"Does Economic Globalization Influence the U.S. Policy Mood?: A Study of U.S. Public Sentiment, 1956-2011" Online Appendix

In Model 1 of Table OA1, we estimate a **version of the EMS model**, which contains information about inflation and unemployment. The sample has been extended compared to that used in EMS, and although each version of Mood differs from previous ones,[1] inflation in levels has a negative and statistically significant coefficient estimate, which is consistent with prior findings.[2] In Model 2 of Table OA1 we enter social spending and economic growth. Social spending in levels has a negative and statistically significant coefficient estimate, as does the term for inflation in levels. The estimates for economic growth and unemployment are negative and positive respectively, as expected, but not statistically significant. All models presented have normally distributed residuals that are free of serial correlation.

[1] The incorporation of new data into the algorithm used to calculate Mood necessarily changes the values of Mood even in previous years.

[2] Although data vintaging prevents us from exactly replicating the results of EMS (2002), we do find a positive and statistically significant effect for change in unemployment and a negative and statistically significant effect for inflation similar to those in Model 2 of Table 6.4 of EMS when we restrict the analysis to the years in their study.

Table OA1. Replication and Extension of EMS (2002)

	Model 1 1956-2011	Model 2 1956-2011
$Mood_{t-1}$	-0.215***	-0.313***
	(0.064)	(0.112)
$Inflation_{t-1}$	-0.275*	-0.347***
	(0.109)	(0.125)
Δ Inflation	-0.168	-0.124
	(0.161)	(0.171)
$Unemployment_{t-1}$	-0.267	-0.138
	(0.240)	(0.252)
Δ Unemployment	0.415	0.203
	(0.338)	(0.886)
$Growth_{t-1}$		-0.369
		(0.349)
Δ Growth		-0.152
		(0.312)
Social $spending_{t-1}$		-0.313***
		(0.113)
Δ Social spending		-0.171
		(1.678)
Constant	15.230***	24.189***
	(4.522)	(6.537)
Observations	56	56
Adjusted R^2	0.16	0.23

*$p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Parentheses contain Newey-West standard errors.

Table OA2 presents the results of the **first stage regression results for the instrumental variables regression** presented in Table 2 of the paper.

Table OA2. First Stage Instrumental Variables Regression

	1st stage: Model 2.7 Trade Balance	1st stage: Model 2.8 Imports	1st stage: Model 2.8 Exports
$Mood_{t-1}$	0.089	-0.024	-0.053*
	(0.066)	(0.061)	(0.030)
$Inflation_{t-1}$	-0.055	0.127	0.194***
	(0.143)	(0.114)	(0.047)
Δ Inflation	-0.015	0.125	0.054
	(0.087)	(0.098)	(0.063)
$Unemployment_{t-1}$	-0.178	-0.195	0.108
	(0.271)	(0.215)	(0.128)
Δ Unemployment	0.131	-0.121	0.105
	(0.216)	(0.168)	(0.079)
$Growth_{t-1}$	-0.045	0.054	0.044
	(0.084)	(0.073)	(0.034)
Social $spending_{t-1}$	0.097	0.730**	0.361**
	(0.216)	(0.315)	(0.144)
Δ Imports		-0.748***	-0.312**
		(0.249)	(0.149)
$Imports_{t-1}$			0.008
			(0.088)
$Exports_{t-1}$		0.254	
		(0.309)	
Restrictions on receipts of $exports_{t-6}$ [IV]		5.568***	
		(1.750)	
Restrictions on payments of imports $_{t-2}$ [IV]			6.000***
			(1.558)
Δ Trade balance	-0.896***		
	(0.302)		
Restrictions on receipts of $indivisibles_{t-6}$ [IV]	-7.589***		
	(2.663)		
Constant	3.165	-3.017	-1.880
	(6.450)	(4.961)	(2.250)
Observations	54	54	54
Adjusted R^2	0.75	0.95	0.95

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Newey-West standard errors in parentheses

Robustness

We examine the robustness of our results to the inclusion of additional factors that may influence Mood. Though the IV regressions should do this by controlling for unobservables, to assure readers of robustness, we also attempt to explicitly control for plausible omitted variables. These include deficit, inequality (Kelly and Enns 2010), technological change variously measured, and media mentions. In Table OA3, we present the results estimated via OLS regression.

Table OA3. Robustness

	Model 1	Model 2	Model 3	Model 4	Model 5
$Mood_{t-1}$	-0.371***	-0.471***	-0.420***	-0.370***	-0.325***
	(0.059)	(0.075)	(0.118)	(0.079)	(0.066)
$Inflation_{t-1}$	-0.329***	-0.561***	-0.345	-0.353***	-0.434***
	(0.084)	(0.127)	(0.304)	(0.124)	(0.129)
Δ Inflation	-0.379*	-0.550*	-0.215	-0.313	-0.619**
	(0.222)	(0.275)	(0.256)	(0.208)	(0.229)
$Unemployment_{t-1}$	0.001	-0.519	0.821	0.313	0.172
	(0.325)	(0.707)	(0.681)	(0.300)	(0.314)
Δ Unemployment	0.441	0.696	0.894**	0.738	1.021**
	(0.357)	(0.563)	(0.391)	(0.504)	(0.445)
$Growth_{t-1}$	-0.025	-0.229	-0.263	-0.143	-0.123
	(0.143)	(0.175)	(0.159)	(0.175)	(0.206)
Social spending $_{t-1}$	-1.043***	-0.328	-1.798*	-1.212**	-0.921
	(0.293)	(1.060)	(0.928)	(0.525)	(0.610)
Imports $_{t-1}$	0.604***	0.826***	0.749***	0.821***	0.711***
	(0.151)	(0.200)	(0.193)	(0.148)	(0.158)
Δ Imports	1.398***	1.136**	1.429**	0.993*	1.381**
	(0.440)	(0.531)	(0.647)	(0.549)	(0.579)
Exports $_{t-1}$	-0.269	-0.686	-0.322	-0.491	-0.598
	(0.288)	(0.439)	(0.299)	(0.313)	(0.375)
Deficit $_{t-1}$	-0.170				
	(0.228)				
Δ Deficit	-0.538**				
	(0.230)				
Gini $_{t-1}$		-0.178			
		(0.508)			
Δ Gini		-0.838			
		(0.720)			
1993		-2.979**			

		(1.078)			
Δ 1993		1.118			
		(1.294)			
Skill premium $_{t-1}$			12.083		
			(24.008)		
Δ Skill premium			-10.645		
			(16.703)		
US patent grants $_{t-1}$				-0.001	
				(0.025)	
Δ US patent grants				0.000	
				(0.000)	
Media mentions $_{t-1}$					0.037*
					(0.017)
Constant	28.240***	42.210*	27.417***	28.645***	25.781***
	(4.926)	(20.609)	(6.960)	(5.215)	(5.153)
N	56	43	45	48	43
Adjusted R^2	.42	0.40	0.34	0.28	-
AR 1-2 test [p-val]					
ARCH 1 test [p-val]					[0.42]
Normality test [p-val]					[0.97]

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Newey-West standard errors in parentheses. Model 5 is estimated using RALS ("R[th]"Order Autoregressive Least Squares) in PCGive. Here, the order is 1-2.

In Model 1, we add a control for the size of the budget deficit as a percent of GDP to account for the fact that budget deficits and current account deficits are often correlated. Mood adjusts to disequilibria beginning at time *t+1*, at a rate of 37.1 percent each period. Imports again have an immediate effect on Mood; a one percent increase in imports leads to a leftward shift in Mood of 1.398 points in the current period. Beginning in the next period, Mood shifts an additional 1.631 points to the left. The estimated effects of exports are no longer statistically significant, likely for reasons noted in the previous section. Social spending and inflation again have negative and statistically significant effects on Mood. The change in the deficit has a negative and statistically significant effect on Mood; a one percent increase in the budget deficit

shifts Mood to the right 0.538 points.

We next examine whether inequality, as proposed by Kelly and Enns (2010), is driving changes in Mood such that the international economic variables proxy for changes in inequality. Kelly and Enns (2010) argue that increases in inequality will lead to a conservative shift in Mood. The results are presented in Model 2 of Table OA3. Imports continue to have a positive and statistically significant effect on Mood.[3] Though appropriately signed, inequality does not have a statistically significant effect on Mood.

Next, we explicitly consider the role of technological change as an alternative to the theory proposed here. Technological innovation may produce the same distributive pressures as imports even in a closed economy. Technological change across an economy is notoriously difficult to measure, particularly in light of the heterogeneous nature of innovation. We first use the skill premium as a proxy for technological change. We expect that an increase in the skill premium will lead to a leftward shift in Mood, as unskilled workers in particular experience a decline in economic condition and an increase in job insecurity.

We use the Acemoglu and Autor (2010, p. 8) indicator of the premium paid to college-educated workers compared to those with high school educations (adjusted for composition) as the measure of skill premium. In Model 3 of Table OA3, we see that the skill premium variables do not enter the models with statistically significant effects. We again find support for the argument that imports affect Mood in a manner consistent with the IPE compensation hypothesis.

[3] To control for a change in Census Bureau survey methodology for GINI, which produced a one-time increase in inequality in 1993, we include an indicator equal to one beginning in the year of change and in all subsequent years, as well as the change in this variable. See Appendix B.

In Model 4, we include the number of U.S. patents awarded (measured in thousands) as an additional indicator of technological change. Imports remain statistically significant, though patents awarded do not have a statistically significant effect on Mood.

In Model 5, we consider how trade may affect Mood through the media. We include a measure of the number of mentions of the "US trade deficit" on the major news networks (ABC, CBS, and NBC) evening news headlines. We again find that both change in, and levels of, imports have positive and statistically significant effects on Mood. The coefficient on media mentions is positive and statistically significant at the 90 percent level, suggesting that increasing media coverage of the trade deficit produces a leftward shift in Mood.

We also estimate models entering partisanship, as suggested by Stevenson 2001. (Results available from authors upon request.) The coefficient estimates for partisanship are never statistically significant, and the other coefficient estimates and levels of statistical significance for the variables of interest are unaffected by the inclusion of the partisanship terms.[4]

[4] We also find that our results are robust to the inclusion of oil imports as a percentage of GDP. (Results available from authors upon request.)

Robustness of social spending results

In this section, we examine the robustness of the results of the extension which examine change in social spending as a function of Mood and trade. In Table OA4, we introduce additional control variables, including deindustrialization, and the interaction between Mood and deindustrialization. In Model 1, we find that the coefficient on the interaction of Mood and imports remains positive and statistically significant when controlling for deindustrialization. In Models 2, 3 and 4, we include a variety of interaction terms between Mood and deindustrialization and the percent of population over 65. We also disaggregate imports and exports into intrafirm and non-intrafirm results in Models 6 and 7, and find that the interaction between Mood and both types of imports is positive and significant. The marginal effects of Mood, conditional on non-intrafirm and intrafirm imports are presented in Figures 2 and 3 respectively.

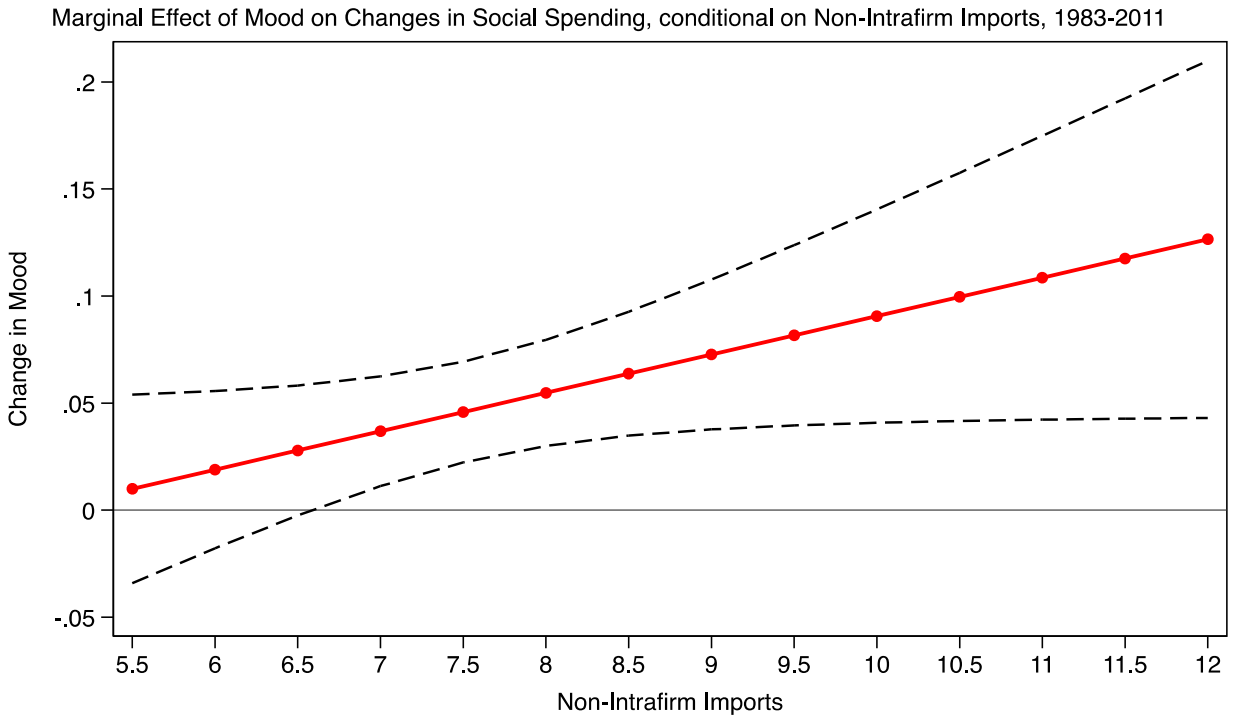
Table OA4. Determinants of Changes in Social Spending

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Social spending$_{t-1}$	-0.068	-0.058	-0.061	-0.093	-0.322*	-0.233	-0.473***
	(0.069)	(0.074)	(0.067)	(0.075)	(0.154)	(0.134)	(0.089)
Inflation$_{t-1}$	0.031	0.022	0.022	0.036*	-0.001	0.007	-0.025
	(0.018)	(0.019)	(0.019)	(0.020)	(0.029)	(0.036)	(0.020)
Unemployment$_{t-1}$	-0.026	-0.047	-0.048	-0.047	0.251*	0.187	0.371***
	(0.038)	(0.042)	(0.039)	(0.042)	(0.131)	(0.108)	(0.092)
Δ Unemployment	0.455***	0.461***	0.454***	0.457***	0.506***	0.503***	0.518***
	(0.051)	(0.053)	(0.054)	(0.055)	(0.030)	(0.036)	(0.037)
Growth$_{t-1}$	0.029	0.005	0.006	0.007	-0.011	-0.016	0.027
	(0.033)	(0.018)	(0.019)	(0.017)	(0.012)	(0.018)	(0.016)
Δ Growth	-0.019						
	(0.021)						
Republican $_{t-1}$	-0.050	-0.038	-0.013	-0.077	0.016	0.006	0.146**
	(0.073)	(0.063)	(0.066)	(0.094)	(0.096)	(0.110)	(0.061)
Population over 65 $_{t-1}$	0.178*	-0.523	0.192*	1.340	1.066**	0.831*	1.060**
	(0.091)	(0.624)	(0.096)	(1.276)	(0.492)	(0.438)	(0.413)
Δ Population over 65	-0.008	0.399	0.282	0.239	-2.749**	-2.284**	-2.523**
	(0.831)	(0.867)	(0.795)	(0.834)	(1.126)	(1.006)	(0.935)
Mood$_{t-1}$	-0.031	-0.109	-0.404	0.118	-0.170*	-0.089	-0.339**
	(0.036)	(0.099)	(0.253)	(0.467)	(0.093)	(0.071)	(0.155)

$Imports_{t-1}$	-0.466**	-0.059	-0.064	-0.836*	-0.805*		
	(0.195)	(0.051)	(0.039)	(0.482)	(0.409)		
Mood* $Imports_{t-1}$	0.007*			0.013	0.016**		
	(0.004)			(0.008)	(0.007)		
$Exports_{t-1}$	-0.005	-0.020	-0.014	-0.021	-0.111		
	(0.054)	(0.047)	(0.046)	(0.052)	(0.078)		
Deindustrialization	8.027	6.040	-26.178	9.333			
	(6.173)	(6.127)	(23.410)	(43.577)			
Mood*Population 65_{t-1}		0.012		-0.019			
		(0.009)		(0.021)			
Mood*Deindustrialization			0.548*	-0.002			
			(0.324)	(0.713)			
Non-Intrafirm $imports_{t-1}$						-0.898	
						(0.577)	
Mood*Non- Intrafirm $imports_{t-1}$						0.018*	
						(0.009)	
Non- Intrafirm $exports_{t-1}$						-0.132	
						(0.125)	
Intrafirm $imports_{t-1}$							-3.209*
							(1.727)
Mood*Intrafirm $imports_{t-1}$							0.068**
							(0.030)
Intrafirm $exports_{t-1}$							-0.111
							(0.178)
Constant	-4.870	1.165	18.493	-14.627	-1.593	-3.577	6.387
	(6.610)	(10.325)	(18.506)	(29.667)	(4.710)	(5.604)	(4.945)
Observations	51	51	51	51	29	29	29
Adjusted R^2	0.90	0.89	0.89	0.89	0.96	0.95	0.97

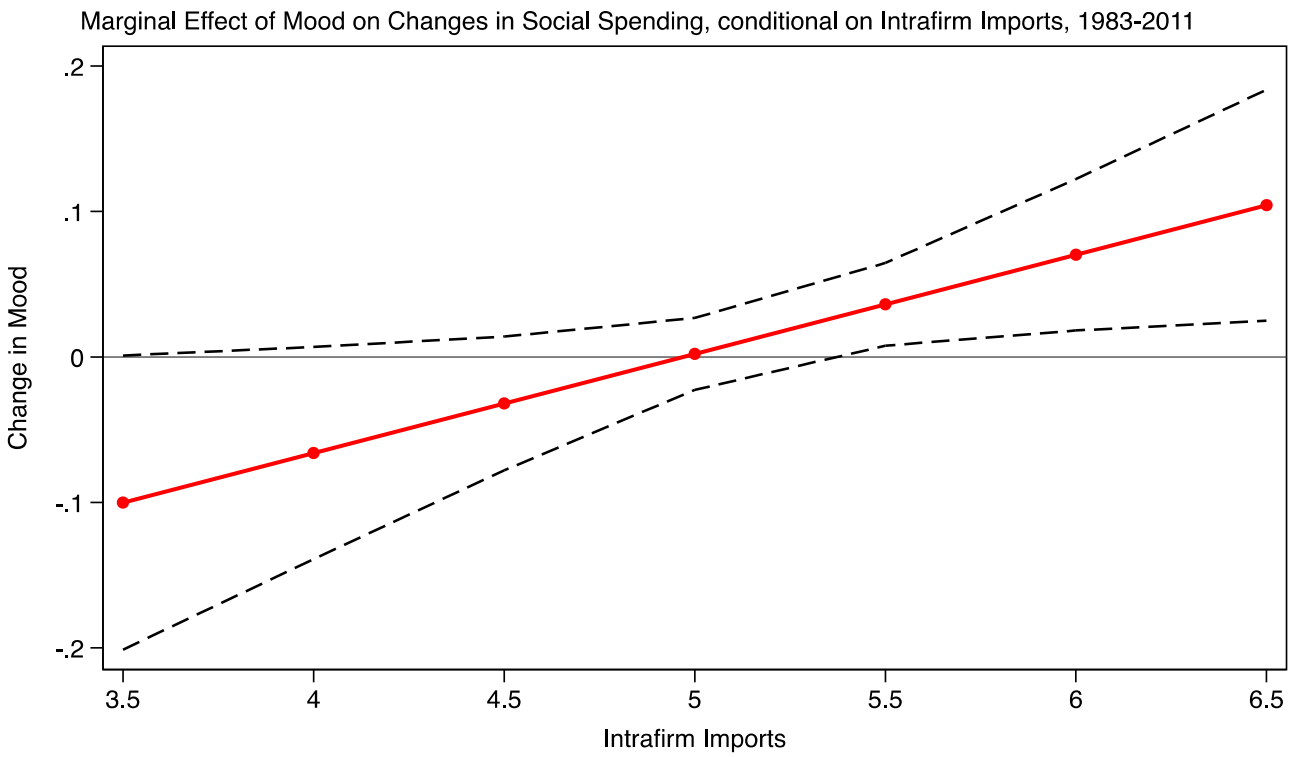
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Newey-West standard errors in parentheses.

Online Appendix Figure OA1



Estimates based on Table A5, Model 6, for observed levels of Non-Intrafirm imports.
Dashed lines respresent 95% confidence interval.

Online Appendix Figure OA2



Estimates based on Table A5, Model 7, for observed levels of intrafirm imports.
Dashed lines respresent 95% confidence interval.