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ON CHINA'S CURRENT ACCOUNT

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ABSTRACT

This paper evaluates the degree to which current account patterns are explained by the variables suggested by the literature, and reflects on possible future patterns. We start with panel regressions explaining the current account of 69 countries during 1981-2006. We identify an asymmetric effect of the US as the "demander of last resort:" a 1% increase in the lagged US current account deficit is associated with 0.5% increase of current account surpluses of countries running surpluses, but with insignificant changes of current account deficits of countries running deficits. Overall, the panel regressions account for not more than 2/3 of the variation. We apply the regression results to assess China's current account over the next six years, projecting a large drop in its account/GDP surpluses.

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1. **Introduction**

The literature dealing with global imbalances focused attention on the enigma of the “poor” financing the “rich,” as exemplified by the patterns of China’s and US current account balances during the 1990s and the early 2000s.¹ The onset of the subprime crisis, its deflationary impact on the US, and the resultant recessionary pressure facing other countries suggests the unsustainability of the previous patterns.² We evaluate this conjecture in panel regressions that accounts for the US role as a “demander of last resort,” controlling for other variables suggested by the literature. As China would be a key player in the adjustment of global imbalances, we also assess the degree to which Chinese current account patterns are accounted for by our panel regressions, and project possible future Chinese current account paths.

The variables suggested by the literature include economic performance [like GDP/Capita growth and levels, etc.], economic structure and openness [trade openness and composition of exports, financial openness and external wealth, etc.], demographic [age dependence], exchange rate regimes and liquidity, sudden stops history, and others [see the World Economic Outlook, WEO (2008) for further discussion and detailed references]. As the US played the pivotal role as the “demander of last resort” during recent decades, it makes sense to add lagged US current account deficits to the list of variables explaining current account patterns of other countries.³ We identify a large but asymmetric effect of the US role as the demander of last resort: a 1% increase in the lagged US current account deficit is associated with 0.5% increase of current account surpluses of countries running surpluses, but with insignificant changes of current account deficits of countries running deficits. We

¹ Further discussions on the sustainability of global imbalances can be found in Dooley, Folkerts-Landau and Garber (2004), Cooper (2005), Caballero, Farhi and Gourinchas (2006), Roubini (2006), Setser (2006), Edwards (2004, 2005, 2007), Obstfeld and Rogoff (2005), Ju and Wei (2007a), Chinn and Ito (2005), and Aizenamn and Yi (2008).

² See IMF’s World Economic Outlook (October 2008) for a discussion of the challenges facing the global economy, and recent current account patterns.

³ Aizenman and Yi (2008) report that during recent years the US current account deficits accented well above half of the global current account deficits.

control for all these variables in panel regressions of 69 countries during 1981-2006. Overall, not more than 2/3 of the variation is accounted for by regressions that include fixed effects, and China's fixed effect coefficient is insignificant. Ranked by their economic impact on China's current accounts (% of GDP), the most important variable is the lagged US current account deficit, followed by its own GDP growth, trade openness, bank credits/GDP, age dependency, net foreign assets/GDP, financial openness, and commodity exports/GDP.

We apply the regression analysis to project the future patterns of China's current account under two extreme scenarios. The first case is where all the conditioning variables would be impacted by one standard deviation shocks during the next six years in ways that would *increase* China's current account surplus; as would be if a global and domestic boom were to take place. The second scenario is the opposite—all the conditioning variables would be impacted by one standard deviation shocks in ways that would *decrease* China's current account surplus; as would be the case if a global and domestic recession were to take place. These two scenarios provide us with a band of plausible future paths. We compare the resultant band with the latest WEO's forecast of Chinese future current account, inferring that the WEO's projections may be overly optimistic, forecasting the continuation of high current account surpluses. We conclude with a discussion of these results.

2. **Data and Estimation**

Our data on current account balances and macroeconomic factors cover 1981-2006. Most of the data (details documented in Appendix A) are taken from the World Development Indicators, the International Investment Positions, the External Wealth of Nations, and the World Economic Outlook, supplemented with Chinn and Ito (2006)'s capital account openness index, Shambaugh (2004)'s pegged exchange rate indicators, and our own calculated deviation from PPP implied by the penn effects [see also Aizenman (2008)] and sudden-stop indicators.⁴ The net foreign asset data are available for a limited number of

⁴ For the literature supporting the effects of these macroeconomic factors on the current accounts, see Cavallo and Frankel (forthcoming) for sudden-stop indicators; Helliwell (2004), Higgins (1998), De-Santis and Lüthmann (2006), and Taylor (2002) for the effect of aging on current accounts; Chamon and Prasad (2007) for the impact of age dependency and saving of

countries. In addition, we include countries with at least ten annual observations to allow for subsequent division of the whole sample into sub-periods. After pooling all the relevant variables, we have 69 countries (of which 21 are OECD, tabulated in Appendix B).

Table 1 presents the summary statistics of the constructed sample for our estimation. Following the literature, we use these standard macroeconomic factors to estimate

$$CAB_{it} = X'_{it-1}\beta + C_i - \phi CAB_{USA,t-1} + \varepsilon_{it}; C_i \equiv \{c_1, \dots, c_{69}\} \quad (1)$$

where CAB_{it} is the current account balances of country (as % GDP) i at time t , and X_{it-1} is a vector of macroeconomic factors, and $C_i \equiv \{c_1, \dots, c_{69}\}$ is a vector of country fixed effects.

We include the US current account deficits (as % GDP) variable since the US acted frequently as the demander of the ‘last resort.’ Another frequently cited notion is that due to the growing size of China, the size of the US current account deficits may impact Chinese ability to run surpluses [see also Aizenman and Sun (2008)].

2.1 Baseline results and alternative specifications

Table 2 presents our baseline results. The estimation explains about 54 to 66 percent of the current account variation from 1981-2006. The variables appearing robust across the specifications can be categorized as those affecting current account surpluses in the following ways:

- Positively -- net foreign assets to GDP,⁵ sudden stops of capital inflows, US current account deficits, trade to GDP.
- Negatively -- growth of GDP, age dependency, commodity exports to GDP, bank credits to GDP, capital account openness.

households in China; and Chinn and Prasad (2003), Chinn and Ito (2007), Aguiar and Gopinath (2007), and Gruber and Kamin (2007) for standard determinants of the current accounts.

⁵ The net foreign asset position at time t is the initial position plus the cumulative current account and cumulative net capital gains on cross-border positions.

The last two columns of Table 2 show that the impacts of these macroeconomic factors differ between countries running current account deficits (specification [4a]) and countries running surpluses (specification [4b]). Essentially, the effects of the US current account deficits are important only to the countries running surpluses. In addition, the impact of net foreign assets, age dependency, commodity exports, bank credits are statistically significant only in the deficit countries.

We also experimented with other specifications, with and without country fixed effects and excluding lagged US current account deficits. The estimates reported in Table 3 confirm the effects and signs of the standard macroeconomic determinants of our baseline specification. Overall, the estimates are stable across country groups and sample periods, as presented in Table 4. The negative impact of age dependency is larger in the OECD during 1981-1994, but has become more important on the developing countries for 1995-2006. The negative effects of bank credits are larger in the OECD, whereas the negative effect of capital account openness is more significant in the developing countries and during 1995-2006. The positive effects of net foreign assets are larger in the developing countries and during 1995-2006. The effects of sudden stops are more significant in the developing countries, and during 1995-2006. The positive effect of trade openness is larger for OECD countries. The positive effects of US current account deficits are larger on developing countries and during 1981-1994.

2.2 China's current account surpluses

We now focus on China. Figures 1-a and 1-b plot Chinese predicted current account balances based on our preferred specification [4] in Table 2 and alternative specifications in Table 3, respectively. The actual values are mostly larger than predicted by our estimation without the country fixed effects (though the fit improves by adding country fixed effects), suggesting that for one or several of the conditioning variables, a significant part of China's current accounts remains unexplained throughout most of the period. This also implies potentially the need to have non-linear effects, or that there is a unique, time persistent, Chinese effect, not captured by the conditioning variables. To answer this question, we proceed in two steps.

First, we plot in Figure 2 the country fixed effects from the baseline specification [4] in Table 2. Though China's country fixed effect is positive, it is small and statistically insignificant. During 1981-2006, industrial countries including Switzerland, Japan, and Norway registered significantly large average country fixed effects. Developing countries with positive and larger country fixed effects than China include Egypt, Chile, Venezuela, Syria, Bolivia, and India.

Second, we examine the relative importance of the various conditioning variables in accounting the current account variation. Figure 3 presents the effects of +1s.d change of macroeconomic factors. Based on the coefficient estimates from specification [4] in Table 2, the effects are calculated by multiplying the regression coefficient by the one standard deviation of the variable for each country group. For instance, the coefficient estimate of NFA/GDP is 0.024; one standard deviation of NFA/GDP for Developing countries excluding China is 63.929; the economic significance of +1 s.d. change of NFA/GDP on the current account surpluses of Developing countries excluding China is $0.024 \times 63.929 = 1.534$. For each of the macroeconomic factors, we can see in Figure 3 that their economic impact on the current accounts of China tend to be smaller than on the current accounts of other developing countries and the OECD. Interestingly, the size of the US current account deficits has equivalent impact on the ability to run the current account surpluses of China as well as other country groups. Ranked by their economic significance (in absolute term) on China's current accounts (% of GDP), the most important variable is the US current account deficits (+.68%), followed by GDP growth (-.67%), trade openness (+.57%), bank credits/GDP (-.27%), age dependency (-.24%), net foreign assets/GDP (+.20%), financial openness (-.07%), and commodity exports/GDP (-.06%).

2.3 Possible adjustments

Figure 4 plots China's current account balances during 1984-2006, and our projections of the "good" and "bad" scenarios for the years 2007-2013, supplemented by the IMF's World Economic Outlook (October 2008) forecast. Based on the estimation results [4] and the projection of each macroeconomic factors x_i using ARMA(1,2) from the Chinese data 1984 to 2006, the line with marker '+' plots the "good 1 s.d. scenario," where each of the conditioning variables gets a 1 s.d. shock that will *increase* current account surplus [if the

impact of a variable x_i on the current account balance is +, then the shock to x_i is + 1 s.d., if the impact of x_i on the current account balance is negative, then the shock to x_i is - 1 s.d.]. The second scenario is the opposite, the “bad 1 s.d scenario,” where each of the conditioning variables gets a 1 s.d. shock that will *reduce* current account surplus. In essence, we set $t = 2006$; in the “good scenario” we assume that during $t+ 1, t+2, t+3, \dots, t+7$, each year 1 s.d. “good shocks” will materialize. Similarly, in the “bad 1 s.d. scenario” we assume that in each of the subsequent years, 1 s.d. “bad current account shocks” will materialize. For the “bad 1 s.d. scenario,” we find that China’s current accounts to GDP will be between 1-2% surpluses. In contrast, in the “good 1 s.d. scenario,” China’s current account surpluses will fluctuate around 8-9%, which is about 2% lower than the estimates by IMF’s World Economic Outlook (October 2008). For both the good and bad scenarios, China’s current account surpluses are expected to decline over the 2007-13 periods.

What is the impact of halving the US deficit? The US deficit was about 731 billion USD in 2007 (about 5.3% of US 2007 GDP). Based on the preferred specification [4b] in Table 2 using 1981-2006 data, the coefficient estimate of the US current account deficits is .5, statistically significant at 1 percent level. This implies that halving the present US current account deficits/GDP will translate into about a $(2.65 \% \times .5) = 1.3\%$ reduction of China’s current account surpluses.⁶ Using our estimates, we can evaluate the combined effect of 1% US current account deficit reduction on the balances of all the countries running current account surpluses. We apply specification [4b], Table 2, and estimate the aggregate current account adjustment as a result of ‘a 1% reduction of US current account deficit to GDP.’ The

⁶ It turned out that the Dickey-Fuller test cannot reject the null hypothesis that China’s and US current accounts/GDP contain a unit root over the sample period; both series are I(1). The residual series from fitting the Chinese series on the US series are not stationary. This may reflect the low power of the test, suggesting that the relationship between the US and China current account balances to GDP cannot be explained by a simple cointegration, in isolation of other conditioning macroeconomic factors. It is also consistent with the conjecture that CA/GDP ratio follows a unit-root process if its value stays within a certain range, but reverts to its long-run equilibrium when the CA/GDP ratio exceeds some threshold values [see Ju and Wei (2007b)].

absolute level of the ‘US deficit drops equivalent to 1% of US GDP’ is about 138 billion USD. This adjustment would induce a drop of current account surpluses of China by 35 billion USD, developing countries excluding China by 58.7 billion USD, and OECD countries by 71 billion USD, which sum up to a drop of total global surpluses by about 165 billion USD.⁷

3. **Concluding remarks**

Our analysis confirms the importance of lagged US current account deficits in explaining the current account patterns of other countries. Our projections of the current account of China in the next six years suggest a range of current account/GDP surplus bounded between 8-9% on the high end, and 1-2% on the low end. In contrast, the latest World Economic Outlook (WEO) is in the range of 10-11%, well above our projections. While we are unable to comment directly on the IMF approach that provided this relative high projection, the deflationary pressure triggered by the US financial crises suggests that the WEO’s (October 2008) forecast may be off the mark, possibly because it ignores the global recession impact of the present crisis, and the pivotal role of the US as the “demander of last resort.”

Indeed, one may argue that even in the absence of the recent financial crises, the anomaly of large countries growing much faster than the global mean, while running large and growing current account surpluses, leads to instability. This may follow from the global adding-up property, where the sum of all current accounts is zero (up to statistical discrepancies). The above anomaly can continue only as long as the deficit countries that grow, on average, at a much lower rate than China, will accommodate China by the needed increase in their current account deficit/GDP. The US played this role of “demander of last resort” during 1990-2005, providing the needed accommodation to Chinese surpluses. The

⁷ Lane and Milesi-Ferretti (2008) and Curcuru et al. (2008) note that owing to mismeasurement of net financial inflows, the US current account deficit could have been overestimated by as much as 0.6% per year. The mismeasurement in financial flows and merchandise trade could be even more important to China. A more complete investigation into this issue is beyond the scope of our study.

recent financial crisis may hasten the unwinding of the current account enigma, initiating recessionary pressure that induces the unwinding of US current account deficits. This conjecture is in line with Aizenman and Yi (2008), who report that during 1966-2005, excluding the US, the length of current account deficit spells is negatively related to the relative size of the countries' GDP. While one may argue that the EU would replace the US as a "demander of last resort," there are no signs pointing in that direction. EU's aggregate current account (as % of GDP) was, on average, close to zero during 1990-2005, possibly reflecting political economy factors that constrained the EU's external borrowing. Short of changing these factors, the case for the emergence of new "demanders of last resort," mitigating the drop of China's current account surpluses, remains dubious. Consequently, one expects that China's future current account surpluses may be constrained by the global adjustment, reducing them well below the 10% benchmark.

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Appendix A: Data Sources

WDI ≡ World Development Indicators

EWN ≡ External Wealth of Nations

IIP ≡ International Investment Positions

Variable	Database	Database Code	Sample Code
Current account balance (% of GDP)	WDI	BN.CAB.XOKA.GD.ZS	cab_gdp
Net Foreign Asset (% of GDP)	EWN; IIP	79LADZF...; 79AADZF...	nfa_gdp
Foreign Exchange Reserves (% of GDP)	EWN; IIP	79AKDZF...	fxres_gdp
GDP per capita, PPP (constant 2005 international \$; thousand)	WEO	PPPPC	_gdc_cons_ppp
Growth of GDP, PPP (constant 2005 international \$)	WEO	PPPGDP	_gdp_cons_ppp_gro
Age dependency ratio (dependents to working-age population)	WDI	SP.POP.DPND	age_dep
Population growth (annual %)	WEO	LP	pop_gro
Ores and metals exports (% of merchandise exports)	WDI	TX.VAL.MMTL.ZS.UN	ores_exp
Fuel exports (% of merchandise exports)	WDI	TX.VAL.FUEL.ZS.UN	fuel_exp
Domestic credit provided by banking sector (% of GDP)	WDI	FS.AST.DOMS.GD.ZS	dcr_bank_gdp
Capital Account Openness Index	Menzie Chinn and Hiro Ito	kaopen	kaopen
Pegged Exchange Rate Indicator	Jay Shambaugh	jspeg	jspeg
Merchandise trade (% of GDP)	WDI	TG.VAL.TOTL.GD.ZS	trade_gdp
Average time to clear exports through customs (days)	WDI	IC.CUS.DURS.EX	_time_cus
Average number of times firms spent in meetings with tax officials	WDI	IC.TAX.METG	_time_tax
Sudden Stop at Year t; CA-L.CA > 0.03GDP	authors' calculation	n.a.	ss0
Sudden Stop within the Previous 5 Years	authors' calculation	n.a.	ss5
US current account deficits (% of GDP)	WDI	BN.CAB.XOKA.GD.ZS	usa_cab_gdp_def
Deviation from PPP implied by penn effects	authors' calculation	n.a.	penn

Appendix B: Countries (69) and Sample Period for the Estimation

<u>OECD</u>	<u>Country Code</u>	<u>Country Name</u>	<u>Sample Period</u>	
	ARG	Argentina	1981	2006
*	AUS	Australia	1981	2006
*	AUT	Austria	1981	2006
	BEN	Benin	1982	2002
	BGD	Bangladesh	1982	2004
	BGR	Bulgaria	1996	2006
	BOL	Bolivia	1981	2006
*	CAN	Canada	1981	2006
*	CHE	Switzerland	1996	2006
	CHL	Chile	1981	2006
	CHN	China	1984	2006
	CMR	Cameroon	1982	2004
	COL	Colombia	1981	2006
	CRI	Costa Rica	1981	2006
*	DEU	Germany	1981	2006
*	DNK	Denmark	1981	2006
	DOM	Dominican Republic	1981	2001
	ECU	Ecuador	1981	2006
	EGY	Egypt, Arab Rep.	1981	2006
*	ESP	Spain	1981	2006
*	FIN	Finland	1981	2006
*	FRA	France	1981	2006
*	GBR	United Kingdom	1981	2006
	GHA	Ghana	1981	2004
*	GRC	Greece	1981	2006
	GTM	Guatemala	1981	2004
	HND	Honduras	1981	2004
	IDN	Indonesia	1981	2006
	IND	India	1981	2005
*	IRL	Ireland	1981	2006
*	ISR	Israel	1981	2006
*	ITA	Italy	1981	2006
	JAM	Jamaica	1981	2006
	JOR	Jordan	1981	2006
*	JPN	Japan	1981	2006
	KEN	Kenya	1981	2004
*	KOR	Korea, Rep.	1981	2006
	LKA	Sri Lanka	1981	2004
	MAR	Morocco	1981	2006
	MDG	Madagascar	1981	2004
	MEX	Mexico	1981	2006
	MUS	Mauritius	1990	2006
	MWI	Malawi	1981	2002
	MYS	Malaysia	1981	2006
	NER	Niger	1981	2005
	NIC	Nicaragua	1981	2005
*	NLD	Netherlands	1981	2006
*	NOR	Norway	1981	2003
*	NZL	New Zealand	1981	2006
	OMN	Oman	1981	2004
	PAK	Pakistan	1981	2006
	PAN	Panama	1981	2006
	PER	Peru	1982	2006
	PHL	Philippines	1981	2006
	POL	Poland	1990	2006
*	PRT	Portugal	1981	2006
	PRY	Paraguay	1991	2006
	SEN	Senegal	1981	2004
	SLV	El Salvador	1981	2006
*	SWE	Sweden	1981	2005
	SYR	Syrian Arab Republic	1981	2004
	THA	Thailand	1981	2006
	TUR	Turkey	1981	2006
	TZA	Tanzania	1997	2006
	UGA	Uganda	1994	2006
	URY	Uruguay	1981	2006
*	USA	United States	1981	2006
	VEN	Venezuela, RB	1981	2006
	ZAF	South Africa	1981	2006

Table 1: Summary Statistics

This table provides the summary statistics of the variables included in the analysis. The variable description is in the Appendix A. The statistics reported below are contemporaneous (year t), whereas the baseline estimation results use the lagged explanatory variables (year $t-1$).

Variable	Obs	Mean	Std. Dev.	Min	Max
Current account balance (% of GDP)	1,544	-2.1	5.6	-42.9	17.6
Net Foreign Asset (% of GDP)	1,544	-42.1	57.8	-980.0	133.8
Foreign Exchange Reserves (% of GDP)	1,544	9.2	7.8	0.0	56.4
GDP per capita, PPP (thousand)	1,544	9.6	9.3	0.3	44.1
Growth of GDP, PPP (annual %)	1,544	6.5	4.0	-12.2	28.2
Age dependency ratio	1,544	65.8	17.5	38.8	112.4
Population growth (annual %)	1,544	1.6	1.3	-12.0	9.8
Ores and metals exports (% of exports)	1,544	6.5	11.4	0.0	80.1
Fuel exports (% of exports)	1,544	11.7	19.6	0.0	95.4
Domestic credit by banking sector (% of GDP)	1,544	75.5	55.9	4.4	442.6
Capital Account Openness Index	1,544	0.5	1.6	-1.8	2.5
Pegged Exchange Rate Indicator	1,544	0.3	0.5	0.0	1.0
Merchandise trade (% of GDP)	1,544	49.2	24.8	10.1	199.5
Average days to clear exports through customs	1,544	4.3	3.4	1.4	15.6
Average times firms spent with tax officials	1,544	2.7	2.4	0.7	14.4
Sudden Stop at Year t ; CA-L.CA > 0.03GDP	1,544	0.1	0.3	0.0	1.0
Sudden Stop within the Previous 5 Years	1,544	0.5	0.5	0.0	1.0
Deviation from PPP implied by penn effects	639	-1.2	26.9	-40.2	284.2

Table 2: Baseline Results of Current Account Balances to GDP and Macroeconomic Factors

This table reports the baseline estimation of $CAB_{it} = X'_{it-1}\beta + C_i - \phi CAB_{USA,t-1} + \varepsilon_{it}; C_i \equiv \{c_1, \dots, c_{69}\}$; where CAB_{it} is the current account balances to GDP of country i at time t , X_{it} is a vector of macroeconomic factors as outlined in the Appendix A, and C_i is a vector of country fixed effects. The regressions are OLS with country indicators (fixed effects). Constant term and country indicators are not reported. Standard errors are in parentheses. *** (**, *) signifies statistical significant at 1 (5,10) percent.

Current account balance (% of GDP)	OLS with lagged explanatory variables and country fixed effects					
					Countries Running Deficits	Countries Running Surpluses
	[1]	[2]	[3]	[4]	[4a]	[4b]
	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)
Net Foreign Asset (% of GDP)	.024 (.003) ***	.010 (.006)		.024 (.003) ***	.021 (.002) ***	.008 (.008)
Foreign Exchange Reserves (% of GDP)	.013 (.022)	.025 (.027)	.039 (.023) *			
GDP per capita, PPP (thousand)	.003 (.031)	.143 (.040) ***	.030 (.031)			
Growth of GDP, PPP (annual %)	-.215 (.025) ***	-.188 (.036) ***		-.217 (.025) ***	-.146 (.022) ***	-.131 (.035) ***
Age dependency ratio	-.052 (.022) **	-.119 (.032) ***	-.084 (.021) ***	-.054 (.019) ***	-.048 (.019) **	.022 (.032)
Population growth (annual %)	-.001 (.112)	-.316 (.197)				
Ores and metals exports (% of exports)	-.099 (.030) ***	-.088 (.037) **	-.102 (.030) ***	-.114 (.026) ***	-.049 (.022) **	-.020 (.069)
Fuel exports (% of exports)	-.005 (.012)	-.014 (.016)				
Domestic credit by banking sector (% of GDP)	-.010 (.004) **	-.008 (.006)	-.010 (.005) **	-.010 (.004) **	-.014 (.004) ***	-.006 (.005)
Capital Account Openness Index	-.225 (.107) **	-.421 (.131) ***	-.183 (.110) *	-.240 (.101) **	-.114 (.094)	-.205 (.175)
Pegged Exchange Rate Indicator	-.351 (.281)	.241 (.313)				
Merchandise trade (% of GDP)	.051 (.010) ***	.037 (.014) **	.024 (.010) **	.052 (.009) ***	.001 (.009)	.038 (.013) ***
Average days to clear exports through customs	.261 (.126) **	.335 (.138) **	.439 (.297)			
Average times firms spent with tax officials	.026 (.366)	.468 (.386)				
Sudden Stop at Year t; CA-L.CA > 0.03GDP	3.801 (.288) ***	2.760 (.385) ***	3.773 (.296) ***	3.799 (.285) ***	1.647 (.292) ***	2.785 (.351) ***
Sudden Stop within the Previous 5 Years	1.028 (.233) ***	1.013 (.279) ***	.962 (.240) ***	1.046 (.230) ***	.297 (.204)	1.398 (.364) ***
US current account deficits (% of GDP)	.403 (.073) ***	.076 (.097)	.468 (.076) ***	.409 (.069) ***	.040 (.063)	.501 (.109) ***
Deviation from PPP implied by penn effects		.007 (.007)				
R-sq.	.663	.540	.622	.662	.699	.623
Observations	1431	614	1490	1435	1003	432

Table 3: Alternative Specifications of Current Account Balances to GDP and Macroeconomic Factors

This table reports the baseline estimation of $CAB_{it} = X'_{it-1}\beta + C_i + \varepsilon_{it}; C_i \equiv \{c_1, \dots, c_{69}\}$; where CAB_{it} is the current account balances to GDP of country i at time t , X_{it} is a vector of macroeconomic factors as outlined in the Appendix A, and C_i is a vector of country fixed effects. The regressions are OLS with and without country indicators (fixed effects). Constant term and country indicators are not reported. Standard errors are in parentheses. *** (**, *) signifies statistical significant at 1 (5,10) percent.

Current account balance (% of GDP)	Lagged Explanatory Variables				Contemporaneous Explanatory Variables			
	OLS with Country Fixed Effects		OLS		OLS with Country Fixed Effects		OLS	
	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)
Net Foreign Asset (% of GDP)	.024 (.003) ***	.009 (.006)	.050 (.005) ***	.017 (.009) *	.024 (.003) ***	.021 (.006) ***	.051 (.004) ***	.025 (.008) ***
Foreign Exchange Reserves (% of GDP)	.028 (.022)	.029 (.026)	.030 (.021)	.020 (.028)	.124 (.021) ***	.123 (.027) ***	.093 (.018) ***	.088 (.026) ***
GDP per capita, PPP (thousand)	.049 (.030)	.152 (.039) ***	.064 (.026) **	.039 (.032)	.162 (.028) ***	.275 (.041) ***	.105 (.023) ***	.097 (.033) ***
Growth of GDP, PPP (annual %)	-.217 (.025) ***	-.189 (.035) ***	-.215 (.033) ***	-.150 (.044) ***	-.116 (.025) ***	-.094 (.038) **	-.105 (.037) ***	-.075 (.046)
Age dependency ratio	-.081 (.021) ***	-.126 (.031) ***	-.048 (.011) ***	-.069 (.014) ***	-.046 (.020) **	-.134 (.032) ***	-.036 (.010) ***	-.055 (.015) ***
Population growth (annual %)	-.037 (.113)	-.333 (.196) *	-.118 (.148)	-.166 (.176)	-.135 (.102)	-.430 (.204) **	-.231 (.131) *	-.363 (.170) **
Ores and metals exports (% of exports)	-.094 (.030) ***	-.089 (.037) **	-.031 (.010) ***	-.081 (.014) ***	-.092 (.028) ***	-.085 (.039) ***	-.036 (.010) ***	-.081 (.014) ***
Fuel exports (% of exports)	-.000 (.012)	-.012 (.016)	.030 (.008) ***	.008 (.010)	-.001 (.012)	.001 (.016)	.034 (.008) ***	.017 (.011)
Domestic credit by banking sector (% of GDP)	-.007 (.004)	-.007 (.006)	.004 (.003)	.015 (.003) ***	-.027 (.004) ***	-.021 (.006) ***	-.001 (.002)	.007 (.003) **
Capital Account Openness Index	-.162 (.108)	-.417 (.131) ***	-.108 (.098)	.132 (.105)	-.264 (.104) **	-.655 (.138) ***	-.143 (.096)	.051 (.112)
Pegged Exchange Rate Indicator	-.336 (.284)	.269 (.311)	.289 (.265)	.629 (.295) **	-.276 (.279)	.291 (.325)	.405 (.253)	.558 (.293) *
Merchandise trade (% of GDP)	.056 (.010) ***	.037 (.014) ***	.023 (.006) ***	.005 (.008)	.036 (.010) ***	.008 (.014)	.009 (.006)	-.007 (.008)
Average days to clear exports through customs	.262 (.128) **	.353 (.136) ***	.194 (.039) ***	.201 (.035) ***	.274 (.125) **	.444 (.081) ***	.182 (.036) ***	.207 (.034) ***
Average times firms spent with tax officials	.328 (.366)	.501 (.383)	.066 (.049)	.157 (.057) ***	.215 (.351)	.391 (.310)	.025 (.048)	.094 (.060)
Sudden Stop at Year t; CA-L.CA > 0.03GDP	3.790 (.291) ***	2.747 (.384) ***	3.730 (.424) ***	2.133 (.530) ***	3.624 (.287) ***	2.790 (.396) ***	3.616 (.425) ***	2.254 (.519) ***
Sudden Stop within the Previous 5 Years	1.116 (.235) ***	1.019 (.279) ***	.775 (.244) ***	.460 (.316)	1.013 (.227) ***	1.137 (.286) ***	.569 (.243) **	.496 (.310)
Deviation from PPP implied by penn effects		.006 (.007)		-.002 (.005)		-.006 (.007)		-.006 (.006)
R-sq.	.656	.540	.488	.371	.657	.533	.500	.374
Observations	1431	614	1431	614	1544	639	1544	639

Table 4: Country Groups and Sample Periods of Current Account Balances to GDP and Macroeconomic Factors

This table reports the baseline estimation of $CAB_{it} = X'_{it-1}\beta + C_i - \phi CAB_{USA,t-1} + \varepsilon_{it}; C_i \equiv \{c_1, \dots, c_{69}\}$; where CAB_{it} is the current account balances (as % GDP) of country i at time t , X_{it} is a vector of macroeconomic factors as outlined in the Appendix A, and C_i is a vector of country fixed effects. The regressions are OLS with and without country indicators. Constant term and country indicators are not reported. Standard errors are in parentheses. *** (**, *) signifies statistical significant at 1 (5,10) percent.

Current account balance (% of GDP)	1981-1994		1995-2006		OECD Countries	Developing Countries	1981-1994	1995-2006
	OECD Countries	Developing Countries	OECD Countries	Developing Countries				
	[13]	[14]	[15]	[16]				
	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)	est. (s.e.)
Net Foreign Asset (% of GDP)	.011 (.019)	.022 (.004) ***	.008 (.008)	.029 (.009) ***	.016 (.007) **	.026 (.003) ***	.021 (.003) ***	.028 (.006) ***
GDP per capita, PPP (thousand)	-.047 (.081)	-.637 (.345) *	-.114 (.094)	-.260 (.319)	.072 (.038) *	-.323 (.134) **	-.097 (.075)	-.161 (.075) **
Growth of GDP, PPP (annual %)	-.241 (.062) ***	-.155 (.042) ***	-.278 (.073) ***	-.229 (.044) ***	-.232 (.049) ***	-.195 (.030) ***	-.179 (.034) ***	-.244 (.036) ***
Age dependency ratio	-.273 (.092) ***	-.095 (.064)	.110 (.129)	-.291 (.080) ***	.043 (.047)	-.116 (.028) ***	-.055 (.043)	-.170 (.056) ***
Population growth (annual %)	-.561 (.442)	.028 (.158)	-1.245 (.378) ***	.460 (.228) **	-1.359 (.302) ***	.084 (.130)	.013 (.135)	.208 (.190)
Ores and metals exports (% of exports)	-.127 (.192)	-.195 (.065) ***	-.651 (.262) **	.010 (.053)	-.417 (.149) ***	-.093 (.033) ***	-.157 (.055) ***	.001 (.047)
Fuel exports (% of exports)	.140 (.060) **	-.028 (.018)	.382 (.081) ***	.152 (.042) ***	.139 (.044) ***	-.011 (.013)	-.018 (.015)	.175 (.035) ***
Domestic credit by banking sector (% of GDP)	.012 (.011)	.015 (.010)	-.013 (.006) **	-.012 (.015)	-.020 (.005) ***	.003 (.007)	.012 (.007)	-.011 (.008)
Capital Account Openness Index	.157 (.288)	.088 (.331)	.271 (.324)	-.804 (.221) ***	.106 (.163)	-.402 (.139) ***	.369 (.230)	-.610 (.180) ***
Pegged Exchange Rate Indicator	-.291 (.593)	-1.137 (.552) **	-1.180 (.568) **	.490 (.624)	-.980 (.413) **	-.307 (.376)	-.607 (.419)	.065 (.463)
Merchandise trade (% of GDP)	.161 (.041) ***	-.011 (.024)	.079 (.025) ***	.015 (.022)	.104 (.020) ***	.038 (.012) ***	.008 (.019)	.035 (.017) **
Average days to clear exports through customs	.157 (.773)	.491 (.359)	-.113 (.904)	-.865 (.363) **	-.255 (.530)	.292 (.182)	.402 (.181) **	-.844 (.264) ***
Average times firms spent with tax officials	.000 (.000)	-.365 (.299)	.000 (.000)	-.191 (.360)	.000 (.000)	-.348 (.166) **	-.446 (.627)	1.388 (.638) **
Sudden Stop at Year t; CA-L.CA > 0.03GDP	.456 (.587)	3.879 (.469) ***	2.928 (.678) ***	4.688 (.494) ***	1.727 (.495) ***	4.350 (.348) ***	3.011 (.369) ***	4.259 (.403) ***
Sudden Stop within the Previous 5 Years	-.299 (.390)	.299 (.502)	1.173 (.413) ***	2.014 (.419) ***	.682 (.310) **	1.008 (.312) ***	.258 (.345)	1.802 (.320) ***
US current account deficits (% of GDP)	.160 (.128)	.483 (.167) ***	.240 (.213)	.239 (.213)	.042 (.099)	.523 (.099) ***	.482 (.111) ***	.366 (.150) **
R-sq.	.619	.692	.880	.730	.698	.655	.680	.766
Observations	270	427	251	483	521	910	697	734

Figure 1-a: The Predicted v. Actual Current Account Balances (% of GDP) of China, Including US Current Account Deficits as an Explanatory Variable

This figure plots on the vertical axis the predicted values and on the horizontal axis the actual values of the current account balances (% of GDP), based on the OLS estimation with country fixed effects, including US current account deficits as an explanatory variable (specification [4]). The estimating equation is

$CAB_{it} = X'_{it-1}\beta + C_i - \phi CAB_{USA,t-1} + \varepsilon_{it}; C_i \equiv \{c_1, \dots, c_{69}\}$; where CAB_{it} is the current account balances of country i at time t , X_{it} is a vector of macroeconomic factors as outlined in the Appendix A, and C_i is a vector of country fixed effects. The dash line is 45 degree. The correlation is .8136.

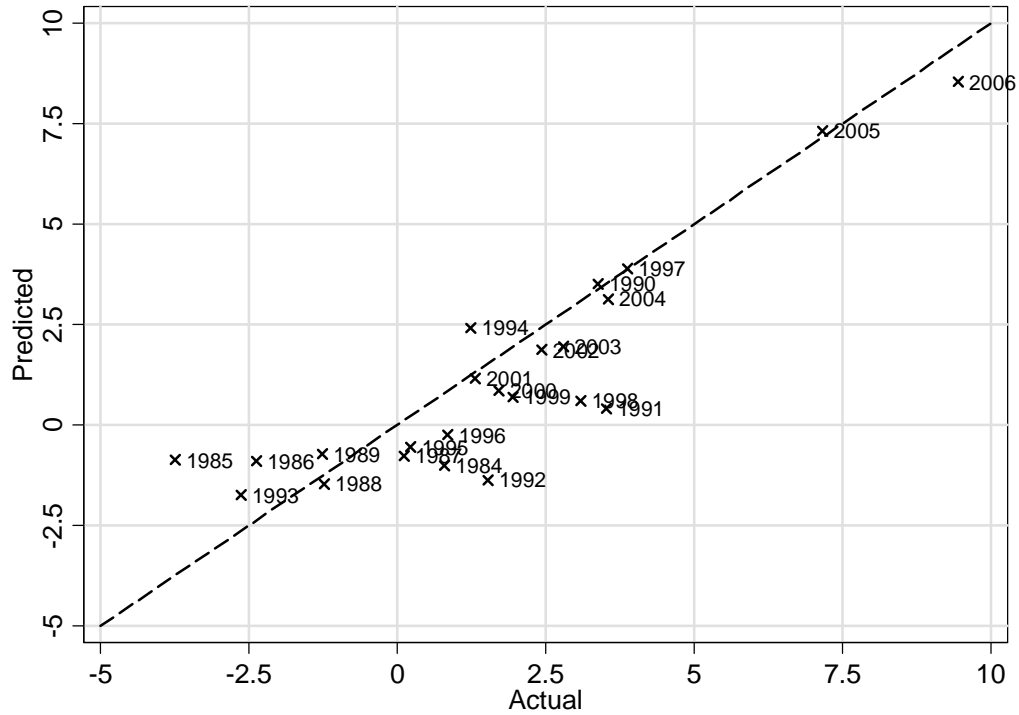
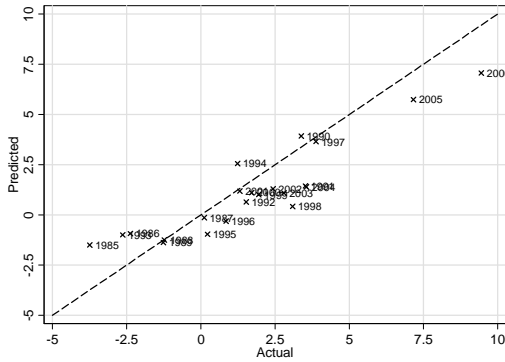


Figure 1-b: Comparing Predicted v. Actual Current Account Balances (% of GDP) across Empirical Specifications, Excluding US Current Account Deficits as an Explanatory Variable

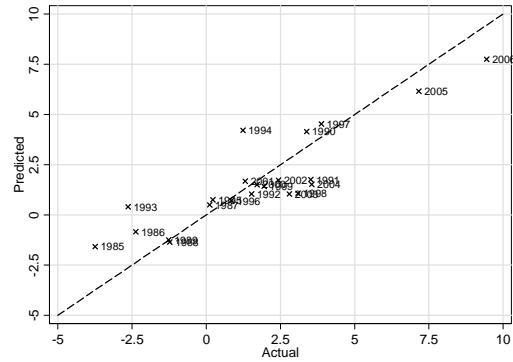
This figure plots on the vertical axis the predicted values and on the horizontal axis the actual values of the current account balances (% of GDP), based on the OLS estimation with and without country indicators.

The estimating equation is $CAB_{it} = X'_{it-1}\beta + C_i + \varepsilon_{it}$; $C_i \equiv \{c_1, \dots, c_{69}\}$; where CAB_{it} is the current account balances to GDP of country i at time t , X_{it} is a vector of macroeconomic factors as outlined in the Appendix, and C_i is a vector of country fixed effects. The dash line is 45 degree.

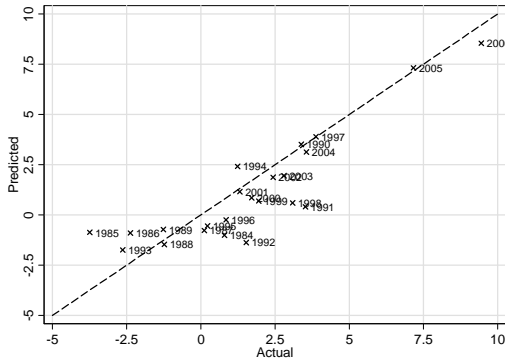
using X_{it-1} , *without* country fixed effects;
correlation = .6986



using X_{it-1} *with* country fixed effects;
correlation = .8097



using X_{it} , *without* country fixed effects;
correlation = .7074



using X_{it} *with* country fixed effects;
correlation = .8106

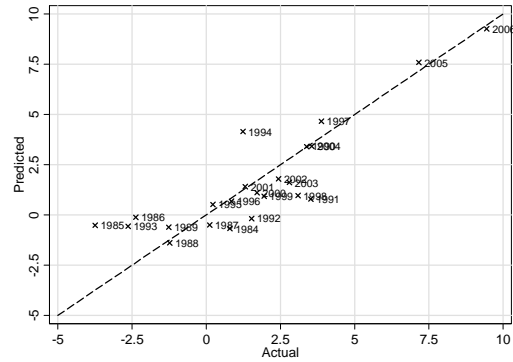


Figure 2: Country Fixed Effects on Current Account Balances (% of GDP)

This figure depicts the estimated country fixed effects $\hat{C}_i \equiv \{\hat{c}_1, \dots, \hat{c}_{69}\}$, based on the OLS estimation with country indicators (specification [4]):

$CAB_{it} = X'_{it-1}\beta + C_i - \phi CAB_{USA,t-1} + \varepsilon_{it}; C_i \equiv \{c_1, \dots, c_{69}\}$; where CAB_{it} is the current account balances (as % GDP) of country i at time t , X_{it} is a vector of macroeconomic factors as outlined in the Appendix A, and C_i is a vector of country fixed effects. Dark bars are statistically significant at 10% level.

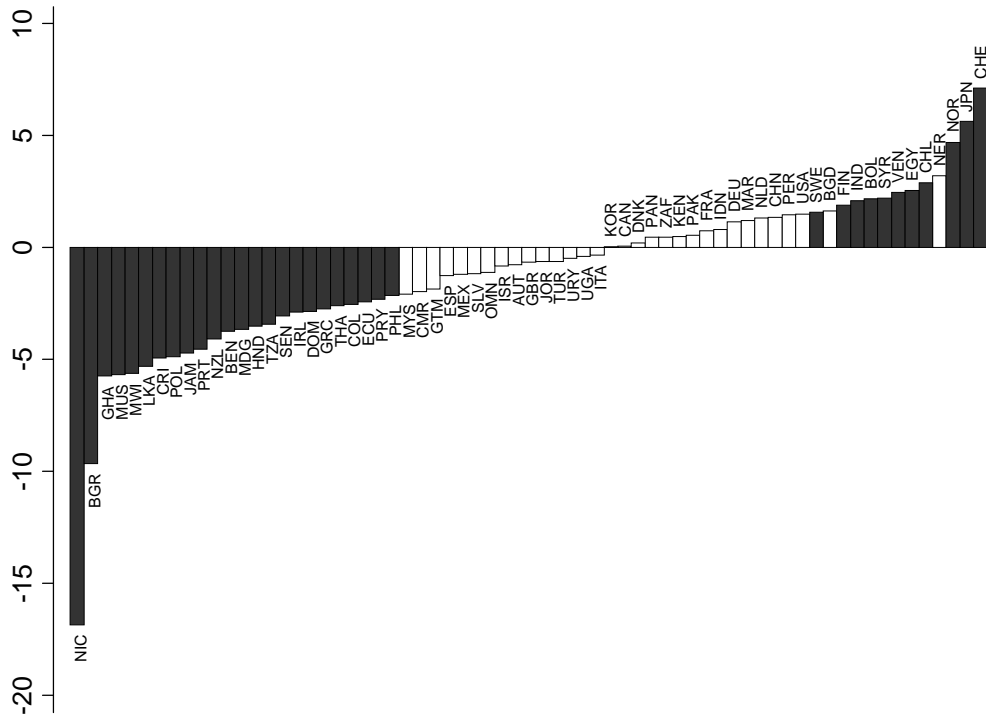


Figure 3: Economic Significance of +1 s.d. Change on Current Account Surpluses (% of GDP)

This figure presents the effects of +1 s.d. change of macroeconomic factors. Based on the coefficient estimates from specification [4] in table 2, the effects are calculated by multiplying each of the coefficients by a 1 standard deviation of the variable for each country group. For instance, the coefficient estimate of NFA/GDP is 0.024; one standard deviation of NFA/GDP for Developing countries excluding China is 63.929; the economic significant of +1 s.d. change of NFA/GDP on the current account surpluses of Developing countries excluding China is $0.024 \times 63.929 = 1.534$.

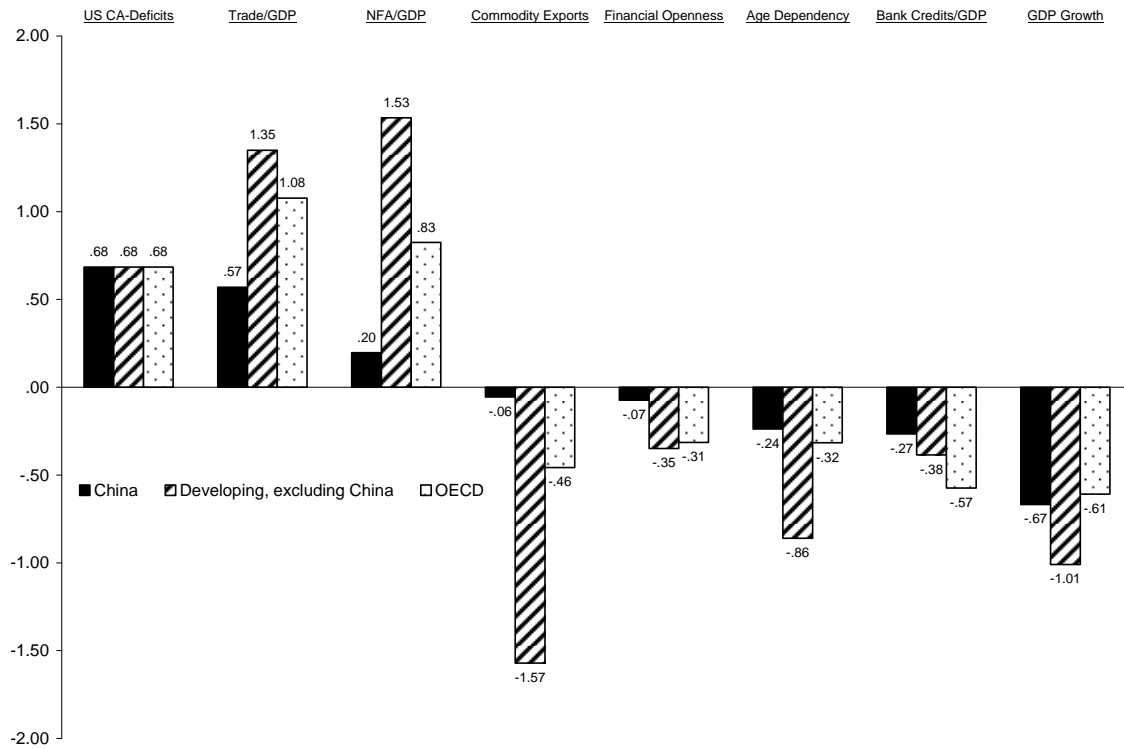
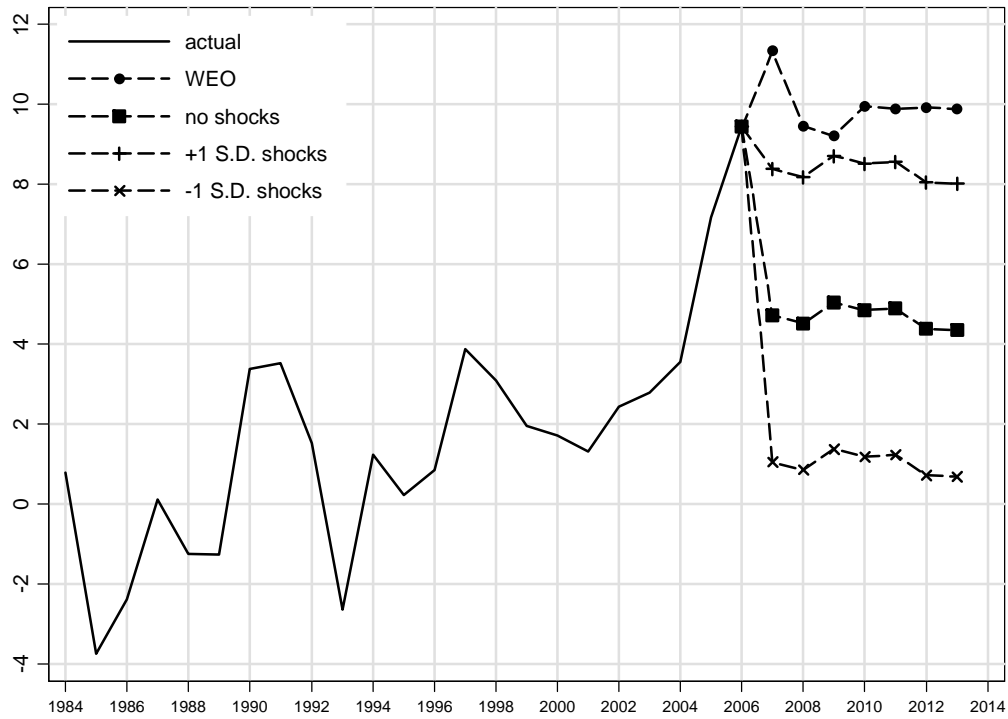


Figure 4: Projection of China's Current Account Balances, 2007 – 2013

This figure plots the actual and projected current account balances (% of GDP) for China for years 2007 to 2013. Based on the baseline results [4] and the projection of each x_i from ARMA(1,2) using the actual data from 1984 to 2006. The line with marker '+' plots a best 1 s.d. scenario, where each of the conditioning variable gets a 1 s.d. shock that will increase current account surplus [if the impact of a variable x_i on the current account balance is +, then the shock to x_i is + 1 s.d., if the impact of x_i on the current account balance is negative, then the shock to x_i is -1 s.d.]. The second measure is the opposite, the "worst 1 s.d. scenario," giving the configurations of the x_i with the 1 s.d. shocks that will minimize the current account balance.



Notes: WEO stands for the projections in the *World Economic Outlook* (October 2008), International Monetary Fund, Washington, DC.