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Donato Masciandaro

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Bank Secrecy and Capital Flows: Does International Stigma Matter?

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Olga Balakina and Donato Masciandaro

This study analyzes cross-border capital flows in order to verify the existence and direction of the so-called stigma effect: Is soft regulation promoted by international organizations against banking secrecy effective? We test whether the FAFT blacklisting and delisting events are effective sticks and carrots for targeted countries in influencing their cross-border capital flows. The tests are based on a theoretical framework where the stigma effect holds if doing business with a listed country produces non-linear monetary and/or reputational costs. Using annual panel data for the period 1996-2007, we applied our model to 126 countries worldwide. We find evidence that the stigma mechanism can affect banking flows, provided that some conditions hold. On one side, the relevance of the stigma effect seems to depend on the efficiency of international capital markets; on the other, on specific features of the listed/delisted country: regulatory lightness, banking profitability, per capita growth.

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1. Introduction

This paper looks at cross-border capital flows in order to verify the existence and direction of the so-called stigma effect, i.e. if international soft regulation addressing banking secrecy is relevant in shaping the pattern of the capital movements.

Country compliance with the international standards of the policy named Anti-Money Laundering and Combating the Financing of Terrorism – **AML/CFT** thereafter –is playing an increasing role in national policymaking all around the world.

Established by the Financial Action Task Force (FAFT) in 1999, today the international standard consists of 49 Recommendations, dealing respectively with anti-money laundering (forty) and combating terrorist financing (nine). Since 2000, FAFT has periodically issued lists – **Blacklists** thereafter – of Non-Cooperative Countries and Territories (**NCCTs**), which identify the jurisdictions that FAFT believes to be non-compliant with international best practices.

In order to prevent and combat illegal financial flows, international organizations do not have hard legal commitments at their disposal; therefore they resorted to blacklisting as a soft law practice. The aim of a list procedure is to put Black-Listed Countries (**BLCs**) under intense international financial pressure, by employing the "name and shame" approach in order to produce the so-called ***stigma effect*** (Masciandaro 2005a and 2008): an inverse relationship between blacklisting and international capital flows. Two sources of pressures on a BLC are expected to work.

On the one side, most countries evaluate financial transactions in and out of a BLC to be suspicious activities, which trigger more stringent and costlier scrutiny. Banks operating in multiple jurisdictions are increasingly preoccupied by **monetary costs**, including compliance costs. The AML/CFT cost of compliance seems to continue to rise, at an average rate of 45 per cent (KPGM 2011).

On the other side, financial transactions with a BLC can produce **reputational costs**. Suspicion financial transactions are increasingly under the attention of supranational organizations, national policymakers and regulators, and international media as well. For a banking institution, engaging in opaque financial transactions can increase reputational risks. Just to cite the more recent and meaningful episodes, it is worth mentioning that in 2012-13 various international banks – Royal Bank of Scotland, Standard Chartered, Unicredit Group, Barclays, Hong Kong Shanghai Banking Corporation (HSBC), JPMorgan Chase, Citigroup among others – were investigated for alleged illicit financial transactions and/or fined, and/or solicited to improve compliance (Powell 2013). Transactions with BLCs can produce similarly negative reputational effects.

Because of the potential damages of the stigma effect, international banks may have a strong incentive to avoid business with BLCs.

In the same vein, the stigma effect can be considered a particular case of the "name and shame" approach – i.e. institutional organizations disclose ongoing non-compliance to the public and supplement disclosure with a form of official opprobrium (Brummer 2012), which is increasing applied in the international context to address policy coordination problems between national policymakers and regulators (Greene et Boehm 2012).

But both the existence and the direction of the stigma effect are far from obvious. As it was pointed out in previous studies – Masciandaro 2005a and 2008 and Masciandaro et al. 2007 – the AML/CFT non-compliance attitude of a country can be attractive under specific conditions, such as the potential existence of worldwide demand for non-transparent financial transactions. A BLC can be attractive for banking and non-banking institutions seeking to promote lightly regulated products and services to their wealthy and/or sophisticated clients. The international banking industry can have incentives to take advantage from the existence of BLCs.

Therefore the stigma effect, meant to be a stick, can turn into a carrot. The ***stigma paradox*** can thus emerge, as a peculiar case of regulatory arbitrage that creates the so-called "race to the bottom" strategy, which aims to elude more prudent regulation (Barth et al. 2006). This strategy can sensibly influence the international capital flows (Houston 2011).

Finally we have to consider a third possibility: the behavior of the international banking institutions in the cross-border business can be simply driven by motivations other than the stigma effect (Kurdle 2009). In this case, ***stigma neutrality*** holds.

In general, the relevance of the stigma effect becomes increasingly important in current times, when policymakers, regulators, and scholars are seeking to understand which institutional and regulatory, as well as historical, features can attract or discourage international capital flows (Papaioannu 2009, Reinhardt et al. 2010, Houston et al. 2011, Qureshi et al. 2011, Milesi Feretti and Tille 2011, Chitu et al. 2013). The financial effects of regulation can be particularly relevant when the AML/CFT rules are under discussion; more recent international cases concern the Vatican State and Cyprus as well.

This paper aims to address, theoretically and empirically, trend, magnitude and robustness of the stigma effect, by focusing on the financial effects of FAFT blacklisting on the relationships between international financial institutions and BLC banking systems. So far empirical evidence is sparse and mixed (Kurdle 2009) – with cases of stigma effect, stigma paradox and stigma neutrality being detected – and therefore inconclusive.

To understand what kind of influence FAFT blacklisting can have over BLCs, the research focuses on how international capital flows respond to the stigma signals provided by the FAFT. The stigma effect is based on the assumption that blacklisting procedures alter the attractiveness of a country. The non-compliance of a country with AML/CFT can decrease – listing option – or increase – delisting option – overall financial transactions (volume effect) and/or its efficiency (cost effect). We transform these intuitions into a motivation theory, and we find that, in order to uncover the stigma effect, we need asymmetry between the costs and benefits in doing banking business with a risky country.

Following the suggestions of our theoretical framework, our aim is find evidence of whether and to what degree FAFT blacklisting deters the volume of the financial transactions, using econometric panel-data analysis. Why blacklisting can have deterring effects? The crucial point is that the stigma is a signal that enables to distinguish between compliant and non-compliant countries, and that non-compliance is costly, due the existence of higher monetary costs and/or higher reputational costs. Consequently, international banks allocate their activities accordingly. The inverse effect on costs is true when delisting procedures are implemented.

2. Related Literature

Blacklisting procedures have been introduced in 2000 and since that time relatively few economic studies on the stigma effect have been produced.

The first theoretical and empirical discussion of the stigma effect as a controversial issue was made in Masciandaro (2005a). The study highlighted the fact that in the aftermath of 9/11, growing attention was being paid to the role of lax financial regulation in facilitating money laundering and the financing of terrorism (criminal finance). Two interacting principles are commonly described in the debate on the relationship between money laundering and regulation: a) illegal financial flows are facilitated by lax financial regulation; b) countries adopting lax financial regulation do not co-operate with the international effort aimed at combating criminal finance (International Monetary Fund 1998, Holder 2003).

These two principles characterize the mandate of the Financial Action Task Force (FATF) for the prevention of money laundering and terrorism finance. On the one hand, to address the problems associated with criminal finance risks, it is fundamental to develop legal standards for regulation. FAFT standards (Recommendations) have become the benchmark for measuring the degree of laxity of AML/CFT financial regulation in every single country setting.

On the other hand, faced with the problem of the lack of international harmonization and coordination, in order to monitor the compliance of countries with international standards the FAFT uses a list of specific criteria — consistent with the standards — to determine the BLC jurisdictions, commonly described as blacklists (Alexander 2001, Masciandaro 2005a, and Verdugo Yepes 2011). Blacklisting represents the cornerstone of the international effort to reduce the risk that some countries or territories can turn into havens for criminal financial activities, postulating the stigma effect, i.e. the threat for a listed country to face a drop in capital inflows and then the erosion of its competitive advantage (Hampton and Christensen 2002).

Here the possibility of the stigma paradox occurs. Focusing on the supply of regulation, the study notes that various jurisdictions, notwithstanding the blacklisting threat, delay or fail to change their financial rules, confirming their non-cooperative attitude (*reluctant friend effect*). Furthermore, notwithstanding the fact that most jurisdictions in the blacklist have enacted regulatory measures in an effort to be removed from it, it remains to be proven that regulatory reform is sufficient to guarantee that a country has really changed its non-cooperative attitude, decreasing its appeal for black capital flows (*false friend effect*). The existence of the two consequences can nullify the stigma effect, producing stigma neutrality or the stigma paradox.

The theoretical analysis under discussion develops the assumption that lax financial regulation may be a strategic dependent variable for national policymakers seeking to maximize the net benefits produced by such policy, just like with any other public policy choice. Therefore, given the structural features and endowments of their own country, certain policymakers may find it profitable to adopt financial regulations which accommodate

the needs of opaque financial flows – whose existence is given by assumption – and therefore may choose to be a *de facto* BLC jurisdiction.

The potential incentives to be a BLC have been empirically tested using cross-section estimates, finding that the probability of being a BLC jurisdiction may be linked to specific country features (Masciandaro 2005a, Verdugo Yepes 2011, Schwarz 2011). The rationale for the strategy of being a BLC has been further explored from a theoretical point of view (Unger and Rawlings 2008, Gnutzmann et al. 2010). Recently, the interactions between the FATF and national governments have been analyzed using a principal-agent framework (Ferwerda 2012).

The economics of the stigma effect is analyzed in depth in Picard and Pieretti (2011), who focused the incentives of that banks located in a BLC have for complying with the AML/CFT regulation. The blacklisting practice is interpreted as an international pressure policy on the BLC bank and the stigma effect holds when the pressure policy is strong enough. More precisely, the stigma effect becomes effective when the reputational costs linked with the blacklisting procedures – which can harm the bank's costumers – are higher than the costs for complying with AML/CFT regulation. In the model, international policymakers act efficiently and thus implement optimal blacklisting pressure. In the real world, non-efficient policymakers are likely to exist; therefore blacklisting pressure can be insufficient and the BLC will continue to attract financial flows, creating the stigma paradox.

The possibility of the stigma paradox has been empirically demonstrated in Rose and Spiegel (2006). Using bilateral and multilateral data from over 200 countries into a gravity framework, the study analyzes the determinants of the international capital flows, finding that for a country status of tax haven and/or money launderer assigned by the international organizations can produce beneficial effects. The analysis confirmed that the desire to circumvent national laws and regulations can be a driver in shifting financial assets abroad.

The search for the impact of the blacklisting was also implemented in Kurdle 2008. Using ARIMA techniques on a sample of the blacklisted countries, the study analyzes the financial effects of being listed and delisted. The results are inconclusive: all three effects – stigma effect, stigma paradox and stigma neutrality – can be found, depending on the time and the observed jurisdiction.

3. The Motivating Theory

In order to highlight the key elements of determining the possible relationship between capital flows and FAFT blacklisting we shall use a skeletal model, in order to obtain theoretically consistent baseline specification for econometric testing.

We build on the framework introduced by Masciandaro (2005a) and (2008), and we modify it to explain the incentives a bank has to do business with a BLC. We ask the following question: Under which conditions the potential monetary and reputational costs associated to blacklisting risks do provide incentives for an international bank to change its business decisions?

Let us assume a world with *n* countries and perfectly competitive markets for banking, where *n-1* countries define and implement international AML/CFT regulation to supply public goods – such as financial stability and integrity – while the free-riding country *F* designs non-compliant regulation.

The country *F* faces a risk to be blacklisted by the other *n-1* countries. In other words, there is a probability different from zero that the international community – i.e. all countries except country F – changes the global regulatory environment, introducing blacklisting and applying the name and shame approach.

In order to develop a more general analysis of the issue, and considering that we are investigating an international financial environment where also expectations matter, we define a country as BLC when its probability to be listed is different from zero. In other words, financial markets evaluate the risk of a country to be AML/CFT non-compliant. This hypothesis is consistent with the present world situation, where AML/CFT compliance is relatively low (Verdugo Yepes 2011).

Blacklisting procedures imply banning and obstacles for the bank to do business with BLCs, creating an indirect enforcement device on banking firms (Fitzgerald 2004). When a country *n* is listed, the Financial Intelligence Units (FIUs) of the *n-1* countries issue guidelines to address the risks banks can face when operating with jurisdictions characterized by AML/CFT deficiencies. Usually the FIU guidance lists the obligations of the banks to comply with reinforced due diligence rules (see for example FinCEN 2011).

It is important to highlight that the listing – or delisting – event can hit both inflows and outflows of the BLC, essentially for three reasons. First of all high – or low – supervisory costs bore by the *n-1* countries are applied to all the banks, whatever its residence is. Secondly an international bank can do its banking business with the BLC managing both inflows and outflows. Thirdly the money laundering financial flows is characterized *per se* by mechanisms involving both outflows and inflows of capital.

Therefore when a country is blacklisted its capital flows suffer higher regulatory costs as well as the reputation of bank owners and managers are at risk. The probability for a BLC to be effectively included in the blacklist is equal to *p*, where *0<p<1*.

In this world an international bank is active, and its overall volume of business is equal to *W=1*. The international banker can decide to allocate a share Y of its business to the country F, *where 0<Y<1*. Given the

perfect competition in the banking world market, the international bank is price-taker – i.e. the returns on the banking activities are given and the banker can choose just its optimal quantity choices.

In determining the level of its BLC business - which obviously represents a capital flow for country F - the banker takes into account both expected benefits and losses.

The expected benefits *B* to the banker depend on the volume of the business activity in the two relevant markets, country *F* (*Bf*) and the rest of the world (*Bw*), respectively. Given business activity, in each market banking benefits also depend on the expected net rate of return. The net rate of return is different between the two markets: let us suppose that parameter *b*, with $b > 0$, represents the return differential -- the *profitability factor* -- between investing in country F and otherwise.

The possibility of a positive excess return on investment in a BLC can be justified by the widespread existence of capital owners which prefer non-transparent regulations, as it has already been empirically tested (Rose and Spiegel 2006) and by the fact that financial firms can be knowingly or unknowingly involved in money-laundering operations, where money laundering is a typical financial sector crime[1]. The existence of a demand for opaque financial services explains also the fact that some countries and territories – in our model country F – can find it optimal to strategically design and implement lax AML/CFT regulations (Masciandaro 2005a and 2008, Unger and Rawlings 2008, Gnutzmann et al. 2010, Picard and Pieretti 2011).

Similarly to Rose and Spiegel (2006) and Picard and Pieretti (2011) we suppose that the bank wishes to please heterogeneous clients. More precisely – as in Picard and Pieretti (2011) – we assume that there are two classes of customers: ordinary costumers and special costumers. Special clients seek more privacy and opaqueness than ordinary ones. The special clients' demand for banking services can be considered to be more sophisticated and therefore more profitable for the international bank, i.e. the corresponding net expected return is higher.

Special clients can generate both inflows and outflows from country *F*, given that opaqueness-seeking clients are likely to exist elsewhere (Brada et al. 2011). Similarly to Rose and Spiegel (2006), we take into account that the expected return of moving assets to a BLC has to be greater than all corresponding costs but AML/CFT regulatory costs. Alternatively, we can suppose that clients delegate portfolio diversification to the bank, by allocating between transparent and opaque transactions, where relative shares depend on their own preferences – in Brada et al. (2011) special clients can diversify using domestic bank, foreign banks and also setting up firms overseas.

Therefore, assuming for simplicity that the normal worldwide return – that is, in any country different from *F* - is zero, and taking into account that investing in country *F* means implies the risk of being blacklisted, banking benefits are as follows:

$$B_F = (1+b)(1-p)Y \qquad (1)$$

$$B_W = (1-Y) \qquad (2)$$

[1] On the measurement of money laundering through banking intermediaries see Ardizzi et al. 2013.

In parallel, expected costs C for the banker depend on the volume of business activity in country *F*, taking into account AML/CFT regulatory costs. Everywhere but in country F, AML/CFT compliance costs are proportional with respect to business activity through a parameter $c \geq 0$. AML/CFT regulation produces costs for banks, given that intermediaries now have to monitor transactions and report suspicious activities to government agencies. It is likely that banks act rationally and strategically when faced with AML/CFT compliance costs (Takàtz 2011).

In country F, regulatory costs depend on the blacklisting event. If the BLC is not effectively listed, the compliance cost parameter is by definition smaller than *c* (again, for the sake of simplicity, it equals zero). Therefore parameter *c* measures the *regulatory lightness factor*: large AML/CFT costs increase the incentive for doing business with the BLC. If listing occurs, the bank will suffer from non-linear costs, given the existence of both greater supervisory costs and of reputational costs (Picard and Pieretti 2011). The sensitivity of the bank to incur into additional costs for doing business with a BLC depends on parameter *d* – the *reputational factor* - with $d > 0$.

Therefore banking costs are as follows:

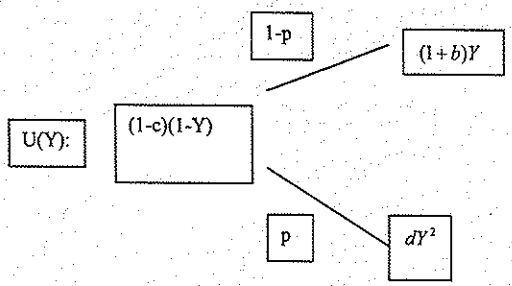
$$C_W = c(1-Y) \qquad (3)$$

$$C_F = pdY^2 \qquad (4)$$

The banker, modelled as a risk-neutral agent, can now define the optimal level of activity in the BLC. The banker's utility function *U* can be specified as (Figure 1) :

$$U(Y) = (1-c)(1-Y) + (1-p)(1+b)Y - pdY^2 \qquad (5)$$

Figure 1 Defining the Optimal Level of International Bank Flows with a BLC Country



And the optimal level Y^* of foreign activities in country F is equal to:

$$\frac{\partial U}{\partial Y} = -(1-c) + (1-p)(1+b) - 2pdY = 0 \qquad (6)$$

$$Y^* = \frac{(1-p)(1+b)-(1-c)}{2pd} \qquad (7)$$

Capital flows between the international bank and the BLC essentially depend on four factors, which we can be summarized as follows:

$$\frac{\partial Y^*}{\partial b} = \frac{(1-p)}{2dp} > 0 \qquad (8)$$

$$\frac{\partial Y^*}{\partial c} = \frac{(1-p)}{2dp} > 0 \qquad (9)$$

First of all, expressions (8) and (9) show that two factors have unambiguous catalytic effects on capital flows: excess returns and compliance costs. Both *higher profitability* – greater profitability factor *b* – in investing in the BLC and *higher regulatory gains* – greater regulatory lightness, i.e. a larger *c* – translate into higher levels of capital flows.

Furthermore:

$$\frac{\partial Y^*}{\partial d} = \frac{p - b(1-p) - c}{2d^2 p} < 0 \quad \text{iff } (b+c) > p(1+b) \qquad (10)$$

Secondly, from expressions (10) it is evident that two above-mentioned capital flow catalysts also determine the effects of blacklisting costs for the bank. The stronger is the catalyst, the stronger is the negative association of capital flows with higher listing costs suffered by international bank. Therefore a larger reputational effect *d* is more likely to occur.

Finally let us zoom in on our key variable: the probability that the non-compliant country will be listed, i.e. *the blacklisting factor*. It is evident that a higher probability can produce low levels of capital flows – the stigma effect – under well-defined conditions. More precisely, the growth of banking flows is inversely correlated with changes in the probability of blacklisting:

$$\frac{\partial Y}{\partial p} = \frac{(1-c)-(1+b)}{2p^2 d} < 0 \qquad (12)$$

$$\frac{\partial^2 Y}{\partial^2 p} = \frac{c-b}{dp^3} > 0 \qquad (13)$$

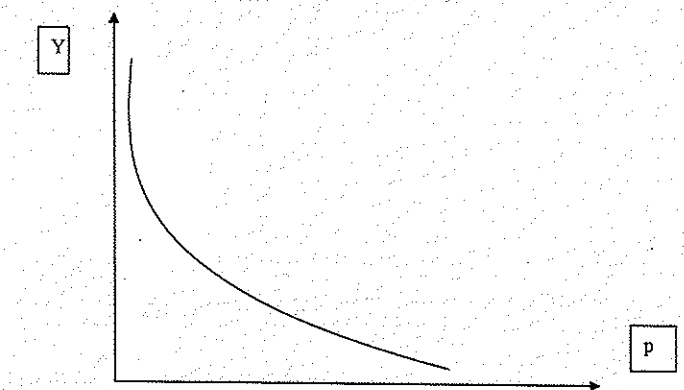


Figure 2 International Bank Flows and Blacklisting Risk

The economics is clear. First of all, given the non-linearity of the blacklisting costs – expression (4) – the listing event unambiguously reduces the capital flows of the BLC. The stigma effect holds. Secondly the relative dimension of two catalysts – the regulatory arbitrage factor and the profitability factor – are relevant in determining the size of the stigma effect: the capital flow sensitivity will be greater, the higher the regulatory factor is. Otherwise the stigma paradox effect can emerge.

In fact the stigma effect is evident only if doing banking business in a BLC produces asymmetric effects in benefits and costs, i.e. if benefits are linear while costs are non-linear. If we suppose that the bank enjoys non-linear benefits in expanding its business with the BLC:

$$B_F = (1+b)(1-p)Y^2 \qquad (14)$$

In this case the optimal level Y^{**} of foreign activities in country F is equal to:

$$Y^{**} = \frac{(1-c)}{2[(1-p)(1+b)-pd]} \qquad (15)$$

Now the relationship between capital inflows and the probability of being blacklisted is ambiguous:

$$\frac{\partial Y^{**}}{\partial p} = \frac{(1-c)[d+(1+b)]}{[(2d^2+4(1+b)d+2(1+b)^2)p^2-(4(1+b)d+4(1+b)^2)p+2(1+b)^2]} \qquad (16)$$

The blacklisting threat could not be strong enough to stave off the appetite of the international bank for expanding its business in BLCs. Therefore the answer to the initial question – under which conditions the stigma effect holds – can be found in the asymmetry between non linear costs and linear benefits for an international bank in doing business with a BLC, while at the same time the compliance costs of international AML/CFT regulation are linear. In other words the features of the stigma effect are conditioned on the relevance of at least three factors: the compliance costs of the best practices in the international AML/CFT regulation; the profitability and costs in doing business with a BLC.

This answer onfirmed in a framework focused on the banking strategy some specific results obtained analysing the government strategy in designing AML/CFT policies, i.e. that the stigma effect holds when the opportunity costs of blacklisting are larger than compliance costs (Masciandaro 2005a and 2008, Picard and Pieretti 2011). Otherwise the effect on the banking asset distribution is ambiguous from both a theoretical (Rose and Speigel 2006) and an empirical (Kudrle 2009) perspective.

4. Data and Summary Statistics

4.1 Data Sources

Our study compiles data from three main sources:

1. International banking statistics published by the Bank of in International Settlements (BIS), which provides data regarding international banking flows for 126 countries (the list of the countries can be found in Appendix 1) for the period from 1996 to 2007. The BIS Locational Banking Statistics publishes quarterly information on all balance sheet positions (and some off-balance sheet positions in the area of trustee business) which represents financial claims or liabilities vis-à-vis non-residents, as well as financial claims or foreign currency liabilities vis-à-vis residents. Banks report data to the central bank or monetary authority of the country where they are headquartered, and national aggregate data are then transmitted to the BIS. The main dependent variable – Banking Flows – is constructed using data on Total Foreign Claims from the BIS consolidated banking statistics database. The relevant data are contained in Table 9A:S (Total foreign claims, immediate borrower basis).

The bank flow variable is equal to difference between the logarithm of total foreign claims in period $(t+1)$ and the logarithm of total foreign claims in period (t):

$$BankFlow_{i,t} = \log\left(\frac{TFC_{i,t+1}}{TFC_{i,t}}\right) \qquad (17)$$

where $TFC_{i,t}$ is the value of Total Foreign Claims in year t for the country i.

Foreign claims are financial claims on residents of countries other than the reporting country, i.e. claims on non-residents of the reporting country. In the CBS, foreign claims are calculated as the sum of cross-border and local claims (in all currencies) of reporting banks' foreign affiliates or, equivalently, of international claims and local claims denominated in local currencies.

2. Martin Čihák, Asli-Demirgüç-Kunt, Erik Feyen, and Ross Levine's "Global financial development Database" (GFDD) dataset. This database is an extensive dataset of financial system characteristics for 205 countries from 1960 to 2010. The database enables to measure the size of financial institutions and markets, the degree to which individuals can and do use financial services, the efficiency of financial intermediaries and markets in intermediating resources and facilitating financial transactions, the stability of financial institutions and markets, and macroeconomic stability.

3. Barth J.R., Caprio G. Jr., Levine R. "Banking Regulation Survey" 2000, 2003, 2007, provide data for construction of the Overall Activities Restrictions Index and Independence of Supervisory Authority Index.

Overall Activities Restrictions Index is a dummy variable taking the value of 1 if the banks of a country are subject to some restrictions in their operations, and 0 if they are totally free in their investment choices.

The Independence of Supervisory Authority Index expresses the extent to which the supervisory authority is independent from the government and legally protected from the banking industry.

In addition to three main datasets mentioned above, we have also used a variety of other data sources. Specifically, we use Masciandaro et al. 2013 for banking sector supervision and regulation variables.

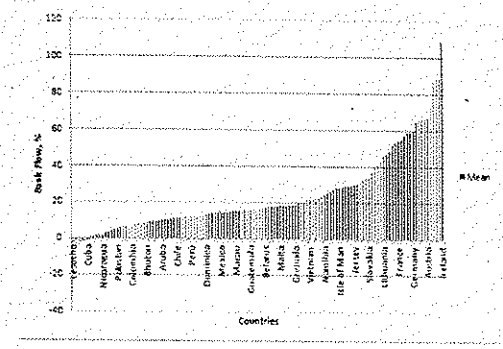
4.2 Variables

4.2.1 International flows measures

The main goal of this research study is to investigate the effect of soft regulation on the international capital flows of Latin American countries. The international capital flow measure is used as dependent variable. We use growth rate of the measure from the BIS data: total foreign claims. The construction of the BankFlow variable is described in equation (17).

The Graph 1 represents the average value of International Bank Flows for all 126 countries for the period from 1996 till 2007.

Graph 1. Average value of International Bank Flow, 1996-2007



4.2.2 Blacklisting

The variable of interest in this research study is the dummy variable -- FATF -- which is equal to 1 if the country is listed in the Financial Action Task Force list of "Non-Cooperative Countries or Territories" and 0 if the country is comply with FATF conditions. FATF variable was constructed using Financial Action Task Force reports published annually by the FATF, precisely in June. The name of the report is "Review to Identify Non-Cooperative countries or Territories: Increasing The Worldwide Effectiveness of Anti-Money Laundering Measures". Report covers previous 12 months, i.e. report published in June 2009 represents blacklisting status of the country during 12 month starting from June 2008 till June 2009. We assigned status listed to the country in year (t), if in June of $(t-1)$ country was in the FATF list.

The Financial Task Force List consists of countries perceived to be non-cooperative in the global fight against money laundering and terrorist financing. To evaluate the involvement of a country in terrorist financing and

money laundering FATF has created a list of recommendations, Forty recommendations on money laundering and the 9 Special Recommendations on Terrorist Financing. The FATF Blacklist, list of "Non-cooperative Countries and territories", includes countries which FATF members believed were uncooperative with other jurisdictions in international effort against money laundering and terrorism financing. The lack of cooperation manifests itself as unwillingness or inability to follow FATF recommendations. According to Forty recommendations on money laundering and Report on Non-cooperative Countries and Territories, countries are required to:

- Exclude the following loopholes in financial regulation:
  - Inadequate regulation and supervision of financial institutions;
  - Inadequate rules for the licensing and creation of financial institutions;
  - Inadequate customer identification requirements;
  - Excessive secrecy provisions regarding financial institutions;
  - Lack of efficient suspicious transaction reporting system;
- Impediments set by other regulatory requirements:
  - Inadequate commercial law requirements for registration of business and legal entities;
  - Lack of identification of the beneficial owner(s) of legal and business entities
- Obstacles to international co-operation
  - At administrative level;
  - At the judicial level (absence of criminalization of money laundering, laws and regulations prohibiting international exchange of information, presence of tax evasion);
- Inadequate resources for preventing, detecting and repressing money laundering activities.

Judicial system is a core element of detection a non-cooperative country or territory. Countries which can be characterized by absence of laws regulating money laundering and tax evasion or preventing information sharing about suspicious business entities are more inclined to be included in the FATF Blacklist.

Thus Blacklisting of the country is not affected by its international capital flows. In this paper we are interested in the effect of the Blacklisting on the growth rate of international capital flows. Since Blacklisting is an exogenous event for the international capital flows, the problem of endogeneity is not crucial in our analysis.

Descriptive statistics for the FATF and BankFlow variables are represented in Table 1 (Table 1.1, descriptive statistics for other variables).

Table 1. Descriptive Statistics: BankFlow and FATF

Variable		Mean	Std. Dev.	Min	Max	Observations
FATF	overall	.0582011	.2342007	0	1	N = 1512
	between		.1230492	0	.5	n = 126
	within		.1995472	-.4417989	.9748677	T = 12
BFM	overall	22.3609	68.32064	-141.02	962.2408	N = 1455
	between		22.26802	-30.94643	108.7731	n = 126
	within		64.89382	-172.9119	875.8287	T-bar = 11.5476

In total 62 countries were listed during the existence of the FATF List. 10 of these countries are developed, according to World Bank Lists for the time period 1996-2007. Other informative statistics about listing can be found in Appendix 1.

It is worth to notice that in 2006 there were no countries in the FATF list. All countries were compliant with the Financial Action Task Force requirements.

4.2.3 Control Variables

- Financial Institution Depth, Efficiency, Stability

To describe the depth of the financial institutions of the country we use the measure from the GFDD - Bank Private Credit to GDP (BPC). BPC is equal to the amount of credit to private sector by deposit money banks and other financial institutions. It is calculated with the following formula:

$$BPC_t = 0.5 * \frac{PC_t / P_{ec} + PC_{t-1} / P_{ec-1}}{GDP_t / P_{ec}},$$

where PC_t is credit to private sector in year t, P_{ec} is end-of-period CPI, and P_{ec} is average annual CPI.

We use Net Interest Margin (NIM) from the "Global Financial Development Database" as the measure of the financial institution efficiency. NIM is calculated as bank's income that has been generated by non-interest related activities as a percentage of total income (net-interest income plus non-interest income). Non-interest related income includes net gains on trading and derivatives, net gains on other securities, net fees and commissions and other operating income.

As a measure of the stability of the financial institutions we use Bank Z Score (GFDD). It captures the probability of default of a country's banking system, calculated as a weighted average of the z-scores of a country's individual banks (the weights are based on the individual banks' total assets). Z-score compares a bank's buffers (capitalization and returns) with the volatility of those returns.

- Supervision and Regulation of the Financial Sector

We use a set of variables from the three worldwide surveys conducted by Barth J.R., Caprio G. Jr., Levine R. "Banking Regulation Survey" in 2000, 2003, 2007 respectively to construct measures for various aspects of bank regulation and supervision, such as Overall Activities Restrictions Index, Independence of the Supervisory Authority Index.

We construct an additional index based on the information from survey by Barth, Caprio and Levine. We called this index the Supervisory Lightness Index. It is an index which takes values between 0 and 20 and it's an inverse indicator of the degree of lightness of the supervision system (Appendix 2, detailed information about indices).

As a measure of supervisory governance we use the variable from the paper of Quintyn et al. 2004.

The three latter variables were only used in the additional part of the research study (i.e. they weren't used in the investigation of the stigma effect).

4.2.4 Other country controls

We also include several country-level variables to control for difference in economic development of countries. We control for growth of the GDP of the country using growth of GDP as independent variable. Also we use the dummy variable to distinguish the period after introduction of the FATF Black List (dummy is equal to one for the periods after 2001 and 0 for the earlier period).

5. Empirical Analysis

In this part of the paper we empirically test the effect of the soft regulation on the international bank flows. As the soft regulation we consider Financial Action Task Force Listing of countries. Countries not compliant with requirements of FATF are included in the list and get out of the list after fulfilling all requirements respectively. Non-compliant countries are the one which practise tax evasion, illegal banking transactions, providing banking services to terroristic organizations.

To proceed with our analysis we should check first whether there is no selection problem in our sample. I.e. check whether listed countries differ from all other countries in sample only by the fact that they were or are listed. Or high (low) level of growth rate of International Bank Flows is caused by another characteristic of the country. One way to check is compare average of dependent variable for listed and non-listed countries from the sample. On the Graph 1 (Appendix 1) we can see the diagram of Bank Flow Measure for listed and non-listed countries for the period from 2000 until 2007.

From the Graph 1 we can see that there is no consistent difference between average bank flow measures in listed and non-listed countries.

If we look at averages of independent variables in listed and non-listed countries (Graph 2, Appendix 1), we find that there is no significant difference either.

For the Supervisory Lightness Index, we don't see any significant difference between two groups of countries. The level of SLI is more stable in non-listed countries. But large fluctuations in the level of SLI for non-listed countries might be caused by changes in number of countries listed.

Level of Stability of Financial Sector does not significantly differ for listed and non-listed countries. The only exception is 2006, but, as mentioned before, in 2006 there were no listed countries.

As we can see from the graph plotting Bank Private Credit to GDP, starting from 2001, levels of BPC for non-listed countries were higher than for listed countries. This means that listed countries have less deep banking systems. The majority of listed countries are emerging economies. Lowly developed banking systems are characteristic of emerging economies. In our analysis, we should take care of a selection bias skewed toward developing countries.

To examine the relationship between soft regulation and international bank flows, for each year we construct the Bank Flow Measure variable, with is equal to the logarithm of the fraction of Total Foreign Claims in year t over Total Foreign claims in year $(t-1)$. We use this as dependent variable in the following regression:

$$BankFlow_{i,t} = \alpha_0 + \alpha_1 FATF_{i,t} + \alpha_2 Regulation_{i,t} + \alpha_3 InstQuality_{i,t} + \vec{X}_{i,t} + \varphi_i + u_t + \varepsilon_{i,t} \quad (18)$$

where i represents the country dimension of the sample, and t represents the time dimension;

- ✓ $FATF_{i,t}$ is a dummy variable equal to 1 if the country was listed in year t, and zero otherwise;
- ✓ $Regulation_{i,t}$ is a vector of regulation and supervision indexes, such as Overall Activity Restrictiveness (OAR), Independence of Supervisory Authority (ISA) and Supervisory Lightness Index (SLI);
- ✓ $InstQuality_{i,t}$ is a vector of variables, representing features of the banking sector in country i at time t: Deepness of Traditional Banking (Bank Private Credit to GDP, BPS), Degree of Innovativeness of Banking Activities (Net Interest Margin, NIM), Stability of the Banking Sector (Altman Z Score, Zscore);
- ✓ Vector of independent variables $\vec{X}_{i,t}$ represents other political and macroeconomic variables;
- ✓ φ_i is a country fixed effect and u_t is time-fixed effect (constructed by using dummy variables for each year).

Table 2 lists estimated coefficients for regression (2) (See Table 2.1, Appendix 2, for detailed results of the estimation).

The coefficient for the FATF Listing variable is positive and statistically and economically significant. We can interpret this fact by saying that if the country is listed in the FATF List, international bank flows grow faster. The estimated coefficient is equal to 36.78: being listed increases the growth of International Bank Flow of the country by 36.78%. The correlation between FATF and other independent variables is comparatively low (Appendix 2, Graph 1), so FATF has an economically significant effect on International Bank Flows.

Variables representing internal regulation are also significant. The estimated coefficient for the Supervision Lightness Index, combination of Overall Restriction Index and Index of Independence of the Supervisory Authority, is negative. The internal regulation of the banking sector decreases the growth of International Banking Flows.

As for other control variable, the variable Bank Private Credit has a negative coefficient. The larger the banking system in the country, the lower the growth of International Banking Flows is.

Table 2. Estimation results

Variables	Main Regression
FATF Listing	36.78** (2.05)
SLI	−6.066** (−2.14)
OAR	5.334 (0.26)
ISA	−11.22 (−1.04)
BPC	−2.159*** (−6.07)
Net Interest Margin	1.348 (0.99)
Bank Z Score	0.0313 (0.05)
log GDP	47.10 (1.83)
Real Interest Rate	0.178 (0.24)
Real Effective Exchange Rate	0.577 (0.99)
Deflator	−0.184 (−0.27)
FinFiu	12.67 (0.80)
Voice and Accountability	10.18 (0.24)
Political Stability	30.33 (1.61)
Government Effectiveness	−5.412 (−0.16)
Regulatory Quality	21.59 (0.50)
Rule of Law	0.440 (0.01)
Control of Corruption	20.89 (0.74)
Polity 2	1.581 (0.20)
Durable	−1.494 (−0.84)
Size of Shadow Economy	−7.385* (−1.70)

6. Robustness Checks

6.1 Alternative measures

As it was mentioned above Bank Private Credit to GDP can be used as a measure of market depth. Deposit Money Bank Assets to GDP (DMA) can be considered as an alternative measure of depth of the banking system. DMA is equal to the amount of total assets held by deposit money banks as a share of GDP. Assets include claims on domestic real nonfinancial sector which includes central, state and local governments, nonfinancial public enterprises, and the private sector. Deposit money banks comprise commercial banks and other financial institutions that accept transferable deposits, such as demand deposits. The correlation between BPC and DMA is equal to 96.32%.

By using DMA instead of BPC in the main regression, we obtain (Table 3):

Table 3. Deposit Money Bank Assets to GDP instead of Bank Private Credit to GDP

FATF Listing	34.61*	*FinFIU*	13.87
OAR	6.839	*Voice and Accountability*	10.23
ISA	-12.97	*Political Stability*	35.38*
SLI	-6.547**	*Government Effectiveness*	-3.802
DMA	-1.958***	*Regulatory Quality*	20.09
Net Interest Margin	1.457	*Rule of Law*	-3.675
Bank Z Score	0.131	*Control of Corruption*	19.75
log_GDP	39.85	*Polity 2*	1.645
Real Interest Rate	0.205	*Durable*	-1.332
Real Effective Exchange Rate	0.572	*Size of Shadow Economy*	-7.811*
Deflator	-0.166		

The coefficient for the FATF Listing variable maintains the positive sign and is statistically different from zero at a 10% confidence level. The coefficients of other independent variables display the same signs as in the regression with BPC as measure of depth of the banking sector.

We can conclude that the effect of FATF Listing on International Bank Flows is significant and robust with respect to the usage of alternative variables.

6.2 Alternative Estimation Methods

There are several alternative model specifications, which can be used to analyze dynamic panel data. In this section we test several estimation methods and compare results with the one used in the main part.

The main specification which is used in section 5, is the time and country fixed-effect model. In Appendix 3 results for an alternative specification are presented: with Random Effect Model with time fixed effects.

As we can see from the resulting sign of the coefficient of the variable of interest, FATF Blacklisting, remains unchanged. Black Listing has a positive effect on the growth of international banking flows. The significance level of the estimator is lower. But according to the results of the Hausman test (Table 2, Appendix 3), we can reject the hypothesis that the effect of the listing is random. In that case, the fixed-effect model is preferred.

6.3 International Bank Inflows and Outflows

The measure of international bank flows is equal to the growth rate of a country's total foreign claims. Total foreign claims comprise cross-border claims plus local claims in local and foreign currencies. Cross-border claims are asset positions vis-à-vis banks and non-banks located in a country other than the country of residence of the reporting banking office; they are also referred to as "external" assets. Local claims include Asset positions with a

counterparty (bank or non-bank) located in the same country as the banking office denominated in local and foreign currency.

We can disentangle two effects of the FATF Listing. The first effect is the influence of listing on external bank outflows, i.e. the effect of FATF Listing on the growth rate of External Assets. And the second effect is how the internal flow of funds between domestic and foreign banks reacts to the blacklisting of the host country. The effect, as we can see further, is different. To ascertain the effect of blacklisting on outflows and inflows separately, we construct two variables. The first variable, Bank External Outflow, is equal to difference between log of external assets (all sectors) in period $t+1$ and logarithm of external assets (all sectors) in period t.

$$ExtOutflow_{i,t} = \log\left(\frac{External assets_{i,t+1}}{External assets_{i,t}}\right) \qquad (19)$$

where $External assets_{i,t}$ is the value of External Assets (all sectors) in year t for the country i.

The measure for the Bank Internal Inflow is constructed in the similar way as the Bank External Outflow. Bank Internal Outflow measure is equal to difference between log of local claims in period $t+1$ and log of local claims in period t. Data on value of external assets were obtained from the BIS Locational Banking Statistics. The BIS Locational Banking Statistics publishes quarterly information on all balance sheet positions (and some off-balance sheet positions in the area of trustee business) representing financial claims or liabilities vis-à-vis non-residents as well as financial claims or liabilities vis-à-vis residents in foreign currency. Banks report data to the pertinent central bank or monetary authority, and national aggregate data are then transmitted to the BIS. The data are contained in Table 2A (assets and liabilities) of the *BIS Quarterly Review* under the title, "External positions of banks" in all currencies vis-à-vis all sectors.

Using the definition of Total Foreign Claims, the value of local foreign claims for the country i in period t is equal to difference between the value of total foreign claims and the value of external assets for the country i in period t. Results are presented in Table 4 (detailed results: Appendix 3, Table 3).

Table 4. External and Internal Bank Outflows

	EXTERNAL BANK OUTFLOW	*INTERNAL BANK OUTFLOW*
FATF Listing	0.0797 (1.05)	36.74** (2.03)
OAR	0.0702 (0.81)	4.766 (0.23)
ISA	-0.0425 (-0.93)	-11.13 (-1.01)
SLI	-0.019 (-1.59)	-6.027** (-2.10)
BPC	-0.000848 (-0.57)	-2.155*** (-6.00)
Net Interest Margin	0.0149 (1.01)	1.363 (0.39)
Bank Z Score	-0.00058 (-0.24)	0.0274 (0.05)
log of GDP	0.271* (1.76)	47.88 (1.30)
Real Interest Rate	-0.00567* (-1.83)	0.162 (0.22)
Real Effective Exchange Rate	0.00463* (1.88)	0.573 (0.97)
Deflator	0.00455 (1.58)	-0.196 (-0.28)
Financial FIU	0.0396 (0.59)	12.48 (0.78)
Voice and Accountability	-0.0367 (-0.29)	10.11 (0.34)
Political Stability	-0.0989 (-1.24)	30.52 (1.60)
Government Effectiveness	-0.0821 (-0.55)	-4.493 (-0.13)
Regulatory Quality	0.122 (0.93)	21.37 (0.68)
Rule of Law	0.227 (1.45)	0.601 (0.02)
Control of Corruption	0.0977 (0.81)	20.05 (0.70)
Polity 2	-0.0105 (-0.48)	1.639 (0.31)
Durable	0.00842 (0.72)	-1.456 (-0.52)
Size of the Shadow Economy	0.00433 (0.23)	-7.316* (-1.65)

As we can see, FATF Listing does not significantly affect External Outflows. But blacklisting significantly and positively affects Internal Outflows. This result can be interpreted as reflecting the increase in the value and number of transactions between domestic and foreign local banks after the listing event.

The main reasons for blacklisting are tax evasion and money laundering. It seems that when country is included into the FATF List, domestic banks decrease international transactions. But that does not mean that the country automatically becomes compliant. It means that banks transfer funds through subsidiaries of foreign banks located in the country. And after that, such subsidiaries transfer money to the bank's headquarters. Thus the transaction stays undetected, the country can be excluded from the FATF List, and banks can continue illegal transactions. But this is just a hypothesis.

We can say that FATF Listing is significant in economically and statistically affecting Internal Banking Outflow and does not affect External Banking Outflow.

Another alternative measure of International Bank Flows is Bank Inflow. To measure Bank Inflow. we can use External Liabilities data from the BIS Locational Banking Statistics. Model estimation results are presented in Table 4, Appendix 3. According to the results, FATF Listing has no significant on the External Inflow of funds, either.

5. Conclusions

In this study we analyze the relationship between international capital movements and FAFT listing/delisting events in 126 countries in the years from 1996 to 2007. Our aim is to study the existence and robustness of the so-called stigma effect.

We test whether international banking activities respond to the "name and shame" approach, which has been introduced to combat money laundering and terrorism finance. Consequently, we wonder if it is possible to detect financial gains for a country that implements AML/CFT policies consistent with international standards.

To understand the effects that FAFT decisions have over listed countries, we focus on how banks react to higher potential costs that can emerge (disappear) when a country is listed (delisted). In theoretical analysis, the stigma effect emerges if we assume asymmetry between the costs and benefits of an international bank doing business with a country at risk of being listed.

Following the suggestions of our motivation theory and of the empirical tests we conducted on it, we find that the robustness of the stigma effect – the blacklisting factor – depends on two main conditions, which determine a country's financial attractiveness: its regulatory architecture – the regulatory lightness factor – and its economic framework – banking profitability and wealth factors. Finally, we analyze blacklisting under two different scenarios: perfect and imperfect capital mobility.

6. References

- Alexander, K. (2001), The International Anti-Money Laundering Regime: The Role of the Financial Action Task Force, *Journal of Money Laundering Control*, vol.4, n.3, 231-248.

- Ardizzi G., Petraglia C., Piacenza M., Schneider F. and Turati G. (2013), Money Laundering as a Financial Sector Crime, CESifo Working Paper Series, n.4127.

- Barth J.R., Caprio J. and R. Levine (2006), Rethinking Bank Regulation: Till Angels Govern, Cambridge, Cambridge University Press.

- Brada J.C, Drabek Z. and M.F. Perez (2011), Illicit Money Flows as Motives for FDI, *Journal of Comparative Economics*, (forthcoming).

- Brummel C. (2012), *Soft Law and the Global Financial System: Rule Making in the 21st Century*, Cambridge University Press, New York.

- Chitu I., Eichengreen B. and Mehl A.J. (2013), History, Gravity and International Finance, NBER Working Paper Series, National Bureau of Economic Research, n. 18697.

- Clark T.S and D.A Linzer (2012), Should I Use Fixed or Random Effects?, Working Paper Series, Department of Political Science, Emory University, March.

- Dalla Pellegrina L. and D. Masciandaro (2009), The Risk Based Approach in the New European Anti-Money Laundering Legislation: a Law and Economics View, *Review of Law and Economics*, Vol.5(2), 290-317.

- Dalla Pellegrina L. and D. Masciandaro (2012), Good Bye Light Touch? Macroeconomic Resilience, Banking Regulation and Institutions, Working Paper Series, Paolo Baffi Centre, Bocconi University, Milan.

- FATF (2000), Report on Non-Cooperative Countries and Territories, Financial action Task Force, FATF/OECD, Paris.

- FATF (2012), *International Standard on Combating Money Laundering and the Financing of Terrorism and Proliferation. The FATF Recommendations*, Financial Action Task Force, FATF/OECD, Paris.

- Ferwerda J. (2012), The International Fight Against Money Laundering, in The Multidisciplinary Economics of Money Laundering, Chapter 7, Dissertation Series, Tjalling C. Koopmans Institute, School of Economics, Utrecht University, Ridderprint, Ridderkerk, 97-118.

- FinCEN (2011), Guidance to Financial Institutions Based on the FAFT Publication on Anti-Money Laundering and Counter-Terrorist Financing Risks, Financial Crimes Enforcement Network, Department of the Treasury, Washington D.C., July 13.

- FitzGerald V. (2004), Global Financial Information, Compliance, Incentives and Terrorist Funding, *European Journal of Political Economy*, 20, 387-400.

- Fraga A. (2004.), Latin America since the 1990s: Rising from the Sickbed?, *Journal of Economic Perspectives*, 18(2), 89-106.

- Franks J., Mercer-Blackman V., Sab R. and R. Benelli (2005), *Paraguay. Corruption, Reform and the Financial System*, International Monetary Fund, Washington D.C.

- Greene E.F. and J.L. Boehm (2012), The Limits of "Name- and- Shame" in the International Financial Regulation, *Cornell Law Review*, 97(5), 1083-1140.

- Gnutzmann H., K.J. Mc Carthy, B. Unger (2010), Dancing with the Devil: Country Size and the Incentive to Tolerate Money Laundering, *International Review of Law and Economics*, 30, 244-252.

- Holder, W.E (2003), The International Monetary Fund's Involvement in Combating Money Laundering and the Financing of Terrorism, *Journal of Money Laundering Control*, vol.6, n.4, 383-387.

- Hampton M.P and J. Christensen (2002), Offshore Pariahs? Small Island Economies, Tax Havens, and the Reconfiguration of Global Finance, *World Development*, 30(6), 1657-1673.

- Houston J.F., Lin C. and Y. Ma (2011), Regulatory Arbitrage and International Bank Flows, *Journal of Finance*, forthcomings.

- IMF (1998), *Money Laundering. The Importance of International Countermeasures*, address by Michel Camdessus, Plenary Meeting of the FATF, International Monetary Fund, Washington D.C., pp. 1-4.

- IMF (2009), Paraguay: Detailed Assessment Report on Anti-Money Laundering and Combating the Financing of Terrorism, *IMF Country Report Series*, International Monetary Fund, Washington D.C., n. 235.

- IMF (2011), Paraguay: Financial System Stability Assessment-Update, *IMF Country Report Series*, International Monetary Fund, Washington D.C., n. 235.

- Kaufmann D., Kraay A. and M. Mastrucci, (2008), Governance Matters VII: Aggregate and Individual Governance Indicators, 1996-2007, Policy *Research Working Paper Series*, World Bank, Washington, DC, n. 4654.

- KPMG, (2011), *Global Anti – Money Laundering Survey*, at kpmg.com.

- Kudrle, R., (2009), Did Blacklisting Hurt the Tax Havens?, *Journal of Money Laundering Control*, Vol. 12 (1), 33-49.

- Lane P. and G.M. Milesi Ferretti (2003), International Financial Integration, *IMF Staff Papers*, International Monetary Fund, 50, 82-113.

- Masciandaro D., (2005a), False and Reluctant Friends? National Money Laundering Regulation, International Compliance and Non-Cooperative Countries, *European Journal of Law and Economics*, 2005, n.20, 17-30.

- Masciandaro D., (2005b), Financial Supervision Unification and Financial Intelligence Units: A Trade Off? *Journal of Money Laundering Control*, Vol. 8(3), 354-370.

- Masciandaro, D., (2008), Offshore Financial Centres: the Political Economy of Regulation, *European Journal of Law and Economics*, Vol. 26, 307-340.

- Masciandaro D, Takats E. and Unger B., (2007), *Black Finance. The Economics of Money Laundering*, Edward Elgar, Cheltenham.

- Masciandaro D., Pansini R.V. and M. Quintyn (2013), The Economic Crisis: Did Supervisory Architecture and Governance Matter, *Journal of Financial Stability*, forthcoming.

- Milesi Ferretti G.M and Tille C., (2011), The Great Retrenchment: International Capital Flow During the Global Financial Crisis, Working Paper Series, Hong Kong Institute for Monetary Research, n.38.

- Papaioannou E. (2009), What Drives International Financial Flows? Politics, Institutions and Other Determinants, *Journal of Development Economics*, 88, 269-281.

- Picard P.M and P. Pieretti (2011), Bank Secrecy, Illicit Money and Offshore Financial Centres, *Journal of Public Economics*, 95 (7-8), 942-955.

- Powell J.H. (2013), Anti-Money Laundering and the Banking Secrecy Act, Board of Governors of the Federal Reserve System, Committee on Banking, Housing and Urban Affairs, U.S. Senate, Washington D.C., March 7, mimeo.

- Qureshi M.S., Ostry J.D., Ghosh A.R. and M. Chamon (2011), Managing Capital Inflows: The Role of Capital Controls and Prudential Policies, *NBER Working Paper Series*, n.17363.

- Ramon – Ballester F. and T. Wezel (2007), International Financial Linkages of Latin American Banks. The Effects of Political Risks and Deposit Dollarization, *ECB Working Paper Series*, European Central Bank, n.744.

- Reinhardt D., Ricci L.A. and T. Tressel (2010), International Capital Flows and Development: Financial Openness Matters, *IMF Working Paper Series*, International Monetary Fund, n.235.

- Roodman (2006), How to Do Xtabond2: An Introduction to Difference and System GMM in Stata, Working Paper Series, Center for Global Development, n.13.

- Rose A.K. and M. Spiegel (2006), Offshore Financial Centers: Parasites or Symbionts?, *Economic Journal*, 117(523), 1310-1335.

- Schwarz P. (2011), Money Launderers and Tax Havens: Two Sides of the Same Coin?, *International Review of Law and Economics*, 31, 37 – 47.

- Takàtz E. (2011), A Theory of "Crying Wolf": The Economics of Money Laundering Enforcement, Journal of *Law, Economics and Organization*, 27(1), 32-78.

- Unger B. and Rawlings G. (2008), Competing for Criminal Money, *Global Business and Economics Review*, 10(3), 331-352.

- Verdugo Yepes C. (2011), Compliance with the AML/CFT International Standard: Lessons from a Cross-Country Analysis, *IMF Working Paper Series*, International Monetary Fund, n.177.

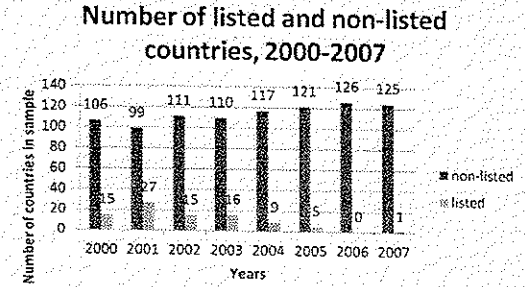
- World Bank (2008), Bank Regulation and Supervision Survey, World Bank Group, Washington D.C:

Appendix 1

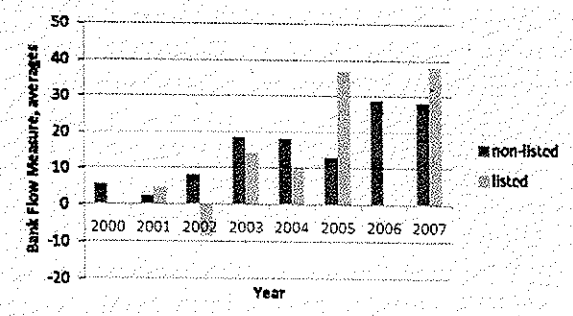
Statistics for listed and non-listed countries

Characteristics	Number of countries	Developed countries	Emerging countries
Listed	62	9	53
One year listed	26	6	20
Two years listed	19	2	17

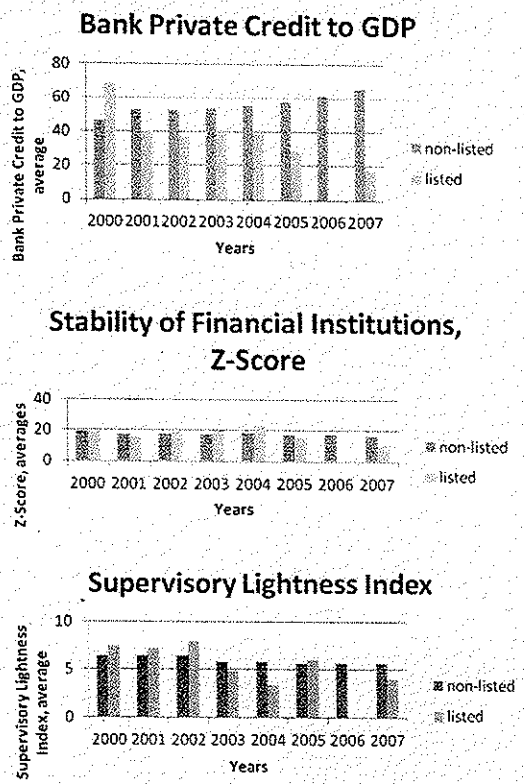
Graphical representation



Graph 1. Bank Flow Measure: listed and non-listed countries



Graph 2. Independent Variables: listed and non-listed countries.

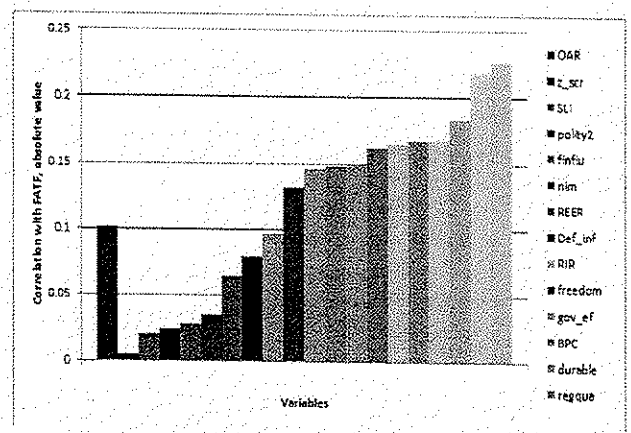


Appendix 2

Table 1. Detailed Regression Results

FATF Listing	36.82**	Regulatory Quality	21.49
	(2.03)		(0.69)
OAR	4.836	Rule of Law	0.827
	(0.23)		(0.02)
ISA	-11.17	Control of Corruption	20.15
	(-1.02)		(0.7)
SLI	-6.046**	Polity 2	1.628
	(-2.10)		(0.31)
BPC	-2.156***	Durable	-1.448
	(-6.00)		(-0.52)
Net Interest Margin	1.378	Size of the Shadow Economy	-7.312
	(0.39)		(-1.65)
Bank Z Score	0.0268	Fixed Effect 2001	-76.20***
	(0.05)		(-5.32)
log of GDP	48.15	Fixed Effect 2002	-63.18***
	(1.31)		(-3.97)
Real Interest Rate	0.156	Fixed Effect 2003	-69.28***
	(0.21)		(-3.33)
Real Effective Exchange Rate	0.577	Fixed Effect 2004	-76.91***
	(0.98)		(-3.18)
Deflator	-0.191	Fixed Effect 2005	-81.46***
	(-0.28)		(-2.94)
Financial FIU	12.52	Fixed Effect 2006	-71.80**
	(0.78)		(-2.28)
Voice and Accountability	10.07	Fixed Effect 2007	-76.51**
	(0.33)		(-2.05)
Political Stability	30.42	Constant	7.181
	(1.59)		(0.02)
Government Effectiveness	-4.575		
	(-0.13)		
N	375		
t statistics in parentheses			
* p<0.10, ** p<0.05, *** p<0.010			

Graph 1. Correlation of FATF Listing variable with other independent variables



9. Appendix 3

Table 1. Random Effect Model

Variables	Random Effect Regression
FATF Listing	27.47* (1.89)
SLI	−1.381 (−0.88)
OAR	5.758 (0.63)
ISA	−4.693 (−0.86)
BPC	−0.254** (−2.12)
Net Interest Margin	−0.609 (−0.31)
Bank Z Score	−0.132 (−0.39)
log GDP	2.333 (0.38)
Real Interest Rate	−0.922** (−2.24)
Real Effective Exchange Rate	0.368 (1.06)
Deflator	−0.879* (−1.75)
FinFiu	6.878 (0.92)
Voice and Accountability	2.651 (0.19)
Political Stability	15.43** (2.32)
Government Effectiveness	13.85 (0.81)
Regulatory Quality	−5.800 (−0.38)
Rule of Law	−38.17** (−1.97)
Control of Corruption	21.92* (1.69)
Polity 2	0.242 (0.14)
Durable	0.287** (2.54)
Size of Shadow Economy	−0.311 (−0.63)

Table 2. Hausman Test results

Test:	H0	difference in coefficients not systematic
	chi2(27) = (b-B)'[(V_b-V_B)^(-1)](b-B) = 62.62	
	Prob>chi2 = 0.0001	

Table 3. Detailed Table: External and Internal Bank Outflows

	External	Internal		External	Internal
FATF Listing	0.0797	36.74**	Regulatory Quality	0.122	21.37
	(1.05)	(2.03)		(0.93)	(0.68)
OAR	0.0702	4.766	Rule of Law	0.227	0.601
	(0.81)	(0.23)		(1.45)	(0.02)
ISA	-0.0425	-11.13	Control of Corruption	0.0977	20.05
	(-0.93)	(-1.01)		(0.81)	(0.70)
SLI	-0.019	-6.027**	Polity 2	-0.0105	1.639
	(-1.59)	(-2.10)		(-0.48)	(0.31)
BPC	-0.000848	-2.155***	Durable	0.00842	-1.456
	(-0.57)	(-6.00)		(0.72)	(-0.52)
Net Interest Margin	0.0149	1.363	Size of the Shadow Economy	0.00433	-7.316*
	(1.01)	(0.39)		(0.23)	(-1.65)
Bank Z Score	-0.00058	0.0274	Fixed Effect 2001	0.0532	-76.25***
	(-0.24)	(0.05)		(0.89)	(-5.33)
log of GDP	0.271*	47.88	Fixed Effect 2002	0.0612	-63.24***
	(1.76)	(1.3)		(0.92)	(-3.98)
Real Interest Rate	-0.00567*	0.162	Fixed Effect 2003	-0.0322	-69.25***
	(-1.83)	(0.22)		(-0.37)	(-3.33)
Real Effective Exchange Rate	0.00463*	0.573	Fixed Effect 2004	-0.016	-76.89***
	(1.88)	(0.97)		(-0.16)	(-3.18)
Deflator	0.00455	-0.196	Fixed Effect 2005	-0.0621	-81.39***
	(1.58)	(-0.28)		(-0.54)	(-2.94)
Financial FIU	0.0396	12.48	Fixed Effect 2006	-0.0144	-71.79**
	(0.59)	(0.78)		(-0.11)	(-2.28)
Voice and Accountability	-0.0367	10.11	Fixed Effect 2007	-0.0125	-76.50**
	(-0.29)	(0.34)		(-0.08)	(-2.05)
Political Stability	-0.0989	30.52	Constant	-3.059**	10.24
	(-1.24)	(1.6)		(-2.20)	(0.03)
Government Effectiveness	-0.0821	-4.493			
	(-0.55)	(-0.13)			
N	375				
	t statistics in parentheses				
	* p<0.10, ** p<0.05, *** p<0.010				

Table 4. External Banking Inflow: External Liabilities (all sectors).

	External Inflow		External Inflow
FATF Listing	0.0705	Regulatory Quality	-0.0352
	(1.04)		(-0.30)
OAR	0.138*	Rule of Law	0.357**
	(1.78)		(2.56)
ISA	-0.0984**	Control of Corruption	-0.164
	(-2.40)		(-1.53)
SLI	-0.0113	Polity 2	0.00457
	(-1.05)		(0.23)
BPC	-0.00178	Durable	0.0118
	(-1.33)		(1.13)
Net Interest Margin	0.0118	Size of the Shadow Economy	0.00689
	(0.90)		(0.42)
Bank Z Score	-0.00355	Fixed Effect 2001	-0.063
	(-1.65)		(-1.18)
log of GDP	-0.203	Fixed Effect 2002	-0.0676
	(-1.48)		(-1.14)
Real Interest Rate	-0.0028	Fixed Effect 2003	-0.0766
	(-1.01)		(-0.99)
Real Effective Exchange Rate	0.00175	Fixed Effect 2004	0.0317
	(0.80)		(0.35)
Deflator	-0.00754***	Fixed Effect 2005	-0.0256
	(-2.93)		(-0.25)
Financial FIU	0.0649	Fixed Effect 2006	0.221*
	(1.09)		(1.88)
Voice and Accountability	0.0129	Fixed Effect 2007	0.114
	(0.11)		(0.82)
Political Stability	-0.146**	Constant	1.223
	(-2.04)		(0.98)
Government Effectiveness	0.047		
	(0.35)		
N	375		