Capital Flight to Germany: Two Alternative Measures

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Motivation

- Gross financial outflows (mirror image of CA)
- Germany as a European “safe heaven” => Capital Flight
- Measure 1: Intra-EA - TARGET2:
  - Clearing system records net capital flows
  - Arise from decentralized monetary policy implementation
- Measure 2: Globally - TMI:
  - Germany rather lenient on controlling illicit inflows
  - Financial Action Task Force (2010, 2014)
- Important drivers: common macro-fundamentals, economic policy uncertainty, measure specific factors

Measure 1: Adjusted TMI

- Discrepancies in mirror trade statistics (Bhagwati, 1981, 1964; Cardoso and Dornbusch, 1989)
- $TMI = EUI + IOI$

$$IOI = \sum_{i}^{q} [MC_{i,t} - MW_{i,t} * (1 + CIF_{i,j,t})]$$

$$EUI = \sum_{i}^{p} [XW_{i,t} - XC_{i,t} * (1 + CIF_{i,j,t})],$$

- CIF Adjustment is crucial

Measure 1: Adjusted TMI

- Commonly assumed: CIF = 10%
- But:
  - German CIF considerably lower (~ 2.3% in 2014)
  - Vary over time (Hummels, 2007; Jacks et al., 2008)
  - Asymmetric - exporting vs. importing country (Wei *et al.* 2018)
- New OECD estimates (time, product and country-pair specific)
- $$CIF_{i,j,t} = \sum_{g=1}^{m} \widehat{CIF}_{i,j,t,g} \frac{v_{t,i,g}}{\frac{1}{m}\sum_{g=1}^{m} v_{t,i,g}}$$

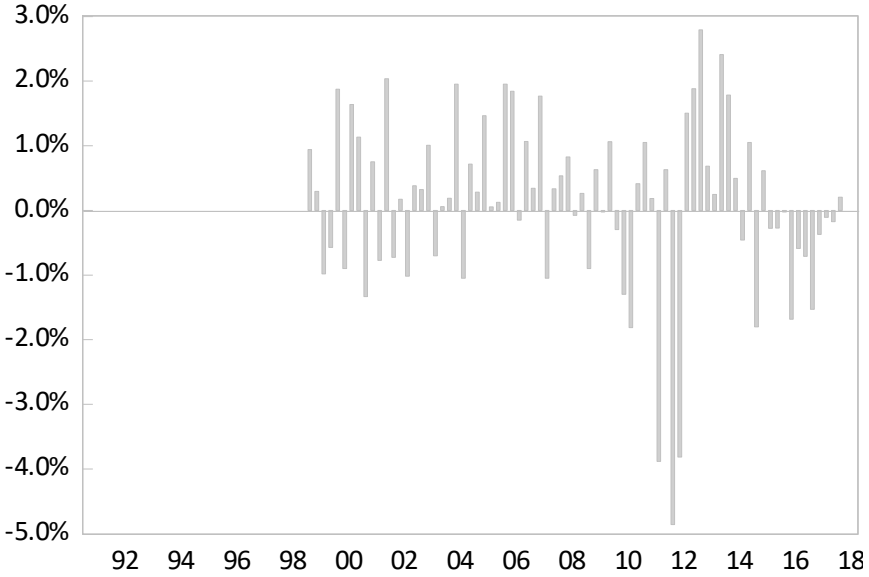
Measure 2: Private EA Capital Flight (PEAF)

- TARGET2 balances (T2) (Garber, 2010)
- Database: www.eurocrisismonitor.com
- Often itself interpreted as measure of CF
- But, T2 also contains
  1) Capital flows by official institutions (e.g. payments into the ESM),
  2) Current account imbalances (Sinn and Wollershäuser (2012))
  3) Outright transfers (say, development assistance)
- $$PEAF = -(\Delta T2) + CA^{EA} + CAP^{EA} + FA^{EA,Gov}$$

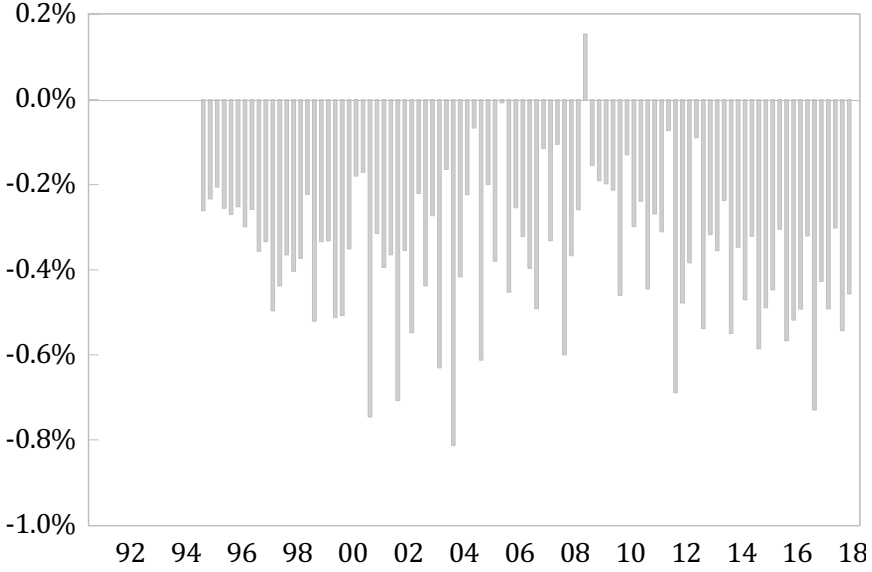
Sample and Descriptive Statistics

- Sample period: 1995Q1 to 2018Q3
- Sum of TMI and PEAF
  - On average, 25bn Euro per year
  - Accumulated to almost 600 billion euros ~ 70% of today's GDP.
- Measures capture different phenomena
  - Correlation: 0.265

1a. Private Euro Area Capital Flight (PEAF)



1b. Trade Misinvoicing Measure (CIF-adjusted)



Baseline specification

$$(1) \quad Y_{t,TMI} = \alpha + \lambda' CID_t + \theta' X_t + \delta' M_t + \beta' W_t + \varepsilon_t$$

$$(2) \quad Y_{t,PEAF} = \alpha + \lambda' CID_t + \theta' X_t + \delta' M_t + \beta' Z_t + \varepsilon_t$$

- $CID_{t:}$: Deviation from the covered interest parity
- X_t: Economic determinants deemed common to TMI/PEAF

  Captures motives to …

  - … avoid country risk (gov. debt, fiscal bal., real GDP growth),
  - … currency debasement (inflation diff., currency misalignment),
  - … volatile investments (stock price volatility),
  - … minimize taxation (tax ratio)
- M_t includes M1 and M3 money growth rates

Baseline specification (cont'd)

$$(1) \quad Y_{t,TMI} = \alpha + \lambda' CID_t + \theta' X_t + \delta' M_t + \beta' W_t + \varepsilon_t$$

$$(2) \quad Y_{t,PEAF} = \alpha + \lambda' CID_t + \theta' X_t + \delta' M_t + \beta' Z_t + \varepsilon_t$$

- W_t: TMI-specific determinants
  - Exchange rate volatility,
  - Import duties
  - Size of the shadow economy
  - (De facto) trade openness
- Z_t: PEAF-specific determinants
  - Interest spread of EA crisis countries ("financial panick hypothesis")
  - Proxy of redenomination risk (Google searches for "euro breakup")
  - Flexibility in the Eurosystem's collateral standards.

Results 1A

Table 2: Determinants of TMI – Baseline Results

	Arbitrage Motive	Canonical Fundamentals	Monetary Factors	Measure-specific	Full	Stepwise
Variables	(1)	(2)	(3)	(4)	(5)	(6)
CID	0.054	0.038	0.043	0.034	0.012	-0.002
	(1.12)	(0.80)	(0.89)	(0.62)	(0.22)	(0.04)
Real GDP Growth		-0.014*			-0.010	-0.012*
		(1.96)			(1.13)	(1.80)
Inflation Diff.		0.015*			0.013	0.014*
		(1.97)			(1.63)	(1.88)
Currency Misalignment		1.119***			1.117**	0.975***
		(3.71)			(2.35)	(3.92)
Gov. Debt		0.007***			0.003	0.005*
		(2.79)			(0.70)	(1.95)
Gov. Bal.		0.003			0.002	
		(0.37)			(0.12)	
Tax Ratio		0.001			0.004	
		(0.04)			(0.22)	
Stock Volatility (VDAX)		0.000			-0.000	
		(0.10)			(0.13)	
Rel. M1 Growth			0.203**		0.130	
			(2.01)		(1.16)	
Rel. M3 Growth			-0.236		-0.259	
			(1.30)		(1.19)	
Exr. volatility				0.224**	0.147	0.184**
				(2.60)	(1.57)	(2.40)
Import Duties Ratio				-0.116***	-0.062	-0.069**
				(3.47)	(1.52)	(2.24)
Shadow Economy				0.016**	-0.008	
				(2.19)	(0.30)	
D(Trade Openness)				-0.005	0.004	
				(0.63)	(0.51)	
Constant	-0.389***	-0.856	-0.392***	0.050	-0.352	-0.350
	(11.31)	(1.22)	(11.54)	(0.27)	(0.47)	(1.16)
R-Squared (adj)	0.39	0.52	0.41	0.48	0.50	0.57
Observations	94	92	94	84	84	92

Results 1B

Table 3: Determinants of PEAF – Baseline Results

	Arbitrage Motive	Canonical Fundamentals	Monetary Factors	Measure-specific	Full	Stepwise
Variables	(1)	(2)	(3)	(4)	(5)	(6)
CID	-1.321***	-0.925	-1.399***	-0.153	0.168	-0.002
	(2.65)	(1.64)	(2.74)	(0.32)	(0.33)	(0.00)
Real GDP Growth		-0.035			0.059	
		(0.38)			(0.68)	
Inflation Diff.		-0.048			-0.009	
		(0.50)			(0.11)	
Currency Misalignment		3.340			8.347*	7.146**
		(0.72)			(1.97)	(2.56)
Gov. Debt		-0.002			0.037	0.037*
		(0.09)			(1.40)	(1.76)
Gov. Bal.		0.000			-0.016	
		(0.00)			(0.16)	
Tax Ratio		-0.029			-0.024	
		(0.16)			(0.15)	
Stock Volatility (VDAX)		-0.027			-0.013	
		(1.42)			(0.74)	
Rel. M1 Growth			0.896		0.663	
			(0.84)		(0.64)	
Rel. M3 Growth			-0.980		-1.914	
			(0.48)		(0.85)	
D(EA Spread)				-0.888***	-1.018***	-1.025***
				(3.66)	(3.62)	(4.40)
D(Redenomination Risk)				-0.004	-0.004	
				(0.39)	(0.36)	
Collateral Standards				-0.497	-0.645	-0.667**
				(1.42)	(1.58)	(2.00)
Collateral (idiosyncratic)				-3.700***	-3.587***	-3.795***
				(3.19)	(2.89)	(3.36)
Constant	0.034	2.031	0.032	-0.345	-1.733	-2.935**
	(0.10)	(0.23)	(0.09)	(1.13)	(0.22)	(2.02)
R-Squared (adj)	0.13	0.09	0.11	0.38	0.38	0.43
Observations	77	76	77	77	76	76

The Role of Economic Policy Uncertainty (EPU)

$$Y_{t,TMI} = \alpha + \lambda' CID_t + \theta' X_t + \delta' M_t + \beta' W_t + \gamma' U_t + \varepsilon_t$$

$$Y_{t,PEAF} = \alpha + \lambda' CID_t + \theta' X_t + \delta' M_t + \beta' Z_t + \gamma' U_t + \varepsilon_t$$

- Vector U_t: EPU variables for Germany, EU, and the global market
- Methodology by Baker, Bloom, and Davis (2016, QJE):
- TMI measure does not respond to any of these EPU variables

Results 2

Table 4: PEAF – The Role of EU Economic Policy Uncertainty

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CID	0.150	0.184	0.250	0.187	0.075	0.087	0.107	-0.042	0.252
	(0.34)	(0.41)	(0.54)	(0.42)	(0.17)	(0.19)	(0.23)	(0.09)	(0.54)
Currency Misalignment	1.186	2.841	2.689	0.911	3.667	5.494*	6.437**	5.667*	6.298**
	(0.34)	(0.82)	(0.78)	(0.26)	(1.15)	(1.77)	(2.28)	(1.85)	(2.26)
Gov. Debt	0.035*	0.041*	0.036*	0.040**	0.029	0.030	0.038*	0.035*	0.039*
	(1.72)	(1.99)	(1.77)	(2.02)	(1.40)	(1.38)	(1.83)	(1.69)	(1.89)
D(EA Spread)	-1.136***	-1.013***	-0.999***	-1.199***	-1.007***	-1.092***	-1.120***	-1.046***	-1.010***
	(5.00)	(4.45)	(4.39)	(5.20)	(4.43)	(4.57)	(4.60)	(4.48)	(4.40)
Collateral Standards	-0.641**	-0.474	-0.429	-0.630*	-0.765**	-0.606*	-0.669**	-0.600*	-0.749**
	(2.01)	(1.40)	(1.25)	(1.99)	(2.33)	(1.81)	(2.02)	(1.78)	(2.26)
Collateral (Idiosyncratic)	-3.946***	-3.974***	-4.096***	-4.034***	-3.583***	-3.676***	-3.876***	-3.834***	-4.148***
	(3.65)	(3.59)	(3.69)	(3.75)	(3.25)	(3.26)	(3.45)	(3.41)	(3.68)
EU EPU (Expert)	-0.008***								
	(2.66)								
EU EPU (News)		-0.006**							
		(2.04)							
PRINCIPAL COMPONENTS									
PCA Expert (Global, EU, DE)			-0.218**						
			(2.10)						
PCA News (Global, EU, DE)				-0.315***					
				(2.81)					
COUNTRY-LEVEL SUBCOMPONENTS									
Greece EPU (Expert)					-1.692**				
					(2.11)				
Ireland EPU (Expert))						-0.746			
						(1.20)			
Italy EPU (Expert)							-0.899		
							(1.28)		
Portugal EPU (Expert)								-1.088	
								(1.14)	
Spain EPU (Expert)									-1.383*
									(1.78)
Constant	-1.675	-2.451*	-2.995**	-3.223**	-2.163	-2.308	-2.893**	-2.657*	-2.912**
	(1.14)	(1.70)	(2.11)	(2.33)	(1.48)	(1.50)	(2.00)	(1.81)	(2.04)
R-Squared (adj)	0.48	0.46	0.46	0.48	0.46	0.44	0.44	0.43	0.45
Observations	76	76	76	76	76	76	76	76	76

Robustness I

- Sensitivity to CIF assumption
  - Alternative source of CIF estimates: CEPII's BACI
  - Ad-hoc $CIF_{i,j,t} = 10\% \quad \forall i, j, t$
- Measurement error: Drop trade-partners with low statistical quality
  - Lowest quartile according to the WB statistical capacity score
  - Below median according to the WB statistical capacity score

Results 3

Table 5: Different Measures of TMI

		CIF Assumption		Measurement Error	
	(Baseline)	(BACI CIF)	(Constant 10%)	(w/o lowest quartile)	(w/o below median)
Variables	(1)	(2)	(3)	(4)	(5)
CID	-0.002	-0.046	-0.089	-0.005	0.001
	(0.04)	(0.76)	(1.23)	(0.10)	(0.02)
Real GDP Growth	-0.012*	-0.019**	-0.012	-0.012*	-0.011*
	(1.80)	(2.13)	(1.19)	(1.80)	(1.68)
Inflation Diff.	0.014*	0.011	0.017	0.016**	0.016**
	(1.88)	(1.18)	(1.53)	(2.14)	(2.17)
Currency Misalignment	0.975***	0.216	2.969***	0.831***	0.862***
	(3.92)	(0.67)	(7.71)	(3.31)	(3.46)
Gov. Debt	0.005*	0.007**	-0.005	0.004*	0.003
	(1.95)	(2.12)	(1.36)	(1.68)	(1.34)
Exr. volatility	0.184**	0.263**	0.116	0.195**	0.188**
	(2.40)	(2.63)	(0.98)	(2.51)	(2.44)
Import Duties Ratio	-0.069**	-0.109***	0.044	-0.082***	-0.081**
	(2.24)	(2.73)	(0.92)	(2.65)	(2.63)
Constant	-0.350	0.074	-1.392***	-0.247	-0.211
	(1.16)	(0.19)	(3.00)	(0.81)	(0.70)
R-Squared (adj)	0.57	0.42	0.70	0.57	0.57
Observations	92	92	92	92	92

Robustness II

- Seemingly unrelated regression (SUR)
- Dynamic specification (including AR(1) term)
- Instrumental variables (IV) regression
  - Interest rate variables (CID, spread)
  - Import duties

Results 4A

Table 6: TMI – Estimation Method and Specification Issues

	Baseline / OLS	SUR	Dynamic	IV (CID; Imp. Duties)	IV (Imp. Duties)	EMU-membership / Structural Break
Variables	(1)	(2)	(3)	(6)	(7)	(8)
CID	-0.002	0.017	0.011	-0.014	-0.014	-0.003
	(0.04)	(0.39)	(0.23)	(0.31)	(0.31)	(0.06)
Real GDP Growth	-0.012*	-0.009	-0.011	-0.013*	-0.013*	-0.012*
	(1.80)	(1.40)	(1.64)	(1.96)	(1.96)	(1.71)
Inflation Diff.	0.014*	0.007	0.014*	0.015**	0.015**	0.014*
	(1.88)	(0.99)	(1.95)	(2.08)	(2.08)	(1.88)
Currency Misalignment	0.975***	1.087***	1.167***	0.900***	0.901***	1.008***
	(3.92)	(3.59)	(4.08)	(3.73)	(3.74)	(3.46)
Gov. Debt	0.005*	0.004**	0.005**	0.002	0.003	0.005*
	(1.95)	(1.97)	(2.07)	(1.01)	(1.03)	(1.91)
Exr. volatility	0.184**	0.265***	0.196**	0.231***	0.230***	0.182**
	(2.40)	(3.47)	(2.48)	(3.03)	(3.01)	(2.34)
Import Duties Ratio	-0.069**	-0.091***	-0.073**	-0.131***	-0.129***	-0.068**
	(2.24)	(3.34)	(2.33)	(3.37)	(3.33)	(2.20)
Lagged TMI			-0.064			
			(0.59)			
EMU-membership						0.009
						(0.22)
Constant	-0.350	-0.232	-0.388	0.171	0.158	-0.357
	(1.16)	(0.88)	(1.29)	(0.48)	(0.44)	(1.17)
R-Squared (adj)	0.57	0.71	0.57	0.54	0.54	0.56
Observations	92	76/76	91	92	92	92

Results 4B

Table 7: PEAF – Estimation Method and Specification Issues

	Baseline / OLS	SUR	Dynamic	IV (CID; Spread)	IV (Spread)	EA Crisis / Structural Break
Variables	(1)	(2)	(3)	(6)	(7)	(8)
CID	0.150	0.097	0.117	-0.384	0.518	0.155
	(0.34)	(0.24)	(0.25)	(0.24)	(1.13)	(0.35)
Currency Misalignment	1.186	1.913	1.120	1.055	1.388	1.156
	(0.34)	(0.60)	(0.32)	(0.31)	(0.41)	(0.33)
Gov. Debt	0.035*	0.034*	0.035*	0.036*	0.038*	0.035*
	(1.72)	(1.85)	(1.69)	(1.84)	(1.93)	(1.71)
D(EA Spread)	-1.136***	-1.098***	-1.158***	-1.497***	-1.723***	-1.135***
	(5.00)	(2.31)	(4.83)	(3.23)	(5.02)	(4.96)
Collateral Standards	-0.641**	-0.670**	-0.641*	-0.519	-0.646**	-0.642**
	(2.01)	(2.31)	(1.98)	(1.37)	(2.09)	(2.00)
Collateral (Idiosyncratic)	-3.946***	-3.647***	-3.901***	-3.402***	-3.690***	-3.945***
	(3.65)	(3.71)	(3.53)	(2.89)	(3.49)	(3.62)
EU EPU (Expert)	-0.008***	-0.007**	-0.009**	-0.009**	-0.010***	-0.008**
	(2.66)	(2.53)	(2.62)	(2.55)	(3.15)	(2.64)
Lagged PEAF			-0.035			
			(0.34)			
EA Crisis						-0.109
						(0.10)
Constant	-1.675	-1.793	-1.612	-1.518	-1.836	-1.575
	(1.14)	(1.32)	(1.07)	(1.00)	(1.29)	(0.89)
R-Squared (adj)	0.48	0.55	0.47	0.43	0.43	0.47
Observations	76	76/76	75	76	76	76

Additional Analyses

- Additional factors:

  (i) Geopolitical risk (violent conflicts; geopolitical risk index by Caldara and Iacoviello, 2018), (ii) Greek private sector involvement (PSI), (iii) Deauville meeting, where the option of a PSI was first discussed, (iv) stock market volatility in the US or Europe (captured by the VIX/VSTOXX)

- Types of (Greek) policy uncertainty

- Non-linearities: Bailout expectations after Deauville meeting

- ECB's QE (extended Asset Purchase Programme – APP)

Results 5

Table B1: PEAF – Greek Uncertainty (Subcomponents)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CID	0.185	0.293	0.146	0.150	0.125	0.141	0.093	0.038	0.220
	(0.43)	(0.68)	(0.34)	(0.34)	(0.29)	(0.32)	(0.21)	(0.09)	(0.51)
Currency Misalignment	0.893	0.005	-0.457	1.446	0.819	1.544	2.052	0.053	1.240
	(0.26)	(0.00)	(0.13)	(0.41)	(0.24)	(0.44)	(0.56)	(0.02)	(0.36)
Gov. Debt	0.041**	0.041**	0.046**	0.041*	0.042**	0.027	0.038*	0.036*	0.037*
	(2.05)	(2.06)	(2.31)	(1.89)	(2.04)	(1.24)	(1.84)	(1.83)	(1.88)
D(EA Spread)	-0.984***	-1.001***	-1.029***	-1.076***	-1.047***	-1.088***	-1.184***	-1.065***	-0.989***
	(4.18)	(4.36)	(4.61)	(4.49)	(4.48)	(4.61)	(5.03)	(4.70)	(4.23)
Collateral Standards	-0.611*	-0.573*	-0.597*	-0.587*	-0.604*	-0.627*	-0.614*	-0.637**	-0.610*
	(1.96)	(1.84)	(1.94)	(1.80)	(1.91)	(1.96)	(1.91)	(2.03)	(1.95)
Collateral (Idiosyn.)	-4.084***	-4.229***	-3.852***	-3.940***	-3.999***	-4.065***	-3.754***	-4.046***	-4.145***
	(3.85)	(3.99)	(3.69)	(3.64)	(3.73)	(3.71)	(3.38)	(3.80)	(3.90)
EU Policy Uncertainty (Expert)	-0.006*	-0.008**	-0.008***	-0.008**	-0.007**	-0.008**	-0.009***	-0.006*	-0.007**
	(1.95)	(2.44)	(2.72)	(2.54)	(2.21)	(2.60)	(2.76)	(1.83)	(2.02)
GREECE – ECONOMIC POLICY UNCERTAINTY (EPU)									
EPU (all)	-0.011*								
	(1.96)								
EPU (Banking)		-0.011**							
		(2.15)							
EPU (Currency)			-0.007**						
			(2.42)						
EPU (Debt)				-0.003					
				(0.82)					
EPU (Fiscal)					-0.008				
					(1.44)				
EPU (Monetary)						-0.004			
						(0.79)			
EPU (Pension)							0.003		
							(0.79)		
EPU (Tax)								-0.010*	
								(1.78)	
Economic Uncertainty (broad)									-0.011**
									(2.01)
Constant	-1.279	-1.264	-1.801	-1.827	-1.601	-0.876	-2.100	-1.101	-0.984
	(0.88)	(0.88)	(1.27)	(1.23)	(1.10)	(0.49)	(1.34)	(0.74)	(0.67)
R-Squared (adj)	0.50	0.51	0.52	0.48	0.49	0.48	0.48	0.50	0.50
Observations	76	76	76	76	76	76	76	76	76

Results 6

Table B2: PEAF – Economic Policy Uncertainty and Bailout Expectations

	Economic Policy Uncertainty (EPU) measure								
	EU EPU (Expert)	EU EPU (News)	PCA (Expert)	PCA News (News)	Greece EPU (Expert)	Ireland EPU (Expert))	Italy EPU (Expert)	Portugal EPU (Expert)	Spain EPU (Expert)
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CID	0.109	0.220	0.131	0.269	0.177	0.193	0.332	-0.087	0.339
	(0.25)	(0.48)	(0.30)	(0.58)	(0.41)	(0.41)	(0.72)	(0.19)	(0.71)
Currency Misalignment	0.694	3.912	1.119	3.698	1.046	3.351	4.206	3.125	4.239
	(0.15)	(0.82)	(0.24)	(0.77)	(0.23)	(0.69)	(0.92)	(0.66)	(0.92)
Gov. Debt	0.030	0.033	0.031	0.031	0.047*	0.037	0.046*	0.045*	0.039
	(1.26)	(1.32)	(1.33)	(1.26)	(1.94)	(1.49)	(1.96)	(1.87)	(1.59)
D(EA Spread)	-1.149***	-1.049***	-1.216***	-1.028***	-0.936***	-1.198***	-1.336***	-1.108***	-1.048***
	(4.97)	(4.41)	(5.22)	(4.34)	(4.13)	(4.67)	(5.17)	(4.61)	(4.44)
Collateral Standards	-0.667**	-0.468	-0.686**	-0.428	-0.897***	-0.606*	-0.620*	-0.484	-0.765**
	(2.07)	(1.37)	(2.14)	(1.24)	(2.78)	(1.78)	(1.90)	(1.39)	(2.28)
Collateral (Idiosyncratic)	-3.971***	-3.954***	-4.132***	-4.096***	-3.543***	-3.514***	-4.092***	-3.858***	-4.241***
	(3.64)	(3.53)	(3.81)	(3.64)	(3.33)	(3.07)	(3.68)	(3.40)	(3.71)
PSI (Deauvile)	1.130	1.193	0.221	0.191	0.286	-0.031	0.474	0.102	0.138
	(1.05)	(0.98)	(0.38)	(0.31)	(0.50)	(0.05)	(0.72)	(0.15)	(0.20)
EU EPU (γ_1)	-0.002	-0.002	-0.094	-0.094	0.593	-0.395	0.275	-0.124	-0.452
	(0.43)	(0.52)	(0.46)	(0.61)	(0.52)	(0.55)	(0.31)	(0.10)	(0.41)
PSI X EU EPU (γ_2)	-0.009	-0.007	-0.360	-0.224	-4.153***	-1.267	-3.322**	-2.480	-1.823
	(1.27)	(1.11)	(1.42)	(1.15)	(2.71)	(1.00)	(2.18)	(1.26)	(1.17)
EU EPU total &γ_1 + γ_2'	-0.011***	-0.009**	-0.453***	-0.317**	-3.560***	-1.661	-3.048**	-2.605	-2.275**
	(2.84)	(2.18)	(3.05)	(2.27)	(3.37)	(1.49)	(2.47)	(1.66)	(2.06)
Constant	-1.970	-2.365	-2.455	-2.564	-3.421**	-2.737	-3.535**	-3.291**	-2.993*
	(1.20)	(1.48)	(1.59)	(1.62)	(2.14)	(1.65)	(2.29)	(2.05)	(1.92)
R-Squared (adj)	0.48	0.45	0.49	0.45	0.50	0.43	0.46	0.43	0.45
Observations	76	76	76	76	76	76	76	76	76

Results 6

Table B3: PEAF – (Extended) Assets Purchase Programme by the Eurosystem

Variables	(1)	(2)	(3)	(4)
CID	0.186	0.169	0.213	0.244
	(0.39)	(0.37)	(0.42)	(0.51)
Currency Misalignment	0.687	0.883	0.510	0.303
	(0.16)	(0.23)	(0.12)	(0.08)
Gov. Debt	0.032	0.033	0.032	0.033
	(1.38)	(1.40)	(1.38)	(1.41)
D(EA Spread)	-1.135***	-1.135***	-1.138***	-1.147***
	(4.96)	(4.96)	(4.92)	(4.96)
Collateral Standards (μ_1)	-0.656**	-0.642**	-0.687*	-0.729**
	(2.00)	(2.00)	(1.81)	(2.06)
Collateral (Idiosyncratic)	-3.964***	-3.961***	-3.961***	-3.952***
	(3.63)	(3.63)	(3.60)	(3.60)
EU Policy Uncertainty	-0.008**	-0.008**	-0.008**	-0.009**
	(2.32)	(2.19)	(2.25)	(2.26)
APP dummy	-0.127		-0.136	
	(0.22)		(0.23)	
APP monthly purchases		-0.002		-0.003
		(0.18)		(0.34)
Collateral Standards X APP (μ_2)			0.147	0.009
			(0.16)	(0.59)
Collateral Standards total ($\mu_1 + \mu_2$)			-0.540	-0.720**
			(0.69)	(4.27)
Constant	-1.539	-1.570	-1.541	-1.527
	(0.96)	(0.99)	(0.95)	(0.96)
R-Squared (adj)	0.47	0.47	0.46	0.47
Observations	76	76	76	76

Summary and Policy Conclusions

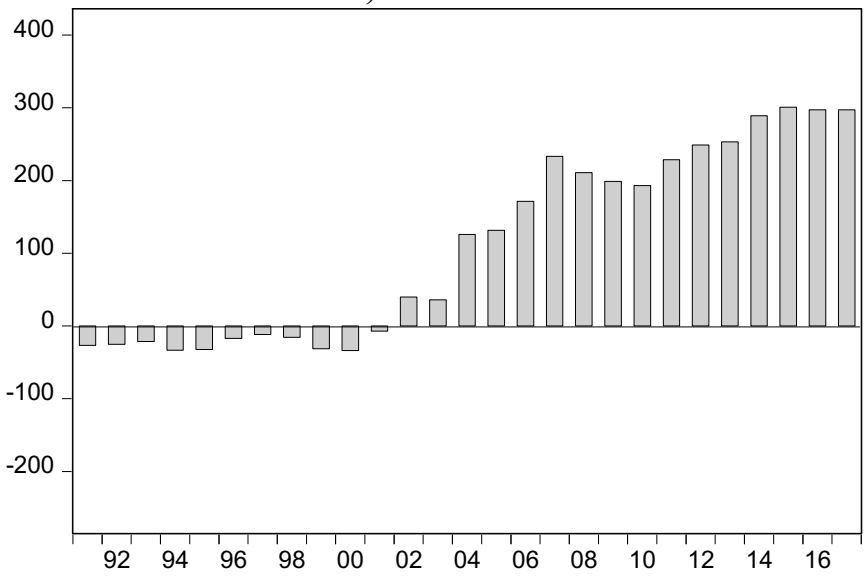
- There exist - at least - two distinctly different types (or channels) of capital flight
- We propose two refined proxies to measure them
- Sizable flight-to-safety after the GFC (> 2% GDP)
- To curb (illicit) capital flows, it may not be sufficient to implement national regulatory reforms (as suggested by the FATF task force)
- It is important to take macroeconomic developments into account that are ultimately driving the capital flight towards Germany

Summary and Policy Conclusions

- Different types of capital flight mostly have different determinants;
- Traditional determinants (e.g. CID) play little role
- TMI mostly driven by macro-fundamentals, and /tax- and tariff circumvention
- PEAF responds to higher default risk, Euro-breakup risk, collateral standards and policy uncertainty.
- Rather than legal limits on T2, the balances can be influenced indirectly.

Figure 1: Germany's Net Current Account Position

a) in bn. USD



b) as percentage of GDP

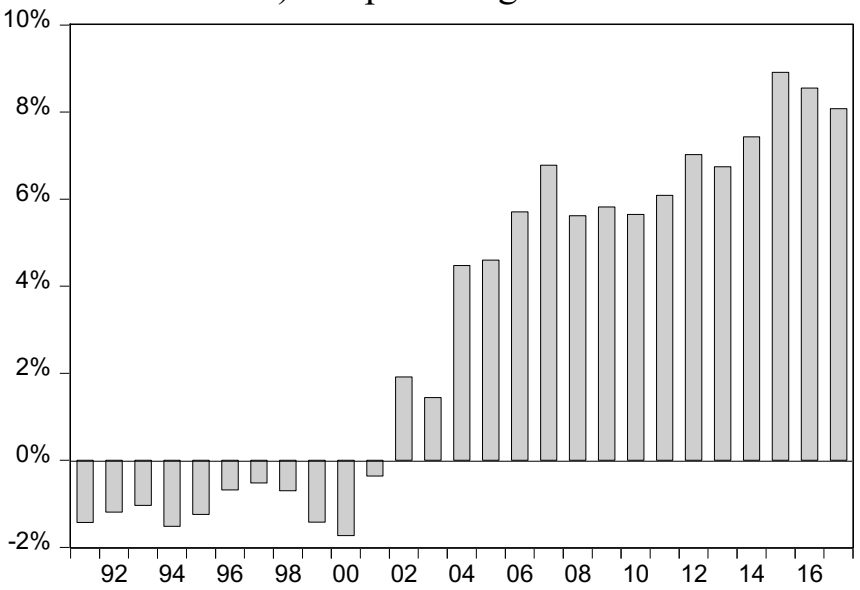
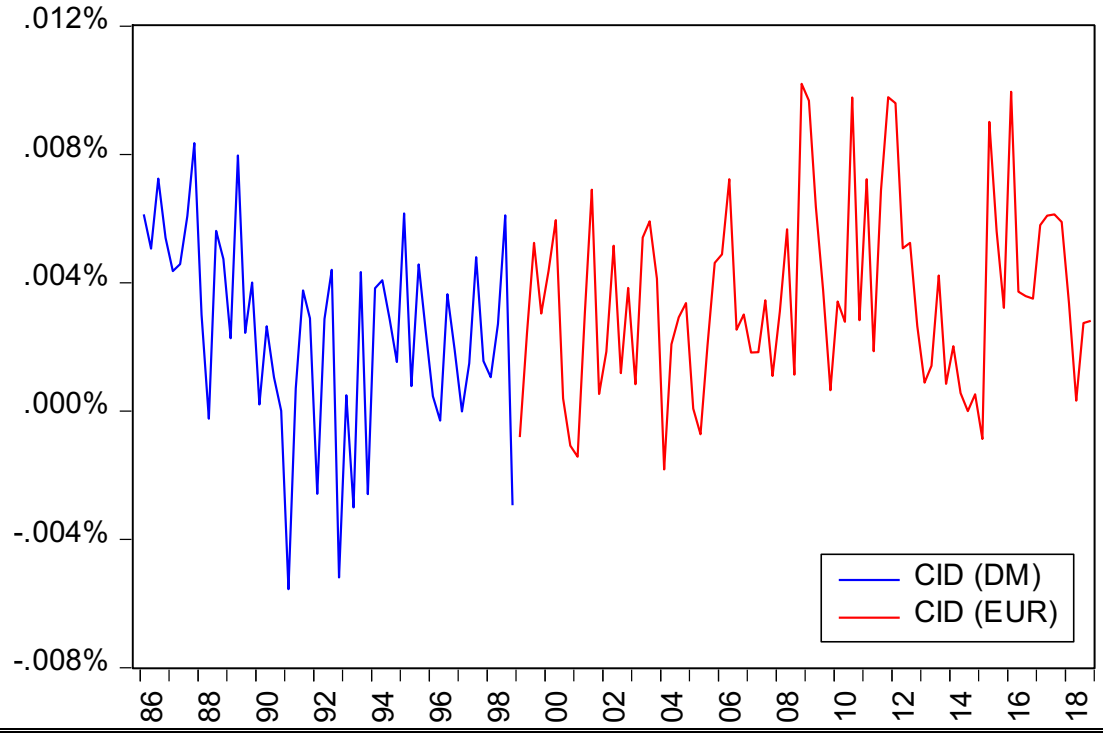


Figure 3: Deviations from the Covered Interest Parity (CID)



Notes: Quarterly average of Germany's daily covered interest differentials (blue: DM; red: EUR). It is given by the nominal interest rate differential (*RDiff*) plus the forward premium (*FP*), i.e. $CID = RDiff + FP = (r-r^*)/(1+r^*) + (F-S)/S$, where r is the London interbank offer rate (DM-based until 1998; then EUR-based), r^* is the US$ LIBOR, F is the forward rate and S is the spot exchange rate (DM/USD until 1998; then EUR/USD). r, r^* and F are annualized three-month rates in daily frequency. Data sources: Bundesbank (Codes: BBK01.ST0268; BBK01.ST0316); ICE Benchmark Administration Ltd. via Datastream (B5DEM3M; B5EUR3M; B5USD3M), Datastream (Codes: WG90DUS; TDEUR3M).