Rethinking Exchange Rate Risk Management

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Joint work with Jesper, Martin, and Lars from GCU (~Global Currency Unit) and Marcus and Jannick from Dept’ of Math’

A project/product aimed at medium to small companies.

But with considerable global perspectives.

And endorsed by almost the Pope!

In international trades, it is common to use an anchor currency, even though that currency is domestic to neither party.

~50% of all trades are done in US dollar, despite the US companies being involved in only 15-20% of trades.

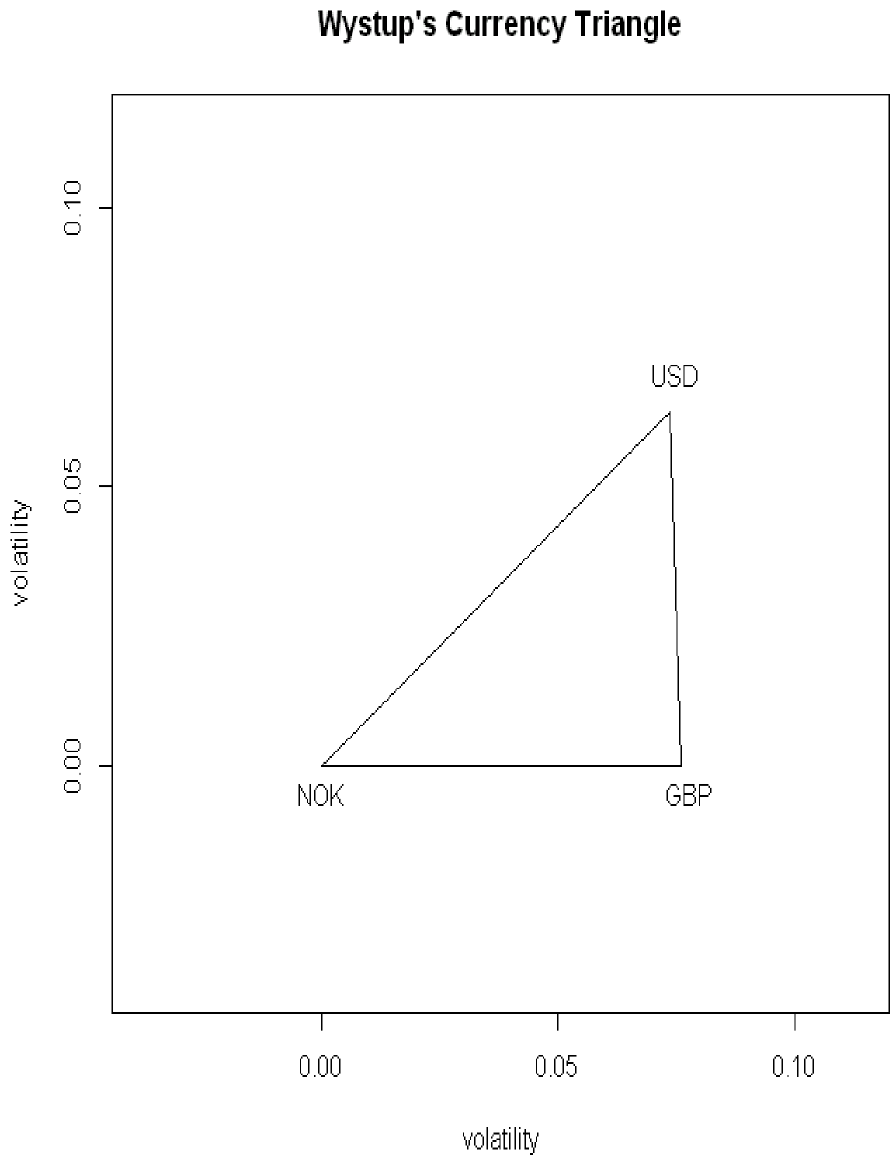
This construction is a bad idea. It’s Pareto-inferior risk-wise, everybody is worse off than they could be.

There is exchange rate risk because payments are delayed; 1 (like on your creidt card)-2-3(in our examples)-4 months are typical.

An anchor adds risk

Key illustration:

Wystup's currency triangle. Length of side ~ volatility. The direct route is the shortest.



Simple fix: I pay

x% in my currency and

(1-x)% in your currency.

(Technically in a forwardized way so that value is not affected.)

Natural focal point: *x=0.5;* the 50/50 spilt.

This is what a CGU Report does – for USD 15.

Settlement mode			
Direct settlement	-	Settlement using intermediary currency	USD
Buyer's share of deviation (%)	50	Seller's share of deviation (%)	50

GCU Report					
Settlement currency					USD
USD BDT			USD DKK		
Rate at time of agreement	High 77.200 Low 77.170	77.185	Rate at time of agreement	High 6.0616 Low 6.0042	6.0329
Rate at time of settlement	High 77.170 Low 77.170	77.170	Rate at time of settlement	High 6.0653 Low 6.0460	6.0557

Buyer			Share function		Seller		
Currency		BDT	USD		DKK		Currency
Amount at time of agreement	100%	77,184,997.56	1,000,000.00		6,032,899.86	100%	Amount at time of agreement
Amount at time of settlement		77,169,998.17			6,055,649.76		Amount at time of settlement
Change	0.02%	14,999.39	194.37	3,756.81	22,749.90	0.38%	Change
Agreed share	50%		3,951.17			50%	Agreed share
Adjustment	0.20%	152,456.05	1,975.59	1,975.59	11,963.46	0.20%	Adjustment
Note: +=advantage, -=disadvantage							
Amount at time of agreement		77,184,997.56			6,032,899.86		Amount at time of agreement
+ Adjustment value		-152,456.05			11,963.46		+ Adjustment value
Amount after adjustment		77,032,541.51			6,044,863.32		Amount after adjustment

Price to be settled
998,218.78 USD

Past, present and future challenges for GCU Reports

Legal issues; everything must go through the parties’ own banks.

Data-handling including forwardization.

Selling a single-deal zero-sum product.

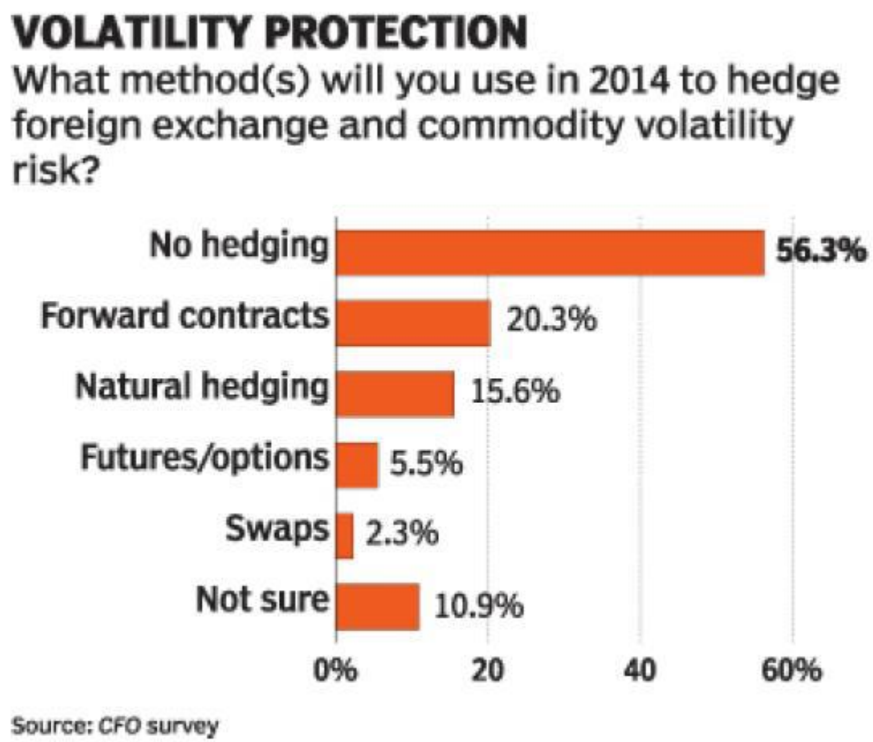
And rather surprisingly: Finding a financial partner willing to sell insurance/options on the residual risk has proved excessively difficult.

Should be very liquid markets, plain vanilla options, much lower risk that (say) counterparty credit risk.

I’ve been tempted to say: OK, then I’ll do the f#%*ing hedging myself. (But I have not.)

Finance 101: Just use forwards

First, even big companies don't:



Second, it’s difficult for smaller companies possibly trading with ”exotic” parties

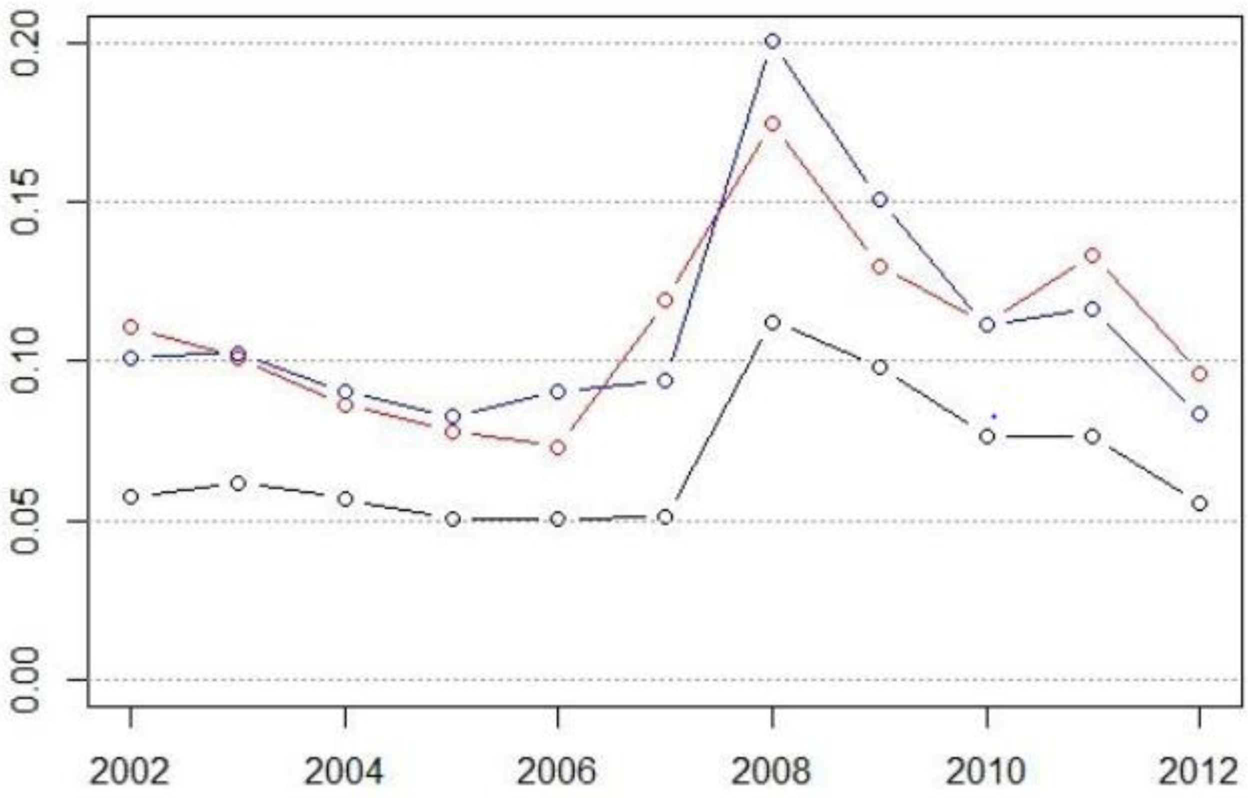
- In a small scale, not particularly scientific study, it proved impossible to get a DKK 1M DKK/INR or DKK/BDT forward
- The textbook argument about forwards not affecting liquidity does not hold

Big pictures and big numbers

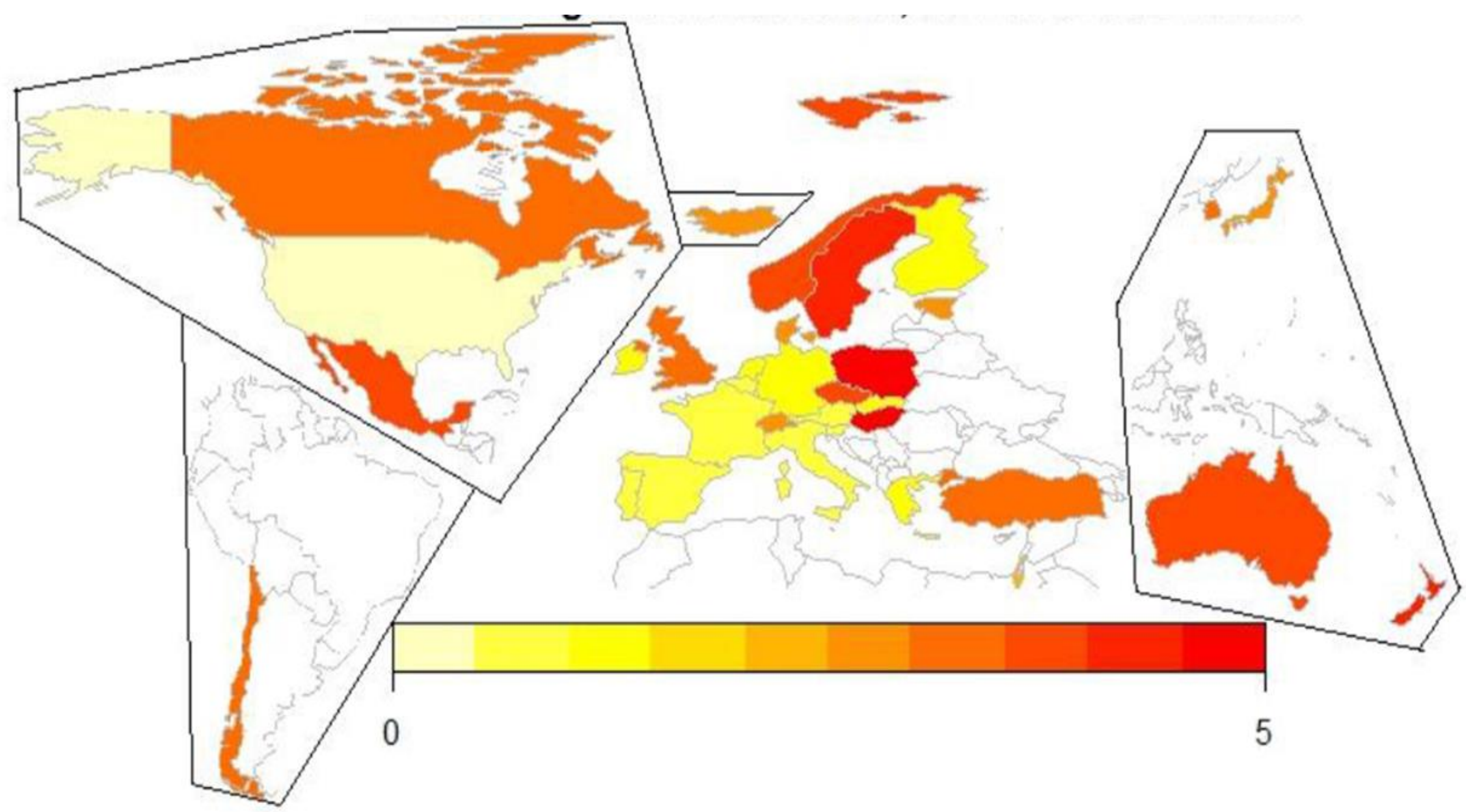
Let me end by showing some pictures and numbers that demonstrate the global potential gains.

(Debatable but defendable.)

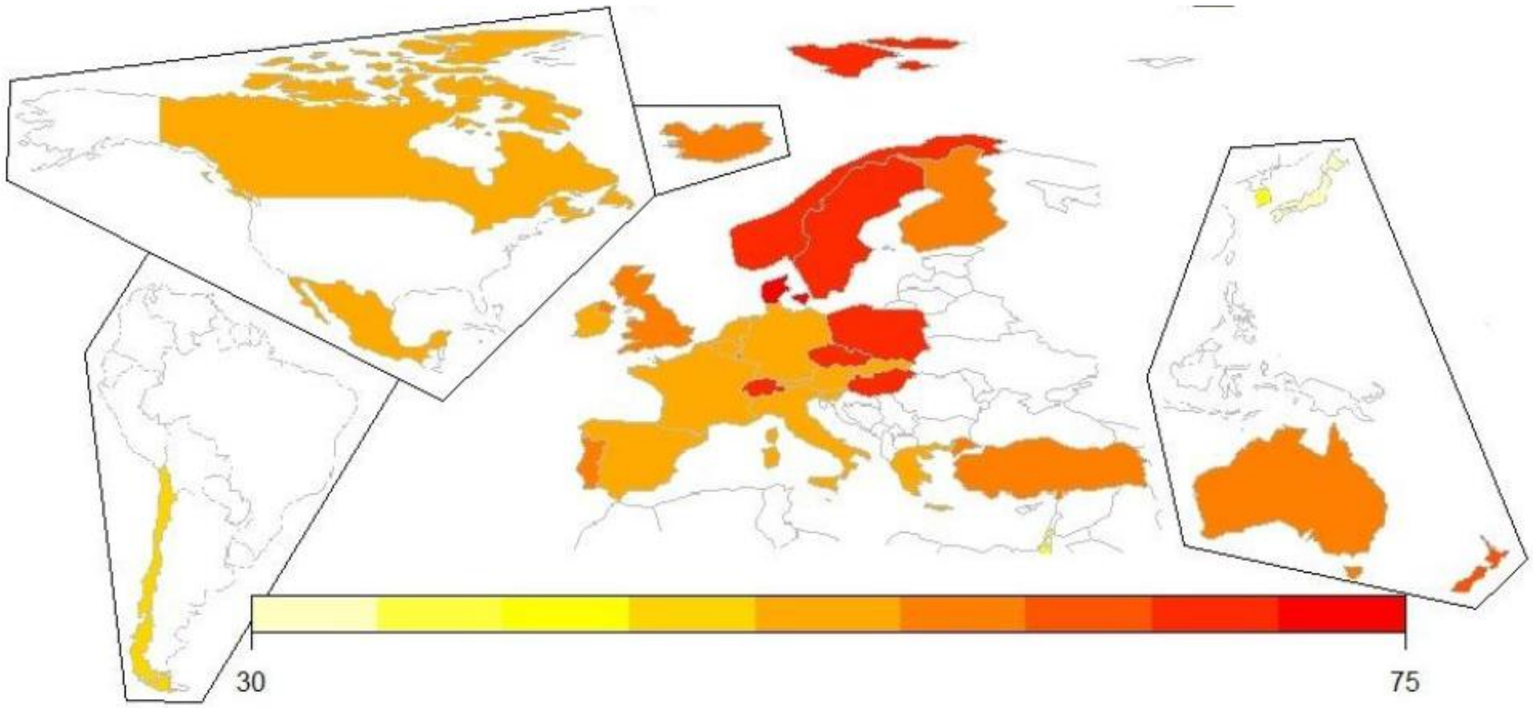
Trade-weighted average volatility; USD-anchor settlement vs. 50/50-split



Insurace cost in percent of trading volume for OECD countries (if all except EUR were USD-setteled)



Insurance cost reduction w/ 50/50 splits



The use of GCU reports could mean cost savings of USD 100 billion per year world wide