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# **Estimation of De Facto Exchange Rate Regimes: Synthesis of the Techniques for Inferring Flexibility and Basket Weights**

Discussion by

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Comments on:  
“Estimation of De Facto Exchange  
Rate Regimes: Synthesis of the  
Techniques for Inferring Flexibility  
and Basket Weights”

Jeffrey Frankel and Shang-Jin Wei

Steven B. Kamin  
Federal Reserve Board  
November 16, 2007

- Exchange rate regimes matter
- Much work focused on identifying them
- Particularly at IMF

# Jeff and Shang-Jin's Contribution

- Some countries target a basket of currencies
- Methodology for simultaneously identifying currency weights and exchange rate flexibility

# Frankel-Wei Basic Specification

$$\begin{aligned} \% \Delta(\text{ESDR}/\text{thb}) = & C \\ & + [ w1 * \% \Delta(\text{ESDR}/\text{Jap.}) + w2 * \% \Delta(\text{ESDR}/\text{\$US}) \\ & + (1 - w1 - w2) * \% \Delta(\text{ESDR}/\text{UK}) ] \\ & + \beta * [ \% \Delta(\text{ESDR}/\text{thb}) + \% \Delta R ] \end{aligned}$$

# Frankel-Wei Basic Estimates of $\beta$

approx. 2000–2004

1. Indonesia	.736	11. Russia	.101
2. Chile	.675	12. Malta*	.073
3. Botswana*	.636	13. China	.035
4. Mexico	.398	14. Fiji*	.031
5. Thailand	.368	15. Norway	.029
6. Canada	.366	16. Seych.*	.029
7. Pap. N.G.*	.308	17. Latvia*	.009
8. Australia	.175	18. Denmk.	.001
9. Samoa*	.161	19. Malaysia	0
10. Vanuatu*	.104	20. HK	-.027

\* IMF-designated basket-peg

Hypothesis #1 for too-low beta:  
endogeneity of  $\% \Delta(\text{ESDR}/\text{thb})$

$$\begin{aligned} & \% \Delta(\text{ESDR}/\text{thb}) = C \\ & + [ w1 * \% \Delta(\text{ESDR}/\text{Jap.}) + w2 * \% \Delta(\text{ESDR}/\text{\$US}) \\ & + (1 - w1 - w2) * \% \Delta(\text{ESDR}/\text{UK}) ] \\ & + \beta * [ \% \Delta(\text{ESDR}/\text{thb}) + \% \Delta R ] \end{aligned}$$

Hypothesis #2 for too-low beta:  
faulty restriction that currency coefficients  
sum to one

$$\begin{aligned} \% \Delta(\text{ESDR}/\text{thb}) = & C \\ & + [ w1 * \% \Delta(\text{ESDR}/\text{Jap.}) + w2 * \% \Delta(\text{ESDR}/\text{\$US}) \\ & + (1 - w1 - w2) * \% \Delta(\text{ESDR}/\text{UK}) ] \\ & + \beta * [ \% \Delta(\text{ESDR}/\text{thb}) + \% \Delta R ] \end{aligned}$$



# Un-Restricting the Currency Weights

## Canada 2002-2005

	Frankel-Wei	Kamin	Kamin Unrestricted
JPY	.324	.201	-.061
USD	.449	.784	.024
EUR	.337	.322	-.360
GBP	-.110	-.306	-.527
EMP	.366	.441	.462

# Un-Restricting the Currency Weights

## Australia 2000-2003

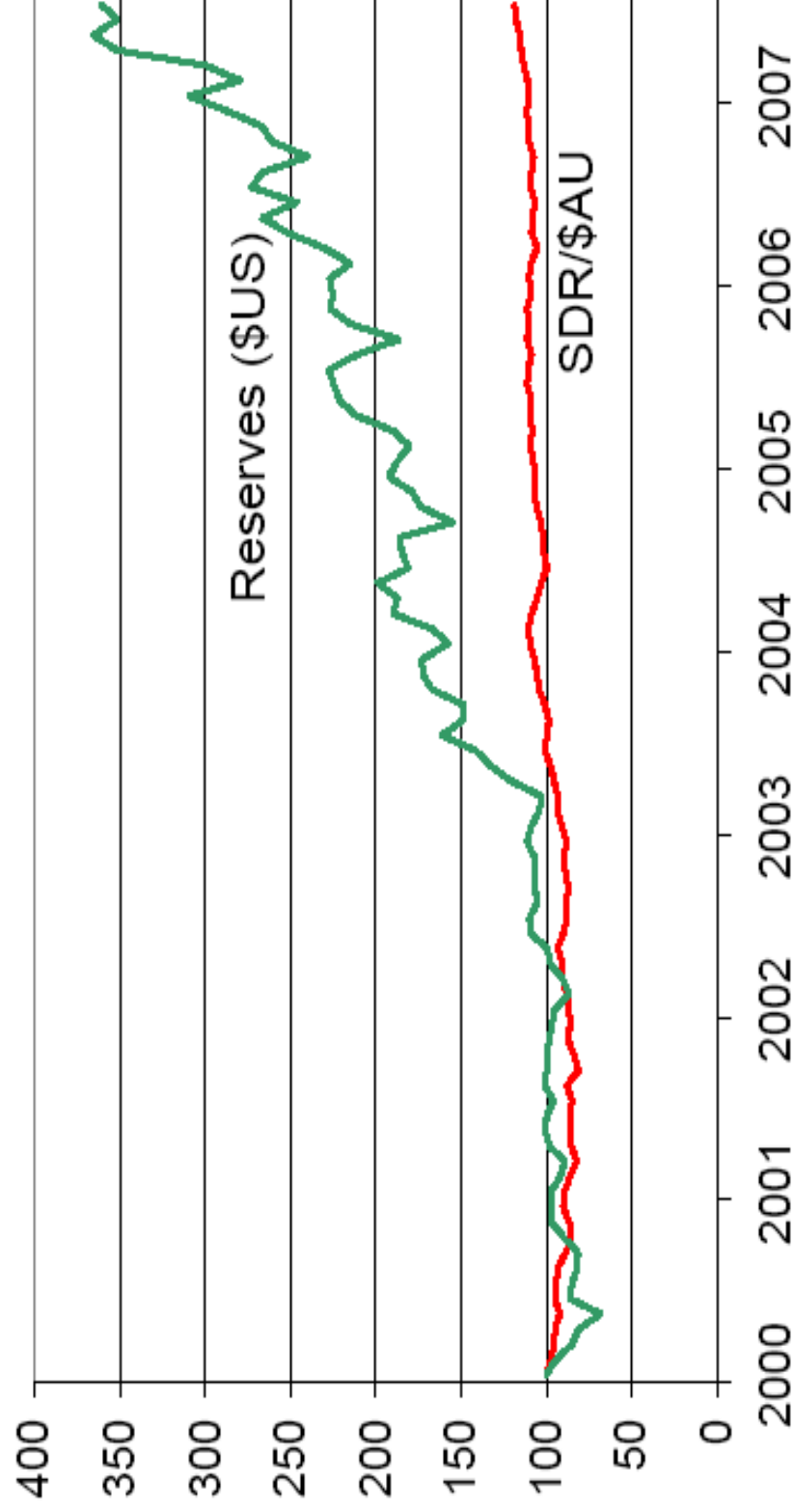
	Frankel-Wei	Kamin	Kamin Unrestricted
JPY	.250	.221	.449
USD	.294	.397	.941
EUR	.554	.503	.902
GBP	-.098	-.121	.052
EMP	.175	.175	.170

Hypothesis #3 for too-low betas:  
% $\Delta R$  term not accurately capturing  
exchange market intervention

$$\begin{aligned} \% \Delta (E_{SDR/thb}) = & C \\ & + [ w1 * \% \Delta (E_{SDR/Jap.}) + w2 * \% \Delta (E_{SDR/\$US}) \\ & + (1 - w1 - w2) * \% \Delta (E_{SDR/UK}) ] \\ & + \beta * [ \% \Delta (E_{SDR/thb}) + \% \Delta R ] \end{aligned}$$

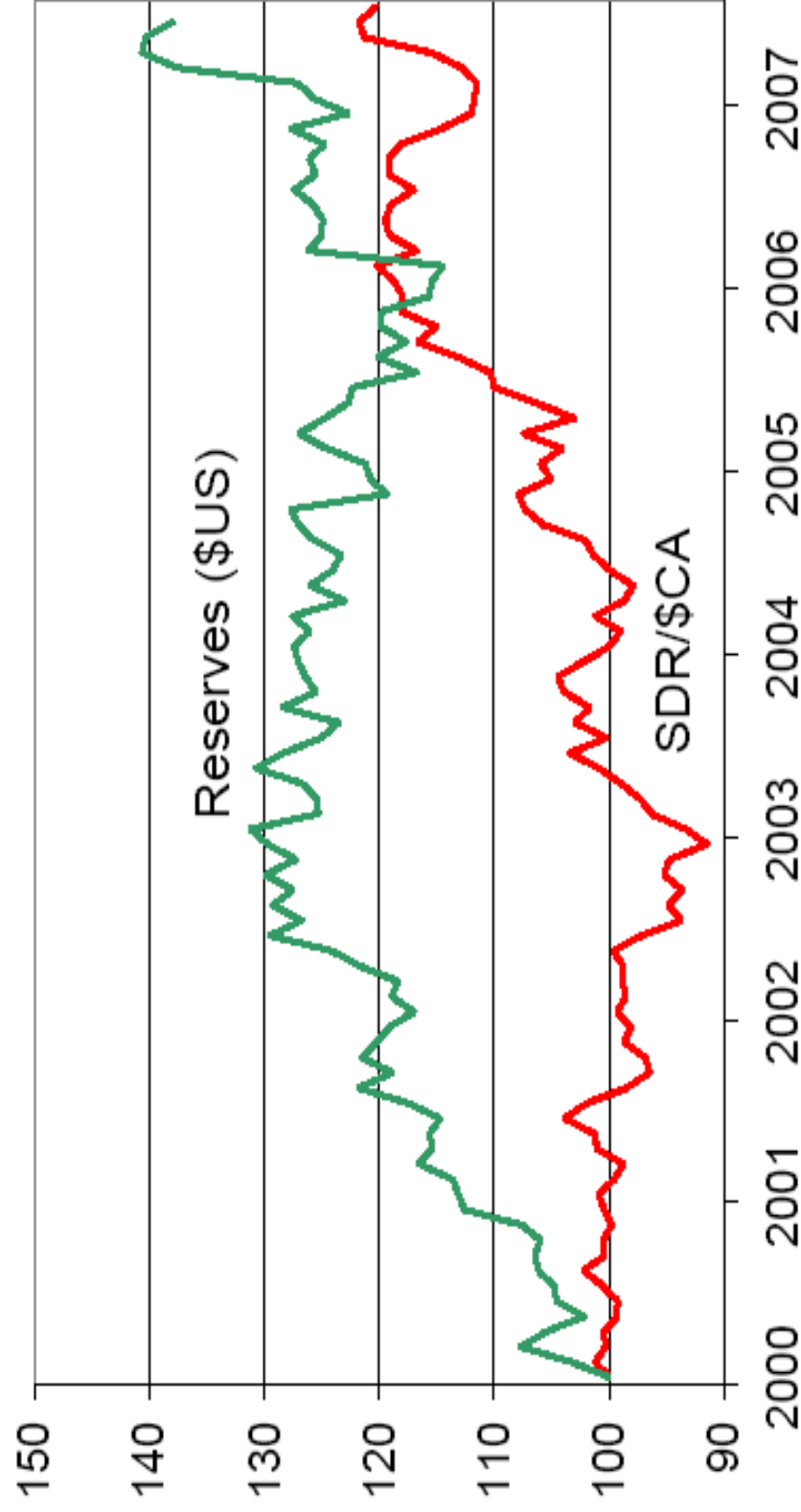
# Australia

Indexed, January 2000 = 100



# Canada

Indexed, Jan 2000 = 100



## Implications

- Reserves data need to be cleansed of movements not reflecting interventions to target the exchange rate
- Scaling changes in reserves and exchange rates by their relative variance can boost beta's
- but may lead to misleading results if country intervenes frequently

Does estimating currency weights and exchange rate flexibility simultaneously lead to better estimates?

# Separating the Currency Weights from the EMP

## Canada 2002-2003

	<u>Frankel-Wei</u>	<u>Kamin</u>	<u>Kamin Unrestricted</u>		
			(1)	(2)	(3)
JPY	.324	.201	-.061	.435	--
USD	.449	.784	.024	1.140	--
EUR	.337	.322	-.360	.821	--
GBP	-.110	-.306	-.527	-.300	--
EMP	.366	.441	.462	--	.443



# Separating the Currency Weights from the EMP

## Fiji 2000-2003

	<u>Frankel-Wei</u>	<u>Kamin</u>	<u>Kamin Unrestricted</u>		
			(1)	(2)	(3)
JPY	.086	.099	.079	.072	--
USD	.229	.267	.217	.170	--
EUR	.187	.170	.133	.116	--
GBP	.029	.037	.022	.034	--
AUD	.436	.427	.428	.465	
EMP	.031	.033	.033	--	.177

# Separating the Currency Weights from the EMP

## Thailand 2000-2003

	<u>Frankel-Wei</u>	<u>Kamin</u>	<u>Kamin Unrestricted</u>		
			(1)	(2)	(3)
JPY	.121	.084	-.028	.364	--
USD	-1768	.782	.527	.623	--
EUR	.255	.213	.025	.274	--
GBP	-.043	-.079	-.161	.040	--
KRW	.022				
SGD	.068				
AUD	.107				
MYR	1768				
EMP	.368	.433	.443	--	.321

# Conclusion

- Interesting and provocative paper
- Novel methodology
- Helpful for countries that may target more than a single currency
- Requires careful attention to data, especially reserves
- Complementary to, not substitute for, institutional analysis