SUPPLEMENTARY MATERIALS ("Appendix B") for:

The Repercussions of Realignment:
US-China Interdependence and Exchange Rate Politics

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Summary of Diagnostic Tools

With respect to mixing, diagnostics for the models are favorable. To facilitate visual inspection of model convergence, this appendix contains trace plots and running mean plots for each variable. There is no sign of significant trending in either set of plots.

Additionally, I used Gelman-Rubin/Geweke model diagnostics to formally test for non-convergence of the Markov chain. These results were similarly positive. Gelman-Rubin tests were run using three separate chains. In no case was the potential scale reduction factor greater than 1.1

I also ran the Geweke diagnostic tool with selected window proportions of 0.1 and 0.5 to examine various quantiles of the Markov chain. As an additional check, I experimented with setting the proportions at 0.2 and 0.2. The resulting diagnostics statistics were under 2, usually by large margins.

These tests relied on the MCMCpack and coda packages in R.

List of (co)sponsors on the CRFTA and CERORA

Table 1: (Co)sponsors of CRFTA/CERORA)

CRFTA: 113 Dem; 46 Rep	CERORA: 16 Dem; 5 Rep; 1 Ind.
CRFTA	Ryan, Tim [D-OH17] (original)
Akin, Todd [R-MO2]	Costello, Jerry [D-IL12]
Altmire, Jason [D-PA4]	Courtney, Joe [D-CT2]
Andrews, Robert Rob [D-NJ1]	Critz, Mark [D-PA12]
Arcuri, Michael [D-NY24]	Cummings, Elijah [D-MD7]
Baca, Joe [D-CA43]	Dahlkemper, Kathleen [D-PA3]
Bachus, Spencer [R-AL6]	Davis, Lincoln [D-TN4]
Baldwin, Tammy [D-WI2]	DeFazio, Peter [D-OR4]
Barrett, James J. Gresham [R-SC3]	Delahunt, William Bill [D-MA10]
Barrow, John [D-GA12]	DeLauro, Rosa [D-CT3]
Berkley, Shelley [D-NV1]	Dent, Charles [R-PA15]
Berry, Robert Marion [D-AR1]	Dingell, John [D-MI15]
Bishop, Rob [R-UT1]	Donnelly, Joe [D-IN2]
Bishop, Sanford [D-GA2]	Doyle, Michael Mike [D-PA14]
Blumenauer, Earl [D-OR3]	Duncan, John Jimmy [R-TN2]
Boccieri, John [D-OH16]	Edwards, Thomas Chet [D-TX17]
Boren, Dan [D-OK2]	Ehlers, Vernon [R-MI3]
Boswell, Leonard [D-IA3]	Ellison, Keith [D-MN5]
Boucher, Frederick Rick [D-VA9]	Ellsworth, Brad [D-IN8]
Brady, Robert [D-PA1]	Filner, Bob [D-CA51]
Braley, Bruce [D-IA1]	Foster, Bill [D-IL14]
Brown, Henry [R-SC1]	Fudge, Marcia [D-OH11]
Burton, Dan [R-IN5]	Gerlach, Jim [R-PA6]
Buyer, Stephen Steve [R-IN4]	Green, Al [D-TX9]
Calvert, Ken [R-CA44]	Green, Gene [D-TX29]
Carney, Christopher [D-PA10]	Griffith, Parker [R-AL5]
Cleaver, Emanuel [D-MO5]	Grijalva, Ral [D-AZ7]
Coble, Howard [R-NC6]	Gutirrez, Luis [D-IL4]
Coffman, Mike [R-CO6]	Hall, John [D-NY19]
Connolly, Gerald [D-VA11]	Halvorson, Deborah [D-IL11]
Conyers, John [D-MI14]	Hare, Phil [D-IL17]

Hastings, Alcee [D-FL23]	Markey, Edward Ed [D-MA7]
Heinrich, Martin [D-NM1]	Massa, Eric [D-NY29]
Higgins, Brian [D-NY27]	Matsui, Doris [D-CA5]
Hill, Baron [D-IN9]	McCarthy, Carolyn [D-NY4]
Hinchey, Maurice [D-NY22]	McCollum, Betty [D-MN4]
Hodes, Paul [D-NH2]	McCotter, Thaddeus Thad [R-MI11]
Hoekstra, Peter Pete [R-MI2]	McGovern, James Jim [D-MA3]
Holden, Tim [D-PA17]	McHenry, Patrick [R-NC10]
Holt, Rush [D-NJ12]	McHugh, John [R-NY23]
Hunter, Duncan [R-CA52]	McIntyre, Mike [D-NC7]
Inglis, Bob [R-SC4]	Michaud, Michael [D-ME2]
Jackson, Jesse [D-IL2]	Miller, Bradley Brad [D-NC13]
Johnson, Eddie [D-TX30]	Miller, Candice [R-MI10]
Jones, Walter [R-NC3]	Miller, George [D-CA7]
Kagen, Steve [D-WI8]	Mollohan, Alan [D-WV1]
Kanjorski, Paul [D-PA11]	Murphy, Christopher [D-CT5]
Kaptur, Marcy [D-OH9]	Murphy, Patrick [D-PA8]
Kildee, Dale [D-MI5]	Murphy, Tim [R-PA18]
Kilroy, Mary Jo [D-OH15]	Murtha, John [D-PA12]
Kissell, Larry [D-NC8]	Myrick, Sue [R-NC9]
Kucinich, Dennis [D-OH10]	Norton, Eleanor [D-DC0]
Larson, John [D-CT1]	Olver, John [D-MA1]
LaTourette, Steven [R-OH14]	Owens, William [D-NY23]
Lee, Christopher [R-NY26]	Pascrell, Bill [D-NJ8]
Lipinski, Daniel [D-IL3]	Perriello, Thomas [D-VA5]
Loebsack, David [D-IA2]	Peters, Gary [D-MI9]
Luetkemeyer, Blaine [R-MO9]	Petri, Thomas Tom [R-WI6]
Lynch, Stephen [D-MA9]	Pingree, Chellie [D-ME1]
Maffei, Daniel [D-NY25]	Pitts, Joseph [R-PA16]
Manzullo, Donald [R-IL16]	Platts, Todd [R-PA19]

Rahall, Nick [D-WV3]	Visclosky, Peter [D-IN1]
Richardson, Laura [D-CA37]	Welch, Peter [D-VT0]
Rogers, Harold Hal [R-KY5]	Westmoreland, Lynn [R-GA3]
Rogers, Mike [R-AL3]	Whitfield, Ed [R-KY1]
Rogers, Mike [R-MI8]	Wilson, Charles [D-OH6]
Rohrabacher, Dana [R-CA46]	Wilson, Joe [R-SC2]
Ross, Mike [D-AR4]	Woolsey, Lynn [D-CA6]
Rush, Bobby [D-IL1]	Young, Don [R-AK0]
Salazar, John [D-CO3]	**CERORA**
Snchez, Linda [D-CA39]	Brown, Sherrod [D-OH] (original)
Sanchez, Loretta [D-CA47]	Blumenthal, Richard [D-CT]
Schakowsky, Janice Jan [D-IL9]	Burr, Richard [R-NC]
Schauer, Mark [D-MI7]	Cardin, Benjamin [D-MD]
Sensenbrenner, James [R-WI5]	Casey, Robert [D-PA]
Sestak, Joe [D-PA7]	Collins, Susan [R-ME]
Shea-Porter, Carol [D-NH1]	Conrad, Kent [D-ND]
Sherman, Brad [D-CA27]	Gillibrand, Kirsten [D-NY]
Shuler, Heath [D-NC11]	Graham, Lindsey [R-SC]
Shuster, Bill [R-PA9]	Hagan, Kay [D-NC]
Slaughter, Louise [D-NY28]	Levin, Carl [D-MI]
Souder, Mark [R-IN3]	Manchin, Joe [D-WV]
Space, Zachary Zack [D-OH18]	Menndez, Robert [D-NJ]
Speier, Jackie [D-CA12]	Nelson, Ben [D-NE]
Spratt, John [D-SC5]	Reed, John [D-RI]
Stark, Fortney Pete [D-CA13]	Schumer, Charles [D-NY]
Stupak, Bart [D-MI1]	Sessions, Jefferson [R-AL]
Sutton, Betty [D-OH13]	Snowe, Olympia [R-ME]
Thompson, Glenn [R-PA5]	Stabenow, Debbie [D-MI]
Tonko, Paul [D-NY21]	Whitehouse, Sheldon [D-RI]
Turner, Michael [R-OH3]	Franken, Alan [D-MN]
Upton, Fred [R-MI6]	Rockefeller, John [D-WV]
Sanders, Bernard [I-VT]	

Model 1 Diagnostics

	Gelman-Rubin		Geweke	
	Point Est.	Upper C.I.	1st Window: .2/.2	2nd Window: .1/.5
Intercept	1.00	1.00	-0.02	-0.65
Ideology	1.00	1.00	-0.19	-0.91
Unemployment	1.00	1.00	-1.97	-0.39
Jobs Lost to China	1.00	1.01	0.24	-0.46
Import Penetration	1.00	1.00	-1.33	-1.67
Mfg Employment	1.00	1.00	0.81	0.79
Mfg Income	1.00	1.00	0.45	1.36
Mfg Unionization	1.00	1.00	0.29	-0.39
China Exports	1.00	1.00	-0.46	-0.48
Pro-Realignment $	1.00	1.00	1.24	1.02
Anti-Realignment $	1.00	1.00	-1.31	-1.06
Mfg Inc*Mfg Empl	1.00	1.00	-0.37	-0.71

Trace of (Intercept)

Trace of Ideology

Trace of StateImportPenetration

Trace of StateJobsLostToChina

Trace of Unemployment

Trace of MedianMfgIncomers

Trace of MfgEmplrs

Trace of StatePrivMfgUnionMem

Trace of ChinaExportsShareCDIncomers

Trace of ProSharers

Trace of AntiSharers

Trace of MedianMfgIncomers:MfgEmplrs

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(Intercept)

Ideology

StateImportPenetration

StateJobsLostToChina

Unemployment

MedianMfgIncomers

MfgEmplrs

StatePrivMfgUnionMem

ChinaExportsShareCDIncomers

ProSharers

AntiSharers

MedianMfgIncomers:MfgEmplrs

Model 2 Diagnostics

	Gelman-Rubin		Geweke	
	Point Est.	Upper C.I.	Window: .2, .2	Window: .1, .5
Intercept	1.00	1.00	-0.40	0.31
Democrat	1.00	1.00	0.35	-0.22
Unemployment	1.00	1.00	0.07	-0.01
Jobs Lost to China	1.00	1.00	0.48	0.85
Import Penetration	1.00	1.00	0.31	-0.30
Mfg Employment	1.00	1.00	-0.28	-0.85
Mfg Income	1.00	1.00	0.11	-1.21
Mfg Unionization	1.00	1.00	1.07	1.59
China Exports	1.00	1.00	-0.55	-0.42
Pro-Realignment $	1.00	1.00	-0.18	0.46
Anti-Realignment $	1.00	1.00	-0.77	-0.78
Mfg Inc*Mfg Empl	1.00	1.00	0.13	1.07

Trace of (Intercept)

Trace of Democrat

Trace of StateImportPenetration

Trace of StateJobsLostToChina

Trace of Unemployment

Trace of MedianMfgIncomers

Trace of MfgEmplrs

Trace of StatePrivMfgUnionMem

Trace of ChinaExportsShareCDIncomers

Trace of ProSharers

Trace of AntiSharers

Trace of MedianMfgIncomers:MfgEmplrs

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(Intercept)

Democrat

StateImportPenetration

StateJobsLostToChina

Unemployment

MedianMfgIncomers

14

MfgEmplrs

StatePrivMfgUnionMem

ChinaExportsShareCDIncomers

ProSharers

AntiSharers

MedianMfgIncomers:MfgEmplrs

Model 3 Diagnostics

	Gelman-Rubin		Geweke	
	Point Est.	Upper C.I.	Window: .2, .2	Window: .1, .5
Intercept	1.00	1.00	-0.20	-0.38
Ideology	1.00	1.00	-1.33	-1.09
Unemployment	1.00	1.00	0.98	-0.20
Jobs Lost to China	1.00	1.00	-0.20	0.21
Import Penetration	1.00	1.00	0.76	-0.48
Mfg Employment	1.00	1.00	0.83	1.78
Mfg Income	1.00	1.00	0.03	0.60
Mfg Unionization	1.00	1.00	1.57	0.23
China Exports	1.00	1.00	-0.07	-0.14
Pro-Realignment $	1.00	1.00	1.24	0.50
Anti-Realignment $	1.00	1.00	0.75	0.33
Mfg Inc*Mfg Empl	1.00	1.00	-0.29	-1.05

Trace of (Intercept)   **Trace of Ideology**   **Trace of StateImportPenetratio**

Trace of StateJobsLostToChina   **Trace of Unemployment**   **Trace of MedianMfgIncomers**

Trace of MfgEmplrs   **Trace of StatePrivMfgUnionMe** **race of ChinaExportsShareCDInco**

Trace of ProSharers

Trace of AntiSharers

race of MedianMfgIncomers:MfgE

Trace of gamma2

ProSharers

AntiSharers

MedianMfgIncomers:MfgEmplrs

gamma2

Iterations

Model 4 Diagnostics

	Gelman-Rubin		Geweke	
	Point Est.	Upper C.I.	1st Window: .2/.2	2nd Window: .1/.5
Intercept	1.01	1.01	1.32	0.20
Ideology	1.00	1.01	1.36	1.25
Import Penetration	1.00	1.00	-0.59	0.16
Jobs Lost to China	1.00	1.01	0.60	-1.21
Pro-Realignment $	1.00	1.01	-1.22	-1.24
Anti-Realignment $	1.01	1.04	1.28	1.53
China FDI	1.00	1.00	1.42	0.79
Mfg Employment	1.01	1.01	-1.55	-0.44
Mfg Income	1.00	1.01	-1.52	0.01
Mfg Unionization	1.00	1.00	1.85	0.40
China Exports	1.00	1.01	0.82	0.65
Unemployment	1.00	1.00	0.59	0.69
Mfg Empl*Mfg Inc	1.01	1.01	1.38	0.41

Trace of ProSharers

Trace of AntiSharers

Trace of FDIshareGDPrs

race of MfgIncomeACSrs:MfgEmplA

(Intercept)

Ideology

ImportPenetration

JobsLosttoChina

UnempACSrs

MfgIncomeACSrs

MfgEmplACSrs

PrivMfgUnion

ChinaExpsGDPrs

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ProSharers

Iterations

AntiSharers

Iterations

FDIshareGDPrs

Iterations

MfgIncomeACSrs:MfgEmplACSr

Iterations

Model 5 Diagnostics

	Gelman-Rubin		Geweke	
	Point Est.	Upper C.I.	1st Window: .2/.2	2nd Window: .1/.5
Intercept	1.02	1.02	-0.04	-0.10
Democrat	1.00	1.00	0.63	0.72
Import Penetration	1.02	1.02	0.08	1.52
Jobs Lost to China	1.00	1.00	0.14	-0.85
Pro-Realignment $	1.00	1.00	-1.18	-1.46
Anti-Realignment $	1.01	1.01	1.86	0.86
China FDI	1.00	1.00	0.54	0.15
Mfg Employment	1.02	1.02	0.29	0.56
Mfg Income	1.02	1.02	0.22	0.58
Mfg Unionization	1.00	1.03	-0.05	-1.57
China Exports	1.00	1.00	-0.27	0.46
Unemployment	1.03	1.03	-1.08	-1.73
Mfg Empl*Mfg Inc	1.01	1.02	-0.30	-0.40

Trace of (Intercept)   **Trace of Democrat**   **Trace of ImportPenetration**

Trace of JobsLosttoChina   **Trace of UnempACSrs**   **Trace of MfgIncomeACSrs**

Trace of MfgEmplACSrs   **Trace of PrivMfgUnion**   **Trace of ChinaExpsGDPrs**

Trace of ProSharers

Trace of AntiSharers

Trace of FDIshareGDPrs

race of MfgIncomeACSrs:MfgEmplA

(Intercept)

Democrat

ImportPenetration

JobsLosttoChina

UnempACSrs

MfgIncomeACSrs

MfgEmplACSrs

PrivMfgUnion

ChinaExpsGDPrs

ProSharers

AntiSharers

FDIshareGDPrs

Iterations

Iterations

Iterations

MfgIncomeACSrs:MfgEmplACSr

Iterations

Model 6 Diagnostics

	Gelman-Rubin		Geweke	
	Point Est.	Upper C.I.	1st Window: .2/.2	2nd Window: .1/.5
Intercept	1.00	1.00	-0.00	0.74
Ideology	1.00	1.00	0.45	0.71
Import Penetration	1.00	1.00	1.70	1.52
Jobs Lost to China	1.00	1.00	-0.27	1.10
Pro-Realignment $	1.00	1.00	0.86	0.33
Anti-Realignment $	1.00	1.00	0.40	0.16
China FDI	1.00	1.00	0.13	0.37
Mfg Employment	1.00	1.00	-0.46	-0.73
Mfg Income	1.00	1.00	-0.07	-1.14
Mfg Unionization	1.00	1.00	1.06	1.46
China Exports	1.00	1.00	-0.73	-1.50
Unemployment	1.00	1.00	-0.18	0.26
Mfg Empl*Mfg Inc	1.00	1.00	0.36	0.70

Trace of (Intercept)

Trace of Ideology

Trace of ImportPenetration

Trace of JobsLosttoChina

Trace of UnempACSrs

Trace of MfgIncomeACSrs

Trace of MfgEmplACSrs

Trace of PrivMfgUnion

Trace of ChinaExpsGDPrs

Trace of ProSharers

Trace of AntiSharers

Trace of FDIshareGDPrs

race of MfgIncomeACSrs:MfgEmplA

Trace of gamma2

ProSharers

AntiSharers

FDIshareGDPrs

CRFTA/CERORA - Additional Models

	Post. Mean	95% Cred. Intervals	Prob > 0	Post. Mean	95% Cred. Intervals	Prob > 0
CRFTA		Mod. 9			Mod. 10	
INTERCEPT	-3.30	-7.52, 0.96	0.06	1.06	-28.36, 29.85	0.53
IDEOLOGY	-1.21	-1.98, -0.47	0.00	-5.96	-9.67, -2.89	0.00
IMPORT PENETRATION	1.34	-0.18, 2.87	0.96	6.06	1.87, 10.94	1.00
JOBS LOST TO CHINA	0.56	-0.89, 2.01	0.77	1.22	-2.89, 5.36	0.72
UNEMPLOYMENT	-8.09	-21.18, 4.77	0.10	1.99	-3.98, 8.62	0.73
MFG INCOME	-0.01	-0.74, 0.69	0.49	-2.89	-9.42, 3.27	0.18
MFG EMPLOYMENT	2.31	-0.33, 4.96	0.96	-0.97	-3.97, 1.85	0.26
MFG EMPL*MFG INC	-0.13	-0.71, 0.47	0.34	0.20	-0.41, 0.83	0.74
MFG UNIONIZATION	0.03	-0.06, 0.12	0.74	0.19	-0.01, 0.43	0.97
CHINA EXPORTS	-0.40	-0.78, -0.06	0.01	-0.78	-3.06, 1.38	0.25
PRO-REALIGNMENT $	0.50	0.02, 0.97	0.98	2.37	-0.70, 5.59	0.93
ANTI-REALIGNMENT $	-0.55	-0.97, -0.14	0.00	-0.58	-1.32, -0.05	0.01
		N = 433			N = 100	

Models 9 and 10 are Bayesian hierarchical logit models with uniform priors. The models are specified in accord with Models 1 and 4, with an intercept that varies by state/region, respectively. The table contains the posterior means and 95 percent credible intervals for each parameter, as well as the proportion of the probability density on either side of zero, i.e., the probability that the coefficient is positive or negative.