Goodwill and Export Promotion Dynamics

by

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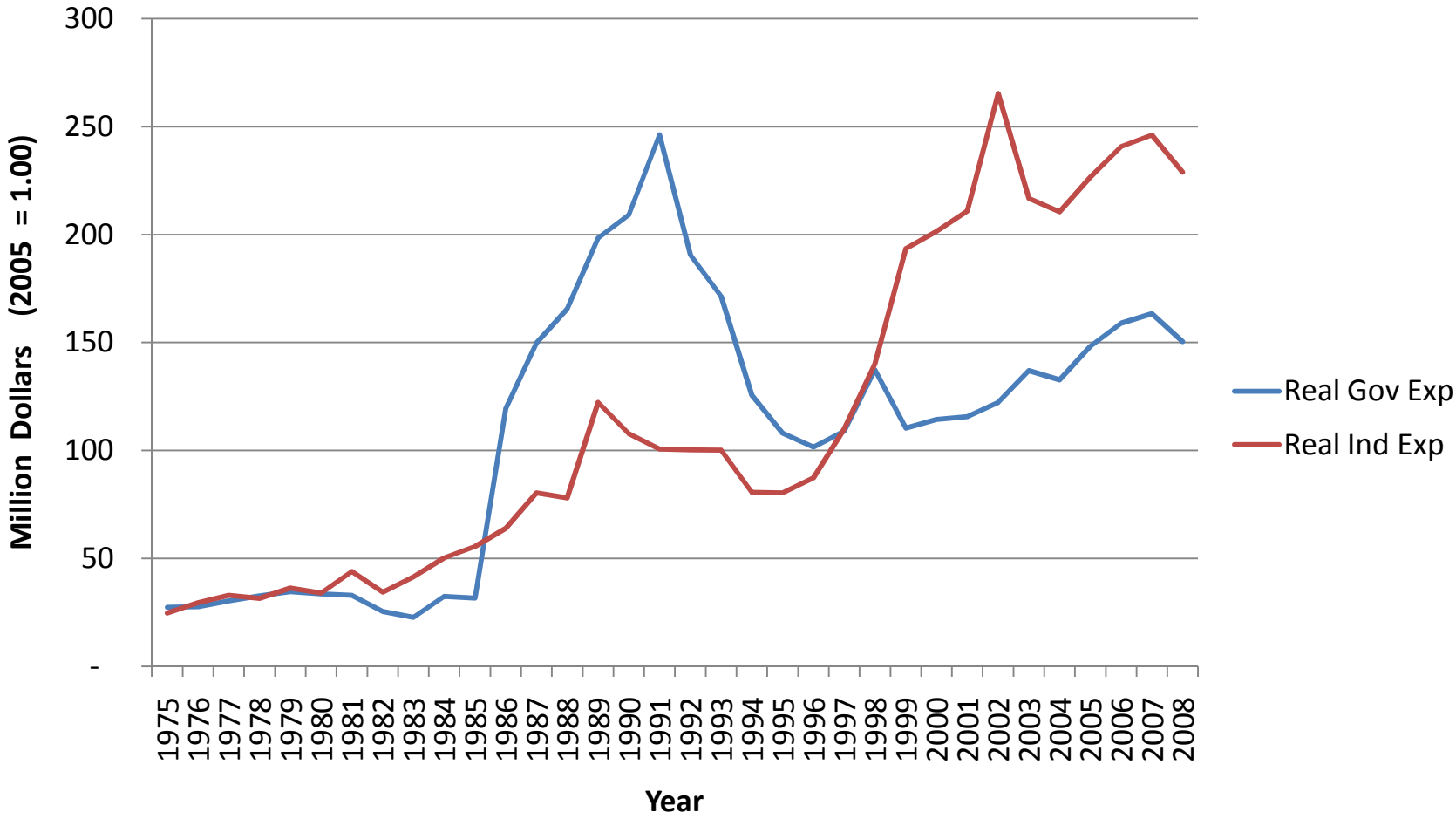
Export Promotion Expenditures for Farm Products, United States, 1975-2008



- Rusmevichientong & Kaiser *Agribus*, 2009

  - reviews literature on demand impacts

- Adams, Davis, Jensen & Jakus, *AJAE*, 1997

  - examines impact of 1993 legislation requiring FAS to give priority to small and new-to-export firms in allocation of MAP funds

- Jakus, Jensen & Davis, *ARER*, 2003

  - examines whether firm size and export experience matters in the conversion of MAP funds into exports

- Kinnucan and Cai, *AJAE*, 2010

  - examines the impact of subsidies for export promotion on domestic market promotion and welfare

Outline

- Hypotheses
- Model
- Data
- Results
- Conclusions

Hypotheses

Government subsidies for export promotion has two effects:

1. DISPLACEMENT EFFECT: Subsidies encourage industry to substitute government dollars for their own dollars, resulting in no net increase in total expenditures.

Proponents: Cato Institute 1995, GAO 1999

2. FLYPAPER EFFECT: During periods of falling government expenditures industry increases its own spending in order to maintain a constant level of investment. In other words, export promotion expenditures are "sticky" downward .

Source: Public finance literature (e.g., Hines and Thaler *JEP* 1995; Heyndels *AE* 2001; Knight *AER* 2002; Pincus *AER* 2002)

Model

The hypotheses are tested using the 2 equation system:

(1) $A = a_0 + a_1 A_G + a_2 G + a_3 X + \varepsilon_1$

(2) $A_I = b_0 + b_1 A_G + b_2 \{\min(0, \Delta A_G)\} + b_3 G + b_4 X + \varepsilon_2$

where $G_t = (1+A_t)^{1-\lambda} (G_{t-1})^{\lambda}$ is the stock of advertising "goodwill" at time period t.

Displacement Effect implies $a_1 = 1$ and $b_1 = -1$.

This is tested by imposing the cross-equation restriction $a_1 + b_1 = 0$.

Flypaper Effect implies $b_2 > 0$.

This is tested using a one-tail t-test.

GOODWILL VARIABLE (*G*)

Following Doganoglu and Klapper (*QME*, 2006), the "retention" parameter λ in the goodwill function $G_t = (1+A_t)^{1-\lambda} (G_{t-1})^{\lambda}$ is estimated by specifying a demand equation of the form:

$$(4) \quad \ln MS_t = \beta_0 + \beta_P \ln P_t + \beta_Y \ln Y_t + \beta_G \ln G_t + \mu_t$$

Performing a Koyck transformation on (4) and substituting the goodwill function yields the estimating equation:

$$(5) \quad \ln MS_t = \alpha + \beta_P (\ln P_t - \lambda \ln P_{t-1}) + \beta_Y (\ln Y_t - \lambda \ln Y_{t-1}) + \beta_G (1-\lambda) \ln (1+A_t) + \mu_t^*$$

The λ estimated from (5) and an assumed value for G_0 is inserted into the goodwill function to reconstruct the goodwill series G_t.

The goodwill elasticity β_G is estimated as a by-product of estimating the retention parameter.

Data

- The models were estimated using annual time series data for the period 1975-2008.

- Data on export promotion expenditures were obtained from Michael Dwyer, FAS, USDA. They relate to total expenditures on export promotion of farm products (industry + government) under programs sponsored by the USDA.

- Data on the remaining variables (e.g., price, income, exchange rates, deflators) were obtained from FAS and ERS web sites.

Table 2. Parameter Estimates of Demand Equation (s.e. in parentheses)

Parameter	Model A	Model B	Model C	Model D
λ	0.438	0.690	0.394	0.455
	(0.173)	(0.132)	(0.166)	(0.093)
β_G	0.147	0.329	0.089	0.068
	(0.067)	(0.149)	(0.043)	(0.044)
β_G* (pulse)	-0.008	--	-0.007	-0.007
	(0.002)	--	(0.002)	(0.002)
β_P	-0.006	0.084	0.102	--
	(0.117)	(0.099)	(0.111)	--
β_{PS}	0.397	0.377	0.361	0.330
	(0.099)	(0.106)	(0.097)	(0.064)
β_Y	0.333	0.355	--	--
	(0.187)	(0.238)	--	--
β_{XR}	-0.451	-0.169	-0.676	-0.607
	(0.242)	(0.284)	(0.191)	(0.208)
β_T	-0.016	-0.012	-0.009	-0.010
	(0.004)	(0.004)	(0.002)	(0.001)
α	-3.021	-2.938	-0.631	-0.434
	(1.223)	(1.389)	(0.542)	(0.385)

Table 3. Coefficient Estimates of Export Promotion Equation (asymptotic *t*-ratio in parenthesis)

Variable/ Statistic	Total Expenditure (A)		Industry Expenditure (A_I)	
	Model A	Model B	Model A	Model B
Govt Expend (A_G)	0.694	0.826	-0.976	-0.826
	(4.45)[a]	(41.1)	(-4.45)	--
Goodwill (G)	0.553	0.505	0.527	0.472
	(8.14)	(18.4)	(5.67)	(21.1)
min(0,ΔA_G)	--	--	0.101	0.088
	--	--	(1.63)	(1.63)
Farm Price (P)	0.017	0.015	-0.278	-0.276
	(0.55)	(0.74)	(-3.33)	(-3.73)
Exch Rate (SDR)	0.291	0.249	0.137	-0.0002
	(4.57)	(5.42)	(0.60)	(-0.003)
Constant	0.022	0.022	0.056	0.055
	(7.55)	(9.71)	(11.5)	(12.8)
AR(1)	-0.248	-0.257	-0.297	-0.385
	(-5.92)	(-6.11)	(-5.51)	(-5.35)
Adjusted R^2	0.886	0.881	0.432	0.430

Table 4. Test of Hypotheses				
Hypothesis	**Restriction**	**Chi-square**	**Probability**	**Result**
Government dollars displace industry dollars	$a_1 + b_1 = 0$	0.574	0.448	Fail to reject
Industry expenditures increase when government expenditures decrease	$b_2 > 0$	2.65	0.103	Reject at $p < 0.10$

CONCLUSIONS

- *Study results suggest that, at the margin, a $1 increase in government expenditures for export promotion decreases industry expenditures by between $0.55 and $1.41. Thus, GAO's criticism that firms substitute CCC-provided promotion funds for private promotional expenditures appears to be valid.*

- *Decreases in government funding do not appear to be offset by increases in private funding. That is, export promotion expenditures are not "sticky" downward.*

- *Although total spending for export promotion is not much affected by government subsidies, the expenditures do appear to have a positive effect on export demand. The 95% confidence interval for the estimated goodwill elasticity is [0.015, 0.278], with a point estimate of 0.15.*