SHADOW BANKING

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4. Introduction.

In recent years, the world of banking has suffered a deep and extensive revolution: technological and regulatory advances, together with the ever-increasing development of financial markets, have meant that the banking industry must adapt to these tailwinds in order to prosper and even survive. The banking industry, characterized in past times by a strong oligopolistic trend, saw its market power endangered by the entry of competitors who took advantage of the aforementioned development in order to enter the business of financing.

With hindsight, in the past, anyone who needed financing had to go to banks in order to meet their needs. Due to the technological development suffered by society, together with the entry of new competitors linked to this development and the attempt of certain investors to avoid the regulations linked to financing operations, these potential clients have a facility never previously acquired to choose from a large number of financing options, from those that make up traditional banking (e.g. Banco Santander in Spain) to totally new and intricate financing entities or processes. These institutions and alternative financing processes are called shadow banking and, in these last years, have played a decisive role in the global economy. Therefore, when we talk about shadow banking we are talking about a parallel financial system of international character and great importance and from which many economic agents take advantage of being able to avoid a great amount of legislation linked to the traditional financial industry, not without supporting risks for it.

1.1. Shadow banking: definition and developed activities.

In a strict sense, the creation of alternative sources of funding is far from new. Butzbach (2014) points out how, already in the 15th century, various religious orders created pawn shops and savings banks throughout most of European territory. However, if a more recent and accurate definition of shadow banking is sought, perhaps the best option would be to keep the definition proposed by Paul McCulley in 2007 in the Federal Reserve of Kansas City (former director of the investment firm PIMCO). Kodres (2013) takes up McCulley's definition, which defines shadow banking as the set of non-financial institutions in charge of collecting money from economic agents in order to invest it in the long term. To complement this definition, the definition given by the Financial Stability Board (2013) could be used, which defines shadow banking as a system of credit intermediation made up of entities and activities outside the traditional system. Therefore, while McCulley emphasizes the activity of these alternative institutions, the FSB highlights their position compared to the traditional financial industry.

Once shadow banking has been defined as a general concept, the next step is to understand which entities are part of it, as well as how they operate. Authors such as Roldán (2020) or Broos et al. (2012) identify, among others, the following participants within shadow banking:

- **Money Market Mutual Funds (MMF)** where there are investment funds that invest in different financial instruments where the return is not guaranteed. There are different instruments in which these funds invest such as short term debt, government securities, repurchase agreements
- **Financial companies.** They are those companies that without being a bank make the function of lending money to individuals and companies.
- **Hedge Funds.** Private investment companies that manage third party shares by selling and repurchasing them. They have a high risk. They are not regulated by any institution, hence their virtually unlimited operating capacity.
- **Brokers-Dealers.** Person or company that buys and sells shares in the stock markets on behalf of a third party, obtaining financing from third parties through repurchase agreements. The repurchase agreements are contracts in which one of the parties agrees to sell securities to another party and buy them back on a certain date and repurchase them at a certain price.

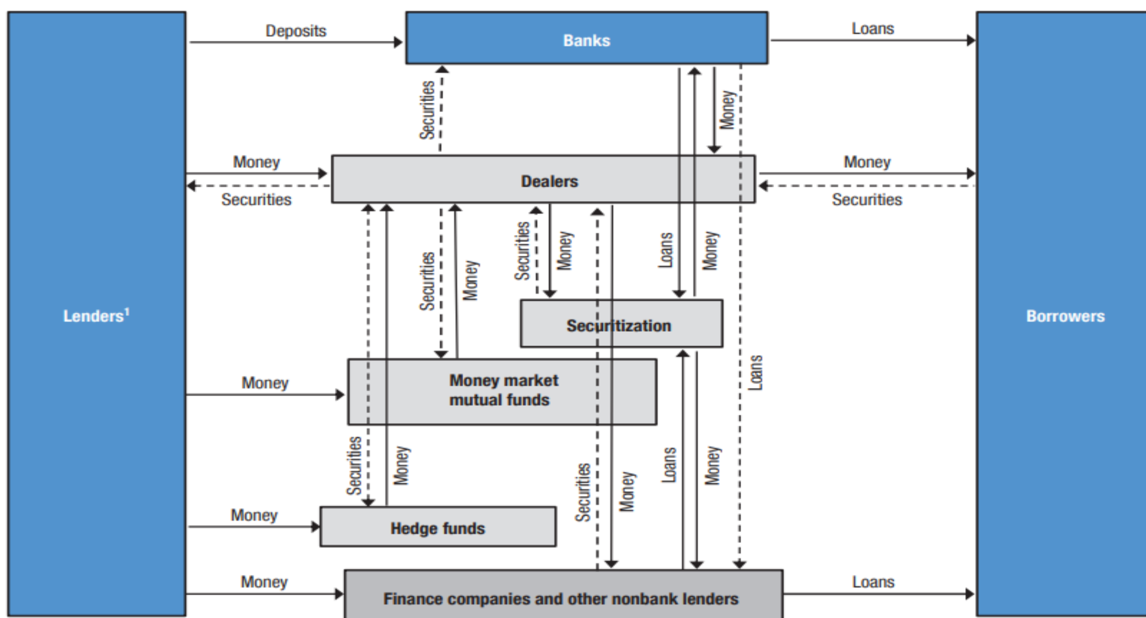
As for operations related to shadow banking, authors such as Kodres (2020) or Luttrell et al. (2012) summarize it in the following activities:

- **Maturity transformation:** shadow banking intermediaries are able to replicate the structure by lending at long terms and financing themselves in the markets at short term by issuing deposit like liabilities.
- **Credit transformation:** it implies the synthetic improvement of the quality of the assets issued in the market and perceived by the public as similar to deposits. This quality improvement can be carried out through the tranching of the underlying risks, or through the inclusion of insurance or similar instruments, such as guarantees by conventional financial institutions.
- **Leverage:** consists of using debt to finance the operations of these companies. Instead of using their own funds, operations are carried out financed with, among others, loans. One advantage of this is that it can increase the profitability of the company, but it also takes the risk that if that operation financed with money other than equity goes wrong, the company may have financial problems.
- **Liquidity Transformation:** consists essentially of the market perception of these 'deposit-like' assets by market participants, even though they are being used for

the financing of very illiquid assets (High Yield Bonds, direct mortgages, project bonds, etc). Again, in this aspect, the existence of liquidity lines by the conventional banking system is of great importance in relation to the perception of such assets as 'liquid'.

Understanding the concept of shadow banking, the entities that make it up and the activities developed by them, it is convenient to compare this accessory industry with traditional banking. Although it is true that shadow banking performs financial intermediation activities (attracting funds from surplus units to grant those funds to deficit units), there are differences between both types of institutions. On the one hand, traditional banking transforms client deposits (which are short term) into loans (long term). The profit they make in this operation is called the brokerage margin, which is the difference between the interest the bank pays its clients on their deposits and the interest the bank charges its clients for lending them money (Roldán, 2020). In order to make the business profitable, the interest charged to clients for loans will always be higher than the interest they pay on their deposits, and a series of commissions the bank charges clients for providing the services should also be added.

Figure 1. Traditional banking vs shadow banking working process.



Source: International Monetary Fund (2014)

Shadow banking, although it works in a similar way, has a wide versatility when it comes to establishing sources, instruments and conditions of financing as we have seen before, which although it offers a flexibility unthinkable for traditional banking, it is far from

problem-free. More precisely, Pozsar et al. (2013) define the intermediation process of shadow institutions in 7 steps:

1. Creation of loans through financing companies.
2. Accumulation of portfolio loans and issuance of bonds backed by those loans (Asset-Backed Commercial Paper or ABCP)
3. Brokers are responsible for structuring these bonds into Asset Backed Securities (ABS).
4. The accumulation of these ABS is favored through market registrations and their financing is favored through repurchase agreements or CDS among other similar mechanisms.
5. These ABS are structured to become Collateralized Debt Obligations (CDOs), thus creating ABS-backed bonds, which in turn depend on the initial credits granted.
6. These products are brokered by institutions created specifically for this purpose, called Structured Investment Vehicles (SIV)
7. The desired financing is obtained through these products in the financial markets.

Table 1. Shadow banking intermediation process.

	Function	Shadow Banks	Shadow Banks' Funding*
Step (1)	Loan Origination	Finance companies	CP, MTNs, bonds
Step (2)	Loan Warehousing	Single and multi-seller conduits	ABCP
Step (3)	ABS Issuance	SPVs, structured by broker-dealers	ABS
Step (4)	ABS Warehousing	Hybrid, TRS/repo conduits, broker-dealers' trading books	ABCP, repo
Step (5)	ABS CDO Issuance	SPVs, structured by broker-dealers	ABS CDOs, CDO-squareds
Step (6)	ABS Intermediation	LPFCs, SIVs, securities arbitrage conduits, credit hedge funds	ABCP, MTN, repo
Step (7)	Wholesale Funding	2(a)-7 MMMFs, enhanced cash funds, securities lenders, etc	$1 NAV shares (shadow bank "deposits")

*Funding types highlighted in red denote securitized funding techniques. Securitized funding techniques are *not* synonymous with secured funding.

Source: Pozsar *et al.* (2010)

Therefore, and as we will see in more detail throughout this work, shadow banking implies the existence of a parallel source of income for financial institutions. By creating a complex network with a multitude of variables (different types of assets, different types of institutions to store and market these assets, etc.) a system is established that is apparently far removed from the traditional financial business. However, as will be seen throughout section 2, there is a close relationship between both systems.

1.2. Shadow banking's advantages and disadvantages.

Shadow banking, as every other alternative with respect to a prevailing traditional system, offers a series of advantages to economic agents. To have a better understanding of the possibilities that shadow banking may be able to offer, it is important to inform that banking is a strongly regulated industry, which makes the institutions within this industry strongly supervised and tutored when operating. This fact is the main advantage of shadow banking: the lack of regulation (Juneja, 2020). This lack of regulation allows shadow institutions to carry out more risky operations, which translates into a greater capacity to provide financing or invest in projects that involve more risk. Associated with this greater operational capacity we find accessory advantages such as a greater dynamism in the money supply or an optimization in the agents' portfolios associated with the greater operational capacity provided by the creation of derivative assets (Gorton and Metrick, 2010). Paradoxically, this additional creation of risk is not consistent with the initial purposes of the activities within shadow banking, since, as explained by Ağirman et al. (2013), the main idea with which the activities related to shadow banking were created was risk management, not risk creation.

After seeing the main advantage of this alternative system, it is quite intuitive to guess the disadvantages associated with it. As it is well specified in any place or institution where this type of financial assets created to a greater or lesser extent of the specific interests of the participating agents are operated, the management of derivative assets implies assuming a great risk. This risk associated with derivative assets is the main disadvantage of shadow banking (Central Bank of Ireland, 2020) and the management of these assets on a large scale and without control can lead to a dangerous crisis. In addition, Wu and Kfoury (2016) make a distinction, breaking down the above risk into two risk streams:

1. **Due diligence and credit risk:** when granting a loan to a client, traditional banks have extensive experience in gathering relevant information to analyze the operation and its derived risks, experience that these alternative entities lack (and in certain cases want to lack).
2. **Liquidity risk:** banks are legally obliged to maintain minimum liquidity reserves to avoid risky situations. Shadow institutions lack this regulation, which can leave the company exposed to a fortuitous setback.

Therefore, we are in front of a situation where an operational/risk duality prevails. The lack of regulation, as well as the great operational capacity of the institutions within shadow banking allows for operations that are totally unthinkable in the traditional

banking industry. On the contrary, this great capacity to operate through an infinite number of institutions and products, linked to the lack of existing regulation, makes these institutions great generators of risk in the financial markets.

2. Evolution and development of shadow banking.

Once the definition of shadow banking has been stablished in a general way, as well as its components and its acting process the next step is to take a brief tour of its contemporary history up to the present day. As will be seen later and, by way of background, it can be said that shadow banking played a crucial role in contemporary economic history.

2.1. First steps of the current shadow banking.

Although it has been commented that alternative banking is not a concept, much less a novelty, shadow banking, understood from the current prism, is a relatively recent element. Valckx (2014) comments that shadow banking saw an opportunity to flourish as a means of alternative financing after the international banking regulation and legislation agreement known as Basel I in 1974. The new regulations concerning the banking sector implied a series of limits and ties to the financial business of the time, which is why an alternative system of capital movement began to be developed. This began to grow notably in 1988, after the guidelines for banking legislation and regulation were approved in the Basel II agreement, directly related to the Basel I rules. At this time, some of the products and methods characteristic of alternative banking began to emerge:

- **Asset securitization:** creation of bonds whose profitability is linked to an asset package. Explained in more detail in section 2.1.1.
- **Special Investment Vehicle (SIV):** Company used to earn margin between liabilities and assets. Its strategy consisted in issuing bonds at a low interest rate, to capture money that would later be invested in securitization (Chen, 2019).
- **Credit Default Swaps (CDS):** financial derivatives that allow transferring the credit risk of an asset to a third party in exchange for a premium (Arce et al., 2010).

As previously mentioned, the proliferation of this type of financing and speculation tools has a direct relationship with the Basel agreements' regulatory standards. The main trigger was the fact that banks were assigned a minimum capital to be maintained in order to face a series of risks inherent to the banking industry (Moody's, 2011):

- **Credit risk:** potential loss arising from the failure of a counterparty to meet contractual obligations on a loan.

- **Operational risk:** potential loss derived from an internal failure of the organization.
- **Market risk:** potential loss derived from a loss of value in the investments made.
- Exchange rate risk: potential loss derived from changes in foreign exchange rates.

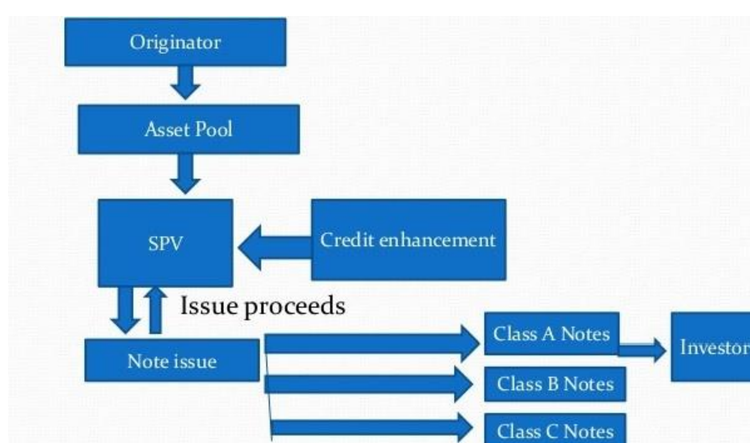
The minimum capital percentage established in Basel II was a minimum of 8% of equity. This imposition limited the operational capacity of the bank and increased its costs (e.g. costs related to the analysis of operations from a risk perspective). In short, the Basel Accords, coupled with the great period of growth in the markets at the end of the 20th century, were the perfect breeding ground for the development of shadow banking.

2.1.1. Asset securitization and shadow banking.

In order to understand the current situation of shadow banking, the most appropriate thing to do is to review its role in the financial crisis of the past decade. To do so, it is crucial to understand one of the most widespread processes in this industry in the past decade, as well as the disastrous consequences it brought about throughout the global economy: asset securitization.

The process of asset securitization is that which occurs when an issuer called the originator creates a financial instrument that can be bought or sold through the grouping or merging of assets, forming these assets into a new asset (Chen, 2020). Once these new assets have been created, they are launched into the market through the creation of a secondary institution called a Special Purpose Vehicle (SPV), which allows a distinction to be made between the risks of the originator and the assets to be placed in the SPV. The complete securitization process is shown in detail in figure 2:

Figure 2. Process of securitization.



Source: Verma Jivram & Associates (2018)

Looking at the securitization process in a more graphic way, the creation of a secondary institution is shown as a turning point in all the mechanics involved in asset securitization. Therefore, although SPVs have been briefly mentioned, it is worth explaining in more detail what they are (Claessens et al., 2012):

- **Special Purpose Vehicle (SPV):** a company created specifically for the securitization process. This entity will receive the revenues and cash flows derived from the bond issue, and it will also be the entity that will repay the debt to the banks. In order to avoid risks, these entities are legally separated from the bank that is going to securitize the loans. Thus, the main objective is to avoid any possible contagion effect in case of bankruptcy. These companies are often domiciled in tax havens or in countries with favourable legislation so that the SPV is neutral to any tax issues. Due to the bonds issued by the SPV usually have a better rating than the originator, the SPV requires a lower amount of equity. That is, the same assets can be financed with less equity.

By creating these entities, the main financial entity manages to avoid or reduce the regulation related to this type of debt issuance activities. Therefore, this activity has been and still is very popular in shadow banking.

2.1.2. Shadow banking's role in the 2008 financial crisis.

This process of asset creation described above was certainly succulent for many institutions in recent years because of the great capacity for configuration it offers and the possibility of separating the risk between the parent institution and the institutions created specifically for these projects. Therefore, these practices played a decisive role in the financial crisis of 2008 (Caprio et al., 2008). More specifically, the massive issuance of Mortgage-Backed Securities (MBS) of dubious ratings was the trigger for the crisis of the past decade. According to Kagan (2020) an MBS is an investment product of a similar nature to a bond, which is backed by a bank mortgage package of different ratings. In short, MBSs are a type of ABS backed by mortgage loans.

MBSs had a direct relationship with shadow institutions, which marketed them. Due to this close relationship, the leverage of the shadow institutions increased in direct proportion to the value of these assets, thus giving the possibility of creating greater liquidity. However, this situation could only occur when the price of the assets was booming. This fact, added to the high liquidity of the North American markets in the pre-crisis period, exponentially increased the problem of subprimes (high-risk mortgages). Similarly, shadow banks began a process of collective and mutual feedback to grow, expanding items on their balance sheets through the manipulation of maturities and

liquidity of their assets and liabilities. To do so, it was necessary to be within a system where these shadow institutions sought and were willing to assume higher leverage margins in order to expand as well (Neria and Lira, 2017). For this last reason, a great multitude of shadow banks emerged around the globe.

This alternative financial model based on obtaining profits through the configuration of asset packages, added to the joint complicity of the shadow institutions (often counting on classic financial institutions in the background) unleashed the greed of many. This greed led to increasingly risky and less transparent levels of fraudulent treatment of asset deals. They masked a multitude of high-risk assets under a low-risk ABS rating in order to attract investors by claiming the low risk of these assets without the latter knowing that the underlying assets were far from safe. In a multilateral framework with implications for many institutions, the rating companies (in charge of valuing these bonds) also contributed to the formation of this crisis through the incorrect valuation of these ABS. These companies also had the advantage that their sector was an oligopoly made up of three companies: Standard and Poor's, Moody's and Fitch ratings, so their ratings could not be compared with other rating companies. This meant that inexperienced investors had no choice but to abide by these ratings. In addition, the United States was facing the end of a real estate bubble, which directly affected the underlying assets of this entire bond structure. When people began to realize that these assets were very high risk, they suddenly began to sell their positions, and the institutions that were financing the shadow banks, seeing the high risk of the underlying, stopped financing them. In order to be able to make payments, the shadow banks had to sell the assets, lowering prices accordingly and eventually causing a depreciation in many items on the banks' balance sheets. The lack of regulation and the little knowledge of these institutions meant that the effect could not be isolated and extended to the rest of the economy.

2.2. Shadow banking at the present time.

After the financial crisis of 2008, the regulators were forced to establish greater measures for the financial sector, as they were the main cause of the debacle with their practices. Therefore, in 2010 a package of regulatory reforms was proposed within the Basel III Agreement. One of the most talked about measures was the implementation of the increase of the Tier 1 for these institutions, being the Tier 1:

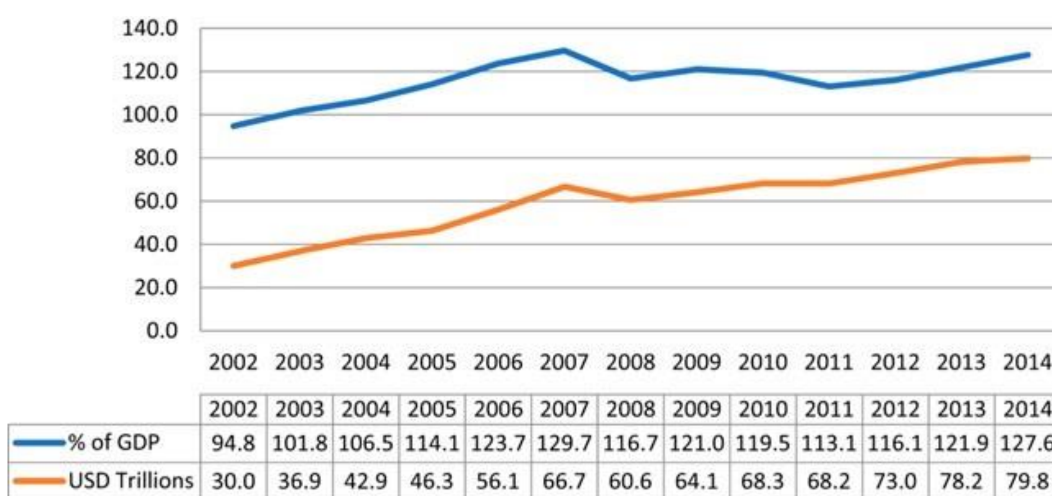
$$Tier\ 1 = \frac{Shareholder's\ Equity}{Weighted\ Risk\ Assets}$$

According to the proposed regulation of Basel III, this ratio should be 7% compared to the 4% established in Basel II. As a consequence of this new requirement, the banks

decided to transform risky assets from hybrid debt into shares and reserves (Value Walk, 2015), which is just another example of the high accounting engineering capacity that banking companies have. However, these are somehow regulated in a general, public and transparent way, to the detriment of shadow banking. Although there have been attempts to regulate this alternative banking, they have not been very successful due to the great complexity of this intricate parallel industry (Claessens et al., 2012)

This great flexibility derived from the lack of regulation has meant that shadow banking has not stopped growing until today, despite how risky it has proved to be. In order to have a greater vision of the great relevance that shadow banking has in our days, Zabala and Josse (2018) followed the evolution of the total value of shadow assets and put them in relation to the value of the GPD of 20 countries, which represent 80% of the world's GDP and 90% of the value of the world's financial assets.

Figure 3. Shadow banking evolution referred as GDP percentage and UDS trillion, 2002 – 2014.



	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of GDP	94.8	101.8	106.5	114.1	123.7	129.7	116.7	121.0	119.5	113.1	116.1	121.9	127.6
USD Trillions	30.0	36.9	42.9	46.3	56.1	66.7	60.6	64.1	68.3	68.2	73.0	78.2	79.8

Source: Zabala and Josse (2018) and FSB (2014)

In general terms, we can see a general increase in the value of shadow banking in this period. In terms of GDP, it is remarkable that the value of these assets has exceeded the GDP of these countries in almost the entire period analyzed, standing at around 120% of value over GDP on average. As for the absolute value, it has followed a path of constant growth, managing to almost triple its total value in these 13 years of study.

For its part, the Financial Stability Board, an institution which regularly carries out an exhaustive analysis of the evolution of financial assets, records a multitude of data on these assets each year for publication at a later date. Within the category Monitoring

Universe of Non-banking Financial Intermediation (MUNFI), the FSB classifies the following elements as shadow banking:

1. Insurance corporations.
2. Pension funds.
3. Other Financial Intermediaries (OFIs).
4. Financial auxiliaries.

Following this classification, the data recorded in the FSB report (2019) are as follows:

Table 2. Macro-mapping of the financial system, 2017.

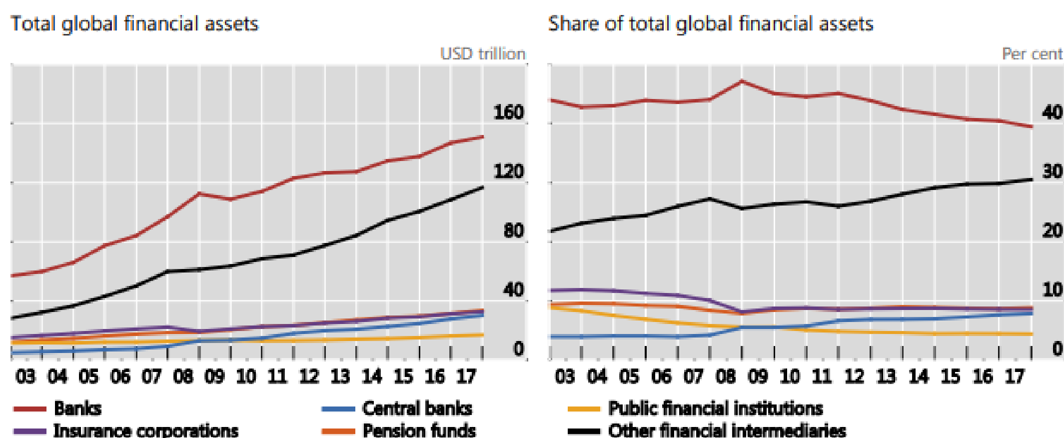
	Total global financial assets	Central banks	Banks	Public financial institutions	MUNFI			
					Insurance corporations[1]	Pension funds	OFIs	Financial auxiliaries
Size at end-2017 (USD trillion)	382.3	30.1	150.8	17.0	32.8	33.7	116.6	1.2
Share of total global financial assets (%)	100.0	7.9	39.4	4.5	8.6	8.8	30.5	0.3
Growth in 2017 (year-over-year, %)	5.3	8.8	2.8	4.9	4.8	6.8	7.6	22.6
Growth 2011-16 (annualised growth, %)	5.9	8.9	3.6	4.2	6.0	6.1	8.9	7.0

Some exchange rate effects have been netted out by using a constant exchange rate (from 2017). [1] For some jurisdictions, data on insurance corporations include separate accounts.

Source: FSB (2019)

The FSB (2019) registers a global MUNFI volume of 184 trillion US dollars in 2017, compared to 65 trillion US dollars in 2011 (FSB, 2013). To have a quick perspective, in 2017 the total value of financial assets worldwide was 382 trillion US dollars, which implies that shadow banking represents 48% of the value of total assets in 2017.

Figure 4. Assets of financial intermediaries, 2003 – 2017.



Source: FSB (2019)

In general terms, there is a crossover trend in the market for financial intermediaries: while traditional banks are losing their share, the OFIs are claiming that share for themselves. On the other hand, both traditional banking and the group of institutions within shadow banking are growing over time, with traditional banking and OFIs standing out.

This situation may be due to two interrelated causes: first, as far as traditional banking is concerned, poverty is continuously decreasing during the last years (World Bank, 2020) which makes more people meet certain conditions necessary to access traditional banking products. Consequently, it is understandable that banking assets show an upward trend during the last years. As far as shadow products are concerned, the growth of these products can be justified by the growing financial culture that exists in the population. What used to be a matter of a chosen few is now becoming increasingly widespread among the common population, mainly due to online disclosure. Consequently, more and more people know about these products and how to access them.

Table 3. Shadow banking as a DGP percentage, 2012.

Country	USD trillions	Per cent of 2012 GDP	Per cent of world total
USA	26	160	37
Euro area	22	180	31
UK	9	363	12
Japan	4	67	5
Global[a]	71	117	100

Source: Arora and Zhang (2019)

In this table the total volume in USD trillion of shadow banking in different economic areas can be seen. In the United States it represents 160% of the US GDP, in the Euro zone it represents 180% of the Euro zone GDP, in the UK it represents 363% of the UK GDP or in Japan it represents 67% of the Japanese GDP. In contrast, in China, shadow banking in 2012 represented 60% of GDP. However, none of the countries mentioned above had such a high shadow banking growth rate as China. The case of China will be studied in greater depth later on, but it can be anticipated that the average annualised growth of Chinese shadow banking in recent years is 34% (Arora and Zhang, 2019).

2.3. Growth of shadow banking and financing to companies and individuals.

One of the main reasons why shadow banking is growing is because the world's small and medium enterprises have difficulty accessing traditional financing from banks. Before 2004, most of this financing came from banks, but from that year onwards shadow banking financing for these companies grew exponentially. In the period of the 2008 crisis, the financing of these companies was greatly affected, but in the years following this crisis, financing was gradually recovered, mainly from shadow banking (Adrian and Jones, 2017).

The growth of shadow banking through access to financing by the most disadvantaged groups has been a constant in recent decades. This phenomenon is mainly present in developing countries. One of the first notable cases was that of the founding of the Grameen Bank by Muhammad Yunus in 1983 (Candial et al., 2011). With this project, Yunus sought to finance Bangladeshi citizens who were looking for entrepreneurship but the usual lines of credit were inaccessible to them. In China this process also took place and is partly responsible for the economic explosion of the late 20th and early 21st centuries.

Table 4. Interest rates for a 90-days loan, (worldwide approximation) 2014 – 2015.

New-issue clearing yields	November 2014 (%)	October 2015 (%)	November 2015 (%)
By deal size			
$200m or less	6.84	6.53	7.78
$201m-$350m	6.24	6.13	6.81
$351m-$500m	6.37	6.52	6.85
$501m and over	5.51	5.24	5.42

Source: Li (2014)

This table shows the high average cost of financing. Therefore, it is far from strange to think that many capital seekers seek alternative methods of financing through non-traditional institutions and methods.

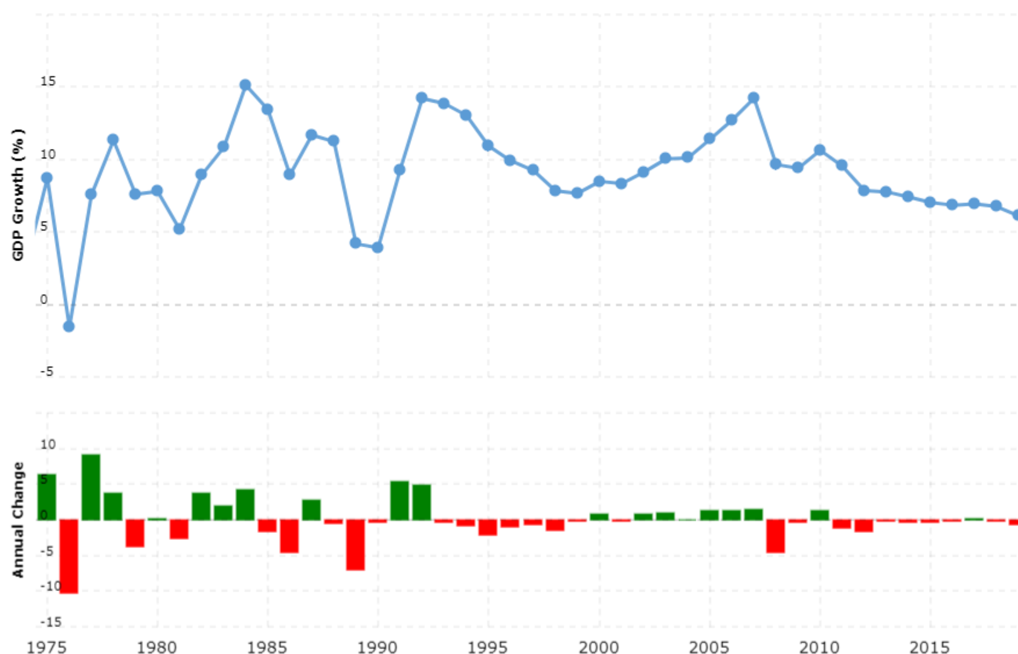
3. Shadow banking: the case of China.

Although it has been seen before that shadow banking is a global phenomenon, there is a country that has developed a shadow banking system with its own peculiar characteristics. This country is China, a country in constant evolution and development. After the 1978 Chinese Economic Reform by the Communist Party of China and the

transition to a market economy, this country has experienced growth rates of over 10% in many years until well into the 21st century, becoming the second world power in 2010 after these boom years. Currently, although its growth rate is lower nowadays, it is not negligible, since in recent years it is stabilizing at around 6-7% per year, although it is true that growth is increasingly lower, something typical of developed economies.

This high growth in the country led, as is logical, to the development of a strong, complex and large financial system, which today is probably the second largest financial system in the world. Within this system, a network of institutions was developed in China that provided financing to those agents in need of capital. This alternative financing model, as mentioned above, allowed access to capital for those who could not access traditional financing channels. Therefore, this ability to provide funds to Chinese entrepreneurs of the time was one of the multiple causes of the Chinese economic miracle mentioned above.

Figure 5. Yearly China's GDP growth, 1975-2020.



Source: Macrotrends (2020)

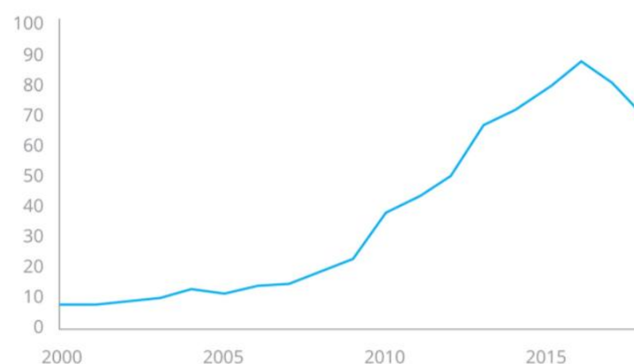
At this point, a first conceptual distinction must be made between Chinese shadow banking and that of other economic areas. While, as we have seen above, Western definitions of shadow banking highlight its condition as 'outside the system' in a somewhat negative sense, in China there is no attempt to provide shadow banking with a negative conception of it, at least not officially. Liangsheng (2014) describes how the People's Bank of China (PBOC) defines shadow banking as all those instruments that

perform credit intermediation functions, which banks are responsible for (liquidity, maturing and risk transformation), but which reduce the burden of traditional banking regulation. Therefore, the official definition of the Chinese central bank places great emphasis on highlighting the dynamism of these institutions and processes due to their lack of regulation. This conception is diametrically opposed to that disseminated in the West, since the lack of regulation enjoyed by these institutions is seen as risky.

Of course, not only is the way of understanding shadow banking different, but its own structure and functioning differs from Western models. Pozsar et al. (2010) comment that, while in the US banks do not sell these products directly, but through third party institutions, in China it is the Chinese banks themselves that issue this type of product and channel the income to these third party companies. Therefore, while in the West the star shadow product is ABS, in China they are loans to economic agents who cannot access the traditional financial system. Another difference that should be highlighted is that the vast majority of Chinese shadow products are offered and remain within the local economy, so that foreign investment in this system is insignificant compared to the global volume. Finally, China has developed shadow banking concentrated in a few institutions, which are more accessible to economic agents than Western shadow banking. In short, if we had to summarize Chinese shadow banking, we could summarize everything in the following points (Elhers et al. 2018):

1. Banks are the central element of Chinese shadow banking.
2. Shadow banking in China offers alternative savings instruments and loans to groups that cannot access traditional financing systems.
3. Shadow banking is generally closely interrelated within the financial system.
4. Low complexity of this system.
5. Chinese shadow banking enjoys a generalised real guarantee from the issuers themselves.

Figure 6. Chinese shadow banking as % GDP, 2000-2016.



Source: Matthews (2019)

In recent years, one can see how the volume of Chinese shadow banking has multiplied. While in 2000, shadow banking in China accounted for less than 10% of GDP, by 2015 it will account for 90%. The main reason for this growth is the fact that the Chinese government itself, through the PBOC, has encouraged the development of financing for economic agents through these alternative channels. However, in recent years the government itself has increased the regulatory burden of Chinese shadow banking. This fact, together with a continued growth of GDP in China, leads to the downward trend of the relative importance of shadow banking in 2016.

3.1. Chinese's shadow banking's products.

As we have seen in the introduction to the section, Chinese shadow banking presents a series of differences with respect to Western models. As you would expect, the different way this system works in China means that it has to create its own products. The existence of these products is based on the fact that the banks themselves are the main agents of Chinese shadow banking. As banks are in the front line, products such as ABS can be dispensed with in order to offer products that provide a more direct link between lender and borrower. Therefore, the Chinese system seems to be mainly based on a system of funding by depositors, who purchase products that we will see below.

For convenience, and in view of the insistence of the data from China to be expressed in Chinese Yuan (CNY from now on) without any conversion, a reference table is attached with the USD/CNY exchange rates with the values at the end of the year in order to be able to make a quick conversion of the figures presented. It is also worth noting that China is certainly zealous about data transparency, so several data presented below will not cover the last few years.

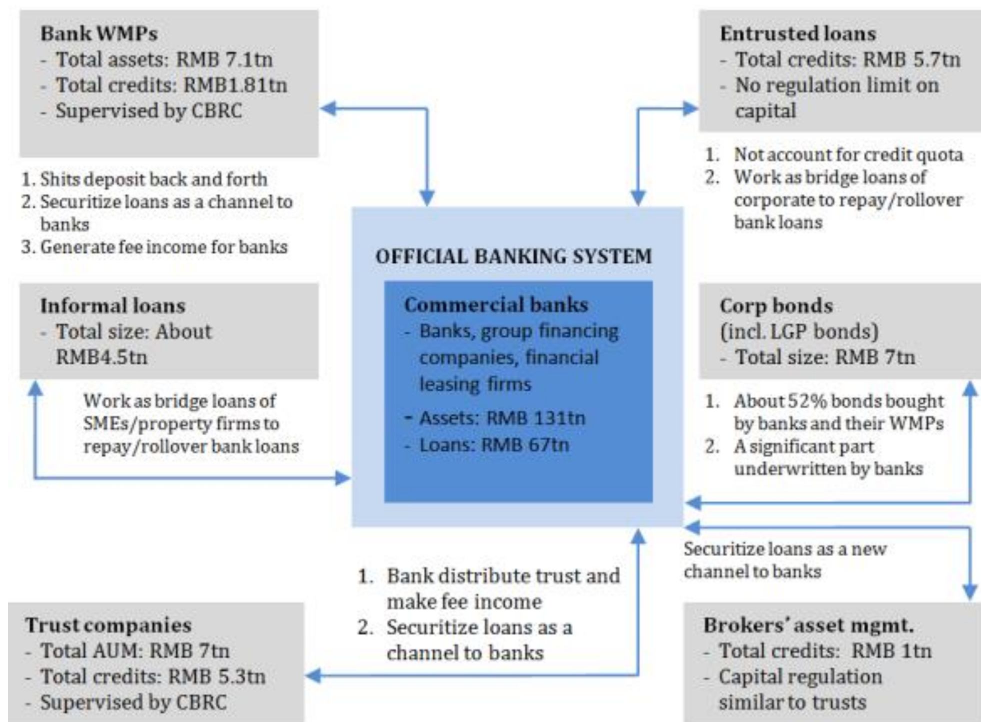
Table 5. Currency Exchange table USD/CNY (end of year) 2010, 2020.

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
USD/CNY	6.65	6.32	6.24	6.06	6.22	6.46	6.96	6.58	6.88	7	6.69

Source: XE (2020)

In general, it seems that the CNY has not suffered any significant oscillation in this period against the dollar, which can be interpreted as an indicator of the strength of the country in this last decade. Although China has an a priori weak currency against the USD, China's greater economic growth against the US linked to growth disparities in the money supply of both currencies has meant that in recent years there have been no abrupt changes in exchange rates. In fact, in recent years the CNY has been deliberately devalued against the USD in order to make Chinese exports cheaper.

Figure 7. The Chinese shadow banking – banking nexus, 2012.



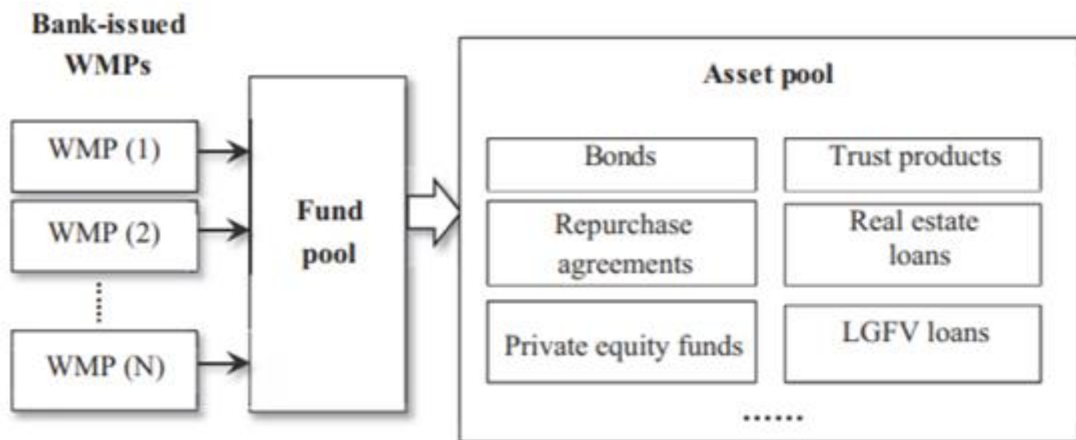
Source: Sheng and Chow Soon (2015)

As it can be seen, the official Chinese banking is directly related to all the shadow products marketed in the Chinese economy. From the subscription of most corporate bonds to the securitization of assets through its trust companies, Chinese banking is the central axis of Chinese shadow banking, creating its own system of interrelated products.

3.1.1. Wealth Management Products (WMPs).

WMPs represent the main product of Chinese shadow banking. Perry and Weltewitz (2015) define these products as investments that offer fixed returns well above those set for deposits. With the funds raised, banks invest in sectors that are often restricted from traditional bank credit due to regulatory issues. Although the main ultimate manipulators of these products and the funds obtained are the banks themselves, these are usually backed by third party companies that serve as a channel between the origin and destination of the investment. Within WMPs, we can differentiate between two main types (Jingan et al., 2015): WMPs issued by banks and those issued by other non-bank financial institutions (e.g. insurance companies and trust companies)

Figure 8. WMPs composition.



Source: Li (2014)

The process of reversing WMPs is detailed in the graph above. The banks (or other entities as we will see above) issue the WMPs. These WMPs are linked to a certain maturity and profitability. When they are contracted, banks accumulate the principal received in a pool, with which they invest in a certain amount of assets with different characteristics with which they will obtain the necessary profitability to pay the contractors of the WMPs that have financed these investments. Logically, the institution issuing the WMPs obtains a higher yield than that offered to the contractors, this being the intermediation margin of this process.

Logically, this shadow product and the investment process it entails is not without its flaws. Li (2014) comments that one of the main flaws is the degree of opacity in the investment composition of these products, which makes it extremely difficult to properly track investments. This situation clashes with moderately similar products such as traditional investment funds, in which it is not too complicated to know the composition of their portfolios. Another problem is the fact that there is no secondary market for these products, so you have to keep it until maturity.

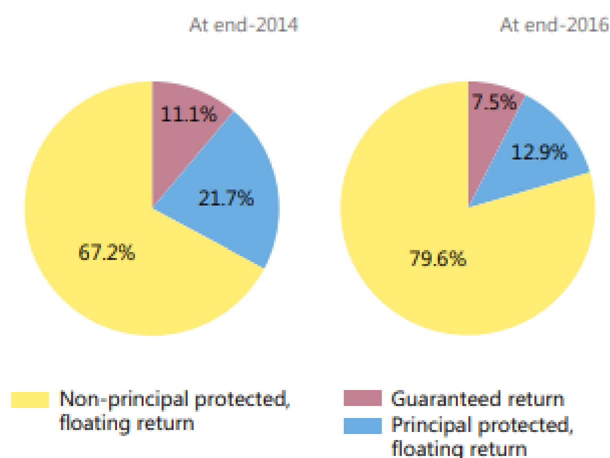
As mentioned above, banks are usually the main issuers and managers of WMPs, generally issuing two types of WMPs:

1. **Product-Return-Guaranteed WMPs (PRG-WMPs):** these issues are backed by the issuing entity, either the principal contribution or the agreed return.
2. **Non-principal guaranteed WMPs:** this product is totally variable. The bank does not guarantee any yield.

On the other hand, banks issued by non-banks have a similar operation to WMPs issued by banks. The main difference lies in the fact that these companies cannot enjoy the

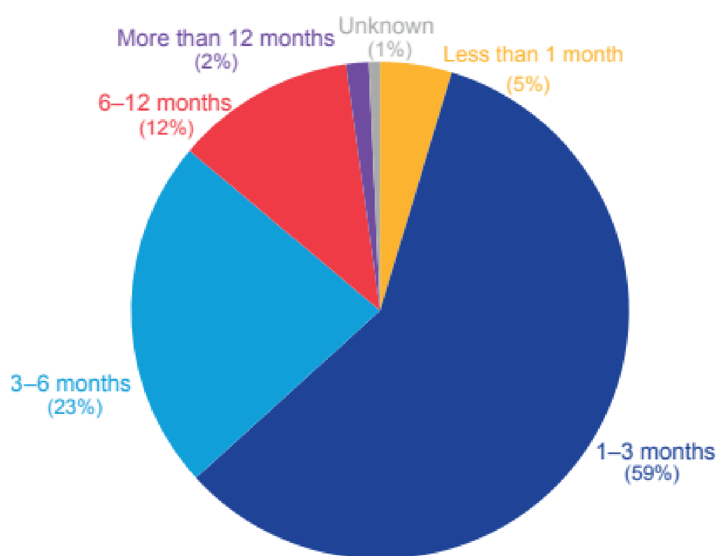
guarantee that a bank can afford, since they are backed to a greater or lesser extent by the Chinese government. Also, companies can sell their MWPs through the various banks in exchange for a payment to the bank for their services.

Figure 9. WMP product types, 2014-2016.



Source: Elhers *et al.* (2018)

Figure 10. WMP maturities, 2014.



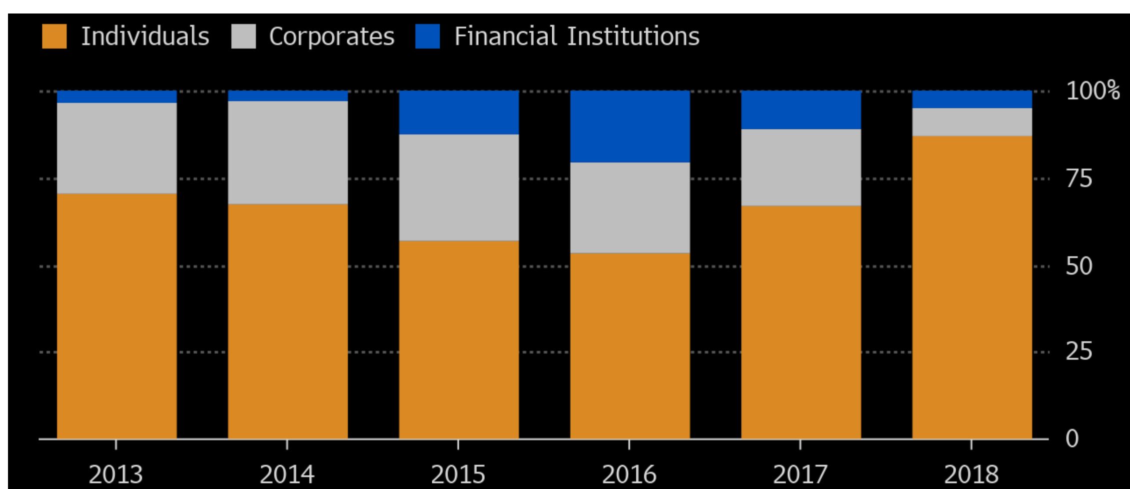
Source: Perry and Weltewitz (2015)

The following graph shows how the WMPs are, for the most part, very short maturation products, with more than 80% of the WMPs emitted within a maturation period of less than 1 year. This entails an implicit counterparty risk, as the funds collected by WMPs are invested in short maturing, high yield assets (with the associated illiquidity and risk taking) and Chinese banks assume a potentially high collateral payment. In terms of the

most widely used types of WMPs, WMPs not covered by issuers are the most widely traded, accounting for 67% of total WMPs in 2014 and almost 80% in 2016. This is due to the higher profitability of these shadow products which, linked to the lack of risk limits by the Chinese authorities, allows banks to configure these investments and for them to be acquired by economic agents.

Currently, WMPs are the most widely used shadow product in China, with a record amount of 26.3 trillion CNY (3.9 trillion USD) in the hands of Chinese companies, banks and individuals in the first half of 2020 (ChinaGoAbroad, 2020). This figure, which is growing, is behaving contrary to expectations, as since 2014 the Chinese government has begun a process of regulatory increase for certain shadow products in order to safeguard the country's financial health. Nevertheless, Chinese shadow banking has experienced growth in recent years, with the value of WMPs increasing by 11.8% in the first half of 2020 and WMPs being bought and sold on the financial markets for 84 trillion CNY (12.57 trillion USD) in the same period. Therefore, WMPs are by no means a passing fad, but the main alternative investment route in China, a route that seems to have no end in the short and medium term.

Figure 11. Share of China's WMPs by holding groups, 2013-2018.



Source: Bloomberg (2019)

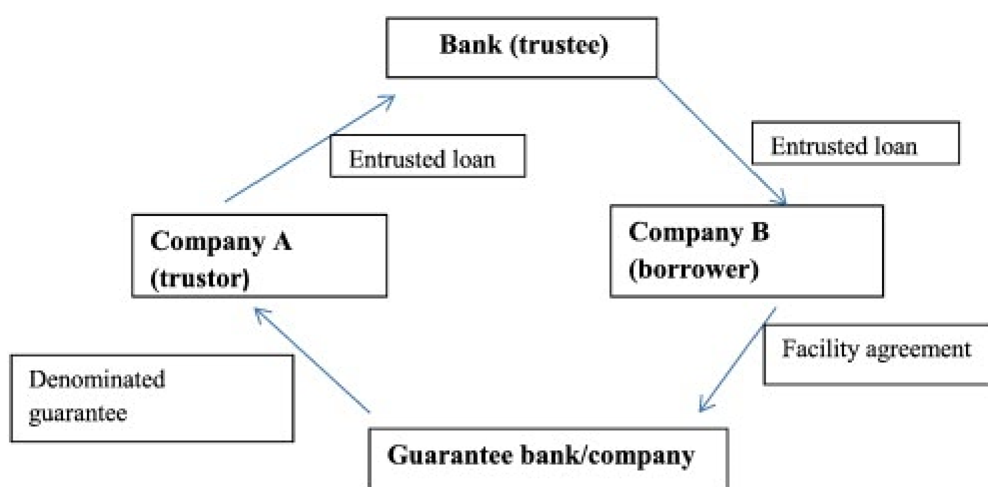
Individual investors are the main investors in WPS, holding about 60% of the total shares in WMPs in recent years. Furthermore this figure has increased in 2018, representing now more than 80%. On the other hand, companies have gone from representing around 25% to barely 5%, which leads us to think that they are now focusing on other means of financing and investment. Finally, financial institutions are following a more or less similar path to companies, since after a sudden interest in these products in 2015 and 2016, the latter stopped being interested in WMPs. This downward trend in corporate entities is

due to the risk involved in these products and, despite the PBOC's attempt to increase the regulatory burden on them to provide guarantees, this has not been sufficient to give these agents the necessary confidence.

3.1.2. Entrusted loans.

The second most commercialized shadow product in China are the commissioned or risk loan, commonly known as entrusted loans. Allen et al. (2019) define entrusted loans as loans made by non-bank companies whose recipients are other companies. For this purpose, they use banks or a third company, which provide the loans on behalf of the companies granting the loans. For the performance of these services, the institution on behalf of which the loan is granted receives commissions. In addition, trust companies do not bear any risk for providing this service, since the final risk of the investment falls on the concessionary company. The basic process followed is as follows:

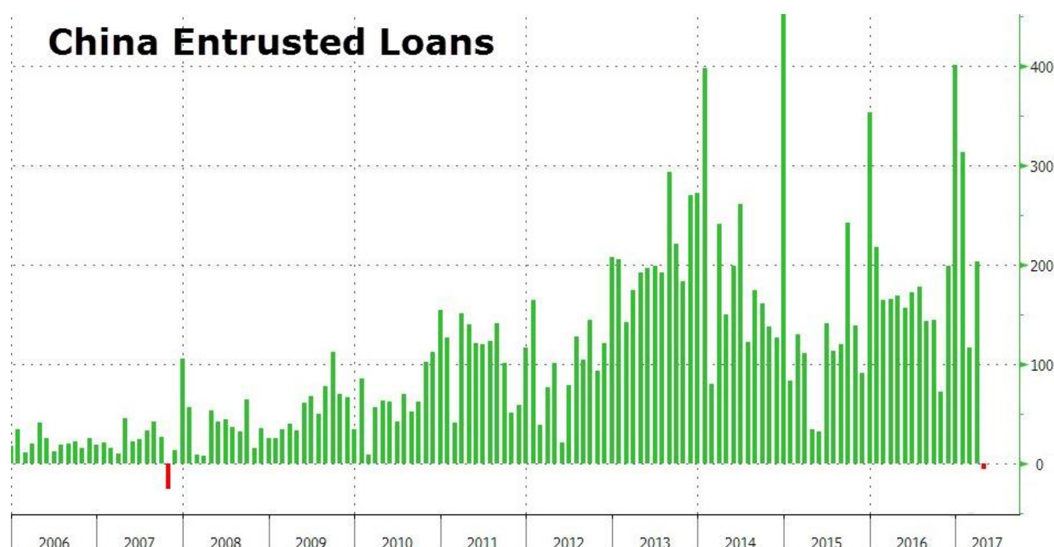
Figure 12. Entrusted loan creation process.



Source: Lu et al. (2015)

These products are aimed at all those less favoured economic agents who cannot access traditional banking due to their characteristics (Elhers et al. 2018). These products were responsible for the fact that a large number of Chinese citizens whose access to banking was difficult could obtain financing for their investments. For this reason, this product was really popular in China in the 1990s and early 2000s. The lack of regulation was what allowed access to so many borrowers. However, from 2007 onwards, a series of regulations altered the structure of this market, which, although it made it imperative to carry out certain reforms, did not prevent the growth of these shadow products.

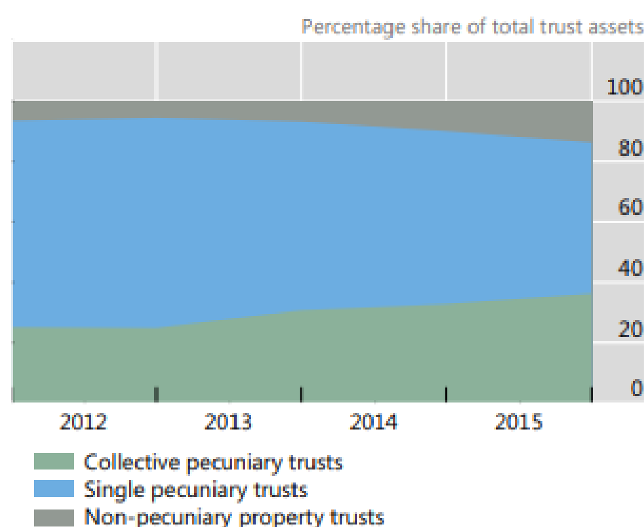
Figure 13. China entrusted loans' volume (CNY billion) 2006-2017.



Source: Zero Hedge (2017)

It can be seen how entrusted loans have been growing slightly in recent years, although unevenly in the last period studied. Starting in 2013, we can see periods where the value of entrusted loans reaches 400 billion CNY (60 billion USD) while in others it is close to zero. Zero Hedge (2017) directly relates this irregular behaviour to the sensations experienced by Chinese investors, who seem to suffer from periods of conservatism in line with the behaviour of Chinese institutions and the Chinese economy in general.

Figure 14. Types of trusts, 2012-2015.



Source: Elhers *et al.* (2018)

The trust companies used in these operations can be grouped into three types depending on the type of intermediation they carry out in the shadow credit process and the public they are aimed at:

1. **Single pecuniary trusts:** directly related to the main banks and other large investors. These trust companies are tailor-made for each investor. Their main function is to channel WMP funds into assets of a very specific nature.
2. **Collective pecuniary trusts:** these companies gather funds from various investors and invest in a series of assets. Their main investors are financial institutions.
3. **Non-pecuniary property trusts:** these companies manage non-monetary assets (e.g. commodities) usually on behalf of a single client.

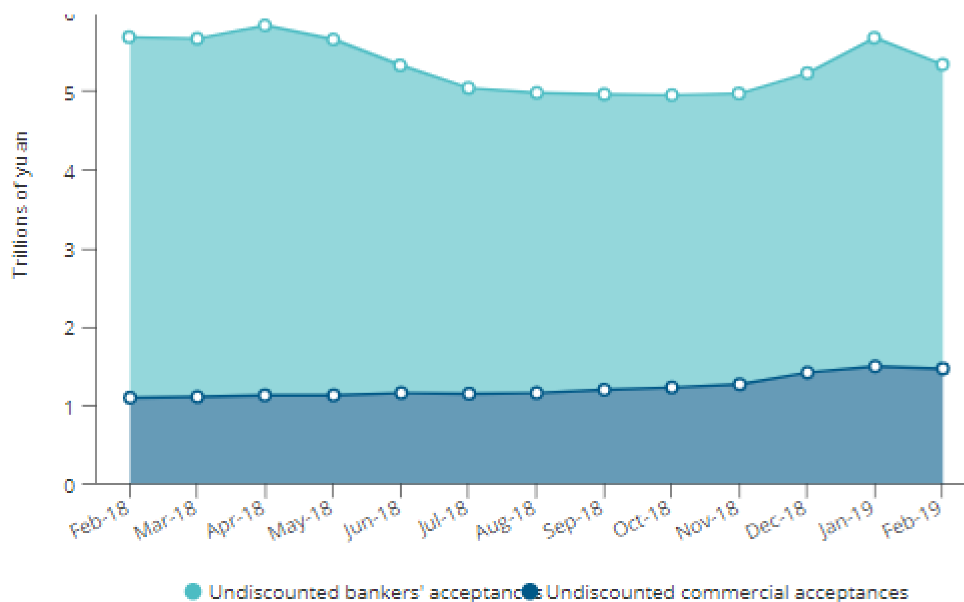
3.1.3. Bankers' acceptances and commercial acceptances.

Generally speaking, a bank acceptance is a fixed-rate loan used primarily to finance commercial transactions (TDBank, 2019):

1. Permission to postpone the maturity of the payment to be received or made as an importer/exporter, but with the direct and unconditional obligation of the drawee bank.
2. Method of financing the sale of goods at a fixed rate.

In China, this method of financing was officially launched by PBOC in 2013 as a means to give shadow banking a greater role in the creation of credit in China, having previously existed analogues recognized as a similar product but without institutional acceptance. McMahon (2019) explains how, after their official launch, these products enjoyed great popularity in the years to come because their classification made it possible to avoid regulatory barriers. However, in recent years this shadow product has ceased to be so popular, as economic traders are opting to carry out credit operations among themselves, moving banks away from their role as intermediaries.

Figure 15. Undiscounted bankers' acceptances vs. undiscounted commercial acceptances, 2018-2019.



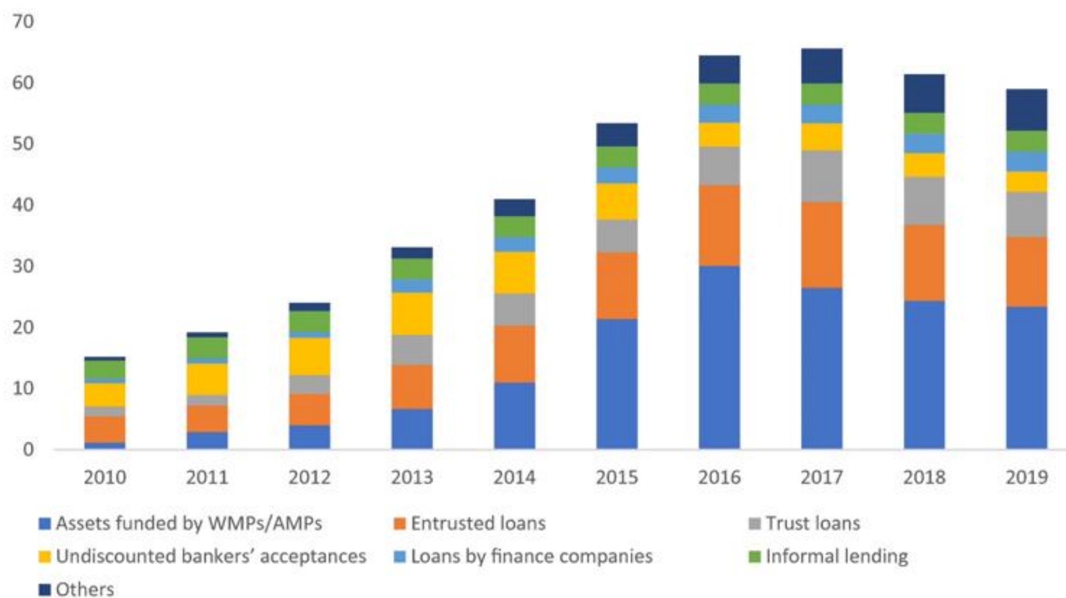
Source: McMahon (2019)

The graph confirms the above commented: while bank acceptances are maintained and even lose volume in certain periods, business acceptances are growing steadily, experiencing a growth of around 30% between February 2018 and February 2019. If this trend continues, perhaps in the long term the banks will lose their main role as intermediaries in the control of this type of shadow assets in a natural way, so a future regulatory review for this type of transaction by Chinese institutions could be expected so that the banks will once again have control of these operations. It should be remembered that China is a country that opts for the centralization and institutionalization of a large part of the aspects related to its country, so the above assumption would not be far-fetched.

3.2. China's shadow banking summary.

This last section will summarize the information provided throughout this section in order to provide an overview of what has been discussed. Additionally, it will be seen how it affects the growth of Chinese shadow banking in the Chinese economy.

Figure 16. Components of shadow banking in China (CNY trillions), 2010-2019.



Source: Allen and Gu (2020)

Finally, this graph serves as a summary of all the above. This graph includes the main types of products and their relevance within Chinese shadow banking. In general terms, you can see how Wealth Management Products and Entrusted loans are the products with the most value within this system, representing half of it in all the periods shown. On the other hand, shadow products appear to be growing or maintaining their volume, with the exception of bank acceptances issued to importers and exporters, which appear to be declining since 2016. Likewise, the global value of Chinese shadow banking seems to have grown largely in a short period of time, from around 15 trillion CNY (approx. USD 2.24 trillion) to around 60 trillion CNY in 2019 (approx. USD 8.96 trillion).

The global evolution of the figures of Chinese shadow banking is perfectly in line with figure 6. This reveals the close relationship in China between the superficial economic system and the shadow system. This fact could confirm the financing possibilities that this alternative system offers to Chinese citizens, allowing them to undertake and invest even without fulfilling the necessary requirements to be able to obtain financing from Chinese banks. Therefore, the greater the entrepreneurship of the Chinese population through these alternative means, the greater the growth of the total value of Chinese production.

4. Conclusions.

As we have seen, shadow banking is a topic that became known worldwide relatively few years ago. It is certainly a delicate subject, since, although it is true that its great capacity to generate risk makes specific regulation necessary, it is difficult to ever seriously consider establishing effective regulation. However, if it were considered and even applied, it would most likely be ineffective. This is because shadow banking is not a specific institution or type of business, but rather it encompasses a great tangle of interconnected institutions that carry out some financing activity outside conventional limits. In a strict sense, and from the western prism, we can only distinguish the fact that banks are not the main agents involved (directly) In fact, one of the purposes of shadow banking in the West is to separate certain activities carried out by traditional banks through this complicated alternative financial system.

As for the predominant shadow banking systems in the world, two types have been distinguished: the Western system and the Chinese system. The first stands out for its attempt to hide the root of this system, which are largely traditional financial entities. Western shadow banking, by means of securitization and the use of it to carry out certain operations of dubious morality through its accessory institutions through the manipulation of asset packages with the implicit complicity of several satellite industries of the financial system (e.g. rating agencies) caused a crisis of a global nature, the effects of which are still noticeable today in certain aspects. Despite subsequent attempts to regulate and harden both traditional and shadow banking, this is a system that will not disappear in the West in the short term, since there are many interests in maintaining it and there is a great multitude of agents directly and indirectly related to it.

As for the shadow banking developed in China, it has a peculiarity that makes it stand out from the Western model of shadow banking. This curiosity lies in the fact that traditional banking not only does not hide its presence in this system, but its presence is seen as a seal of guarantee by Chinese investors. Of course, Chinese shadow banking has a series of products of its own which, although they have certain similarities with Western shadow products, have characteristics that make them unique, perhaps the most important being the banks' guarantee on certain operations. On the other hand, in Chinese shadow banking it is also common to create subsidiary entities to carry out a multitude of operations within this industry. Of course, China is not interested (at least not to any great extent) in this alternative system falling, since a great multitude of economic agents (mostly Chinese) are benefiting from these investment and financing opportunities.

Finally, with all that has been analyzed throughout the work, it is to be expected that shadow banking will continue to grow more and more globally. The growing greed of investors, together with the increasing regulation of public bodies that try to mitigate financial risk as much as possible in the traditional financial system, is a perfect breeding ground for the proliferation of this alternative financial system. If we add to this the current and future technological development that allows and will allow more efficient operations in less and less time and the capacity of adaptation and mimicry of shadow banking to the panorama presented at each moment, it is logical to think that this system is far from being fully exploited and will continue to expand for a long season in one form or another. Especially considering that this alternative financing system means the possibility of obtaining funds and investing in a multitude of people all over the world.

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