0.00001	0.00002	0.00002	0.00002	0.00002
7	23 - Construction	0.00000	0.00000	0.00000	0.00000	0.00000
8	321 - Wood product manufacturing	0.00005	-0.00026	0.00013	0.02276	0.00010
9	327 - Nonmetallic mineral product manufacturing	0.00016	0.00031	0.00111	0.01373	0.00035
10	331 - Primary metal manufacturing	0.00003	-0.00412	0.00084	0.00157	0.00024
11	332 - Fabricated metal product manufacturing	0.00599	-0.00108	0.00800	0.01660	0.00052
12	333 - Machinery manufacturing	0.07865	0.00000	0.00529	0.00019	0.03504
13	334 - Computer and electronic product manufacturing	0.00021	0.00054	0.00270	0.00590	0.00331
14	335 - Electrical equipment and appliance manufacturing	0.00002	0.00005	0.00042	0.01792	0.55470
15	3361-3363 - Motor vehicles, bodies and trailers, and parts manufacturing	0.61582	-0.00004	0.14308	0.00001	0.00001
16	3364-3369 - Other transportation equipment manufacturing	0.01033	-0.00012	0.00075	0.00021	0.00004
17	337 - Furniture and related product manufacturing	0.00006	0.00015	0.00114	0.19125	0.00029
18	339 - Miscellaneous manufacturing	0.00023	0.00059	0.00806	0.04557	0.00068
19	311 - Food manufacturing	0.00017	0.00044	0.00044	0.00043	0.00030
20	312 - Beverage and tobacco product manufacturing	0.00009	0.00023	0.00023	0.00022	0.00016
21	313-314 - Textile mills; Textile product mills	0.00002	0.00003	0.00236	0.06474	0.00004
22	315-316 - Apparel, leather and allied product manufacturing	0.00005	0.00014	0.00014	0.00073	0.00009
23	322 - Paper manufacturing	0.00002	-0.00199	0.00070	0.00061	0.00006
24	323 - Printing and related support activities	0.00004	-0.00057	0.00011	0.00076	0.00008
25	324 - Petroleum and coal products manufacturing	0.00007	0.00018	0.00018	0.00018	0.00012
26	325 - Chemical manufacturing	0.00059	0.00154	0.00509	0.00167	0.00115
27	326 - Plastics and rubber product manufacturing	0.00003	-0.00005	0.15618	0.00474	0.00109
28	42 - Wholesale trade	0.00278	0.56265	0.15040	0.14830	0.19443
29	44-45 - Retail trade	0.15682	0.40578	0.40707	0.39893	0.27600

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Steel & Aluminum Tariffs



□ Total output

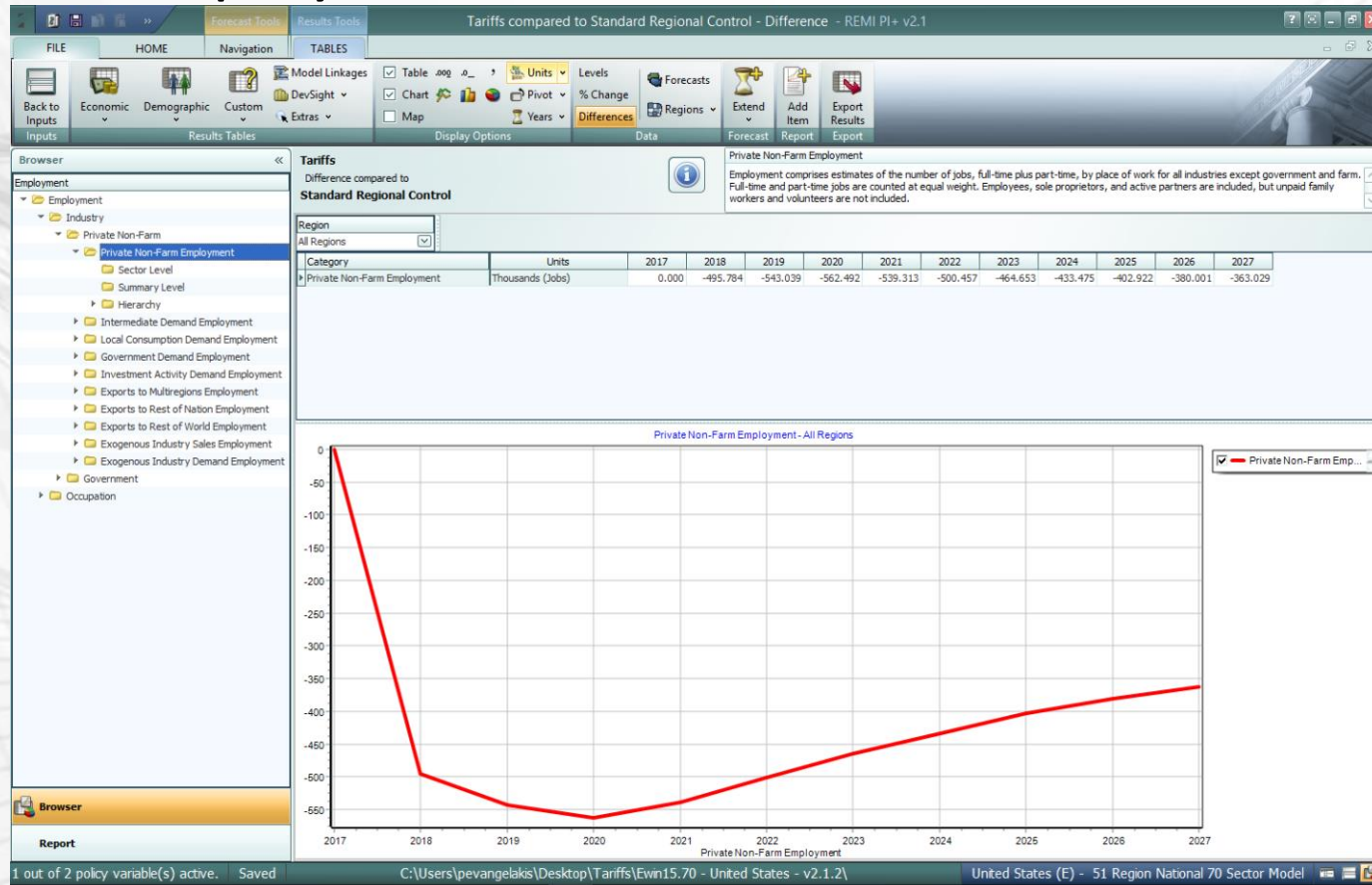


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Steel & Aluminum Tariffs



□ Total employment

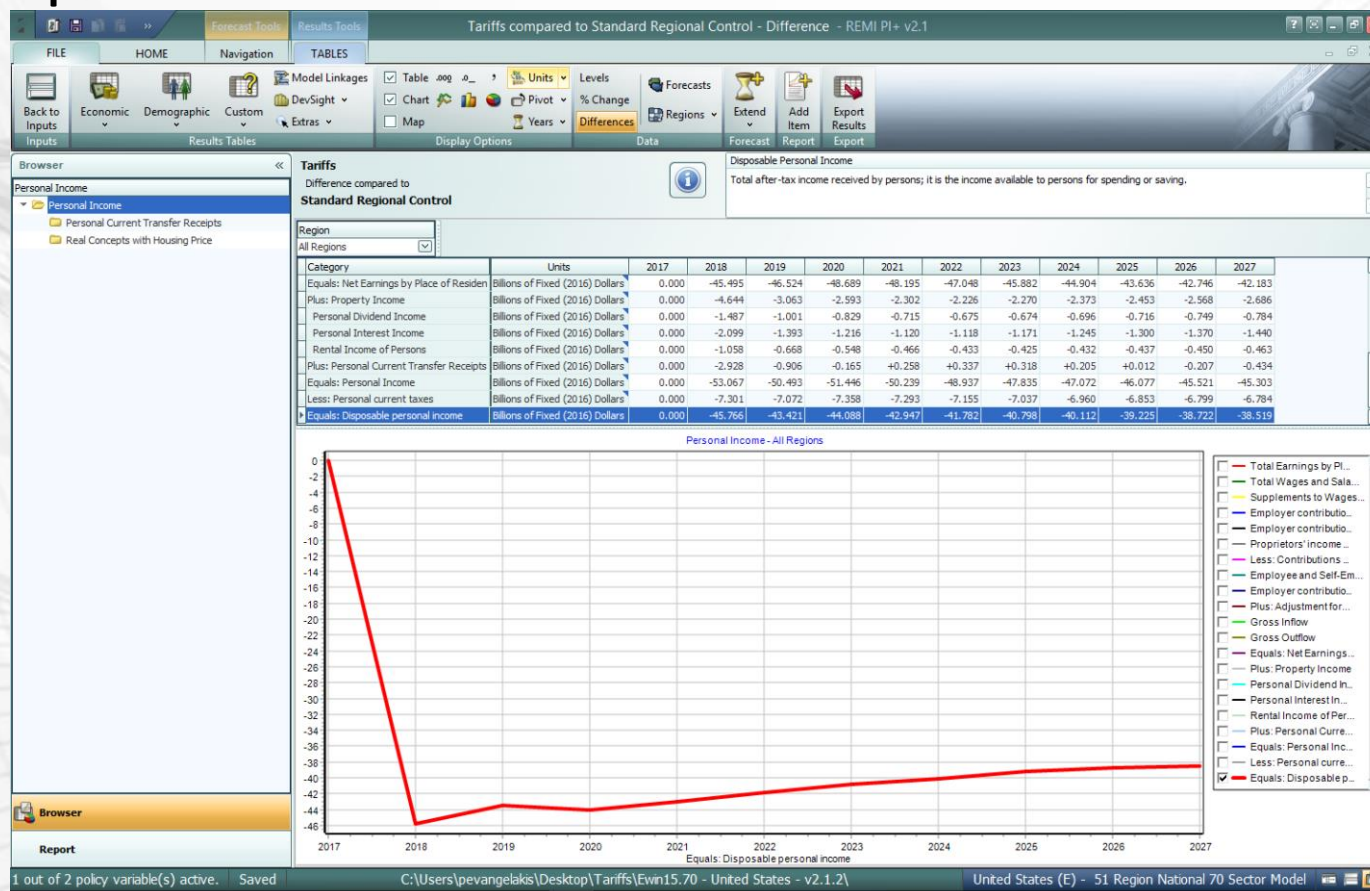


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Steel & Aluminum Tariffs



□ Disposable income



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Steel & Aluminum Tariffs



- National outcomes with and without subsidies from tariff revenue

	Without Subsidy			With Subsidy		
	Output (Billions \$)	Employment (Thousands)	Disposable Income (Billions \$)	Output (Billions \$)	Employment (Thousands)	Disposable Income (Billions \$)
Primary Metal Manufacturing	+7.9 (+2.85%)	+10.2 (+2.83%)	-41.5 (-0.26%)	+8.1 (+2.90%)	+10.4 (+2.87%)	-22.2 (-0.14%)
Manufacturing	-20.9 (-0.32%)	-46.7 (-0.38%)		-17.6 (-0.27%)	-39.5 (-0.33%)	
All Industries	-90.5 (-0.28%)	-468.5 (-0.27%)		-59.2 (-0.18%)	-275.1 (-0.16%)	

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Outcomes reported as 10-year averages, 2018-2027.