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FX prime brokerage industry

The paper focuses on FX prime brokerage (FXPB) service, provided by brokers (mostly large banks) to their clients, which consists in enabling them to trade with other banks using their pre-screened credit and in their name (e.g. by providing them with access to electronic platforms that are only available to a limited group of dealers). The aim of the paper is to indicate the role of prime brokers in the creation of forex turnovers. The methodology used in the paper is based on the analysis of specialist literature and data collected by the Bank for International Settlements (BIS) from market-makers (the most active financial institutions making different foreign exchange transactions, often named 'reporting dealers'). The results of the survey of the global forex market organized by the BIS are provided regularly once every three years, last time in April 2013. The results of the April 2016 research will be published in December 2016 or next year. As previous BIS analyses didn't touch the problem of prime-brokered transactions in the global forex market (there is a lack of advanced statistics on prime-brokered transactions in the forex market), the paper focuses on data from April 2013 only. FX prime brokerage service has been contributing to the growth of the forex market from the very introduction of FXPB to the banking offer in the early 1990s. From many years there has been a tendency to make the foreign exchange market more open and to facilitate investors to access its services. FXPB enables smaller financial institutions (mainly hedge funds) to trade with large commercial and investment banks, which would remain out of their reach without the help of FX prime brokers. The growth of the foreign exchange market turnover is due to the growing activity of the customers of prime brokers.

Keywords: forex, foreign exchange market, FX prime brokerage, FX prime broker

JEL classification: G21, G23, G24

Usługi *prime brokerage* na globalnym rynku walutowym

Artykuł poświęcono problematyce handlu na rynku walutowym za pośrednictwem brokerów udostępniających klientom swoje linie kredytowe. Funkcję tę pełnią zazwyczaj duże banki, aktywnie inwestujące na foreksie. Ich klientami korzystającymi z usługi *prime brokerage* są głównie fundusze hedgingowe, które w ten sposób w imieniu banku, lecz na swój rachunek przeprowadzają operacje walutowe z szerokim gronem inwestorów na całym świecie. Celem autora było wskazanie roli tego rodzaju pośredników na globalnym foreksie. Aby go osiągnąć, dokonano przeglądu wybranych pozycji literatury naukowej, a także przeprowadzono analizę dziennych obrotów rynku walutowego ze szczególnym uwzględnieniem handlu za pośrednictwem instytucji świadczących usługę *prime brokerage*. Badanie foreksu opiera się na informacjach pozyskanych przez Bank Rozrachunków Międzynarodowych (BIS) w kwietniu 2013 r. (ostanie dostępne badanie) od najbardziej aktywnych uczestników rynku (projekt badawczy jest realizowany cyklicznie w trzyletnich odstępach, a jego pełne wyniki publikowane są w roku kolejnym). Produkt finansowy, jakim jest usługa *prime brokerage*, od samego początku jego wprowadzenia do oferty bankowej przyczynia się do zwiększenia obrotów na światowym rynku walutowym. Od kilkunastu lat na globalnym foreksie zauważalna jest tendencja do jego systematycznego otwierania się na nowych inwestorów i ułatwiania im przeprowadzania operacji walutowych. Przykładem tego jest właśnie poszerzanie dostępu do rynku walutowego poprzez stwarzanie możliwości zawierania transakcji z wieloma inwestorami globalnymi, niedostępnymi dla mniejszych uczestników rynku walutowego z uwagi na zbyt ryzykowny profil ich działalności.

Słowa kluczowe: foreks, rynek walutowy, usługa brokerska rynku walutowego, broker rynku walutowego

Klasyfikacja JEL: G21, G23, G24

Introduction

The foreign exchange market experiences a dynamic growth thanks to the important development of execution methods and new investors; it is also less concentrated than 10 years ago. Market-makers prefer to deal with smaller institutions or retail clients than to conduct mutual transactions. The number of investors active in the forex market systematically increases. Nowadays, they have easy access to real-time exchange rates and advanced foreign exchange operations. The share of inter-dealers transactions in forex decreased from 63% in 1998 to 39% in 2013 (in other words, FX market became less dealer-centric). Operations between market-makers and smaller financial institutions create a continuously growing part of the global forex (increase from 20% in 1998 to 53% in 2013). The evolving market structure accommodates a larger diversity, from high-frequency traders, using computers to implement trading strategies at the millisecond frequency, to the retail investors [BIS, 2014]. One of the factors responsible for it is the very high activity of FX prime brokers. The number of organizations using FXPB services is still growing. Moreover, trading costs have continued to drop, thus attracting new FX investors and making more strategies profitable [Rime, Schrimpf, 2013]. The aim of the article is to indicate the role of prime brokers in the creation of forex turnovers. The key thesis is as follow: the prime brokerage industry is currently an important element of the trade structure of the global forex market. Prime brokers enable dealing on a bigger scale – they 'open the doors' to the wholesale segment of the forex market for various smaller investors. The global forex would develop less dynamically without this kind of intermediary.

1. FX prime brokerage deal process

FX prime brokerage (or FX clearing) is the only part of prime brokerage defined as a business activity that entails investment management and clearing services. These services include the execution of transactions with a single counterparty in multiple products (under a prime brokerage or margin lending agreement that may establish a cross-product netting and a cross-product collateralization arrangement that bridges the individual transactions and their underlying contracts) [BIS, 2005]. FX prime brokerage concerns services on the foreign exchange market only.

FX prime brokers (PB) are typically large FX dealers (usually large banks) with a very high credit rating (such as major investment banks in London and New York). Centres located in Asia (Hong Kong, Singapore and Japan) have a minor significance [Rime, Schrimpf, 2013]. Institutions that act as prime brokers enable some of their clients to trade with other banks in their name and using their credit lines. This way (through electronic trading platforms in the FX interdealer market or other electronic communication networks – ECNs), their customers gain access to the best exchange rates and a very liquid segment of the forex market. As a response to the competition from multi-bank platforms (e.g. FXall, Currenex, Hotspot), the most important institutional platforms such as EBS and Reuters Matching opened up to hedge funds and other customers via prime brokerage in 2004 and 2005, respectively [Rime, Schrimpf, 2013] (in 2004, the electronic broker EBS launched the service 'EBS Spot Ai'; by providing a computer interface to banks, EBS enabled algorithmic trading in spot FX markets using the real-time prices quoted on EBS; in 2005, this service was extended to the major customers of banks via prime brokerage) [King, Rime, 2010]. Prime brokerage allows customers to source funding and market liquidity from a variety of executing traders while maintaining a credit relationship, placing collateral and settling with a single bank [BIS, 2010b].

Prime brokers ensure clients' anonymity – the counterparty to the client's trade does not know that the deal is in fact taking place between him and a client of the prime broker (there are two trades taking place). The prime broker sets up an arrangement that permits the client to deal directly with market-makers. These dealers do not recognize the customer as the counterparty in their financial operations, just the prime broker. The prime broker collects a charge for his service from the customer [BIS, 2016].

The rising application of the FX prime brokerage service has implications for the turnover of the forex market, as a 'give up' trade executed via a prime broker create twice the turnover of a direct transaction. FX prime broker is interposed between the third-party bank and the client and therefore becoming the counterparty to both legs of the trade. For example, if a hedge fund trades with a bank and the trade is 'given up' to the prime broker, we can say that two deals take place: an inter-dealer operation and a transaction between the hedge fund and its prime broker (Figure 1). The two legs of the prime-brokered transactions are two separate deals. Customers simply sign a single legal agreement with FX prime broker (it is not necessary to sign multiple legal and credit documents with each trading counterparty) and 'give up' the original transaction; the bank, acting as a prime broker, enters into equal and opposite deals with the client and their counterparty [BIS, 2010].

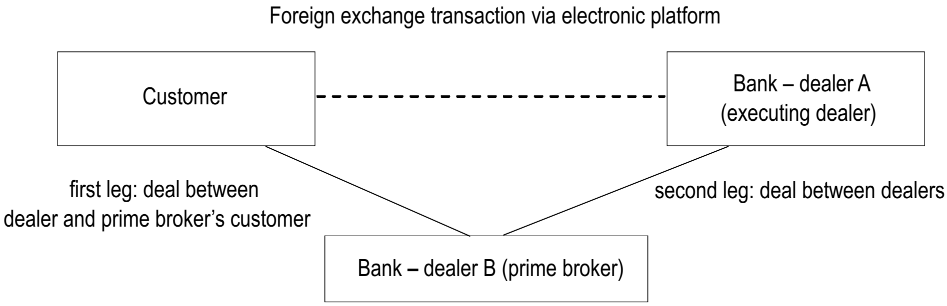

Figure 1. The structure of a prime-brokered transaction on the forex market
Source: [BIS, 2016].

In the BIS report on the forex turnover, a prime-brokered transaction is reported by both the prime broker (if the prime broker is a reporting dealer) and the counterparty of the client (if the counterparty is a reporting dealer). Moreover, the prime broker reports the transaction as a deal 'with other financial institutions' or 'with non-financial customers' (depending on the customer's business profile) [BIS, 2016].

Clients who use FXPB are often institutional funds (pension funds, mutual funds, insurance companies, sovereign wealth funds), hedge funds and other proprietary trading firms [BIS, 2015]. It means that the most important clients of FX prime brokers are smaller financial institutions. FX prime brokers typically support high-frequency trading (HFT) clients and hedge funds. Establishing a FX prime brokerage relationship is one of the first very important decisions made by a HFT firm and a hedge fund, most often driven by a combination of a prospective prime brokerage fees and the suite of prime broker services, as these factors have important implications for the business model adopted by the smaller financial institutions [BIS, 2011]. The rapid growth of hedge funds is the main driver behind the development of the prime brokerage service, less frequently used by corporations and large banks [FRB, 2005].

Prime brokers provide a huge variety of client bases. While some maintain a differentiated client base that includes all kinds of customers such as retail clients, hedge funds and HFT firms, others focus on capturing HFT players only. The policies and procedures for taking on board new clients can vary across prime brokers [BIS, 2011].

The trading limits in every bank should be binding and its usage monitored over time to prevent deal exposure and limit exceedance. Where a bank is a prime broker, the process of limit control is very important (raising the need for the prime broker to closely monitor and control its clients' activities) and should have an *ex ante* character to prevent deals that would exceed the limit. Prime brokers must monitor and control their clients' access to the market since it is their activities that are directly recorded in the market and thus they are the ones that put their names and reputation at risk. It is necessary for banks to monitor their customers' trading volumes in real-time and assess the potential for large FX trading spikes [BIS, 2013]. The nature of the credit relationship is very different depending upon whether the client is an HFT investor or a traditional investor that uses algorithms. High-frequency trading customers can rapidly accumulate risk positions under the name of a prime broker (because of the short time frames associated with high-frequency trading activities). They typically transact rapidly in smaller trade sizes but tend to hold risk only very briefly. Thus, the outstanding credit utilized tends to be small. This raises the need for prime brokers to become sufficiently speedy themselves in their monitoring of HFT customer, which requires co-locating PBs' risk management servers with the main trading hubs in order to minimize latency. The PBs' risk systems must be both real-time and as sophisticated as that of the HFT [BIS, 2011]. By contrast, more traditional investors using algorithmic executions tend to draw on the prime brokers' credit for a longer period of time. They require more credit maintenance-related activity due to margin calls, etc. [BIS, 2011].

The bank can allow a client to exceed a limit with a particular counterparty, but if a decision is made to do so, it should also reduce its exposure [BIS, 2012]. FX prime brokerage create difficulties for supervisors, who must have human and financial capital available to properly assess the risk in the increasingly global forex market. As the FXPB becomes widely used, supervisors are faced with a growing difficulty in monitoring the credit risk and liquidity risk of operations concluded on the FX market, where banks make their credit limits available to other speculative institutions, most frequently to hedge funds [Rybiński, 2006].

Trade execution is the key service of FX prime brokers. Banks acting as prime brokers also offer: trade clearing (providing clients with a centralized clearing facility), trade consolidation (FX prime broker consolidates the deals and calculates a single fee for the customer that covers all his operations on the forex market), post-trade risk management (providing clients with risk management tools and systems for real-time monitoring of their risk exposures, identifying potential risk and hedging undesired risks), trade reporting, client service support (24-hour global support teams for clients to resolve issues encountered with trades), strategic advice on a wide range of legal, accounting, market, risk management and technology issues, cash management (to allow clients to increase the rate of return on the cash or securities being held as collateral), and capital introduction (help for clients to find investors). That's why FXPB is sometimes broadly defined as a multi-product service offered by banks to customers that often use FX products [Hansen, Vitale, 2010]. In its narrow meaning, FX prime brokerage is regarded as a service or practice that enables clients to conduct foreign exchange operations (e.g. spot, forward, options) in the name of the prime broker [BIS, 2010a].

Benefits for prime brokerage users are as follows: liquidity (access to trade with a large number of market-makers), reduced margin requirements (because of trade consolidation), reduced operational risk (because of the very high quality auto-matching technology), and reduced credit risk (removing bilateral credit exposure to end-dealing partners of customers) [Hansen, Vitale, 2010].

In addition to major investment banks, prime brokerage services are also provided by secondary credit sponsorship channels, sometimes termed 'prime of prime'. In this arrangement, 'PB client may be supporting other clients by building on its own prime brokerage relationship. This way, smaller firms that may not have qualified as a direct client for the original PB provider may ultimately leverage that PB's credit indirectly, through sponsorship from a client of that same PB' [BIS, 2011].

2. OTC foreign exchange turnover (prime-brokered)

Prime-brokered transactions are reported to the BIS by reporting dealers in two ways: in the usual manner, regarding the two legs as two separate deals, allocating them by instrument, currency pair and counterparty; and in the category 'of which prime-brokered' under the total of each instrument and currency pair (both legs should be included here). The transactions that have not been prime-brokered by reporting dealers are never allocated in the 'of which prime-brokered' item. An example prepared by the BIS to illustrate the treatment of prime-brokered transactions in the BIS surveys is as follows: 'A hedge fund trades US$ 100 million with a reporting dealer and the trade is "given up" to a prime broker who is also a reporting dealer. For the first leg where both the prime broker and the counterparty dealer are reporting dealers, the US$ 100 million transaction should be reported by both the prime broker and the counterparty dealer as a deal "with reporting dealers". For the second leg where the counterparty is not a reporting dealer, the prime broker should report the US$ 100 million transaction as a deal "with other financial institutions". In addition, the prime broker should report the two transactions or US$ 200 million under the item "of which prime brokered"' [BIS, 2015]. The counterparty dealer, trading with prime broker's client, is not required to report the deal (he does not have the relevant information) [BIS, 2010a]. The implications for the FX development are important, as a 'give up' trade executed via a prime broker creates twice the turnover of a direct transaction.

Foreign exchange prime brokerage activity has increased rapidly over the past decade. In 2013, 16% of all foreign exchange transactions (and 29% of spot transactions) at the London forex were executed via prime brokers [King, Mallo, 2013]. The structure of prime-brokered transactions conducted in global foreign exchange markets in April 2013 is presented in Table 1. Trading via prime brokers averaged US$ 0.87 trillion per day (total turnover: US$ 5.3 trillion). 16% of global FX transactions were conducted via a prime brokerage relationship. Spot transactions were the most actively traded instruments at US$ 598.252 million per day, followed by outright trading at US$ 115.917 million and FX swap at US$ 104.185 million. Prime-brokered transactions had a 29% share in the spot market, a 17% share in the outright forward market, and a 16% share in the FX options market. The role of prime brokers in other segments of the forex market is limited. Prime brokers are responsible for an increase of the forex turnover because they report to the BIS the same transaction twice. It means that actually, in April 2013, trading via prime brokers in global foreign exchange markets averaged only US$ 436.929 million per day.

Table 1. OTC foreign exchange turnover by instrument in April 2013, daily averages, in US$ million

	Total	Spot	Outright forward	FX swap	Currency swaps	FX options
Total	5,344.549	2,046.158	679.994	2,227.629	54.023	336.745
of which: prime-brokered	873.857	598.252	115.917	104.185	955	54.548
of which: prime-brokered (in %)	16	29	17	5	2	16
of which: prime-brokered (without double reporting)	436.929	299.126	57.959	52.093	478	27.274
forex turnover from prime-brokered transactions (without double reporting)	4,907.621	1,747.032	622.036	2,175.537	53.546	309.471

Source: [BIS, 2014].

Spot transactions accounted for 68.5%, outright forward operations for 13.3%, FX swaps for 12%, and FX options for 6.2% of prime brokerage turnover (Figure 2).

FX deals in the spot, outright forward, FX swap, and FX options market (carried out via prime brokers) were dominated by transactions in key global currencies: US$, EUR, JPY, GBP, AUD, CAD, and CHF (Table 2). The prime brokers' clients' demand for other currencies was rather low.

Table 2. OTC foreign exchange turnover by currency in April 2013, daily averages, in US$ million (prime-brokered transactions)

	US$	EUR	JPY	GBP	AUD	CAD	CHF
Spot	487.476	227.387	207.915	67.302	66.188	29.278	27.78
Outright forward	102.054	25.530	19.434	10.376	13.271	6.304	5.494
FX swap	93.063	26.464	22.633	10.080	9.640	5.437	5.856
XCurrency swaps	950	249	32	15	26	308	1
FX options sold	24.058	4.052	15.289	1.567	1.731	612	965
FX options bought	24.005	3.907	15.472	1.467	1.499	600	932

Source: [BIS, 2014].

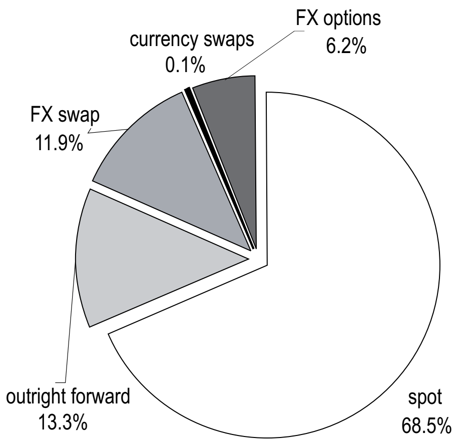

Figure 2. Foreign exchange turnover by instrument in April 2013 (prime-brokered transactions)

Source: [BIS, 2014].

In April 2013, none of the banks reporting to the BIS in Poland provided prime brokerage services [NBP, 2013]. Polish banks have a universal profile and don't focus on investment banking services, unlike banks located in London or New York. There is no demand for prime brokerage services in Poland. Moreover, Polish banks service mainly domestic clients. Nevertheless, global prime brokers were intermediaries in market transactions denominated in PLN (Table 3). In 2013, 20% of foreign exchange transactions in PLN provided by global investors were executed via prime brokers [NBP, 2014]. Daily turnover from prime-brokered transactions conducted in PLN reached US$ 4 billion. Spot transactions were the most actively traded instruments at US$ 2,115 million per day, followed by outright forward trading at US$ 1,365 million, and FX swap at US$ 710 million. Thus, the structure of prime-brokered transactions in PLN is almost the same as in the case of the global forex market. In 2014, 30% of the operations conducted in PLN in London (the most important offshore centre of PLN transactions) were executed via prime brokers [NBP, 2015].

Table 3. OTC foreign exchange turnover in PLN in April 2013, daily averages, in US$ million (prime-brokered transactions)

Spot	2.115
Outright forward	1.365
FX swap	710
Currency swaps	0
FX options sold	35
FX options bought	31
Total	4.256

Source: [BIS, 2014].

Conclusions

Forex is a dynamic market with a long history of change and innovation. The most significant recent changes in the market's structure are the broadening of participation and an expansion in the number of execution platforms and services [Potter, 2015]. The growth in the FXPB industry has been driven by the expansion in high frequency algorithmic trading, retail trading, and the growing popularity of forex market as a place to invest (a trend that has led to an increase in the number of currency managers and currency-orientated hedge funds) [Hansen, Vitale, 2010]. A number of new forex segments have emerged, such as FX prime brokerage, algorithmic trading and retail margin trading. FX prime brokerage allows large banks to provide sophisticated customers, such as hedge funds, with the ability to deal in forex in the bank's name using the bank's credit rating. Algorithmic trading strategies fully automate the process of entering data, applying decision rules and executing chosen trades [Gallardo, Heath, 2009]. One of the most significant developments in the foreign exchange market over the recent decades has been the introduction and growth of new electronic trading technologies. The diffusion of technology has allowed these new market segments to develop which, in turn, has contributed to the blurring of the distinction between wholesale and retail customers [Gallardo, Heath, 2009]. In the past, institutional clients could engage the forex only by calling the bank's trading desk, but the marriage of technology and FX prime brokerage – the bundling of investor services, such as trade execution, settlement, and financing – has enabled direct access to the interdealer foreign exchange market in ways not seen previously. FX prime brokerage services have enabled an expansion in potential trading partners [Potter, 2015]. In the past, there was a two-tiered market – interdealer and dealer-to-client. As new trading platforms have come online, the profile of FX market participants, and thus the way FX is traded, has changed. New participants, such as smaller financial institutions, could begin executing on their office computers or connect their trading algorithms directly to the platforms [Potter, 2015].

The role of prime brokers in the creation of forex turnovers is significant. Transactions between banks acting as prime brokers and their clients make up an important segment of the global market. In April 2013, the share of FXPB industry in global forex was estimated at 16% and the daily average turnover reached almost US$ 874 billion. Prime brokers' customers were the most actively conducted the simplest foreign exchange operations, such as spot and forward outright transactions, and traded in key global currencies, such as US$, EUR, and JPY.

Although there are no Polish banks among them, the transactions executed by global prime brokers make up a significant share of all operations conducted in PLN (20% in April 2013). The most active offshore investors dealing in PLN (which are, first of all, huge banks engaged in investment banking services – forex market-makers) conduct their operations in the London market. In April 2013, the share of the turnover from their transactions in the global PLN FX market reached 51%, 30% of which were prime-brokered.

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