Banking fragmentation
EC Second Meeting

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Research question

- What drives the size and location of EU banks foreign activity ?
- Quantitative assessment of fiscal and regulatory motives

Empirical approach

- Top 20 EU banks country-by-country reporting data of their foreign activity `here`
- Lists of countries and juridictions with lenient tax and regulatory framework `here`
- Gravity equations on turnover `here`

CBCR data

- From January 2015 under the CRD IV, financial institutions of EU member states are required to disclose information about their activity with third country in which they have an affiliate
- 20 large EU banks from 7 EU countries : BBVA, BNPP, BPCE, CA, Commerzbank, Credit Mutuel, Deutsche Bank, HSBC, ING, Intesa Sao, KfW, Lloyds, Nordea, Rabobank, RBS, Santander, SG, Standard Chartered, Unicredit.
- Foreign affiliates activity
- Cross-section for the financial year 2015
- Turnover, employees, profit or loss before tax, tax on profit or loss and public subsidies received.
- Focus on $turnover_{ijk}$

Table: Descriptive statistics at the bank level

Bank	Nbr. of partner countries	Foreign turnover		Domestic turnover	Foreign employees		Domestic employees
		Mean	Max		Mean	Max	
BBVA	21	788	6983	6785	4926	38499	32903
BNPP	62	461	4950	14305	2009	17973	56981
BPCE	58	81	2548	19118	200	2796	91232
Barclays	37	520	8488	21090	2181	31221	48622
CA	39	222	2790	9021	870	10348	37559
Commerzbank	10	298	1086	8082	938	6251	33925
Crédit Mutuel	15	185	1203	13535	864	7071	65828
Deutsche Bank	55	330	6307	10510	1006	11368	45757
HSBC	57	782	14079	13602	3760	33062	44559
ING	34	331	3123	5185	1121	9645	14586
Intesa Sao	28	154	780	19323	969	5035	61243
KfW	1	21	21	551	22	22	556
Lloyds	7	85	128	21780	157	316	87652
Nordea	16	495	2605	2893	1420	8288	6957
RBS	43	58	763	15161	634	14567	64567
Rabobank	38	108	1461	8873	313	3989	35041
SG	65	208	1710	12097	1232	16005	51612
Santander	33	1222	11720	5551	4676	44957	29838
Standard Chartered	57	234	2774	2736	1499	19731	1853
Unicredit	23	503	3452	9252	3168	17653	47865

Descriptive statistics at the country level

Figure 1: Repartition of banks in partner countries
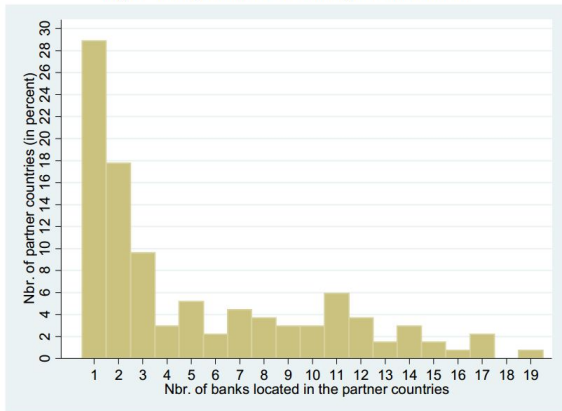
- ▶ 135 active partner juridictions/ countries.
- ▶ 30% have only one foreign affiliate
- ▶ In turn, some countries attract many foreign affiliates : US (19 banks), Germany, Luxembourg, Switzerland (17 banks)
- ▶ Lots of zero in the dataset !

The ZERO information

- The absence of activity in a country/ juridiction is an insightful information
- How to deal with logs of zero ?
- Poisson pseudo maximum likelihood (PPML)
- Three samples :
  1. Unbalanced sample of 135 partners * 20 banks
  2. Balanced sample with 135 partners * 20 banks including 0 activity
  3. Balanced sample with 236 partners * 20 banks including 0 activity

List of countries and juridictions

- ▶ No universal list : FSI, OECD, UNCTAD, EP, EC, GAO, FTSE, IMF, BIS, EU investigations ⇒ Which one ?
  - ▶ Out of 135 partners, 29 are classified in one list at least ⇒ which juridiction appears in most lists ?
  - ▶ Bahamas, Panama and Cayman Islands recorded in 9 lists
  - ▶ Bermuda : 8 lists
  - ▶ Isle of Man, Jersey, Guernsey or Monaco : 7 lists.
  - ▶ 9 banks have some activities in Jersey, 8 in Monaco and 7 in Guernsey or Mauritius
- ▶ Cut off of TH status above a presence in N lists

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Intermediate sample

Table 2: Baseline specification and intermediate sample

|	All tax havens		More than 2 lists		More than 3 lists		More than 4 lists		More than 5 lists		More than 6 lists	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
$\log(GDP_j^{percap})$	1.2584***	(0.1233)	1.2115***	(0.1235)	1.2371***	(0.1240)	1.2894***	(0.1306)	1.2724***	(0.1288)	1.2894***	(0.1287)
$\log(Pop_j)$	0.7278***	(0.0550)	0.7660***	(0.0599)	0.7518***	(0.0608)	0.7956***	(0.0645)	0.8027***	(0.0650)	0.6911***	(0.0795)
$\log(dist_{i,j})$	0.0884	(0.1866)	0.1242	(0.1798)	0.0178	(0.1343)	-0.0024	(0.1127)	-0.0197	(0.1079)	0.0447	(0.1539)
$Contig_{i,j}$	0.4410	(0.5196)	0.5080	(0.4940)	0.6380	(0.4820)	0.5787	(0.4473)	0.5585	(0.4436)	0.5449	(0.4749)
$L_{i,j}$	1.6915***	(0.3138)	1.7768***	(0.3142)	1.7910***	(0.3125)	1.7962***	(0.3190)	1.8118***	(0.3220)	1.7633***	(0.3114)
$EEA_{i,j}$	0.7895**	(0.3910)	1.0342**	(0.4630)	0.7396**	(0.3785)	0.8596**	(0.3792)	0.8463**	(0.3745)	0.7353**	(0.3749)
TH_j	0.4865	(0.5191)										
$TH_j^{>2lists}$			0.9281*	(0.5317)								
$TH_j^{>3lists}$					1.0044*	(0.5852)						
$TH_j^{>4lists}$							1.7576***	(0.5372)				
$TH_j^{>5lists}$									1.8967***	(0.5013)		
$TH_j^{>6lists}$											0.4735	(0.5795)
No. obs.	2740		2740		2740		2740		2740		2740	
Log Likelihood	-312921		-306973		-306449		-298132		-296058		-315178	
pseudo-R2	0.2547		0.2634		0.2689		0.3091		0.3186		0.2434	
AIC	625896		614000		612953		596319		592170		630410	
BIC	626055		614160		613113		596479		592330		630570	

Large sample

Table 3: Baseline specification and large sample

	All tax havens		More than 2 lists		More than 3 lists		More than 4 lists		More than 5 lists		More than 6 lists	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
$\log(GDP_j^{percap})$	1.3465***	(0.1163)	1.2972***	(0.1126)	1.3209***	(0.1158)	1.3691***	(0.1239)	1.3527***	(0.1220)	1.3834***	(0.1260)
$\log(Pop_j)$	0.7651***	(0.0533)	0.8019***	(0.0578)	0.7859***	(0.0594)	0.8288***	(0.0630)	0.8354***	(0.0636)	0.7264***	(0.0781)
$\log(dist_{i,j})$	0.1024	(0.1884)	0.1352	(0.1807)	0.0243	(0.1351)	-0.0003	(0.1121)	-0.0181	(0.1078)	0.0535	(0.1552)
$Contig_{i,j}$	0.4302	(0.5165)	0.5053	(0.4891)	0.6378	(0.4789)	0.5728	(0.4419)	0.5522	(0.4383)	0.5411	(0.4691)
$L_{i,j}$	1.7118***	(0.2215)	1.8044***	(0.3209)	1.8242***	(0.3186)	1.8256***	(0.3242)	1.8414***	(0.3271)	1.7945***	(0.3180)
$EEA_{i,j}$	0.8769**	(0.3871)	1.1222**	(0.4596)	0.8135**	(0.3763)	0.9311**	(0.3745)	0.9156**	(0.3707)	0.8210**	(0.3681)
TH_j	0.5370	(0.5206)										
$TH_j^{>2lists}$			0.9712*	(0.5319)								
$TH_j^{>3lists}$					1.0619*	(0.5926)						
$TH_j^{>4lists}$							1.8586***	(0.5198)				
$TH_j^{>5lists}$									1.9908***	(0.4862)		
$TH_j^{>6lists}$											0.5990	(0.5738)
No. obs.	4420		4420		4420		4420		4420		4420	
Log Likelihood	-320775		-314545		-313843		-304698		-302687		-323419	
pseudo-R2	0.2566		0.2642		0.2700		0.3118		0.3208		0.2441	
AIC	641605		629145		627740		609450		605428		646892	
BIC	641777		629317		627912		609622		605601		647064	

- Preliminary evidence that fiscal consideration play out in foreign activity of EU banks

Consistent with findings on BOP data (Lane and Milesi-Ferretti, 2016)

Figure 4. Changes in external assets and liabilities, 2007-2015 (percent of world GDP)
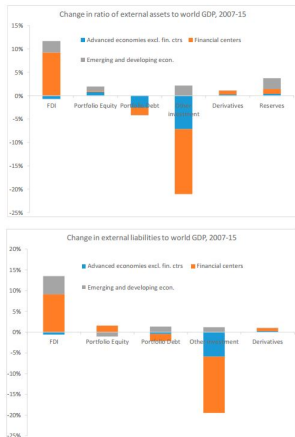
Financial Centers used as pass-through juridictions : letter-box companies (SPE) and profit shifting

To do list

1. How to address suspicions of misreporting ?
   - KfW present in one country only. In fact activity reported only by its banking branch
   - Lloyds : only 7 countries.
2. Disentangle the motivation behind tax considerations and regulatory arbitrage
3. Other controls
4. Expand the data set