

Hungry for Change: Replication Tables

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November 21, 2014

1 Summary

I provide below final versions of the statistical output tables from the manuscript for the purposes of verification of the results from the paper. These results are derived from the accompanying Stata do file entitled “HfC replication file” for the non-instrumental results, and “HfC IV replication” for the instrumental variables results.

2 Tables for main paper (final version)

Table 1: Food imports, urbanization, and autocratic debt default, 1960-2009

VARIABLES	(1) Bivar. Food	(2) Bivar. Urban	(3) Baseline	(4) Full controls	(5) Democ.
Food imports	29.632*** (8.447)		26.348*** (8.864)	70.498*** (21.189)	-5.332 (41.606)
Urbanization (% total pop.)		0.074** (0.034)	0.12*** (0.049)	0.152*** (0.059)	-0.121** (0.055)
GDP per capita (logged)			-0.48 (0.382)	0.239 (0.523)	0.408 (0.616)
Δ GDP			-0.00045 (0.0003)	-0.00015 (0.00045)	-0.00039 (0.00028)
Debt/GDP			0.011*** (0.003)	0.01*** (0.003)	0.027*** (0.006)
Trade			-0.019* (0.01)		
Inflation			0.376 (0.29)		
Imports/GDP				-0.035** (0.018)	-0.071*** (0.023)
Exports/GDP				0.033 (0.021)	0.073*** (0.029)
Crisis year				1.543*** (0.248)	0.873*** (0.288)
Population (logged)				4.902*** (2.097)	8.277*** (2.429)
Oil rents (per capita)				-0.002 (0.002)	0.00069 (0.00046)
Foreign reserves				-4.471* (2.622)	-9.191*** (2.835)
Regime age				-0.032** (0.015)	-0.019 (0.017)
Agr. share of econ.				0.035 (0.028)	0.056* (0.032)
Food x Urban				-0.8 (0.511)	0.294 (0.735)
Observations	984	984	984	984	647
Number of countries	33	33	33	33	26

*** p<0.01, ** p<0.05, * p<0.1

Table reports estimates of probit regressions of *default* on *food imports over GDP* and *urbanization*, as well as several controls, for non-democracies (in Columns 1-4) and democracies (Column 5) from 1960-2009. The table reports multiple imputation estimates of the probit coefficients for each variable and robust standard errors, clustered at the country level, in parentheses. Country and year fixed effects were included in each regression, but are suppressed for presentation.

Table 2: Sensitivity analysis

VARIABLES	(1) Food/pop.	(2) Alt. DV
Food imports		119.859*** (41.403)
Food imports/pop.	0.00005* (0.00003)	
Urbanization (% total pop.)	0.137*** (0.058)	0.23** (0.101)
GDP per capita (logged)	-0.424 (0.436)	0.18 (0.917)
Δ GDP	-0.00052 (0.00035)	-0.00022 (0.00091)
Debt/GDP	0.011*** (0.003)	0.002 (0.005)
Trade	-0.012 (0.011)	
Inflation	0.572* (0.326)	
Imports/GDP		-0.086** (0.039)
Exports/GDP		0.068 (0.043)
Crisis year		1.138*** (0.315)
Population (logged)		3.786 (2.472)
Oil rents (per capita)		0.002 (0.002)
Foreign reserves		-12.225** (6.212)
Regime age		-0.004 (0.02)
Agr. share of econ.		-0.011 (0.052)
Food x Urban		-2.102* (1.141)
Observations	984	405
Number of countries	33	31

*** p<0.01, ** p<0.05, * p<0.1

Column 1 reports estimates of probit regression of *default* on *food imports over population* and *urbanization* for non-democracies from 1960-2009. Column 2 reports estimates from a probit regression of *default instances* on *food imports over GDP* and *urbanization*, as well as many controls, for the same sample. The table reports multiple imputation estimates of regression coefficients for each variable and robust standard errors, clustered at the country level, in parentheses. Country and year fixed effects were included in each regression, but are suppressed for presentation.

Table 3: Effect of other import types on autocratic default

VARIABLES	(1) Manuf.	(2) Arms	(3) Fuel
Manuf. imports	-3.78 (2.968)		
Arms imports		-0.654 (3.138)	
Fuel imports			14.872* (7.703)
Urbanization (% total pop.)	0.103** (0.048)	0.105** (0.049)	0.099** (0.048)
GDP per capita (logged)	-0.45 (0.34)	-0.503 (0.338)	-0.422 (0.366)
Δ GDP	-0.00014 (0.00033)	-0.00015 (0.00034)	-0.00013 (0.00037)
Debt/GDP	0.01*** (0.003)	0.011*** (0.003)	0.011*** (0.003)
Imports/GDP	0.00052 (0.024)	-0.013 (0.017)	-0.031* (0.017)
Exports/GDP	-0.006 (0.016)	-0.008 (0.017)	0.00068 (0.017)
Crisis year	1.559*** (0.214)	1.596*** (0.22)	1.593*** (0.219)
Observations	984	984	984
Number of countries	33	33	33

*** p<0.01, ** p<0.05, * p<0.1

Table reports estimates of probit regressions of *default* on either *manufacturing imports over GDP* (Column 1), *arms imports over GDP* (Column 2), or *fuel imports over GDP* (Column 3), as well as several controls, for autocracies from 1960-2009. The table reports multiple imputation estimates of the probit coefficients for each variable and robust standard errors, clustered at the country level, in parentheses. Country and year fixed effects were included in each regression, but are not reported.

Table 4: Instrumental variables estimation

VARIABLES	(1) Baseline	(2) Full controls
Food imports	89.767*** (13.744)	92.398*** (13.653)
Urbanization (% total pop.)	0.071** (0.036)	0.081** (0.037)
GDP per capita (logged)	0.543 (0.336)	0.737*** (0.295)
Debt/GDP	0.004 (0.003)	0.004 (0.003)
Trade	-0.021*** (0.006)	-0.019*** (0.006)
Crisis year	1.028*** (0.298)	0.94*** (0.286)
Population (logged)	1.953 (1.556)	2.107 (1.706)
Oil rents (per capita)		-0.002** (0.001)
Foreign reserves		-0.527 (1.406)
Regime age		-0.017** (0.009)
Agr. share of econ.	0.019 (0.017)	0.029* (0.015)
Chicken	0.411*** (0.158)	0.383*** (0.156)
Rice	0.029 (0.019)	0.031 (0.021)
Soybean oil	0.009 (0.017)	0.009 (0.017)
Sugar	0.635*** (0.218)	0.613*** (0.208)
Wheat	0.123 (0.075)	0.116* (0.067)
Wald rk F stat	46.7	49.9
Observations	984	984

*** p<0.01, ** p<0.05, * p<0.1

The top section of the table reports estimates from two-stage regression of *default*, instrumenting for *food imports over GDP* through the use of several food commodity prices in the first stage, on *urbanization* and several controls, for autocracies from 1960-2009. The bottom section of the table reports coefficient estimates for the excluded instruments in the first stage, as well as the Kleibergern-Paap Wald rk F stat from a test of joint insignificance for these instruments. The table reports multiple imputation estimates of the regression coefficients for each variable and robust standard errors, clustered at the country level, in parentheses. Country and year fixed effects were included in each regression, but are not reported.

Table 5: Autocratic sovereign defaults, 1960-2009

Country	Default years
Algeria	1991-1996
Angola	1985-2003
Argentina	1962, 1982
Bolivia	1980-1981
Brazil	1964, 1983-1984
Central African Republic	1981, 1983-1992, 2003-2008
Chile	1974-1975, 1983-1989
Cote d'Ivoire	1983-1998, 2000-2008
Ecuador	2000
Egypt	1984
Ghana	1966, 1968, 1974, 1987
Honduras	1981
Hungary	1960-1967
Indonesia	1966-1970, 1998
Kenya	1994-1997
Mexico	1982-1990
Morocco	1983, 1986-1990
Nicaragua	1979-1983
Nigeria	1983-1992
Panama	1983-1988
Paraguay	1986-1988
Peru	1969, 1976, 1978, 1990-1997
Phillipines	1983-1985
Poland	1981-1988
Romania	1981-1983, 1986
Russia	1960-1986, 1991-2000
South Africa	1985-1989, 1993
Sri Lanka	1979, 1981-1983
Tunisia	1963, 1979-1982
Turkey	1982
Uruguay	1983-1984
Zambia	1983-1994
Zimbabwe	1965-1974, 2000-2008

Source: Reinhart & Rogoff (2009).

3 Tables for online appendix (final version)

Table 6: Estimation under alternative modeling assumptions

VARIABLES	(1) OLS	(2) Cond. Logit	(3) Lagged DV
Food imports	7.438* (4.003)	119.81*** (32.966)	18.337** (8.641)
Urbanization (% total pop.)	0.018*** (0.006)	0.266*** (0.084)	0.013* (0.008)
GDP per capita (logged)	0.011 (0.063)	0.396 (0.806)	0.359*** (0.153)
Δ GDP	-0.00003 (0.00005)	-0.00023 (0.00073)	0.00018 (0.00021)
Debt/GDP	0.002*** (0.0004)	0.018*** (0.005)	0.005*** (0.002)
Imports/GDP	-0.005 (0.003)	-0.058** (0.028)	-0.009 (0.01)
Exports/GDP	0.004 (0.003)	0.054 (0.035)	0.004 (0.008)
Crisis year	0.195*** (0.046)	2.508*** (0.377)	0.457*** (0.115)
Population (logged)	0.749*** (0.246)	8.232*** (2.157)	-0.065 (0.064)
Oil rents (per capita)	-0.00044* (0.00025)	-0.004* (0.002)	-0.00037 (0.00051)
Foreign reserves	-0.22 (0.257)	-7.816* (4.644)	-3.778*** (1.306)
Regime age	-0.004** (0.002)	-0.057*** (0.017)	-0.00035 (0.006)
Agr. share of econ.	0.006 (0.005)	0.061 (0.039)	0.018** (0.009)
Food x Urban	-0.101 (0.1)	-1.377* (0.768)	-0.301 (0.21)
Lagged DV			2.36*** (0.2)
Observations	1,229	1,229	995
Number of countries	43	43	33

*** p<0.01, ** p<0.05, * p<0.1

Columns 1 and 2 report estimates of regressions of *default* on *food imports over GDP* and *urbanization*, as well as many controls, for non-democracies from 1960-2009. Column 3 reports estimates from probit regression on the same covariates with an included lagged dependent variable. The table reports multiple imputation estimates of regression coefficients for each variable and robust standard errors, clustered at the country level, in parentheses, with bootstrapped standard errors in the conditional logit model. Country and year fixed effects were included in Columns 1 but are not reported.

Table 7: Placebo tests

VARIABLES	(1) Currency	(2) Inflation	(3) Banking
Food imports	-17.464 (19.787)	1.677 (18.538)	22.289 (27.205)
Urbanization (% total pop.)	0.033 (0.044)	0.025 (0.045)	0.09 (0.055)
GDP per capita (logged)	-0.343 (0.276)	-1.156*** (0.443)	-0.043 (0.449)
Δ GDP	-0.00019 (0.00033)	-0.00071 (0.00055)	0.00002 (0.00015)
Debt/GDP	0.004** (0.002)	0.003 (0.003)	0.003 (0.003)
Trade	-0.01 (0.006)	0.00051 (0.01)	0.005 (0.006)
Inflation	0.734*** (0.222)		0.688*** (0.263)
Food x Urban	0.491 (0.452)	0.372 (0.427)	-0.556 (0.683)
Observations	1,114	713	640
Number of countries	29	36	24

*** p<0.01, ** p<0.05, * p<0.1

Columns 1-3 report estimates of probit regressions of three alternate types of economic crisis, as listed in the column header, on *food imports over GDP* and *urbanization*, as well as several controls, for autocracies from 1960-2009. The table reports multiple imputation estimates of the regression coefficients for each variable and robust standard errors, clustered at the country level, in parentheses. Country and year fixed effects were included in each regression, but are not reported.

Table 8: Instrumental variables robustness results

VARIABLES	(1) No wheat/sugar	(2) Price x urb.	(3) Price (no FE)	(4) Price x urb. (no FE)
Food imports	88.574*** (14.819)	427.306 (425.312)	74.533*** (25.779)	115.732*** (31.831)
Urbanization (% total pop.)	0.089** (0.041)	0.17* (0.092)	0.07** (0.035)	0.084** (0.038)
GDP per capita (logged)	0.697** (0.332)	3.648 (3.772)	0.524* (0.268)	0.73*** (0.303)
Debt/GDP	0.005 (0.004)	-0.003 (0.015)	0.01*** (0.003)	0.009*** (0.003)
Trade	-0.017** (0.008)	-0.099 (0.103)	-0.029*** (0.01)	-0.04*** (0.012)
Crisis year	1.075*** (0.33)	1.52*** (0.542)	1.332*** (0.185)	1.33*** (0.21)
Population (logged)	2.634 (2.057)	1.27 (4.045)	-0.002 (0.618)	-0.33 (0.698)
Oil rents (per capita)	-0.002* (0.001)	-0.007 (0.006)	-0.002* (0.001)	-0.002** (0.001)
Foreign reserves	-0.92 (1.911)	3.92 (9.634)	-3.743* (2.096)	-2.881 (2.219)
Regime age	-0.021* (0.012)	-0.031 (0.025)	-0.014* (0.008)	-0.016* (0.009)
Agr. share of econ.	0.032* (0.018)	0.082 (0.079)	0.021 (0.02)	0.024 (0.022)
Chicken	0.376*** (0.149)	-0.007 (0.022)	-1.151* (0.613)	-0.023** (0.011)
Rice	0.037* (0.022)	-0.001 (0.003)	-0.004 (0.05)	-0.00044 (0.00093)
Soybean oil	0.01 (0.019)	-0.00031 (0.002)	0.034 (0.024)	0.00064 (0.0005)
Sugar		0.017 (0.023)	-0.031 (0.296)	0.003 (0.005)
Wheat		-0.004 (0.009)	0.244* (0.137)	0.004 (0.003)
Wald rk F stat	11.7	10.3	45.5	26.4
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	No	No
Observations	984	984	984	984

*** p<0.01, ** p<0.05, * p<0.1

Robustness results for instrumental variables estimation. Specifications and instruments used vary by column; see discussion in Appendix for details. The table reports multiple imputation estimates of the probit coefficients in the second stage and OLS coefficients in the first stage for each variable and robust standard errors, clustered at the country level, in parentheses. Country and year fixed effects were included in each regression, but are not reported.

Table 9: Full interaction models

VARIABLES	(1) All interact.	(2) Δ GDP	(3) Debt	(4) Inflation	(5) Trade
Food imports	23.206* (13.951)	27.141*** (8.745)	27.602** (12.726)	25.242*** (8.833)	20.701 (13.845)
Urbanization (% total pop.)	0.14** (0.061)	0.121*** (0.052)	0.101 (0.064)	0.116** (0.051)	0.151*** (0.048)
GDP per capita (logged)	-0.468 (0.439)	-0.498 (0.398)	-0.443 (0.401)	-0.515 (0.381)	-0.478 (0.396)
Δ GDP	0.00089 (0.002)	0.001 (0.001)	-0.00044 (0.0003)	-0.00045 (0.0003)	-0.00054 (0.00033)
Debt/GDP	0.004 (0.011)	0.011*** (0.003)	0.005 (0.009)	0.011*** (0.003)	0.01*** (0.003)
Trade	0.007 (0.031)	-0.019* (0.01)	-0.019* (0.011)	-0.019* (0.01)	0.002 (0.03)
Inflation	0.291 (0.776)	0.417 (0.304)	0.356 (0.28)	-0.075 (0.726)	0.393 (0.305)
Observations	984	984	984	984	984
Number of countries	33	33	33	33	33

*** p<0.01, ** p<0.05, * p<0.1

Table reports estimates of probit regressions of *default* on *food imports over GDP* and *urbanization*, as well as several controls and different sets of interaction terms, for autocracies from 1960-2009. The table reports multiple imputation estimates of the regression coefficients for each variable and robust standard errors, clustered at the country level, in parentheses. None of the interaction terms was statistically significant at conventional levels, and thus these have been suppressed. Country and year fixed effects were included in each regression, but are not reported.