# FINANCIAL INNOVATIONS IN DEVELOPING COUNTRIES:
# THE CASE OF TURKEY

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# ABSTRACT

FINANCIAL INNOVATIONS IN DEVELOPING COUNTRIES:

THE CASE OF TURKEY

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Financial innovation is an important phenomenon in the development scheme of financial markets, gaining more ground after the 1980s. The primary aim of this thesis is to investigate two cases of financial innovation in Turkey: Credit card installments and gold accounts. Financial innovation literature lacks an examination of financial innovations in developing countries and does not present any alternative explanations behind their emergence. Differences between institutional structures and the effect of financial liberalization and integration create alternative scenarios for the emergence of financial innovations. Although the development level and the transaction volumes are still significantly lower especially for the securitized financial products in developing countries as suggested by market depth, alternative products can have significant impacts on the economy. Therefore, the case study in this thesis fills a gap in the literature by focusing on two financial innovations in Turkey, an emerging market, which have unique features endogenous to domestic economy and have been used mostly by households. Institutional and cultural factors affect the emergence and development of the markets for both financial innovations, and have altering effects for macroeconomic indicators.

**Keywords:** Financial innovation, developing countries, Turkey

# ÖZ

GELİŞMEKTE OLAN ÜLKELERDE FİNANSAL YENİLİKLER:

TÜRKİYE ÖRNEĞİ

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Finansal yenilik özellikle 1980 sonrası süreçte kazandığı yer ile birlikte finansal piyasaların gelişim süreçleri açısından önem taşımaktadır. Bu tez çalışmasının ana amacı Türkiye'deki iki finansal yeniliği, yani kredi kartı taksitleri ve altın hesaplarını, araştırmaktır. Finansal yenilik yazını gelişmekte olan ülkelerdeki finansal yeniliklerin irdelenmesinde yetersiz kalmaktadır ve bu yeniliklerin ortaya çıkışlarını açıklamada alternatif tanımlar sağlayamamaktadır. Finansal yeniliklerin ortaya çıkışları açısından kurumsal yapılardaki farklılıklar ve finansal liberalleşme ile entegrasyonun etkisinin alternatif senaryolar oluşturduğu görülmektedir. Piyasa derinliğinin gösterdiği üzere, gelişmekte olan ülkelerde menkul kıymetleştirilen finansal ürünlerin gelişim düzeyleri ve işlem hacimleri oldukça düşük olmasına rağmen alternatif ürünler ekonomi üzerinde önemli etkilere sahip olabilmektedir. Bu nedenle, bu tezde yer alan vaka çalışması yükselen pazarlardan olan Türkiye'deki özgün özelliklere sahip ve çoğunlukla hane halkları tarafından kullanılan bu iki finansal yeniliğe odaklanarak yazındaki mevcut boşluğu doldurmayı hedeflemektedir. Kurumsal ve kültürel etkenler söz konusu iki finansal yeniliğin hem ortaya çıkışlarına hem de piyasalarının gelişimine etki etmekle kalmayıp, aynı zamanda makroekonomik göstergelerin seyrini de değiştirebilmektedir.

**Anahtar kelimeler:** Finansal yenilik, gelişmekte olan ülkeler, Türkiye

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| | |
|---|---|
| ABS | Asset-Backed Securities |
| ATM | Automated Teller Machines |
| BIS | Bank for International Settlements |
| BRSA | Banking Regulation and Supervision Agency |
| CBRT | Central Bank of the Republic of Turkey |
| ICC | Interbank Card Center |
| IGR | Istanbul Gold Refinery |
| IMF | International Monetary Fund |
| MBS | Mortgage-Backed Securities |
| POS | Point-of-Sale |
| ROC | Reserve Option Coefficient |
| ROM | Reserve Option Mechanism |
| TUIK | Turkish Statistical Institute |
| WGC | World Gold Council |

# CHAPTER 1

# INTRODUCTION

Innovation is inevitable and it is a prerequisite condition to improve production of goods and services both in the industry and the financial markets in the 21$^{st}$ century. Based on an original idea, it is applied to the production of new goods or to alter the already existing processes, creating new grounds for higher value added. With increasing technological developments in the recent decades, societies have evolved into a fast consumption culture, which necessitated ever important innovations to be made in order to remain compliant to the market. When thinking innovation, the first thing that comes to mind is 'change', most of the time being positive, however in some circumstances leading to negative results.

In the early 20th century, innovation is thought to be mostly related with the real sector, and the idea had been pioneered by Schumpeter in his works. However, innovation is not only confined to its occurrence in the real sector, but we observe abundant number of innovations also in the financial sector which are called 'financial innovations', referring to the innovations that take place only in the financial markets.

When it comes to financial innovations, we should bear in mind that they have existed for a long time in history, as early as the introduction of coins, perhaps even earlier. Although financial innovations should be treated within a broad list of new products or process, they are most of the time referred to as innovations that emerged after the 1980s (e.g. securitized assets), especially in line with technological development and financial liberalization. In other words, as the communication and computer technologies are advanced, there appeared new ways of financial intermediation which provided alternative benefits for the participants of financial markets; but, not all financial innovations proved to be beneficial in the end.

The recent financial innovations are novel products which have been a part of the securitization process that took place in the recent decades, along with others. Securities, which have many types and versions, are asset-backed securities, credit default swaps and derivatives, just to name a few. Still, they are complex financial products, only to be used by finance professionals, excluding other economic agents. They are generally thought to be favoring the extension of access to credit, reducing or transferring risks, increasing efficiency, enhancing profitability, and stimulating financial development and growth. However, the last episode of the bust cycle demonstrated that financial innovations should be treated more cautiously as they can lead to volatility, macroeconomic imbalances, increased risks, increased possibility of default, and so on.

On the one hand, the global financial crisis of 2008 changed the view towards financial innovations from positive to negative, and on the other hand, the literature on financial innovation had touched upon different attributes of financial innovations. Finding the roots of post-1980 financial innovations is one of the most important topics among studies, i.e. researchers try to find the reasons why these latest financial innovations occurred and how they emerged. One body of scholarship is looking upon the historical side, arguing that securitization process which has taken place within the last few decades is not the only thing to examine, but financial innovations existed in many forms for hundreds of years.

Another group of scholars is trying to find the true characteristics of innovators, focusing on the qualitative aspects of financial innovators. Many others are dealing with their macroeconomic implications, trying to find out whether there is a connection between innovations and financial development, which would lead to economic growth at the end. Furthermore, a great deal of academic work is being done on the measurement of financial innovations, i.e. there are studies searching for the ways to explain innovations in a quantitative manner.

In spite of lively discussions about their historical roots, characteristics and possible effects on macroeconomic conditions, the existing literature on financial innovation mostly focuses on developed countries, especially the United States. The reasons for neglect of other economies, to some degree, are existence of available data for advanced economies which enable more comprehensive examinations of these markets and also the high level of financial deepness which produce a more suitable environment for emergence of financial innovations.

Since there are only a few studies on financial innovations in developing countries, some fundamental questions such as how financial innovations emerged in developing countries have not been addressed well so far. Hence, alternative explanations are needed in order to interpret the emanation of financial innovations in developing countries.

As such, this study intends to offer some explanations for the emergence and structure of financial innovations in the developing countries. Using the already existing benchmarks and definitions for developed countries, we investigate whether financial innovations are common or not in developing countries within the framework of mainstream understanding of financial innovations. In this regard, we argue that although developing countries have imported financial innovations from advanced economies, their applications might have occurred in a different way than in their counterparts. More importantly, certain financial innovations emerged owing to the unique institutional characteristics and particular domestic economic conditions on both micro and macro levels in the developing countries. For the sake of our study, we have chosen Turkish economy for a case study in which we analyze two different financial innovation cases which are credit card installments and gold accounts. Primary rationales behind the choice of these two cases are that these innovations are examples from Turkish economy which are relatively recent which attracted a wide participant basis, and they fit well into the broader definition of financial innovations.

The outline of this thesis is as follows: In Chapter 2, we provide a comprehensive literature review on financial innovation.[1] We focus on its different definitions and its brief history, the reasons behind the emergence financial innovations, their

[1] This chapter draws from the comprehensive literature review study of Comert and Epstein (unpublished) for the categorization of studies.

different types and measurements, and innovator characteristics. We show that how financial innovation literature has shifted its stance from positive to a negative attitude especially after the Great Recession. As financial innovation literature has some missing links in terms of interpreting them and leaving out developing countries, we provide a brief critique and propose our stance towards building the basis of the next parts of our study.

In Chapter 3, following the arguments and proxy measures provided by the mainstream literature on financial innovations, we briefly examine the differences and possible reasons behind the emergence of financial innovations and levels of innovativeness between developed and developing countries. To identify how financial innovations emerge in a developing country, we study institutional differences and the effect of financial liberalization and integration. For developing countries, we observe that banking sector and security exchanges are not as mature and well-built as in developed countries, and in terms of access to credit, they also lack behind, revealing that financial deepening which could be acknowledged as an indicator of innovativeness remains behind in the developing countries. Also, security innovation statistics suggest that developing country financial markets did not become as complex as their counterparts by utilizing securitized assets for financial needs of firms. Hence, we argue that it is important to look at alternative cases of financial innovations which have more significant effects on the economy.

In Chapter 4, focusing on the case of Turkey, we examine two financial innovations which are credit card installments and gold accounts. For both cases, we argue that there are institutional and cultural reasons behind their emergence. We support our argument with the data on their emergence and spread, their effects on the market structure and on macroeconomic conditions. Credit card installments, having unique features specific to Turkey, do not bear additional costs for consumers when they make purchases and thus, helped maintaining a consumption based economic growth. Gold accounts, on the other hand, became a part of an innovative scheme after the regulation of the Central Bank of the Republic of Turkey (CBRT). After the regulation, further actions taken by commercial banks created a room for an important innovation, and transformed gold from an informal saving instrument to a formal saving instrument in Turkey. Since both innovations accelerate the inclusion of individuals into the financial market, we can consider them as effective financial innovations.

Chapter 5 concludes the thesis by summarizing our findings and reflecting upon mainstream literature on financial innovation through two cases we examined. We argue that the ‘developing country’ cases have to be studied not with reference to retrospectively specified markers of so-called ‘successful’ financial developments, but with a broader understanding of financial innovation as a diverse set of responses to problems and opportunities presented in diverse contexts. As this study shows, the Turkish context, an emerging market with low saving rates and consumption oriented structure, have developed its idiosyncratic innovative financial instruments within a framework of local effects interacting with financial markets.

# CHAPTER 2

# LITERATURE REVIEW ON FINANCIAL INNOVATIONS

Financial innovation has gained more attention from academia since the 1980s. This is particularly the consequence of the surge in new financial products and processes that are observed after increased financialization in the advanced countries dating back to these years. In general, there was an appraisal of financial innovations as they have been thought and most of the time proved to be beneficial in escaping from the rigidities of the market conditions. However, especially after the recent global financial crisis, the positive outlook on the financial innovations have begun to be reversed and contemporary financial innovations were criticized as they were thought to be responsible for the occurrence of the crisis.

The former group of studies are mostly dealing with financial innovations within a ‘narrow definition’, as they claim that financial innovations are resulted by overcoming a constraint. According to them, financial innovations are defined as new forms of financial tools which are maximizing profits, hedging risks, and decreasing volatility. On the other hand, the latter group of studies are approaching to the concept under a ‘broad definition’, where they adopt historical and/or evolutionary standpoints, they take pros and cons of financial innovations into consideration, and they touch upon alternative explanations of financial innovations.

In order to establish the basis for the remaining chapters of this thesis, we need to understand the definitions and the structure of financial innovations in a comprehensive manner. We focus on conventional literature in this chapter to address the important standpoints. First, we give examples of various definitions from the literature. Second, we concentrate on the studies on the possible reasons of the emergence of financial innovations, in other words, we look upon the studies where they are trying to answer the question of why financial innovations exist.

Third, we give examples of studies where they show the types and measurements of financial innovations, and the characteristics of innovators. Fourth, we focus on the change in the perception of financial innovations after the financial crisis of 2008, which revealed the negative sides of financial innovations. Lastly, covering all of the above, we present a critique of financial innovation literature, and come up with an alternative definition while presenting our stance towards financial innovations in developing countries, which have not been mentioned in the literature extensively.

## 2.1. What is Financial Innovation?

The definitions of financial innovation derive from real sector innovation, especially one comes forward which distinguishes between product and process innovations. *Product* innovation is defined as the introduction of a new product, or a significant qualitative change in an existing product. In addition, *process* innovation is defined as the introduction of a new process for making or delivering goods and services. Both types of innovations are expected to yield higher value added for the economy (Greenhalgh and Rogers, 2015).

According to Van Horne (1985), financial innovation is a new product such as zero coupon bonds or a new process such as a new delivery system. In defining financial innovations, Boot and Thakor (1997) assert that “financial innovation should be thought of more broadly as improving risk sharing providing tax advantages, in addition to information sensitivity”. Tufano (2003) defines financial innovation as “the act of creating and then popularizing new financial instruments as well as new financial technologies, institutions and markets”.

One of the most cited definitions from the literature belongs to Frame and White (2004), where they define financial innovation as: “Something that reduces costs, reduces risks, or provides an improved product/service/instrument that better satisfies participants’ demands”.

As can be seen, there is no agreed definition on financial innovation, although all definitions point to the positive features. There are some missing links in these definitions, some additional properties should be included. Hence, by using the alternative definitions, we could extend and unify them in order to have a comprehensive one which can embrace all examples. We turn to this point in the last section of this chapter.

### 2.2. Emergence of Financial Innovations

There are a wide variety of explanations from the literature on why financial innovations exist in the first place. The motive of profit maximization and the importance of participant demand were considered as two important factors behind the existence of financial innovations. Achieving efficiency by the help of cost minimization has considered to be a fundamental factor, which can only be attained by innovativeness. In this vein, Flood (1992) asserts that the basic economic behavior of profit seeking is the main reason behind financial innovations, that the presence of new potential profits creates the incentives to innovate and they can be attained, for example, by reductions in costs, i.e. by technological improvements. Gennaioli et al. (2012) argue that: Initially, there is a presence of strong demand from investors for safer patterns of cash flows, and this feature is the same for all financial innovation cycles. Then, investors demand more as the available products in the market remains inadequate for future transactions.

The effects of market constraints were also thought to be significant for the emergence of financial innovations, which had been discussed by earlier studies. Ben-Horim and Silber (1977) claim that financial firms are constrained by self- and market-imposed constraints (e.g. balance sheet constraints, targeted growth or capital levels, and liquidity requirements) where the firm imposes on itself.

Another constraint and perhaps one of the most significant reasons behind the emergence of financial innovations, which is discussed in a great deal in the literature, is government regulations. In this perspective, financial firms try to avoid regulations and they innovate to find a back door against this constraint. Miller (1986) is one of the earliest defenders of this idea as he states that the existence of restricted profitable transactions and interest rate ceilings made financial firms to innovate around them. He gives 'Regulation Q'[2] as an example, arguing that it led to the foundation of Eurodollar market when US banks had seen that Regulation Q do not apply to dollar-denominated time deposits overseas and banks used them for their own benefits. Flood (1992) also argues that the "taxpayers innovate to exploit loopholes and avoid assessments". Also, Kane (1977) uses the concept of "regulatory dialectic" in order to show the regulatory cycle: First, there are obstacles before financial actors and they innovate to get rid of those obstacles. As a response, governments release new regulations and create new obstacles, and so on.[3] We can argue that the assumption of the regulation literature is that there is always a profit-maximizing investor and a stability desiring government.

Avoiding risks is considered to be another factor behind the existence of financial innovations. In this sense, Levich (1988) states that investors and borrowers maximize their welfare considering risk. Hence, it is expected that people will seek flexible opportunities in hedging their risk. In a recent article by Frame and White (2014), it is argued that the nature of financial intermediation has changed by the use of applied statistics with cost effective methods. In this vein, advanced software and computing methods helped financial institutions to evaluate borrower information more easily and transparency is also increased.

Hence, we can summarize that there are six reasons behind the existence of financial innovations up to now: (1) volatility in macroeconomic conditions, (2) regulatory and firm-based constraints, (3) technological advancements, (4) incomplete markets and information asymmetries, (5) competitiveness and the structure of the market, and (6) hedging and diversifying risks (Van Horne 1985, White 2000, Tufano 2003).

Aside from the fact that the above factors accelerated the development of financial innovations, another body of literature also aims to put forward the historical (or,

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[2] Regulation Q had been in effect in the US after the Great Depression. It prohibited banks to pay interest on demand deposits, and more importantly, it imposed interest rate ceilings in other types of bank deposits such as savings deposits and time deposits until 1986.

[3] For an additional explanation on regulatory constraints, see Ross (1989). In addition, Broaddus (1985) discusses the history of regulatory constraints.

evolutionary) explanations. Historical literature sees financial innovations as natural outcomes in a changing economic environment. They may either be more successful adaptations or be a part of necessary modifications. In this regard, Battilossi (2000) states that: “Financial innovation, therefore, is a historical process that can be systematically analyzed and interpreted by determining the factors and conditions that initiated the supply of, and demand for, new financial products, techniques or institutions.”

In regard to the historical explanations, Van Horne (1985) asserts that financial innovations are rarely original products or processes, mostly they are modified versions of existing ideas. According to Flood (1992), “the history of finance can be organized as a chronicle of innovations”, and he shares examples from history: Lydian coinage, Christian and Islamic bans on usury, and foundation of modern insurance. Furthermore, Tufano (2003) claims that in a profit maximizing economy, it is natural to have financial innovations as developments and novelties are ongoing part of the economy, and he argues that “most innovations are evolutionary adaptations of prior products”.

In addition, some authors conducted a more historical research, linking the earlier developments in finance to today’s innovations. Scholars did not disregard the importance of continuity in financial industry. For instance, Goetzmann and Rouwenhorst (2005) identified nineteen financial innovations in their study and placed those under three categories which exhibit their features: (1) they facilitate transfer of value through time, (2) they allow the ability to contract on future values, and (3) they permit the negotiability of claims. Also, Knoll (2008) based his research on ancient roots of financial innovation and links an early financial practice to a modern financial product, which is the technique of “put-call parity”. Supporting the idea that financial innovations cannot be confined completely into recent ones, Laeven et al. (2015) argue that they were mundane financial improvements such as “the new financial reporting procedures that facilitated the screening and monitoring of railroads in the 19$^{th}$ century, improvements in data processing and credit scoring that enhanced the ability of banks to evaluate borrowers since the 1970s, and the establishment and upgrading of private credit bureaus around the world during the last few decades".

## 2.3. Types and Measurements of Financial Innovations and Innovator Characteristics

Regarding their historical evolutions and the role that they played in the financial markets, the types of financial innovations might give us a better understanding of the current literature on financial innovations. For this reason, many important pieces have included some taxonomies on financial innovations. In a 1986 report of BIS (Bank for International Settlements), innovations are classified into four categories which are risk-transferring innovations, liquidity-enhancing innovations, credit-generating innovations and equity-generating innovations. This shows us that financial innovations should affect various markets or have an impact over at least one of the above. Moreover, Frame and White (2004) group them as "new products (e.g., adjustable-rate mortgages, exchange-traded index funds); new services (e.g., online securities trading, internet banking); new "production" processes (e.g., electronic record-keeping for securities, credit scoring); or new organizational forms (e.g., a new type of electronic exchange for trading securities, internet only banks)". In fact, this taxonomy is in line with their definition of financial innovations that we provided earlier, showing the characteristics of each group of innovations that they utilized.

In a different perspective, Llewellyn (1992) categorizes financial innovations by considering the same arguments but he offers impulsive functions: Innovations are either defensive, aggressive, response based or protective according to him. Although the product and process innovations are treated as different types in a large number of studies, Tufano (2003), arguing that a process innovation is helpful for the usage of a product, provides a connection between them and he does not separate between product and process innovations.

In financial innovation literature, measurement of financial innovations appears to be somehow less studied on. There is no agreed upon technique of measurement, and quantitative analysis remains much more limited compared to theoretical studies. Due to limitations on data or difficulties in determining methods of calculation, existing studies do not offer a comprehensive method of measurement. For instance, Lerner (2006) aims at measuring financial innovation activity, however implying the scarcity of data such as R&D spending for financial firms, he utilizes newspaper stories as an alternative measurement.[4]

Another point that the literature emphasizes on is who the financial innovators are. Ross (1989) argues that "it is often large institutions that force innovation". Bhattacharyya and Nanda (2000) suggests that the primary role behind financial innovations was of investment banks, that they are the prevailing institutions producing new financial products.[5] However, early small investment banks which were the initial entrepreneurs of innovations may become larger as they extend their profits. Or, it may be the case that large deposit banks which have been settled earlier in the market can expand their business by involving in the innovation process. Also, Battilossi (2000) states that large commercial banks in the developed countries have been able to exploit the asymmetric conditions between international regulatory systems, and this helped them to expand the generation of new financial products.[6]

[4] Some studies utilize from other measurements such as private credit to GDP ratio and bank concentration ratio. See, for example, Nagayasu (2012).

[5] As Minsky (1992) puts it: Like all entrepreneurs in a capitalist economy, bankers are aware that innovation assures profits. There have been significant changes in the financial structure of developed countries, i.e. financial institutions (intermediaries) have diversified, and those new intermediaries have been the primary forces behind the existence of financial innovations. However, the case for developing countries still remains the same, as we will see in the next chapters.

[6] Furthermore, in the spirit of Schumpeterian and Neo-Schumpeterian ideas, there are four hypotheses in terms of innovators' characteristics: (1) There is a positive relationship between the size of firm and innovativeness, (2) there is an inverse U shape relationship between innovativeness and the size of firm, (3) market power of firms are positively related to innovativeness, and (4) there is a persistency in innovational activities (Napoli 2008, Rossignoli and Arnaboldi 2009, Comert and Epstein unpublished).

### 2.4. Change in the Perception of Financial Innovations

While financial innovations have generally been perceived as positive until the Great Recession, this view has changed after the crisis and literature began to criticize their effectiveness.

Up to 2008, many scholars had claimed that global economy had produced a suitable environment for financial innovations. For example, Van Horne (1985) states that: “In a period of economic prosperity, many financial institutions are eager to try new ideas in their relentless pursuit of growth”. Boot and Thakor (1997) stress the importance of the development level of capital markets on financial innovations, and argue that the better developed the markets, the more likely that financial innovations occur. Moreover, in a recent study, Laeven et al. (2015) argue that financial innovations are attained in expanding economies, where the conditions are positive.

According to these scholars, as long as the necessary and sufficient conditions are satisfied for the emergence of financial innovations, they contribute to further economic growth positively without a doubt. Van Horne (1985) suggests that the markets should become more efficient in operational sense and/or more complete to identify something that create this environment as financial innovation. Duffie and Rahi (1995) come up with an alternative, but very important feature of financial innovations that they provide entrepreneurs and firms to raise capital more efficiently and hopefully, there will be profits for market intermediaries. Merton (1995) also claims that financial innovation leads to greater economic efficiency. Moreover, Lerner and Tufano (2011) point out that there will be new alternatives for investment and consumption as well as cost reductions in raising funds where financial innovations prevail. It also aids firms to raise capital relatively cheaper and makes some previously unattainable funds to become active.

In addition, Frame and White (2004) suggest that financial innovations can boost savings and investments and enhance productivity, thus creating value added indirectly for the economy. Furthermore, the model that Laeven et al. (2015) formed suggests that financial innovation is crucial for sustainable economic growth, if financial actors stop innovating, then the growth cycle will stop.

Among all the benefits of financial innovations, one aspect comes forward: transformation of risk. As Levich (1988) points out, financial innovations (such as currency and interest rate swaps and options) are created to manage risks (e.g., currency, maturity, credit, interest rate, default, etc.) in a more precise manner. Besides, they are also associated with reducing costs of transactions, granting easiness on financial intermediation, easy access to credit, increased liquidity, boosting profits, etc. In a more recent study by Mishra (2008), financial innovations are accounted for reducing cost of capital and risks, improving intermediation, and thus increasing welfare.

Since it is believed that the most prominent cause of the crisis is faulty and excessive usage of financial innovations, previously positive attitude towards the "new and effective" products and processes in the financial markets have reversed in the last years. Even before the crisis, Geithner (2006) made a warning in an opening remark: "When innovation […] takes place in a period of generally favorable economic and financial conditions, we are necessarily left with more uncertainty about how exposures will evolve and markets will function in less favorable circumstances". Gennaioli et al. (2012) claim that investors and financial intermediaries neglect risks arising from financial innovations, thus securities are issued in an excessive manner, potentially leading to crisis. Thakor (2012) argues that "competitive banking systems without patent protection for innovations are inherently susceptible to financial crises. This result arises primarily from the financial innovation incentives of financial institution".

At this point, Beck et al. (2012) distinguishes the positive and negative views using "innovation-growth view" and "innovation-fragility view" concepts. As the innovation-growth view stresses the importance of reduction in agency costs, increased risk sharing, market completion, allocative efficiency and economic growth; innovation-fragility view, on the other hand, argues how financial innovations led to enormous credit expansions that ended in defaults, created misconceptions about risk sharing, and helped banks to use information asymmetries against their customers. Their conclusions suggest that both innovation-growth and innovation-fragility views have its merits, but none of them can be rejected.

Hence, according to the existing literature, financial innovations can produce positive outcomes, especially when there is a positive environment, however, they can also lead to deterioration in financial markets if not controlled properly.

### 2.5. A Critique and Re-evaluation of Financial Innovations

In the light of financial innovation literature, we need to point out some factors which are lacking or not discussed in the literature as to put forward our viewpoint and the basis of the next chapters. Engelen et al. (2010) summarize the main problematic points in the literature very well: First, the literature makes the definition of financial innovation circular and tautological, second, it narrows the field of possible drivers of innovation, and third, it emboldens the allegations stemming from the ideas that are supported by low empirical content. In parallel to these claims, our criticisms are somewhat similarly on the same track. Therefore, we try to build on a more inclusive study while expanding the definition, searching alternatives on the emergence, and offering empirical composition regarding financial innovations. In doing this, we are focusing on developing country cases which had found itself a very little place in the discussions.

The first thing that might be revised is definitions of financial innovation. We have mentioned that there is no agreed definition of financial innovation. In that sense, we argue that there should be broader definitions of financial innovations. It is possible to define financial innovation as a new product or a new process which can emerge in different financial markets having different initial conditions such as cultural and local factors as well as distinct structure of financial institutions. In fact, it is particularly crucial to take into account these institutional and cultural factors for developing countries as they can be easily affected from these, for they are in their initial stages of financial development.

From an evolutionary perspective, speed and characteristics of financial innovation may change under different historical and institutional circumstances. Hence, our definition can work for both developed and developing countries and include more factors to be taken into consideration in showing the reasons behind the emergence and the dissemination of financial innovations. Further development of the markets that are created or improved by these financial innovations can also be explained using a more inclusive definition.

It is no doubt that the primary motive for an innovator is to maximize his/her profit. Considering the fact that big commercial banks are the primary financial innovators especially in developing countries, it can be argued that their incentives to innovate arise when the existing conditions deteriorate (such as a shock or a constraint). One of the most important constraints that is labeled in the literature is the existence of a highly regulatory environment as we previously discussed. Regulations increase the cost of financial transactions for consumers and other users of financial services (Wall, 2014). Therefore, financial agents try to by-pass these regulations by innovating and hence, decreasing the costs. This is a highly valid argument and it is true most of the time. In fact, in our case study in Chapter 4, we have such a case where banks immediately innovated after a regulation restricting the number of credit card installments. However, there might also be a case where regulation works in just the opposite way. This time, regulation could be pro-innovation. We also have such a scheme in the gold accounts case in Chapter 4. Hence, we argue that government actions should not be confined as they could only have one-way effects.

From a historical standpoint, we claimed that financial innovations have emerged for a long time in different circumstances. The most important difference of the latest episode of financial history is that there is now rapid advancements in the technology. It made easier to bring the world together in any event, let alone financial transactions. Thus, globalization has also a reflection in financial markets, brought by financial liberalization and following integration. This is essential for the examination of financial innovations in developing countries as we argue that they have either adapted innovations exactly in their economies, or they have used imitations of those innovations suitable for the domestic economic environment most of the time. In this sense, institutional conditions, characteristics and other factors such as culture are also profoundly important; whether innovations are imported by developing countries, or they are originated in domestic economic environment.

We should also note that many actors play an important role in financial markets, as well as in the process of financial innovations. As Minsky (1992) put it, in contemporary era, financial relation (or, innovation) analysis and its implications for the system should not only be restricted to the liability structure of firms. Households, governments, and international units have all liability structures in which the performance of the economy is determined by the combination of effects from all. Especially for the developing countries, we have to consider household behavior and government decisions, as they are more likely to have significant effects after a financial innovation is introduced and the market conditions change. In the end, our knowledge is still very little on the channels through which financial innovations affect the behavior of financial system agents (Norden et al., 2014).

In the light of what we have discussed in this section, we utilize a comparative discussion considering the differences between developed and developing countries in Chapter 3, where we follow the mainstream arguments on financial innovations. Then, we place our arguments one by one in a case study in Chapter 4, where we analyze two financial innovations in which we have unique characteristics of these innovations and distinctive domestic market conditions of Turkey as a developing country.

# CHAPTER 3

# FINANCIAL INNOVATIONS IN DEVELOPING COUNTRIES

Within the framework we provided briefly in the previous chapter, we are examining financial innovations in developing countries in a comparative sense in this chapter. At first, we are comparing the possible reasons in the sense that why financial innovations differ and why developing countries follow their developed counterparts to some extent. Indeed, as Gerschenkron (1962) argues, the development of a backward country tends to differ fundamentally from that of an advanced country. Hence we expect divergences in the emergence path of financial innovations. Moreover, utilizing the mainstream arguments from the financial innovation literature and by using financial deepening measures (market depth), we are briefly looking at the developing and developed country financial markets to observe the level of innovativeness as well as recent financial innovations statistics such as debt securities and equity linked derivatives data.

In this chapter, our aim is, thus, to search for the differences in market structures between developing and developed countries, yielding different results for the emergence of financial innovations. Then, within a comparative scheme, we analyze market depth, mostly a result of increasing number of financial innovations. The plan of this chapter is as follows: In section 3.1., we come up with a theoretical argument regarding the emergence of financial innovations in developing countries. In this manner, institutional differences between developed and developing countries and the effects of financial liberalization and integration on financial innovativeness are given. In section 3.2., we show how the financial markets of developing countries are evolved after 1980s and we try to see the differences from their developed counterparts. In this regard, data on important financial deepening measures are given as proxy to determine the level of development resulting from increased number of financial innovations. In section 3.3., we turn into innovation in terms of securities in developing countries. Using the data from BIS, we share some statistics of securitized innovations, i.e. debt securities and equity linked derivatives. Section 3.4. gives comments and final remarks and a roadmap for the next chapter.

### 3.1. Developing vs. Developed Country Financial Innovations

During the period following the World War II (WWII), financial development determined today's global structure both with respect to their effects on development levels of countries and progress of financial innovations. The existence of Bretton Woods system and the establishment of international institutions such as IMF and World Bank was the primary attempt over creating an integrated global financial market, as they aided the developing economies. Fixed exchange rate regimes in developing countries and institutional agreements made through the international organizations led the way over transitions between world economies.

Foundations of current international financial order have been built with capital account openness, first in mature economies in the 1970s, and in the developing countries in the 1980s (Hoffmann and Urbansky, 2013). Developing countries were late in adapting to the infant financial system where securitization is a crucial part, as they had capital controls excluding international investment. Moreover, the efficiency of the new financial instruments which provides hedging and risk aversion were granted with the transition to the flexible exchange rate systems as pegs were proved ineffective throughout the transition period. Transfer of knowledge in financial intermediation and the techniques to be applied through learning by doing had not been incorporated in developing countries as there were financial rigidities related to repression and controls over free-entry into the markets of developing countries by the institutions of advanced economies.

As the liberalization movements began and they provided the establishment of more profitable environments in terms of financial intermediation and better risk-transferring, then governments of developing markets easily engaged in deregulation, opening grounds for financial innovations. However, financial development through liberalization is not meaningful itself, when legal framework is improved, for example, then the markets can follow the path into their maturity. But, in most cases, institutional reforms following the capital account liberalizations were effective (Kaminsky and Scmukler 2008).

Thinking in terms of the country's financial development level and its increased ability to create financial innovations where there are positive conditions, then it can be said that developed countries are more likely to innovate. In Wurgler (2000), it is argued that financial market variables help explain international differences in markets in terms of capital allocation. He states that financially developed countries can transfer investments in the most profitable markets, compared to countries with small financial markets. This, in fact, helps boosting the financial markets' efficiency which is reflected both in the real economy, and in creating financial innovations.

With respect to the link between developing and developed countries, it can be argued that financial innovations which emerged in advanced markets were imported by emerging economies in the recent phase of financial liberalization and integration. Most innovations were originated in developed countries, and as financial markets became more integrated globally, diffusions took place. The examples of those financial innovations (i.e. securitized products) include consumer asset-backed securities (ABS) and residential mortgage-backed securities (MBS) where the markets for them have emerged during 1970s and 1980s in the United States and later in United Kingdom (Segoviano et al., 2013). As financial liberalization movements began in the 1980s, it helped financial markets to become more transitional, and then it became easy to market innovated products in the markets all around the world. However, the transition process of the securitization industry that originated in the US to the Europe and other parts of the world lasted 15-20 years and developing countries have met with those innovations even later, through the end of 1990s (Segoviano et al., 2013).

Differences in the structure of financial institutions have also affected the innovation processes. Due to this reason, the institutional structure of financial innovations across countries has evolved in different ways. While commercial banks remained the primary financial institutions in emerging markets, other types of financial institutions started to take place in developed countries, such as investment banks and insurance companies. Moreover, due to changing corporate structures (increased numbers of corporations, mergers and acquisitions, larger banks –too big to fail firms-), and with non-financial firms gaining the ability of issuing their own securities, developed countries had a head start in innovation race. These turn of events were seen much later in the developing countries (first commercial banks, then bigger firms began to issue their corporate debt securities, liability structures changed).

For instance, establishment of corporate bond markets followed stock and government bond markets in developed countries, all of them preceded years of capital accumulation and industrial development. However, developing countries are still considered to be in their early stages of capital accumulation and they are also smaller in size. Therefore, the course of development for corporate bond markets in developing countries had been different in terms of its institutional structure and the sequencing was also different from that of developed countries (Endo, 2000). Developing countries are still in their transition process to become financially developed overall, only be completed by comprehensive developments in different parts of the financial sector through financial innovations such as corporate bonds.

In order to comprehend the fundamental differences between advanced and emerging financial markets that lead to the creation of financial innovations and to see why literature has focused heavily on one side, but not the other, we propose two main headlines to discuss the reasons further under them: Institutional differences and financial liberalization and integration.

### 3.1.1. Institutional Differences

Here, our aim is to answer the question of why countries do not have similar structures of financial markets (i.e. why they did not developed in the same manner) and why clear-cut institutional differences that have arisen between financial markets of the developed and developing countries led to discrepancies in terms of the emergence of financial innovations. Such differences can be attributed to the dissimilarities of regulatory structures, demand and supply dynamics of countries, perceptions of risk, and so on.

To begin with, financial markets in developed countries are more market-dominated in which policy-makers adopt free-market policies somewhat earlier and opened grounds for entrepreneurial activities by providing legal and economic institutions. On the other hand, financial markets in developing countries can be called as more government-oriented as they have been adopted market based structures later than developed countries. Moreover, regulation has more influence on the decision-making process of the market agents in the latter economies. In these countries, conventional debt channels are still strong and effective, mainly contributed by the commercial deposit banks and government issues of debt securities.[7] Therefore, in most of the developing countries, there exist a basic setting of loan-deposit nexus for financing needs of firms and individuals.

Whether this classical institutional structure of the financial system in developing countries is inclusive or exclusive, however, is arguable. It is generally believed that new financial institutions such as asset management companies and investment banks in the US provide better alternatives for financial intermediation process and in diversifying risk. Nevertheless, it can also be suggested that a sound banking system in developing countries can provide the demanded financial services in an effective manner, and by abiding to the rules and regulations.

When we think in terms of a developing country scheme, for the creation and customization of financial innovations, banks are primary institutions, as they can use their previous customer-based relationships and they can be more aggressive in

[7] In Levine (2002), financial systems are divided into two parts: one being bank-based systems and the other being market-based systems. Levine argues that bank-based systems can be more effective in developing countries where savings can fit to the right investments and capital. Also, corporate controls can be made more efficient as they are experiencing their high-growth journeys before being mature economies, but the market-based systems are better in innovation and obtaining long-run growth. However, views on both systems are rejected in the study, since a third view, which is "financial services" view was supported. This view, in fact, argues that both banks and capital markets have significant contributions to innovative processes. Therefore, it is important that all elements should come together in building a new financial environment.

trying new processes and building new contracts (Rajan, 2005). As commercial banks –both public and private - are the main institutions in the financial markets of developing countries, and considering the fact that personal relationships are more important in these economies, banks' role in innovative finance can be much higher, if not otherwise. Larger banks became the "first movers" in adaptation of new technologies since their capability to innovate is higher compared to that of smaller ones (Akhavein et al., 2005).

Apart from banking structure, we should also consider the differences in establishment of equity markets. Being one of the most important financial innovations on their own, equity markets provide additional catalysts for financial innovations. For instance, equity markets exert corporate control and enhance market discipline as there are responsibilities of firms' to their stakeholders including public disclosures (Knight, 1998). As markets gain higher standards in terms of transparency and responsibilities, it can be argued that a positive environment for innovative instruments is granted. However, developing countries have established their organized equity markets later compared to their counterparts.[8]

With regard to financial innovations and the related institutional differences between countries of various development levels, we should also mention the competitive characteristics in the markets.[9] Namely, the importance of competitive market process in attaining innovations also matters within the framework of financial

[8] Furthermore, it is discussed in Demirguc-Kunt and Levine (1996) that "countries with better-developed stock markets also have better-developed banks and nonbank financial intermediaries […] and countries with weak stock markets tend to have weak financial intermediaries" (p.224). As we argued that banks are the primary financial intermediaries in financial markets of developing countries, the importance of equity markets and their development is highly relevant. In the end, this contribution of equity markets to the banks' further development creates higher leverage ratios.

[9] Knight (1998) argues that different markets such as government securities markets; spot and forward foreign exchange markets; markets for corporate securities, equities, mortgages, insurance; derivative instruments such as futures and options; and different financial intermediaries such as securities dealers, mortgage and leasing companies, insurance companies, etc. create a highly competitive environment both inside the markets and between different financial actors. In such a diverse environment, commercial banks find themselves in a fierce competition with other financial institutions, leading to an increased efficiency of intermediation that do not exist completely in many developing economies still today.

innovations.[10] Similar to other institutional differences, developed countries have certain advantages over developing ones due to their more competitive market structures.

Additionally, in developed countries, investing on human capital had begun long before it became important in developing countries, therefore qualified financial agents are still lacking in numbers in developing countries. Also, Piazza (2010) found that financial innovations lead to lower private information collection as the processes become more dependent on high-tech products, leading to overall decline in the quality of public information. Although this case might be valid for all markets, those in developing countries can be severely affected from lower information collection as financial intermediaries in many developing countries have been depending on personal relationships for the loan granting processes.

Lastly, we can argue that the priorities in the financial markets of the developing countries are also different. To stress the importance of different market priorities (e.g. demand based and belief based structures), it is stated that "while securitization has been taking hold in the United States and Europe, micro-credit has developed in places as different as Bangladesh and Bolivia. And in Islamic countries, there have been important advances in providing financial services that meet the requirements of Shari'a" (BIS, 2009). As we also discuss in Chapter 4, there can be demand for different kinds of products that are locally efficient and/or necessary. Or, different cultural features and beliefs can lead to innovative financial products that are unique to countries.[11] Hence, introduction of new financial innovations to developing countries coincides with preexisting local institutional factors in some cases.

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[10] Hoffmann and Urbansky (2013). However, it is also mentioned in their article that financial innovations which provide high levels of liquidity created from this competitive environment can also lead to problems with the extensive usage of these innovative products which creates risks. In this sense, the problem of principal-agent problems may take place, resulting from financial illiteracy in the developing countries. Such an argument is made by Corrigan (1988). He claims that there are complex financial transactions that are being made and not all principals can thoroughly understand them. Moreover, there can be a problem of differentiating principals from agents.

[11] In Sanchez (2014), for example, it is argued that low income populations in Mexico demand specific products or channels such as group based credits.

As we have argued, institutional factors play a significant role for the existence of differences in financial innovations and financial markets in general. In summary, market-dominated and government-oriented structures, regulatory environment, types of financial intermediaries, banking system and equity markets, competitive structure, level of expertise of financial agents and distinct priorities in financial markets regarding demand of financial products can be considered as primary factors in terms of differences. Now, we turn to the effects stemming from financial liberalization and integration.

### 3.1.2. Financial Liberalization and Integration

We should take into consideration the financial liberalization movements began in the 1980s and the following global financial integration which are strongly related to the financial innovativeness of the countries. Because, it can be argued that products, processes or organizational development are mostly imported by developing economies.[12] Within this framework, there are several reasons behind rising innovative finance in developing countries. First, it can be argued that policy changes (e.g. deregulation in line with liberalization) open up possibilities in the domestic economy. Second, diffusion from foreign financial institutions (e.g. establishment of foreign banks in developing countries and foreign equity holders in domestic markets) increases the likelihood of encountering with new innovative products or processes. Hence, learning by doing while adopting developed country products or processes of financial intermediation as a result of enhanced financial integration helps developing countries to put financial innovations into use. For overall financial development, however, there is a need for more than the above list, and more than just one development such as equity market liberalization that paves the way for financial innovations.[13]

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[12] Bekaert and Harvey's (2003) definition is highly appropriate in this sense. They define financial liberalization as "allowing inward and outward foreign equity investment", and in a liberalized equity market, buying and selling domestic securities have no constraint for foreign investors.

[13] In this regard, Bekaert et al. (2001) found evidence on the positive effects of banking development and macroeconomic policy structure. Jacque (2001) summarizes the process of deregulation that carry

Beginning from late 1980s and early 1990s, these countries liberalized their economies and removed the barriers in front of capital controls.[14] It should be noted that one important element in this integrated market structure is the existence of foreign banks.[15] In relation to the change in these circumstances, developing countries have also attracted most of new financial intermediation techniques from developed countries by direct diffusion of products and processes, and also by learning by doing from them.[16] The extent of the integration in the world financial markets beginning in late 1980s is also higher than any other international transaction.[17]

The speed of financial liberalization and the degree of integration into the global financial markets, thus, have decisive roles in emergence of financial innovations

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liberalization and integration through. It has six steps: (1) relaxation of credit controls, (2) deregulation of interest rates, (3) relaxation of international capital flows, (4) adopting floating exchange rate regimes, (5) free entry into / exit from the financial service industry and (6) privatization of financial institutions. Before such processes have occurred, developing countries were following restriction policies. According to Haggard and Maxfield (1996), governments in developing countries had capital movement controls, they impeded international activities of financial institutions and they did not allow for the entry of foreign financial institutions.

[14] The very high rates of integration in the international financial markets has been shown in Rajan (2005) with the data on the gross external assets held by countries –it has increased seven-fold between 1970 and 2002-. In Haggard and Maxfield (1996), it is also claimed that upsurge in interdependence and extended financial integration increased the interests of foreign institutions –especially from developed countries to developing countries- in gaining more market access to have larger profits.

[15] In Krozsner (1998), it was asserted that “an increase in foreign bank penetration in emerging markets can generate a virtuous circle in that foreign banks tend to be less politically connected and less likely to be able to ‘capture’ the regulatory authorities”.

[16] In Alfaro et al. (2004), it is said that the best way to apply organizational methods and market conditions lies behind the developments in cross-border learning, aided by international trade and direct foreign investments.

[17] In a recent study by Kose and Prasad (2010), it is stated that “the growth of international financial flows has been much higher than the growth of trade flows in the globalization period. This unprecedented change has mainly been associated with the rapid liberalization of capital account regimes since the mid-1980s”. Moreover, in Kose and Prasad’s (2010) study, there are significant statistics that are related to who developed in what terms. According to them, emerging market economies have increased their gross portfolio stocks, and also, while there is a linear trend in the debt structure of developed economies through the last two decades, there are significant decreases in gross debt stocks of emerging markets and significant rises in equity related portfolio. However, the mentioned increase was the result of developed country investment repercussion.

both in developed and developing countries. However, this speed or degree has diverged across countries because of dissimilar preexisting institutions of these countries. In fact, financial globalization is not a new phenomenon looking from a historical perspective, however, market deepness is at an unprecedented level due to rapid dissemination of financial innovations. Moreover, as financial markets become deeper and sophisticated due to the integration to the world markets, alternatives in finance have increased for borrowers and investors (Schmukler, 2004). Nevertheless, developing countries follow this process with a significant lag, and as developments take place very rapidly, there is still time for them to have more complete and competitive markets where financial innovations are used in an effective manner.

Financial liberalization movements and the integration have provided a global know-how in financial services through financial innovations, particularly beneficial for developing countries to adapt those innovative services. However, it is now realized after the recent global financial crisis that increased integration bring forward problems associated with diffusions that take place easily. It is argued in the literature that Great Moderation (a term coined to describe the change in global financial environment in the last decades, stemmed from increased speed in the emergence of financial innovations) transformed into Great Recession. According to current literature, the financial crisis had different implications for developed and developing countries.

According to DIE (2008), the reason behind the sub-prime crisis was the extreme usage of innovative credit products. Those financial innovations had been aiming at risk restructuring in the sub-prime housing market, and they have been thought in terms of allocating the risks more efficiently. However, market actors were deceived by the high liquidity environment and utilization of those liquid products led to the crisis.

With respect to popularity of financial innovations, thus, developing countries seem to have more advantage in comparison to developed ones as they are not completely integrated into the global financial system. They were affected from the crisis mostly because of the transitional structure of global financial markets, not because of their internal structures.[18]

As disastrous as the effects were in developed economies due to the existence of non-bank financial institutions for example, we do not observe such a disaster in developing country financial markets as there are less or no existence of such institutions. Regulatory power in the developing countries is still effective, and the financial innovations that are used in great amounts are not so common in developing countries. Besides, while the developing countries have resisted to the crisis, some performed better than the others. However, all of these developing countries, especially emerging economies, have the potential to achieve long-run growth and the evolution of global financial markets will go in the favor of them in the longer term if financial innovations are utilized properly (Kose and Prasad, 2010).

Looking on the bright side of financial innovations, they are necessary for developing countries as they can contribute to higher and more stable growth rates (Mishra 2008). Moreover, it is a matter of great importance to build a well-functioning financial sector for the efficient allocation of resources. Where trading, hedging and pooling of risks are provided, then there will be a good possibility of funding highly profitable, but risky on the other hand, investments. The problems related to asymmetric information and high costs of financial intermediation will be solved in an efficient financial market (DIE 2008). Therefore, it can be said that the better the development of financial markets are, the better the solutions to the problems.

[18] In DIE (2008), it is claimed that emerging markets have been resilient to the shocks emanating from the crisis. One of their arguments is that financial instruments which are the most innovative ones such as asset-based securities and derivatives had not been utilized in their financial systems. In Prasad (2010), it was argued that "emerging market financial systems, including those in Asia, have generally proven to be more robust and less affected by the global turmoil than their more advanced economy counterparts". He suggests that developing countries should focus more on bolstering their banking systems and improve their formal financial systems as there are important implications from the crisis, therefore they should not lean on creating innovative instruments. Another argument on the effects of the crisis were made by Delimatsis (2012). He indicated that non-bank institutions in the developed markets, which do not have to comply with existing regulations that commercial banks have, were the key actors behind the crisis as they created a financial environment where there are high leverages, albeit unfavorable. Therefore, it is his recommendation that the institutions of the "shadow banking system" should be incorporated into the regulatory system.

However, the problem of stability will remain an issue if there exists an uncontrolled financial innovation environment, mostly due to increased leverage of balance sheets. As Jacque (2001) suggests, financial innovation cycle in developing countries will reach to its maturity through these three steps: 1) the skillful transfer of financial innovations to emerging markets will 'complete' markets fostered by deregulation, 2) the disintermediation of traditional financial intermediaries (mostly commercial banks) in favor of commercial paper markets and 3) the securitization of consumer finance conjointly fueling the dynamics of emerging markets.

While the existence of foreign financial institutions within domestic markets of developing economies possibly create a virtuous cycle with the embeddedness of learning-by-doing schemes, it is also important for developing countries to adjust the use of financial innovations considering the domestic economic conditions. In a high speed liberalization and integration environment, developing countries should take into account the institutional and structural factors as direct dissemination of imported financial innovations could not give the desired results at all times. Developing countries can turn imperfect financial market structure and regulations into their advantage by learning from historical examples.

Now that we have seen two major reasons that create the differences between developed and developing country financial innovations, we can move to the next section where there exist comparisons in terms of financial market development in which we can infer the level of financial innovativeness.

### 3.2. Financial Structure, Innovativeness and Market Depth in Developing and Developed Countries after the 1980s

In this section, financial structures of developing countries in a comparative manner to developed countries from 1980s onwards will be analyzed. For our purposes, it is important to identify the most related data on financial markets to financial innovations, and we have come up with several data on this. We are not directly measuring the financial innovation as such a common measure like R&D in the case of real sector innovation does not exist, although there are attempts in the literature to create some. Hence, we measure the innovativeness by using proxies which observe activity and trends. Also, what we mean by financial innovation in this section is securitized assets.

The proxies that we use here are common financial deepening measures. Financial deepening means that the availability of financial services with increased number of new products and new processes is increasing. This is especially true for the contemporary financial liberalization and integration phase of the financial sector development. It can be argued that the recent burst of financial innovations, especially coming from the securitization, has been leading to increases in the values of assets and liabilities in a great manner, where balance sheets of financial firms have been grown tremendously.

Hence, in this manner, we try to catch the innovativeness in the recent decades by focusing on two important measures of financial development which are banking assets to GDP ratio and stock market capitalization to GDP ratio. These two measures are exhibiting the role of financial innovations for the development and growth of the financial system, as it cannot be thought that the recent huge boom could be attained without the help of these innovative products. Moreover, the former one is important in a way as the banks in developing countries are the primary innovators or they are the implementers of existing innovations. The latter one is also important as many of the innovations, particularly new products and especially different types of securities are traded in the organized equity markets.

We have chosen ten developing countries and ten developed countries to analyze their data both for this and the next section. Developing countries are: BRICS countries (Brazil, Russia, India, China and South Africa), Fragile Five countries (Indonesia, Turkey, Mexico, -Brazil and South Africa are the same from BRICS) (Rapoza, 2015) and also Argentina and Malaysia. Nine out of ten of these countries are included in G20 countries –excluding Malaysia- (G20, 2015). We have also chosen ten developed countries which are Australia, Canada, France, Germany, Netherlands, Norway, Sweden, Switzerland, United Kingdom and United States.[19]

The reason for why we choose these developing countries is that they are classified as emerging markets where development and the structure of their financial markets show resemblance to each other both in terms of size and institutional structure. As previously argued, institutional differences are very important in the origination of financial innovations. On the one hand, having organized equity markets is very important as securitized assets are mostly traded in these centers, they are the intermediaries of securitization. Additionally, in developed countries, new types of financial institutions were began to be established in 1970s and 1980s (investment banks, mutual fund companies, brokerage houses, pension funds, etc.). However, in developing countries, commercial banks are still the major players of the markets, comprising of the higher percentage of assets in the financial system. Therefore, it can be said that there exists a shadow banking system, non-bank financial institutions in developed countries, but it is not similar for developing countries.

To begin with, we can look at when financial markets of these countries were liberalized, as this information leads us to capture the internationalization of financial markets, which partly assured the transition between markets in terms of financial innovations. It is important to see which countries liberalized their economies when, because the following integrated environment in the global economy helped in the easiness of the diffusions of financial innovations. As we argued previously that the developing countries import financial innovations from the originator developed countries –especially the US-, later financial liberalization in developing countries

[19] The link to overall financial development and financial innovations are best described in the following study. According to Prasad (2010), there are three significant parts to be mentioned in analyzing financial development in emerging markets: (1) strengthening and improving banking systems, (2) development of corporate bond markets, and (3) development of basic derivatives markets. He argues that “although derivatives products have acquired a negative connotation, there is a range of plain vanilla derivatives and securitized products that have proven to be useful innovations that reduce rather than raise systemic risk when properly regulated”. They are, for instance: commodity derivatives (for agricultural efficiency) and exchange rate derivatives (for reducing risks in trade).

means that certain markets in which innovative products are traded were also established later.

**Table 1: Financial Liberalization Dates**[20]

| Developing | | Developed | |
|---|---|---|---|
| South Africa | 1980 | Australia | 1980 |
| Malaysia | 1988 | Canada | 1980 |
| Argentina | 1989 | France | 1980 |
| Indonesia | 1989 | Germany | 1980 |
| Turkey | 1989 | Netherlands | 1980 |
| Brazil | 1991 | Sweden | 1980 |
| India | 1992 | UK | 1980 |
| Mexico | 1992 | US | 1980 |

As Table 1 shows, developed countries liberalized their financial markets earlier than developing countries, ensuring certain advantages to them in having a more linked financial market internationally. With the exception of South Africa, financial liberalization in all developing countries included in Table 1 started nearly one decade later than that in the developed countries. It can be also said that technological improvements in terms of communication and conducting financial transactions with new tools are interrelated with both increased liberalization and related financial innovations, in which developed countries were more successful.

Next, the upsurge in the integration of the markets internationally can be observed by summary of international positions of BIS reporting banks' data. Along with financial liberalization and the following integration, holdings of securitized assets and issues of securities on the liability side can be seen from Table 2. But, what does this table tell us? It should be duly noted that the asset side in this table have grown in a great extent than the liability side. Such a difference was the result of the differences between developed and developing countries in terms of issuing

[20] Ranciere et al. (2006). The year given as 1980 in the study either means that liberalization is effective in 1980 or prior to this year. Norway and Switzerland liberalization dates are also given as 1980. China and Russia are not included.

securitized financial innovations. As financial innovations emerged earlier in developed countries, it is natural to observe such a trend.

In 35 years' time, holdings of international assets and total international liabilities have increased 30-fold, gaining a rapid pace after early 2000s. Security holdings and issues have been increased enormously since 1995 and reached to significantly high values ($8.5 trillion in holdings and $4.3 trillion in issuing) as of 2014.

**Table 2: Summary of International Positions of BIS Reporting Banks**[21]

| | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2014 |
|---|---|---|---|---|---|---|---|---|
| **Total Assets** | 1,640 | 3,204 | 7,685 | 9,482 | 12,228 | 23,794 | 33,974 | 32,924 |
| **External assets** | 1,310 | 2,538 | 6,164 | 7,880 | 10,549 | 20,846 | 29,757 | 28,495 |
| **claims on banks** | 962 | 1,784 | 4,659 | 5,518 | 7,090 | 13,126 | 18,821 | 16,652 |
| **claims on non-banks** | 348 | 754 | 1,505 | 2,363 | 3,459 | 7,720 | 10,936 | 11,843 |
| **Holdings of securities and other assets** | ... | ... | ... | 920 | 2,369 | 5,794 | 7,921 | 8,658 |
| **claims on banks** | ... | ... | ... | 264 | 942 | 1,906 | 3,288 | 3,799 |
| **claims on non-banks** | ... | ... | ... | 656 | 1,428 | 3,888 | 4,633 | 4,859 |
| **Total Liabilities** | 1,593 | 3,072 | 7,599 | 9,220 | 11,743 | 22,628 | 32,564 | 32,202 |
| **External liabilities** | 1,313 | 2,440 | 6,149 | 7,199 | 9,358 | 17,761 | 25,638 | 25,181 |
| **liabilities to banks** | 1,091 | 1,915 | 4,825 | 5,555 | 6,956 | 12,927 | 18,476 | 17,445 |
| **liabilities to non-banks** | 222 | 525 | 1,324 | 1,644 | 2,402 | 4,834 | 7,162 | 7,736 |
| **Own issues of securities and other liabilities** | ... | ... | ... | 8 | 259 | 726 | 2,535 | 4,384 |
| **liabilities to banks** | ... | ... | ... | 0 | 196 | 511 | 2,271 | 3,855 |
| **liabilities to non-banks** | ... | ... | ... | 8 | 63 | 215 | 264 | 529 |

Looking at the external positions of banks, as shown in Table 3 where country breakdowns are available, we capture dramatic differences between developed and developing countries. The share of developed countries make up of nearly 60% of total external positions on assets and liabilities in 2014. However, developing countries are not as much in control of financial assets and although they have higher liabilities, it is also very low.

[21] BIS data, values are in billions of US $. Data represent year-end values.

**Table 3: External Positions of Banks, All Sectors**[22]

| **Assets** | **1980** | **1985** | **1990** | **1995** | **2000** | **2005** | **2010** | **2014** |
|---|---|---|---|---|---|---|---|---|
| **Developed** | 911 | 1,460 | 3,080 | 3,805 | 5,846 | 12,147 | 17,138 | 16,328 |
| **Developing** | 0 | 0 | 0 | 0 | 17 | 83 | 260 | 194 |
| **All Countries** | 1,310 | 2,538 | 6,164 | 7,880 | 10,549 | 20,846 | 29,757 | 28,495 |
| | | | | | | | | |
| **Liabilities** | **1980** | **1985** | **1990** | **1995** | **2000** | **2005** | **2010** | **2014** |
| **Developed** | 870 | 1,384 | 3,033 | 3,732 | 5,540 | 10,781 | 15,278 | 15,564 |
| **Developing** | 0 | 0 | 0 | 0 | 19 | 132 | 415 | 484 |
| **All Countries** | 1,313 | 2,440 | 6,149 | 7,199 | 9,358 | 17,761 | 25,638 | 25,181 |

The data on Table 3 tell us that developing country financial institutions are not as integrated into the global economy as in the case of their counterparts. It is the result of backwardness in terms of utilizing financial innovations that provide easiness in holding securitized financial assets and liabilities.

Up to this part here in this section, we have seen that developing countries were late in liberalizing their economies and they have not taken exclusive part in international asset holdings in which had generated by the securitization process. Therefore, they have been latecomers in the financial innovation process.

Finance is essentially important for economic development. However, this link is maintained whereby innovation inaugurates new procedures, new products and new services (King and Levine, 1993). In this manner, where financial innovations constitute the better part of financial development, it is natural to observe higher development level where innovations prevail.

Hence, in order to see how financial markets have evolved over time, we present two important measures that come forward: "Banking assets to GDP"[23] and "Stock

[22] The data is compiled for our 20 country set, however no data exist for Argentina, China and Russia among developing countries. BIS external positions of banks, in billions of US $. The definition of external positions is given in BIS as: Asset and liability positions vis-à-vis banks and non-banks located in a country other than the country of residence of the reporting banking office; also referred to as "external" positions.

[23] Demirguc-Kunt and Levine (1996), Levine (2002), Llewellyn (2009) –as financialization measure-.

market capitalization to GDP”[24] (GDPs of countries are provided in Appendix A). Both draw a general picture in terms of financial development and include in itself a measure of financial innovation as banks are common innovators especially in developing countries and equity markets provide trading opportunities for security innovations.

World Bank Global Financial Development Indicators provide ratio on member countries’ deposit banks’ assets to their GDP (Figures 1 and 2). The data end in 2011, however a 30 years’ trend can be followed. When we look at Figure 1, in the first instance, we observe that developing countries have generally lower values of bank assets compared to their GDP, most of the time below 100%. Two among them, China and Malaysia, were the best performers. In 2011, the ratio was 130% for China, and the actual aggregate of bank assets was around $8 trillion.

In developed countries, on the other hand, the picture is much more different: The levels of financial deepening in terms of banking are remarkably higher compared to developing countries. Among ten countries that we have chosen, Netherlands, UK and Switzerland have around 200% bank assets relative to their GDP as of 2011. Apart from US, other developed countries have well above 100% bank assets over GDP ratios. The reason why US has around 60% bank assets relative to its GDP within the examined period (although the actual value is $10 trillion in 2011), can be explained by the institutional structure of the US.[25]

It is stated in Sahay et al. (2015) that although emerging market financial systems have deepened in recent decades, they are in no position to catch advanced economies in short term. However, considering that commercial banks are primary innovators in developing countries,

[24] Wurgler (2000), Levich (2001), Jacque (2001) –as financial sector deepness measure-, Levine (2002), Bekaert and Harvey (2003).

[25] In the US, there are more non-bank financial institutions and they have a central place in financial innovations, even more than Western European countries (in Europe, actually, banking system is still strong and makes up the most of the financial markets).

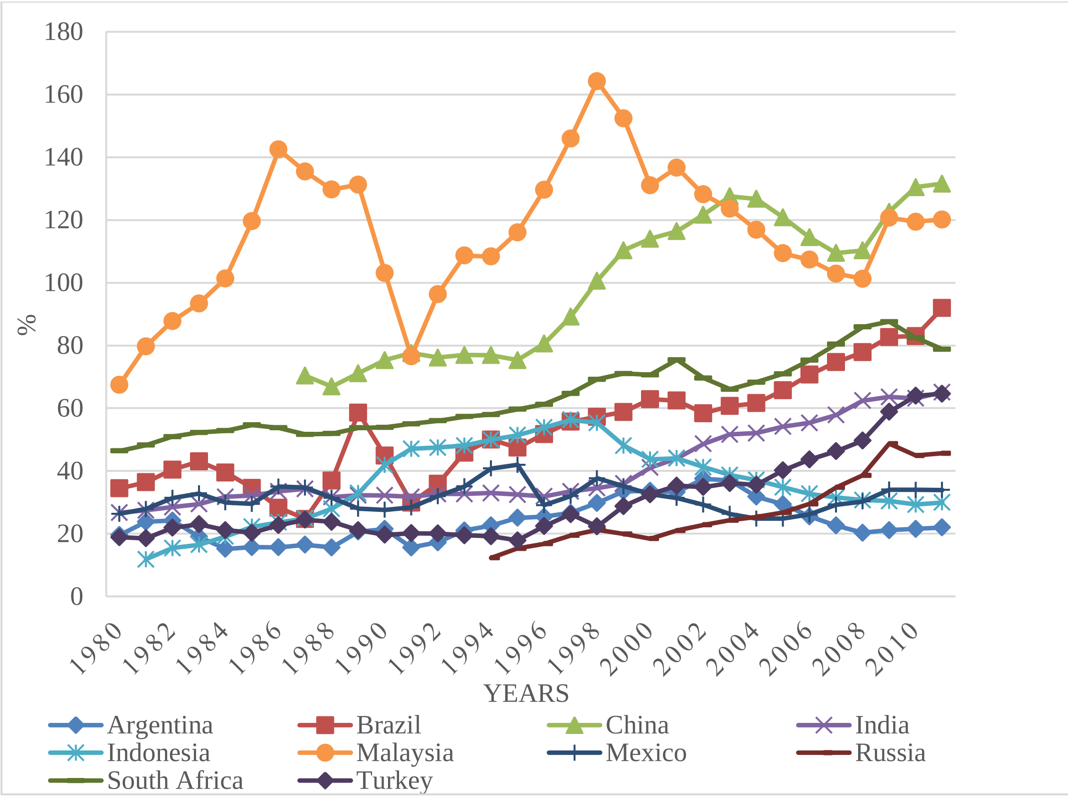


**Figure 1: Deposit Money Banks' Assets to GDP[26]**
**(Selected Developing Countries)**

we can say that there are still available rooms for their further development if banks take more action. In fact, as financial deepening is contributing more to the financial development in developing countries (Calderon and Liu, 2003), especially banks, with their market power and competitive advantage, will create or adapt financial innovations while considering their own domestic conditions to make them more sound, trustworthy and effective.

When we look our other proxy for financial innovativeness, which is stock market capitalization to GDP ratio (Figures 3 and 4), we again observe a similar pattern between developed and developing countries as in the case of bank assets to GDP.

[26] World Bank, Global Financial Development Indicators. World Bank defines this ratio as: Claims on domestic real non-financial sector by deposit money banks as a share of GDP.

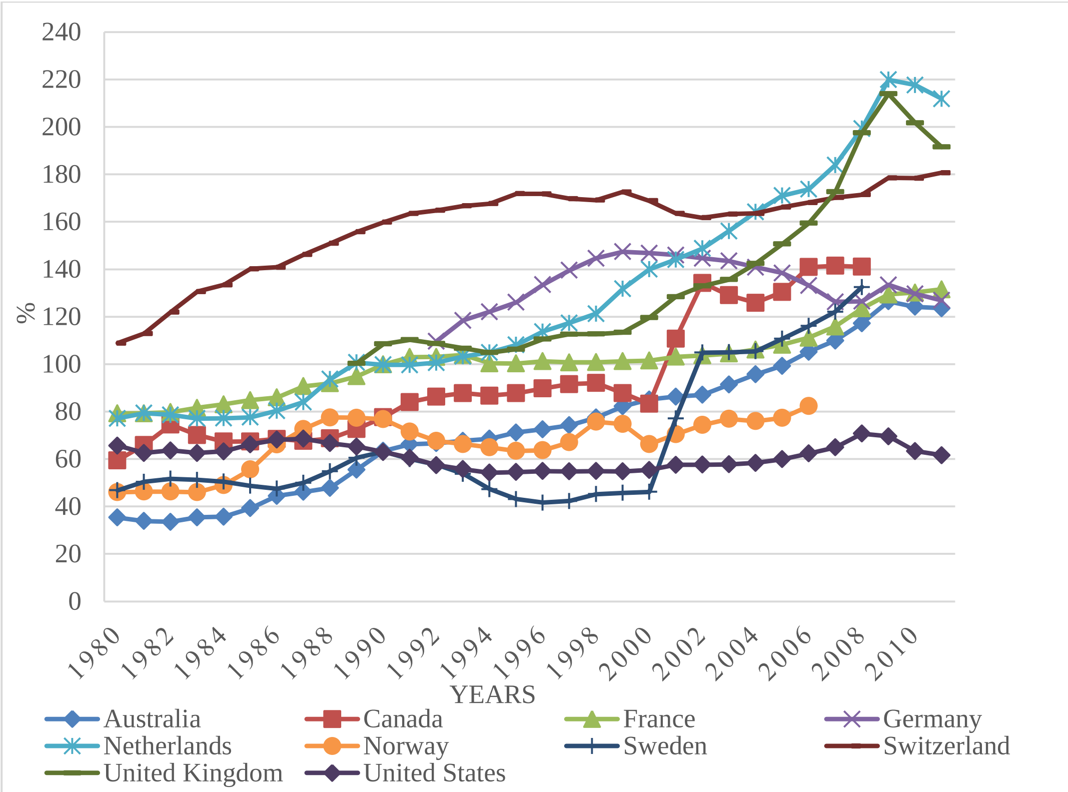


**Figure 2: Deposit Money Banks' Assets to GDP[27]**
**(Selected Developed Countries)**

However, European countries' ratios are slightly lower (as banks are still important in funding as we previously argued), and we see 110% ratio in the US as of 2011. Switzerland is an outlier with the highest ratio among other developed countries.

In developing countries, on the other hand, Malaysia and South Africa comes forward. Malaysia, becoming a center of Islamic finance and having specific financial innovations to this end, has higher use of their capital markets. In the case of South Africa, higher stock market capitalization seems to be a product of its early financial liberalization (and thus, early foundation of stock markets), where they had the ability to utilize equity innovations for financing. In general, alternative funding channels which are presented especially in stock markets in developing countries are

[27] World Bank, Global Financial Development Indicators

still low compared to their counterparts in the developed world. Again, there are still open grounds for enhancing their financial innovation environments.

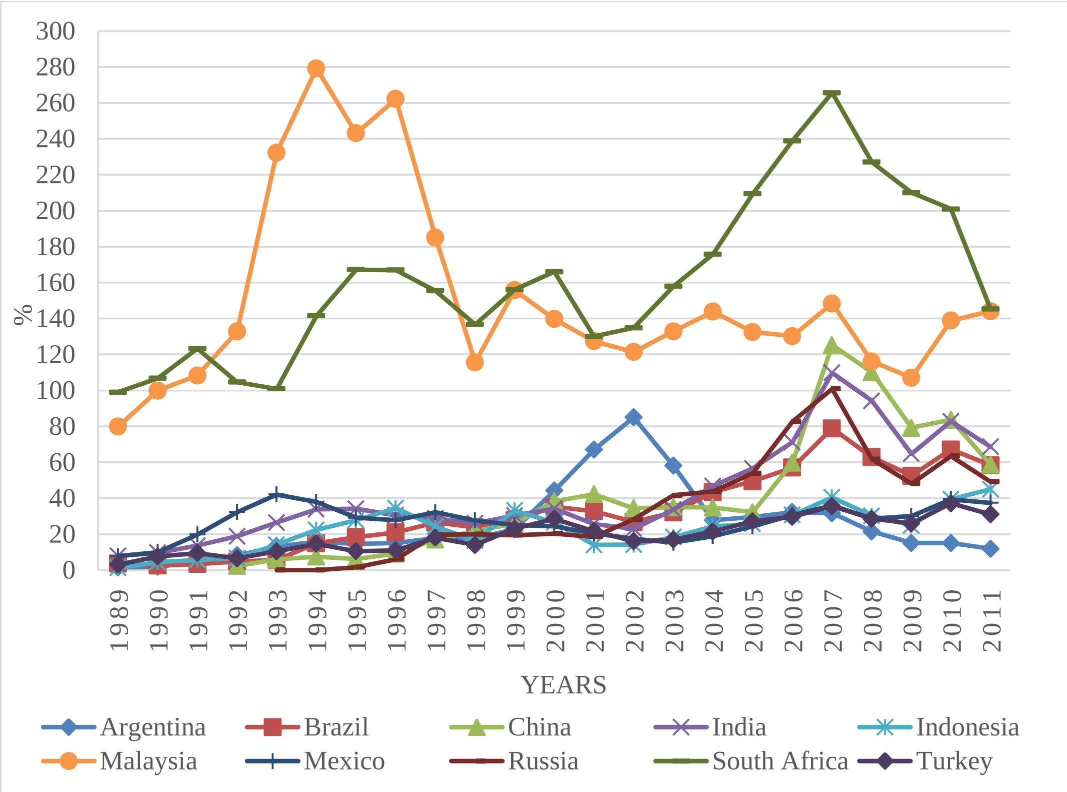


**Figure 3: Stock Market Capitalization to GDP[28]**
**(Selected Developing Countries)**

Before moving onto the next section which mostly deals with securities innovations' statistics, we look at the ratio of credit to private non-financial sector that give us clues about financial innovativeness.

[28] World Bank, Global Financial Development Indicators

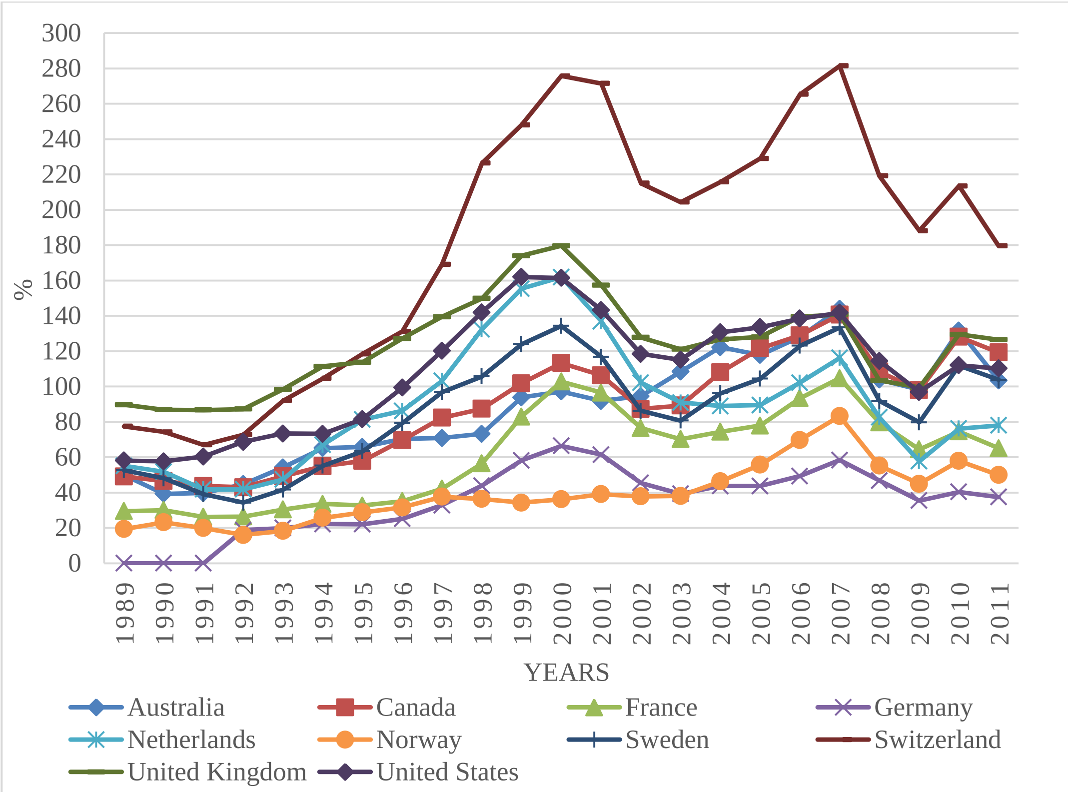


**Figure 4: Stock Market Capitalization to GDP[29]**
**(Selected Developed Countries)**

This measure is primarily used for determining the financial development level[30], where as long as banks and other credit issuing financial institutions are increasing their lending to the private sector, it is understood that financial development, deepening and the overall growth in the GDP can be observed. It can also be used as a proxy for the innovativeness level in financial sector. First, the classical lending structure is enhanced through the banking sector's development, and then with the creation of wide variety of financial products that increase the ability of self-financing capacity of firms (e.g. corporate bonds), the share of direct lending decreases. We observe such a trend in recent history for the developed countries, however the case is not the same for developing countries as they follow the former

[29] World Bank, Global Financial Development Indicators

[30] See Calderon and Liu (2003). Di Giovanni (2002) uses this as a financial deepening measure.

with a lag and they are not still in maturity in terms of the diversity of financial products.

**Table 4: Credit to Private Non-Financial Sector in Selected Developing Countries[31,32]**

| | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2014 |
|---|---|---|---|---|---|---|---|---|
| **Argentina** | - | - | 13 | 50 | 17 | 7 | 151 | 430 |
| **Brazil** | - | - | - | 269 | 150 | 341 | 1,406 | 1,926 |
| **China** | - | 608 | 1,031 | 3,680 | 5,870 | 10,660 | 40,075 | 60,717 |
| **India** | 341 | 429 | 889 | 1,636 | 3,498 | 9,068 | 27,584 | 29,461 |
| **Indonesia** | 10,525 | 19,554 | 95,411 | 157,540 | 159,886 | 363,409 | 1,045,798 | 2,338,788 |
| **Malaysia** | 27 | 44 | 54 | 169 | 201 | 184 | 308 | 485 |
| **Mexico** | 1 | 8 | 227 | 909 | 534 | 646 | 1,671 | 2,374 |
| **Russia** | - | - | - | 262 | 1,423 | 6,883 | 17,434 | 25,599 |
| **South Africa** | 31 | 52 | 81 | 134 | 259 | 483 | 878 | 736 |
| **Turkey** | - | - | - | 2 | 39 | 129 | 383 | 744 |

**Table 5: Credit to Private Non-Financial Sector in Selected Developed Countries[31,32]**

| | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2014 |
|---|---|---|---|---|---|---|---|---|
| **Australia** | 109 | 125 | 266 | 81 | 378 | 688 | 835 | 664 |
| **Canada** | 384 | 162 | 413 | 224 | 445 | 535 | 945 | 768 |
| **France** | 464 | 339 | 489 | 239 | 427 | 572 | 776 | 527 |
| **Germany** | 857 | 300 | 328 | 610 | 625 | 120 | 119 | 224 |
| **Netherlands** | 193 | 52 | 136 | 142 | 411 | 332 | 275 | 34 |
| **Norway** | 370 | 381 | 446 | 82 | 962 | 1,182 | 2,119 | 1,241 |
| **Sweden** | 561 | 411 | 1,270 | 85 | 1,346 | 1,494 | 3,175 | 1,406 |
| **Switzerland** | 292 | 106 | 255 | 72 | 91 | 96 | 260 | 195 |
| **United Kingdom** | 147 | 173 | 447 | 183 | 510 | 844 | 561 | 34 |
| **United States** | 2,864 | 1,980 | 2,498 | 1,773 | 4,424 | 6,349 | 3,307 | 2,274 |

[31] Growth rate of Private credit to GDP is used as a proxy for financial innovation in Laeven et al. (2015).

[32] BIS data, adjusted for breaks. The data represents new additions to the cumulative stock value of credit for each of the periods provided above. All numbers are in billions of countries' own currencies (Euro for France, Germany and the Netherlands). Lending sector are all sectors including domestic banks and the borrowers are from private non-financial sector within each country.

It is seen that as early as 1980, credit markets of developed countries were actively performing in great amounts as their banking systems were effective in credit generating process (Table 5). The numbers peaked in the mid-2000s and then, the external funding needs of the firms have decreased in time, mostly after mid-2000s due to increased pace of financial innovations. On the other hand, developing country data on credit to private sector show that they have followed the pattern of developed countries, with a lag of 15-20 years (Table 4). Both due to development scheme of real sector and late adaptation of financial innovations, it can be expected that external funding from banks in developing countries will last in the medium term, but it can also be expected that the loan demand will diminish later as markets for corporate bonds and other products of innovative finance, for example, grow.

All in all, as all the criteria which we used in this part imply, developing countries have not been incorporated financial innovations into their economies unlike developed countries, and the overall structure of financial development is lagging behind in developing countries. As we discuss before, institutional differences and the late adoption of financial liberalization might have built these differences between developed and developing countries.

### 3.3. Security Innovations in Developing and Developed Countries

In this section of this chapter, we are going to give and describe data on financial innovations, particularly which are of securities, provided by the Bank for International Settlements (BIS). In this respect, we are going to see how the world financial markets are performed in terms of security innovations where the data are available with country breakdowns. In general, it can be said that developing countries are not accustomed to many securities and the markets for these financial innovations were developed only after the 2000s.

In DIE (2008), it is stated that developing countries remain behind from developed countries in terms of securities trading.[33] Here, with the help of BIS statistics on

[33] They argue that the "development has been uneven: While government bonds are traded in fairly liquid markets even for longer maturities, the development of corporate bond markets in most

innovative financial products, we will be looking at debt securities where particular data are available for our country set. Moreover, we look at equity linked derivatives, where we use BIS country classification for the data.

In terms of debt securities, we see huge differences between developed and developing countries although it can be claimed that the developing countries are strongest in issuing debt securities among other products of securitization (Table 6). In both developed and developing countries, general government and financial corporations have the same share in issuing debt securities as of September 2014.

**Table 6: Total Debt Securities Statistics[34] of selected countries**

| **All Issuers** | **1990** | **1995** | **2000** | **2005** | **2010** | **Sep. 2014** |
|---|---|---|---|---|---|---|
| Developed | 11,366 | 16,958 | 22,840 | 36,767 | 52,377 | 57,551 |
| Developing | 0 | 58 | 304 | 1,513 | 4,104 | 5,654 |
| **General Government** | **1990** | **1995** | **2000** | **2005** | **2010** | **Sep. 2014** |
| Developed | 4,783 | 7,175 | 6,835 | 11,247 | 19,618 | 24,509 |
| Developing | 0 | 58 | 206 | 766 | 1,632 | 2,254 |
| **Financial Corporations** | **1990** | **1995** | **2000** | **2005** | **2010** | **Sep. 2014** |
| Developed | 4,861 | 7,345 | 12,285 | 21,019 | 26,742 | 25,543 |
| Developing | 0 | 0 | 94 | 602 | 1,699 | 2,226 |
| **Non-Financial Corporations** | **1990** | **1995** | **2000** | **2005** | **2010** | **Sep. 2014** |
| Developed | 1,636 | 2,338 | 3,579 | 4,288 | 5,753 | 7,271 |
| Developing | 0 | 0 | 4 | 145 | 773 | 1,175 |

The case is slightly different in developed countries: Prior to the recent global crisis, financial corporations had higher share compared to governments, however with the crisis measures, the latest statistics are much closer. For non-financial corporations' issues of debt securities, we can say that developed countries are still in the lead, in

emerging economies is in a more infant stage". Moreover, it is argued in the same study that this divergence is similar in terms of other new, innovative products such as asset backed securities and some derivative products, which are not traded much in developing countries.

[34] BIS data, by residence of the issuer. Total = International + Domestic. For debt securities, issuer is obliged to pay a specified amount of principal and interest to the owner, and type of income is 'interest receivable' (IMF Handbook on Securities Statistics 2015). The data was not available for Brazil, India, Indonesia, Mexico, South Africa, and Switzerland. All values are in billions of US $, and the latest data available given as of September 2014.

fact these issues are above the level of total issues by developing countries within our country set.

In developing countries, issues of debt securities had begun in early 2000s, first by governments, then financial corporations were added to the picture. Non-financial corporation issues in developing countries are actually a more recent phenomenon. Among our selected developing countries, China takes the lead with its rapid move in the recent years, and comprise the bulk of debt security issues lately.[35]

**Table 7: Equity Linked Derivatives – Amounts Outstanding[36] (Total Contracts)**

| | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 |
|---|---|---|---|---|---|---|---|---|---|
| **Total contracts** | 1,488 | 1,891 | 2,309 | 4,385 | 7,488 | 6,471 | 5,635 | 6,251 | 7,941 |
| **US equities** | 313 | 457 | 431 | 1,053 | 1,597 | 1,488 | 1,565 | 1,936 | 2,904 |
| **European equities** | 1,005 | 1,238 | 1,667 | 2,746 | 4,077 | 4,038 | 2,793 | 2,829 | 3,400 |
| **Japanese equities** | 93 | 100 | 80 | 195 | 828 | 400 | 595 | 460 | 510 |
| **Other Asian equities** | 13 | 9 | 28 | 124 | 532 | 183 | 252 | 322 | 352 |
| **Latin American equities** | 21 | 18 | 16 | 88 | 157 | 99 | 58 | 132 | 178 |
| **Other equities** | 42 | 68 | 87 | 179 | 297 | 264 | 372 | 573 | 597 |

**Table 8: Equity Linked Derivatives – Amounts Outstanding (Forwards and Swaps)**

| | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 |
|---|---|---|---|---|---|---|---|---|---|
| **Forwards and swaps** | 146 | 335 | 364 | 756 | 1,767 | 1,627 | 1,828 | 2,045 | 2,495 |
| **US equities** | 56 | 126 | 118 | 234 | 623 | 508 | 544 | 669 | 881 |
| **European equities** | 59 | 147 | 203 | 420 | 881 | 884 | 941 | 915 | 936 |
| **Japanese equities** | 22 | 21 | 8 | 10 | 28 | 48 | 79 | 88 | 132 |
| **Other Asian equities** | 1 | 0 | 1 | 11 | 34 | 36 | 52 | 75 | 120 |
| **Latin American equities** | 1 | 6 | 2 | 21 | 99 | 40 | 20 | 73 | 108 |
| **Other equities** | 8 | 35 | 33 | 59 | 104 | 111 | 192 | 224 | 318 |

[35] In addition to debt securities data, equity security statistics could have been given in detail where available in different countries' stock markets' data. However, it is not our aim here to give an analysis in detail to see which particular countries' equity markets have different characteristics, or which type of firms have advantages in issuing equities which provide them advantage in financing more directly, as we want to give a more general picture.

[36] BIS data. All values are in billions of US$ for tables 7, 8 and 9. For gross market values, see Appendix A.

In Tables 7, 8 and 9, values on equity linked derivatives in outstanding amounts are given, broken down into total contracts, forwards and swaps, and options, respectively. Again, developed country usage is much higher with a share of 75% in total equity linked contracts. In general, options are used more than forwards and swaps, and the US and European equity derivatives again take the lead, while Latin American, Asian (excluding Japan) and other equity derivatives have lower amounts outstanding, exhibiting that developing countries have not adapted these products much as well.

**Table 9: Equity Linked Derivatives – Amounts Outstanding (Options)**

| | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 |
|---|---|---|---|---|---|---|---|---|---|
| **Options** | 1,342 | 1,555 | 1,944 | 3,629 | 5,720 | 4,844 | 3,807 | 4,207 | 5,446 |
| **US equities** | 258 | 331 | 312 | 818 | 974 | 980 | 1,022 | 1,267 | 2,023 |
| **European equities** | 946 | 1,091 | 1,464 | 2,326 | 3,197 | 3,154 | 1,852 | 1,914 | 2,464 |
| **Japanese equities** | 71 | 79 | 72 | 185 | 800 | 352 | 516 | 372 | 378 |
| **Other Asian equities** | 12 | 9 | 26 | 113 | 498 | 146 | 200 | 247 | 232 |
| **Latin American equities** | 20 | 12 | 15 | 67 | 58 | 60 | 37 | 59 | 69 |
| **Other equities** | 35 | 34 | 54 | 120 | 193 | 152 | 180 | 349 | 279 |

In all the statistics we examined in terms of securities innovations, we again see that developing countries are falling behind in terms of utilizing those products, a clear indicator for the recent crisis' arguments. While innovative financial products are used less in developing countries, they have been escaped from the conditions of the crisis more easily, however the situation is not the same in advanced countries. In sum, developing countries are still at their infant stages of adapting and using more complex securitized products such as equity linked derivatives, but the case of debt securities seems to be more promising, although they are not mature markets enough.

### 3.4. Additional Comments and Final Remarks

In this chapter, we have tried to put forward some important aspects of financial innovations in developing countries. Due to limited quantitative data, it is difficult to analyze the effects and catch the trends of the innovations, especially of debt securities and derivatives. Hence, we have also used proxies of financial deepening considering the fact that innovations create deeper markets. In general, it can be said that financial innovations have not yet captured financial markets in the developing countries. Markets are still in their course of reaching to their maturity and there are still many shortcomings in terms of overall financial development.

We have dealt with financial innovations in developing countries incorporating ideas from mainstream financial innovation literature as well as financial development literature. As developing country cases were discussed very little in the literature, we have tried to fill the gap in terms of providing arguments regarding possible differences in the market structure and its effect on the emergence of financial innovations. First, we argued that institutional differences and the effect of financial liberalization and integration are influential on financial innovativeness. Second, we used financial market depth as proxy of financial innovations and showed that developing countries still remain far behind from their developed counterparts. Financial deepening is in fact a restrictive measure, as it entails many factors within itself, not just showing financial innovativeness. However, as the Great Moderation through financial liberalization and integration along with extreme usage of financial innovations determined the characteristics of recent financial history, we argue that the proxies that we use are sufficiently explanatory. Also, we should take into account the fact that increased variety of financial products create deeper markets. Third, we utilized BIS securities data where country breakdowns are available, and demonstrated the market volumes of security innovations, again which yielded the result that developing countries have much smaller market sizes.

In general, financial innovations are either directly imported by developing countries, or they are imitated to fit better in domestic markets. Thus, the direction of diffusion of financial innovations is usually from developed to developing countries. From 1990s onwards, deregulation, privatization and technological advances have attracted investors in developed countries to invest in emerging markets through portfolio flows (Schmukler, 2004), and in an integrated financial structure, this was only available through financial innovations. In fact, in a globalized financial market environment, there should be equivalent market forms to increase the efficiency in transactions. Moreover, those in need of funds –developing countries- should use innovative products or apply innovative processes in order to attract additional investment flows. However, “too much finance” can also lead to deteriorations if not controlled properly, therefore, there is a need for strong financial institutions and sound regulatory systems (Sahay et al., 2015).

In order to make a detailed analysis on securitization, one should consider examining different markets such as corporate bond markets with a country specific approach. For corporate bonds, for example, global markets are concentrated in developed countries where they are accounted for 92% of market size ($46 trillion in developed countries and $3 trillion in developing countries as of 2013) (Tendulkar and Hancock, 2014). Similar to this example, we can expect that developing countries fall behind in development of other markets for financial innovations. However, our aim is to look at alternative financial innovations in this study, where local factors are affecting the emergence of these innovations and final effects on the economic conditions are much stronger as they are entailing a higher base of participation from economic actors (i.e. household inclusion is much higher). We do analyze such two financial innovations in Chapter 4 for Turkey.

Before moving to next chapter, let us briefly discuss where Turkish financial market stands in terms of security innovations. In Turkey, funding channels for the financing needs of private enterprises are generally provided by issuing equities and private debt security issues remained restricted. Moreover, debt securities generally work for public financing where naturally, government debt securities constitute the main bulk (Coşkun, 2010). Turkish financial system is still dominated by the banking sector and bank loans are still the fundamental instrument for the financing needs of firms. In terms of adaptation and usage of asset-backed securities and derivatives for instance, Turkey has become late, establishing markets for those in mid-2000s. Also, in terms of market depth, it can be said that Turkish markets are relatively much smaller, although we observe an increasing trend in the last few years.

To show how Turkey, as a developing country, became a follower of global trends in the course of financial development and how local and institutional features of

Turkish markets have affected the emergence of new financial innovations, in the next chapter, we focus on two particular cases which are credit card installments and gold accounts. As we discussed previously for developing countries, Turkey also follow the footsteps of developed countries in adapting or imitating financial innovations. There are institutional differences that lead to different outcomes, as well as cultural factors that shaped the features of financial innovations. Furthermore, Turkey, being one of ten developing countries which we examined previously, managed to attain a huge participant base as the financial innovations that we discuss next are appealing to the household consumption and saving needs. While the products of securitization have not still disseminated deeply in the financial markets, at the other end, consumer and saving products (i.e. credit cards and gold accounts) as financial innovations have spanned the markets in a significant manner.

# CHAPTER 4

# A CASE STUDY OF TWO FINANCIAL INNOVATIONS IN TURKEY

The following chapter of this study is devoted to reveal the causes on the emergence of two cases of financial innovations from Turkey based on our premises for the developing country financial innovations in the previous chapters. First, we explain why these two cases qualify as financial innovations. Second, we explore how and why they emerged. In particular, we aim to show the interaction between 'intentions' of the actors. There are both institutional and cultural factors interacted with the emergence and dissemination of these financial innovations. Third, we also explore the macroeconomic conditions in which these two innovations have been changed, in finding deeper links and further consequences that these cases have generated.

The first case that we are examining here is credit card installments and the second one is gold accounts. Both financial instruments have unique features specific to the Turkish financial market. Unquestionably, such uniqueness has demonstrated that similar financial innovations can accommodate different characteristics, and yield different results. Moreover, the overall development of Turkish financial market and its structure have been leading to potential differences in the evolution of these financial instruments. To find the implied repercussions, we make detailed analysis on a quantitative basis where the data are available and also on a qualitative basis where some important analogies are made.

We take into account the developments and changes in the market structure for both cases. With the help of quantitative data, we try to catch some behavioral patterns indicating continuity. Also, the available data help us construct the economic results, directing us to discuss the implications on consumption and saving parameters. Indeed, thinking in terms of macroeconomic conditions, credit cards and particularly installments have had a huge effect on maintaining the consumption led growth, whereas gold has been re-initialized as a saving instrument which increased the level of funding capacity.

Both innovations contain elements in line with pre-existing institutional and cultural characteristics of Turkish society. For each case, we identified a traditional aspect that has shaped the spending and saving behavior of Turkish people, respectively. We argue that either of them can be regarded as the prior practice of an existing behavioral aspect in terms of the two financial innovations we examine here. In other words, they can be considered as the antecedents of the two cases. While the details are to be presented in the next sections, for credit cards, this traditional aspect is *veresiye*[37], and for gold accounts it is *altın günü*[38].

Quoting Evans and Schmalensee (1998) on credit cards:

> The manner in which people pay for things has seen few revolutions as fundamental as the spread of electronic money. Coins were the first innovation about 4,000 years ago. Checks were next about 800 years ago. Paper money came a bit more than a century ago. The payment card, which is just at the half-century mark [of the 20th century], is the most recent innovation and just as profound.

The history of the development of credit cards market of Turkey is indicating a resemblance on global market framework, especially since payment card associations have an international buildup. The first encounter of Turkish markets with credit card had been arranged by these associations and their system was implemented in Turkey. Subsequently, however, Turkish credit cards market evolved into a more distinguished texture, where strong and unique establishments have been built by market agents which stimulated the growth of this market. Credit cards and particularly the unique installment feature of credit cards in Turkey have had a crucial place since late 1990s for purchases of goods and services. Household consumption with credit card usage has skyrocketed especially in 2000s due to countless advantages that the cards provide in payments. Be that as it may, the

[37] See the next sections for definition and further discussion.

[38] See the next sections for definition and further discussion.

growing size of the credit card market did not come without its costs. At some point, careless consumption of individuals and associated excessive indebtedness have become a trouble for both the consumers themselves and for the smooth functioning of the markets. In this respect, our aim here is to put forward the consumption side of credit cards with a particular focus on installment feature and what effects did it have for the overall state of the macroeconomic structure. Indeed, in order to fulfill our intention in describing the credit card installments case as an important financial innovation, we hint to our presumptions when necessary.

Granting the inclusion of an important financial asset, which is gold, into the financial system from "under the pillows"[39] by a series of interacting events and procedures is also a very important financial innovation that perfectly works for our purpose. Traditionally, gold has been a very important precious metal having both a sentimental value and being used as an informal saving instrument for Turkish households. While this being the case, what we look at here is unique in every aspect. It brings together a cultural process and technology together, creating a new form of financial innovation, which invites us to reconsider the conventional understanding of financial innovations. In contrast with the credit card installments case, first step towards the sequence of innovative actions is ignited by a regulation. Since its introduction four years ago, it both worked for the central bank in creating new reserve capacity and commercial banks in having additional fund source and managing their liquidity structure in favor of extending the credit potential by releasing domestic currency from restriction. While the details of the scheme of how the system works and how it can be identified as a financial innovation will be discussed in section 4.2., we think that it is also highly crucial for this financial innovation to be discussed considering our stance on developing country financial innovations. Last but not least, we focus on the saving property of the gold accounts, to demonstrate its effect on the macroeconomic structure.

[39] Traditional informal saving method of gold accumulation by Turkish households has been identified by society, media, and financial agents as "under the pillow" ("yastık altı" in Turkish).

Looking from our ‘developing country financial innovation’ perspective, both instruments provided a broadened participant base for the financial markets, as they have enabled large segments of the society to engage in financial activities. Additionally, they have contributed to the overall financial development of the Turkish economy in the contemporary era, by ensuring a greater financial mobility. And there is no doubt that the existence of their unique features have led us to treat financial innovations differently, for the institutional characteristics of each country is influential in constructing diverse applications in the financial markets.

Considering these two financial innovations, there is more available data and existing arguments for credit cards case as it has more history and greater application ground than the gold case. Therefore, our analysis is skewed more to the credit card installments, however this is by no means a diminishing of the significance of the gold accounts.

The plan of this chapter is as follows: First, we deal with the case of credit card installments where we give a very short literature review to cover the previous discussions on credit cards and to pose our distinct arguments more clearly. After we define and introduce the case in terms of our financial innovation stance, we give a brief history of credit cards market in Turkey, presented along with the developments in the market within our concerned period, showing the innovative parts. Also, we discuss in particular the credit card installments as an innovation with unique characteristics and their effects for the economy as a whole. Arguably, installments have contributed to alter the purchasing habits and therefore the consumption patterns of Turkish households.

Second, we discuss the gold accounts case, particularly examining the innovative processes that it accommodates. While there exists a broad literature on gold as a financial asset, we do not refer to any of the existing work in this sense, however we share some material regarding our case, although it has found itself a very little place. We begin with how the process started, how did it further develop and what were the implications for the financial sector. For both cases, after we describe and evaluate our stance and explain the processes that involve innovational patterns, we give results for market and macroeconomic conditions in the end, and discuss the implications by emphasizing important effects that those innovations entail.

## 4.1. Credit Card Installments Case

### 4.1.1. Literature on Credit Cards and its Concepts

In building the steps to analyze Turkish credit cards market within a financial innovation context, we resort to understanding different components of the market structure. Therefore, to tie the pieces together, we also take into account the existing literature on credit cards as they support our work as complements to understand the conceptual and structural issues. However, we do not get into the details of studies on credit cards that we cite here, we only mention some of those which are the most fundamental ones. In this manner, we briefly summarize the main points of selected work and refer to major developments, problems and the general body of discussion regarding credit cards around the world and in Turkey. While doing so, we also introduce the major concepts here, critical in understanding the credit card market mechanism. In particular, the review of the literature on Turkish credit cards market indicates that our work is first of its kind while approaching the case from financial innovation argument.

We utilize a twofold approach here: In the first part, we address exemplary work that has been done on theoretical issues and credit card markets of US and some other developed countries where the discussions on general issues are universal and applicable to all credit card markets around the world due to the analogous nature of payment systems. In the second part, we cite some of the work done on the credit card market of Turkey, interpreting the boundaries and topics of interest. For both parts, we determined four sub-topics according to the focus of studies: consumer behavior and preferences, competition, price structure, credit card networks and market structure.

Among the topics that we mention here, two of them especially come forward in supporting our analysis: Consumer behavior and preferences along with credit card networks and market structure. Since our attempt is to understand the emergence and dissemination of an important financial innovation in Turkey, which is credit cards, we embed these particular elements into our discussion in later sections.

Studies on consumer behavior and preferences aim to determine how and why consumers choose the payment product that they have selected to use. In other words, they are trying to find what motivates consumers in picking the instrument that they use. However, consumer choices could lead to unwanted situations such as inability in paying debts, hence these issues related to choice have also been investigated.[40]

The works under competition and price structure topics also have links to the behaviors of market participants (banks and their customers) which yield negative end results on competition and price structure. High prices due to information asymmetries (especially adverse selection) and search and switch costs were mostly mentioned.[41]

Apart from consumer habits, competition and price structure in the credit card markets, the embodiment of credit card networks and market structures are also essential in the development path of credit card markets and therefore gained much attention. In that sense, credit card markets are defined as two-sided markets with network externalities[42], and the structure of credit card networks were examined with focuses on payment card associations, interchange fees and merchant discounts. While credit card markets are comprised of a system of bilateral relationships, those and the costs and benefits to the participants in the system who are issuers, acquirers, merchants and customers are highly important in functioning of the system.[43]

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[40] For more information, see Mantel and McHugh (2001), Soll et al. (2013).

[41] Ausubel (1991), Calem and Mester (1995).

[42] See Rochet and Tirole (2002). Two-sided markets are defined as a market for two sets of agents who interact through an intermediary or platform (Financial Times Lexicon, 2015). Therefore, they can also be called as two-sided platforms. For more information, see OECD (2009).

[43] Chakravorti and To (2007).

In addition to the above, Chakravorti (2003) and Scholnick et al. (2008) provide a literature review touching upon the problems and concerns regarding the above matters, while showing where do credit card studies stand and what future areas of research could be conducted.

Similar to the global structure on credit card markets, Turkey also experienced periods fitting into the frameworks that we described above. High and sticky credit card prices (interest rates), high interchange fees, consumer irresponsibility accompanied by huge debts, and the transformation of markets from price competitive to non-price competitive structure were all themes of Turkish credit cards market. In addition to them, the effects of regulatory actions were also debated.

Studies which concentrate on consumer behavior and preferences in Turkey are usually attempting to find the factors that affect the usage of credit cards.[44] Most of the time, the results of these studies are obtained by the help of questionnaires. In these studies, it is found that credit card installment is the primary reason for consumers to use credit cards, next are promotions, easiness on payments and rewards.

Although consumers adapted to credit card usage very easily and the markets grew rapidly in Turkey, there also occurred associated downturns such as defaults on the consumer side, and uncontrolled and high interchange fees and interest rates on the bank side. Over time, with the help of regulations, the market became more stabilized in terms of costs, but the competition framework did not change much in terms of the power of market actors.[45] Additionally, due to the results stemming from careless consumption, unwanted high price environment, and uncompetitive structure, some studies have focused on regulations that are effective or that might be administered.[46]

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[44] Durukan et al. (2005), Savaşçı and Tatlıdil (2006) and Yılmaz et al. (2013).

[45] See Akin et al. (2010) on the failure of price competition, Akin et al. (2011) on non-price competition, and Özkan (2014) on the importance of non-price features of credit cards in Turkey.

[46] Yereli and Koç (2013), Akin et al. (2013).

Finally, it is important to note that there exist some works on Turkish credit cards market which offer a more detailed outlook on the market and provide additional information regarding the problems.[47]

### 4.1.2. Defining Credit Cards and Installments as Financial Innovation

As long as the history of financial markets are concerned, if money (paper money or coins, assets of value which yield purchasing power) can be described as a financial innovation (arguably the most important financial innovation in history), we can also describe credit cards as a financial innovation which has the similar functions as of money in terms of payments for goods and services. However, credit cards have been introduced to the financial markets with the help of technological developments, or innovations, especially that of communication technologies which provided easiness on transactions and provided advantages both in terms of time and in terms of space (location).

Our study is based on the premise that credit cards should be treated as financial innovations. The reasons for this identification are varied. First, it has a technology side, i.e. technological developments contributed further to the advancement in the payment systems and credit card markets is among one of them. In this sense, technology has also contributed to its expansion with the advancements in computer based evaluations of credit history. Therefore, credit cards become one of the first credit products that require no collateral as banks could collect the necessary information on their customers when they become credit card users.

Second, it has created a new market mechanism in the financial system, which has its own revenue channels (both classical channels such as interest rate revenues, and new channels such as interchange fees, merchant discounts, membership fees, etc.)

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[47] One can look at 'Credit Card Market in Turkey' (CBRT, 2011) where several issues that we discussed above are included. This book is a collection of articles which were written by Turkish central bankers in a preliminary attempt to understand the issues after the implementation of credit card law in 2006, where central bank became responsible from the markets. Moreover, ICC publications (http://www.bkm.com.tr/publications.bkm) and some theses (especially Özkan (2014), Kaya (2009), Koç (2013), and Akkaya Karayol (2007) ) are also highly beneficial for those who are interested in other developments and issues regarding Turkish credit card markets.

and cost channels (investments to establish the electronic payment system, promotions, advertisements, etc.) for issuers and acquirers. Also, this new market mechanism has comprised of several parties who engage in bilateral relationships within a two-sided market environment, and a network operator functioned as an intermediator between those parties.

Third, credit cards have provided multifunctional purposes: Both by being a credit product, and a payment product in purchasing goods and services. Lastly, credit cards have become an inseparable part of consumption and it has become a subject of macroeconomic policies, i.e. monetary policy decisions and banking regulations.

Being maybe one of the most important financial innovation of recent years, credit cards can both be identified and categorized as product or process innovations, also fitting into the definitions of historical approaches to the financial innovations. Primarily, credit cards have changed the method of payment into an electronic one and have provided easiness for purchasing transactions. Additionally, credit card installments do only change the process, namely the repayment of the debt issued from the previous transaction, by dividing it into predetermined periods yielding the ability to the customer to pay his/her debt in mostly monthly payments. Besides, installments do not bear additional costs for consumers other than the ownership fee of credit cards.

For the Turkish case in particular, we may argue that credit card installments as a financial innovation could be treated as a historical process. That is to say, a previously used method of payment is transformed into a newer one along with the help of technology, and provided the continuation of a pre-existing institutional factor in a new form. This example is *veresiye*[48] for Turkish markets. *Veresiye* has

[48] *Veresiye* can be described as a type of 'store credit', where a customer have some amount of credit in a store due to some pre-payment or it is arising from a previous transaction where a person has to return the good, but not getting any refund in cash. However, in *veresiye*, customers have an account that is kept in a type of book account (in most of the time, kept in simple notebooks) in a local store or a supermarket. Customers then purchase the goods or the services without paying any cash and an institutional agreement depending on trust between the store owner and the customer has been made, giving the customer the ability to pay the debt later in individually determined payment schemes (e.g. regular monthly payments).

been a cultural theme and has a long history in the Turkish goods market, and is connected to the credit card installments in such a way: the ability of consumers to make delayed payments has been transformed from a personal to an impersonal state. In other words, what was granted by *veresiye* which is based on trust began to be granted by the credit card installment schemes which are based on the impersonal relation between the banks and their customers.

In addition, the transformation of institutional structure of shopping, which moved consumers from local stores to department stores and large retailers, has promoted the establishment of early versions of installment schemes. Before the widespread acceptance and usage of credit card installments provided by banks, those large retailers have provided their customers to pay in installments. From this point of view, we can argue that an innovation such as credit card installments is customized very easily by Turkish households and in a very short period of time, and purchases made by installment schemes have reached to unprecedented levels. Moreover, as the commission received by banks with the usage of credit card installment schemes have not been reflected to the customers in terms of surcharges or any additional interest payments, its adaptation became much easier for the consumers. It is important to mention such institutional changes here due to their uniqueness as Turkish markets are concerned.

Furthermore, credit card installments have had significant impacts over the macroeconomic conditions of Turkish economy. As installments have been widely accepted by Turkish consumers and became a payment routine, its effects turned out to be highly visible in various indicators. In fact, in more recent periods, the intensive usage of installments have become the subject of a series of regulations, in order to decelerate the redundant consumption. These effects that installments have conceived are also being discussed in the next parts.

In summary, there are more than one way to define and perceive credit card installments as a financial innovation, as it entails different attributes leading to different outcomes. Also, it has a unique emergence path in Turkey, with its one-of-a-kind features.

### 4.1.3. Development of Credit Cards Market in Turkey

Turkish experience with credit cards began with the introduction of Diners Club cards in 1968, then came the American Express cards. These two brands have been used by a very limited number of participants. In 1975, with the entrance of MasterCard and Eurocard to the market, the number of card users increased a little more. In 1983, Visa cards have entered the system in Turkey, and larger masses began using credit cards. After a short while, in 1987 and 1988 payment systems became more widespread along with the introduction of ATMs and store cards, respectively.

In 1990, ICC (Interbank Card Center) was established by a cooperation of thirteen public and private Turkish banks, which marked the foundation of today's Turkish credit card market structure. This center has been an institution of coordination between the participants of the industry and has provided authorization along with clearing and settlement transactions. Interchange fees are determined in the ICC system. Besides, it has been the duty of ICC to conduct strategic work on the national payment systems, and to build the code of conduct along with credit card standards.

We should mention here that the importance of ICC for Turkish credit cards market is undeniable. It is one of the earliest network operators in Europe and all the operations regarding the system are conducted by ICC as well as all the disagreements arisen have been solved under the supervision of this institution (BIS, 2012). Moreover, interchange transactions are made via ICC in Turkey unlike in other countries, where if issuers and acquirers are different, then there will be competition among network operators and differentiation in interchange fees (Yereli and Koç, 2013). Therefore, we can argue that with these features that ICC have and with this shape of the system regarding its network, Turkish credit cards market had gained an advantage in building a fast-growing sector and in the spread of the financial innovation.

Continuing with the developments within the sector, in 1991, first POS (Point-of-Sale) terminal was presented to the market and began to be used. It was the time that

Turkish credit card market started to expand and thus began mobility and growth. In 1993, ICC Switch system has been set in motion in connecting interbank ATM and POS network to each participants' use. Implementation of credit card installments, collecting flight miles and bonus points, which revolutionized Turkish credit cards market have been made in 1998. After this date, credit card usage have been boosted and never set back as the consumers adapted to the usage of credit cards with these new features. Indeed, that is why our attention of interest is on this feature of credit cards in Turkey. In 2000s, there also occurred several important developments for the credit card industry, such as: transition to chip & pin application which implanted smart chips into cards and required users to type their cards' PIN numbers at the point of sale, introduction of wireless payment systems that are integrated into credit cards, and the beginning of e-commerce by the use of credit cards for internet shopping.[49]

The history of credit cards in Turkey indicate a fast development of the market, compared to other segments of the financial industry. The credit card system works in a complex structure, although the final user (either consumers or merchants) has obtained easiness in their actions. Turkish credit card system has also a unique system of credit card network. According to Aysan (2011), in many parts of the world, credit card issuing institution, acquiring institution and payment card network provider institutions are independent and different institutions. However in Turkey, banks can issue cards and can be acquiring institutions at the same time.

In Turkey, commercial banks issue credit cards to customers. Upon agreements with payment card associations, banks issue cards having the brand names of these associations.[50] Besides, banks have their own loyalty programs in terms of credit cards which provide additional benefits to the customers, and the cards are issued

[49] Additional information on the history of credit cards in Turkey can be found on ICC website: www.bkm.com.tr/kronoloji.bkm

[50] Visa, MasterCard, American Express, JCB and Diners Club are functional in Turkey, where Visa is the market leader in terms of the number of cards in use as the end of 2014. Although these payment system associations are not engaged in domestic network operating (as ICC in Turkey is the sole operator), they are connected to the system by ICC for international transactions.

under the names of those loyalty programs.[51] In fact, these loyalty programs constitute one of the originalities of the Turkish system as it is the backbone of the non-price competition in the market. Within the concentrated system of credit cards[52], the biggest players of the market had created their own loyalty programs and in fact, some rights and privileges of these programs were marketed to other players of the system as the recognition of these brand loyalties help other banks to have market share as though their shares are very small. Also, some banks engage in affinity programs[53] to enlarge their customer base by appealing to those customers in terms of their preferences.

In addition to issuers, payment card associations, loyalty and affinity programs, there are also acquirers, merchants and a network operator (ICC) in the system. Acquirers are also banks who make agreements with merchants and provide them with POS devices. In exchange for the service that the acquirer bank provides, they get the amount which is equivalent to merchant discount. On the other hand, for each transaction that is made with the issuer's credit card, but with a different POS device that they establish (i.e. the POS device of the acquirer is used), then the issuer gets an interchange fee for the service that they provide.

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[51] World – Yapi ve Kredi Bankasi, Bonus – Garanti Bankasi, Axess – Akbank, Maximum – Isbank, CardFinans – Finansbank, Advantage – HSBC, and Paraf – Halkbank are the major loyalty programs in Turkey. In fact, these loyalty programs are extended to other banks' participation. Respective credit cards are being issued to other banks' customers under the same programs, however, other banks pay fees for brand rights to the owner of the loyalty programs.

[52] Akin et al. (2013). The six largest issuers (Yapi Kredi, Garanti, Akbank, Isbank, Finansbank and HSBC) control 87% of total outstanding balances and 80% of all customers.

[53] Affinity credit card programs are built by an agreement between banks and organizations. The organizations aid their members or supporters to obtain a credit card with their brand names, which have additional privileges. Those organizations can be sports clubs, airlines, universities and the like.

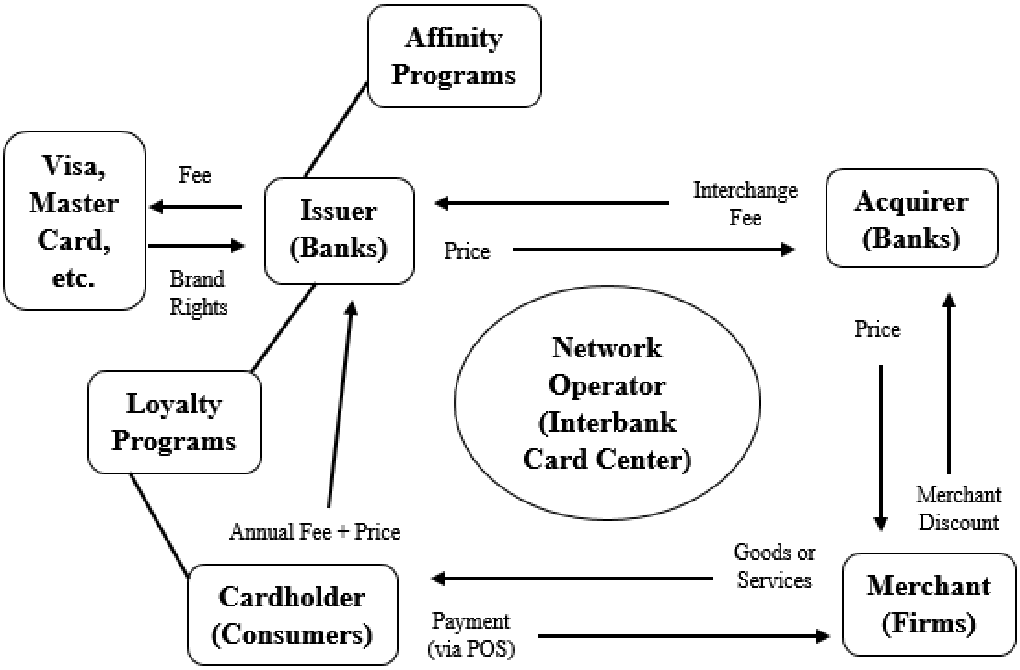


**Figure 5: Credit Card System in Turkey[54]**

Last but not least, all the system works under the supervision of ICC, which also provide networking service between the banks and the overall system (when a transaction is made, its communication with all parties is done under the infrastructure of the ICC).

Payment systems in overall, developed very fast especially in the 2000s. We can see this rapid change with the increased number of credit cards, debit cards, POS devices and ATMs. When we look at Table 10, we can see that in 15 years, number of POS terminals have multiplied by eight times and the number of ATMs have quadrupled. While the availability of POS terminals in more locations have contributed to the

[54] This figure is a revised and combined version of the figures in Rochet and Tirole (2002) and Akin et al. (2013), some additions and changes have been made according to Turkish credit card market's structure.

increased number of purchases of goods and services with credit cards, more ATMs have helped in raising the number of cash advances with credit cards.[55]

**Table 10: Number of POS Terminals and ATMs in Turkey (2000 – 2014)[56]**

| Year | # of POS Terminals | # of ATMs |
|---|---|---|
| 2000 | 299,950 | 11,991 |
| 2001 | 364,636 | 12,127 |
| 2002 | 495,718 | 12,069 |
| 2003 | 662,429 | 12,857 |
| 2004 | 912,118 | 13,544 |
| 2005 | 1,140,957 | 14,823 |
| 2006 | 1,282,658 | 16,511 |
| 2007 | 1,453,877 | 18,800 |
| 2008 | 1,632,639 | 21,970 |
| 2009 | 1,738,728 | 23,800 |
| 2010 | 1,823,530 | 27,649 |
| 2011 | 1,976,843 | 32,462 |
| 2012 | 2,134,444 | 36,334 |
| 2013 | 2,293,695 | 42,011 |
| 2014 | 2,389,303 | 45,576 |

Furthermore, the number of credit cards and debit cards have increased between 2000 and 2014 parallel to the increase in ATMs and POS terminals. At the end of 2014, there are nearly 60 million credit cards while the number of debit cards have reached to 106 million. If we look at these numbers in a comparative manner to the rest of the world, we see that Turkey has a really active and competitive payment systems market. For instance, among European countries, the market size of Turkish credit card market has been ranked 3rd as of 2011 year end (ICC, 2011). And as of end 2012, with the aggregate number of credit cards and debit cards, Turkey found

[55] In the year 2014, cash advances with credit cards reached to an amount of □44 billion in volume with 82 million transactions (ICC, 2014). When a customer make a cash withdrawal with his/her credit card, s/he has to pay interest in return and the total amount might also be paid in installments depending on the agreement with the bank and its customer. However, our case of credit cards and installments is only focusing on shopping transactions and shopping volumes as it directly affect household consumption, and also since the volume of cash advances are relatively low compared to purchasing transactions, we did not take them into account.

[56] Data collected from ICC Annual Reports (2000-2014)

itself in the 2nd place among European economies.[57] Moreover, if we compare the number of cardholders to the overall population of Turkey, we observe a high percentage of holdings of credit cards as every person in Turkey is holding 0.75 credit cards and 1.4 debit cards.

**Table 11: Number of Credit and Debit Cards in Turkey (2000 – 2014)[58]**

| Year | # of Credit Cards | # of Debit Cards |
|---|---|---|
| 2000 | 13,400,000 | 29,500,000 |
| 2001 | 13,900,000 | 31,600,000 |
| 2002 | 15,700,000 | 35,000,000 |
| 2003 | 19,800,000 | 39,500,000 |
| 2004 | 26,700,000 | 43,000,000 |
| 2005 | 30,000,000 | 48,200,000 |
| 2006 | 32,400,000 | 53,500,000 |
| 2007 | 37,300,000 | 55,500,000 |
| 2008 | 43,400,000 | 60,500,000 |
| 2009 | 44,400,000 | 64,700,000 |
| 2010 | 47,000,000 | 69,900,000 |
| 2011 | 51,400,000 | 81,900,000 |
| 2012 | 54,300,000 | 91,300,000 |
| 2013 | 56,800,000 | 100,200,000 |
| 2014 | 57,000,000 | 105,500,000 |

What does it all tell us? The credit cards market in Turkey have grown rapidly in a short period of time and is at the top ranks in terms of market volume among European economies. But, how did this innovation diffused in such a quickly manner? There are several reasons that we observe up to now, after seeing the development of credit cards market in Turkey. First off, the network of the system has been built in an efficient and unique way, always considering future progress with the early and inclusive foundation of the ICC. Second, technological infrastructure has been built authentically and necessary additions have been done

[57] According to the data of ECB (European Central Bank) and ICC. The information is retrieved from http://www.bloomberght.com/haberler/haber/1554349-turkiye-kredi-karti-sayisinda-avrupanin-zirvesine-oynuyor, in July 5th, 2015.

[58] Data collected from ICC Annual Reports (2000-2014), the numbers are rounded off to the nearest 10,000.

continuously. Access to services with wide network of POS and ATM have supported further developments. Third, consumer adaptation to the credit card was very fast, both resulting from its advantages regarding postponement of the debt and by the genuine marketing policy of banks which were offering additional features to the card owners and benefits through loyalty and affinity programs.

We posit that one particular feature, which is installment, have been the most effective for the rapid dissemination of credit cards in Turkish markets. With its unique qualities, installment ability made consumers always to choose credit cards in the purchases of goods and services where available. In the next section, we concentrate on this feature alone and find some implications regarding our research questions.

#### 4.1.4. Understanding a Financial Innovation: Credit Card Installments

Supporting the idea that installments are highly significant in Turkish markets, Akkaya-Karayol (2007) suggested that the development process of credit cards business in Turkey is very different than in other countries, arguing that the inflationist pressures in Turkey made stores to develop store cards with installment abilities. Although the inflation environment of the 1990s in Turkey led to the emergence of such an innovation, Turkish credit cards market have grown significantly in 2000s, as we can observe in the previous section. However, we should mention the significance of store cards, as they were the predecessors of credit cards with installment abilities. YKM, which is the first and the biggest multi-story department store in Turkey, has also been the first firm to issue a store card which have an installment feature. This card provided customers to divide their payments without surcharges or additional costs. Then, the features of this card has been integrated to a bank-issued credit card before long, leading to a loyalty based program which provide installments and prizes.[59] Such joint agreements and transitions were common in the Turkish market at the initial stages of installment

[59] The information is taken from corporate website of YKM department stores, firm history section (Retrieved from http://kurumsal.ykm.com.tr/?page_id=1713, on July 21, 2015).

cards. Starting as a result of overcoming rigid market conditions that pressurized consumption, credit card installments became an integral part of Turkish credit cards market.

We have already mentioned in the previous parts that Turkish consumers' primary choice to pay with credit cards is its installment ability (Durukan 2005, Savaşçı and Tatlıdil 2006). In addition to consumer behavior, however, this feature has helped banks to protect their customer base and aided merchants to guarantee their receivables which was previously hard to collect when using checks and vouchers along with increasing their sales (Karahan and Çakmak, 2011).

Although credit card installments can be seen in many parts of the world, it has unique features belonging to that of Turkish credit card markets. First of all, consumers get the installment at the point of sale (with the ability of POS machines) instantly when they make the purchase. Secondly, installments do not bear extra costs for the consumers most of the time (i.e. interest-free, no surcharge over the cash price), if monthly due payments are made within the predetermined grace periods (because agreements between merchants and the banks leave customers out of the interest payments, however sometimes customers pay the interest indirectly –as a part of merchant discounts-) (Schoell 2010, Akin et al. 2010). Thirdly, a consumer can purchase an item with a credit card installment plan among a huge variety of goods and services (such as electronics, durable goods, furniture, etc. –except food, groceries and fuel purchases-). Lastly, the number of installments offered on purchases in Turkey exceeds the number than in any other country.[60] As long as these features provide easiness on further consumption of the households –and firms lately- credit card installments will remain a long lasting financial innovation within the Turkish economy.

[60] In Turkey, the number of installments were going up to 24 in certain purchases (Schoell 2010). However, the most common maximum number of installments was 12. After BRSA regulation in February 2014 that restricts the number of installments up to a maximum of 9 and completely restricting in some purchases (such as jewelry), payments with installments dropped a significant amount.

It is highly important to see how the system has been evolved after first introduction of this feature of credit cards in 1998. We have seen in the above section that the growth of credit card markets was exceedingly high, and we argue that a significant portion of this growth comes from the installment feature of credit cards.

With available data on credit cards, we raise significant arguments regarding the importance of installments. We compare credit card and debit card shopping volumes, observe the changes in average value of a single shopping transaction, see how much of the retail and corporate credit card transactions are made with installments, and monitor the changes in non-performing credit card ratio in the following part. Afterwards, we examine the effects of credit card installments on the macroeconomic conditions (especially consumption) and explore the regulatory attitude to installments in recent periods.

#### 4.1.4.1. Developments in the Market

We begin examining the case with the shopping volumes. In Figure 6, shopping volumes for credit cards and debit cards are given separately. It can be observed that while credit card shopping volumes have risen in an extensive manner throughout 2000 and 2014, debit card shopping volumes have remained relatively flat when compared to credit cards.[61] One implication of this difference is related to the distinct features of debit and credit cards. Our primary claim is that the installment feature of credit cards is the reason behind these results. With debit cards, consumers do not have the ability to postpone their payments as they need to have the necessary amount of money for purchasing transaction in the affiliated deposit accounts.[62] Also, with debit cards, consumers do not have the option of having installment plans,

[61] While the share of debit cards in total number of payment transactions (shopping) is 21% as of 2014 year end (ICC Annual Evaluation Report, 2014), its share in the total value of payment transactions is around 5%, indicating that average transaction value with debit cards are much lower than that of credit cards.

[62] Customers can have overdraft accounts affiliated with their demand deposit accounts and can use up to the predetermined amount for payments with their debit cards. However, the value of this is very low compared to credit card shopping transactions. Additionally, spending from overdraft accounts are recorded under consumer credits.

and therefore preferences are biased towards credit cards. However, another important reason for why debit cards have used less in purchasing goods and services is that the feature of payment has been added to the debit cards gradually and very late as well to the POS terminals which recognize debit cards as a payment instrument (debit cards were used only for withdrawing cash from ATMs before).

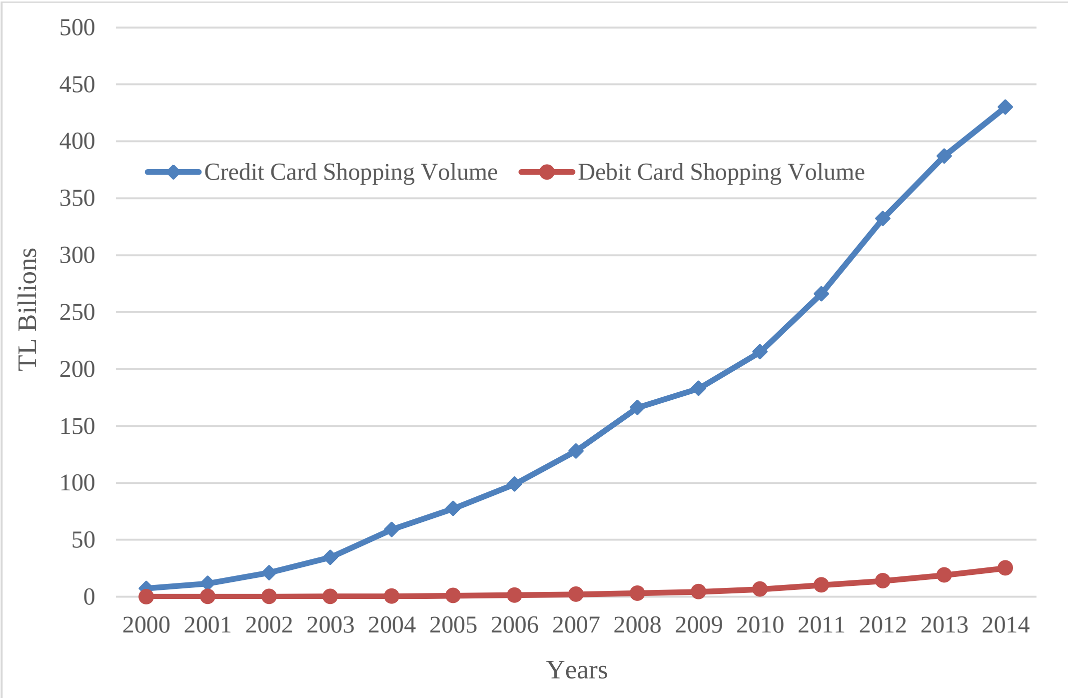


**Figure 6: Credit and Debit Cards Shopping Volumes**[63]

In addition to these differences between credit cards and debit cards, we can infer that installments have been very important in purchasing from the rise of the average value of a single purchasing transaction (for shopping purposes). Our first inference will be that this is a result of using more and more of the installment feature of credit cards. Being □15 per each transaction in 2000, the average value of a single transaction has reached to □100 level in 2008 and at the end of 2014, this value became □150. However in the recent periods, previously increasing average

[63] Data collected from ICC Annual Reports (2000-2014), excluding cash advances. Shopping volumes are for credit cards issued in Turkey and only for the transactions made in Turkey.

transaction values have become more horizontal, due to the factors related to the stability of income levels of households and the recent regulations on restricting credit card installments.

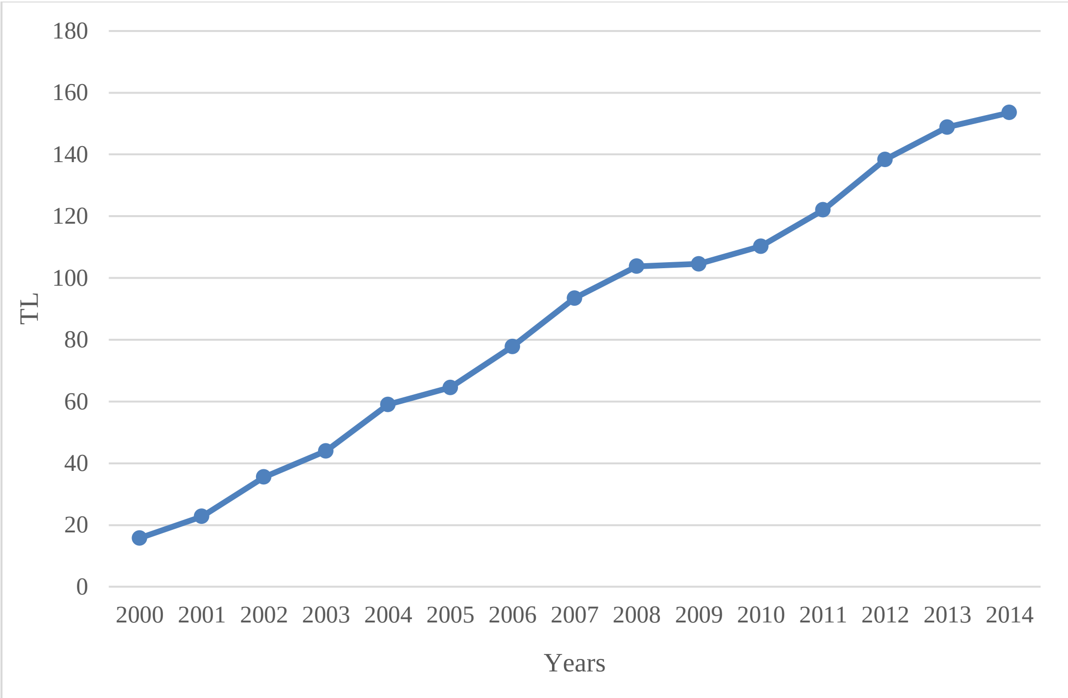


**Figure 7: Average Value of a Single Shopping Transaction**[64]

With regard to the developments in the credit card business in terms of interchange fees and interest rate exercise, the following information are explanatory, also in understanding the changes in the structure of competition. Being an important revenue item for banks (issuer banks), interchange fees were higher earlier, which was creating an unequal area of competition, also due to the unregulated environment of credit cards market.[65] This situation therefore, was also creating obstacles both in the fast development of the sector and in the actions of banks, where they knew that being an acquiring institution lead to higher costs. Especially when we think about

[64] Data collected from ICC Annual Reports (2000-2014). Average value is calculated by dividing the total shopping value to total number of shopping transactions.

[65] Being around 4% between 1993 and 1999, and peaked at 7% in 2001 (Güngör and Yıldırım, 2011), interchange fee gradually declined since then and now it is around 1% (BKM, 2015).

payments in installment, where shopping volume is expected to be higher in a single payment, acquiring banks and therefore the merchants acted reluctantly in offering installments. After interchange fees gradually lowered (Akin et al., 2013), it is no doubt that it had affected the increases in payments with installment schemes. Therefore it helped to the increases in the average transaction values.

Furthermore, we can observe how much of the credit card transactions are made in installments with the data obtained from banks' financial statements.[66] In Turkey, BRSA (Banking Regulation and Supervision Agency) publish the consolidated data for banks.

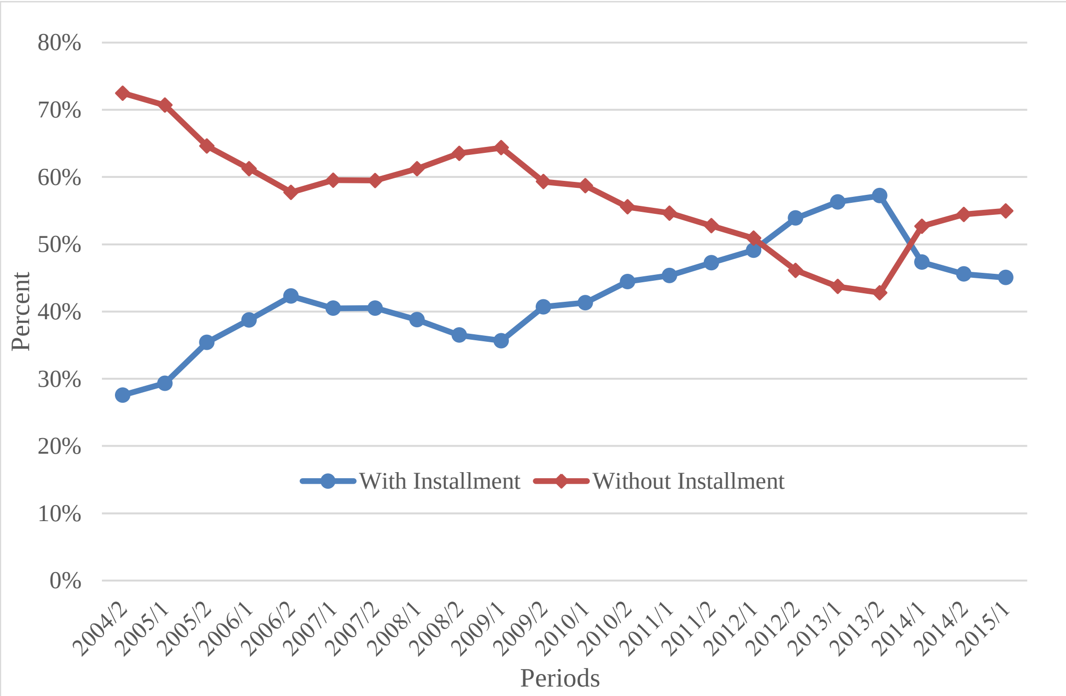


**Figure 8: Retail Credit Card Debt Balances[67]**

[66] From off-balance sheet financial statements of banks, we can also observe 'commitments for credit card expenditure limits', which is expected to increase when installment payments increase. Because, to make an installment payment, a consumer needs a higher expenditure limit on his/her credit card as aggregate value of the item that has been purchased is deducted from the limit and regained again when monthly payments are made in time (a revolving credit account). In Turkey, the total value of these commitments are ever-increasing (Karahan and Çakmak, 2011).

[67] Data obtained from BRSA weekly bulletin. We used a 6 month frequency for the data as each point shows the end of period data (e.g. 2014/2 is end of December 2014, with closest weekly data to the end of period).

We have collected the data of credit card transactions that are made with installments. In the next two figures, retail and corporate credit cards' transaction types are given respectively. The following differs from the ICC's shopping volume (transaction volume) data in terms of what it represents. While ICC data shows the overall transaction volumes, BRSA data indicate debt balances including undue debt for credit cards, for the specified period.

Reaching its peak point at the end of 2013, 57% of credit card transactions have been made in installments with retail credit cards, however the value stands at 45% as the end of June 2015. Through different periods, different events played an important role in the payment preferences of consumers. From 2004 to 2007, credit card installments increased, then decreased a little due to the global crisis, and then boomed in 2009-2013 with a continuous increase from 36% to 57%.

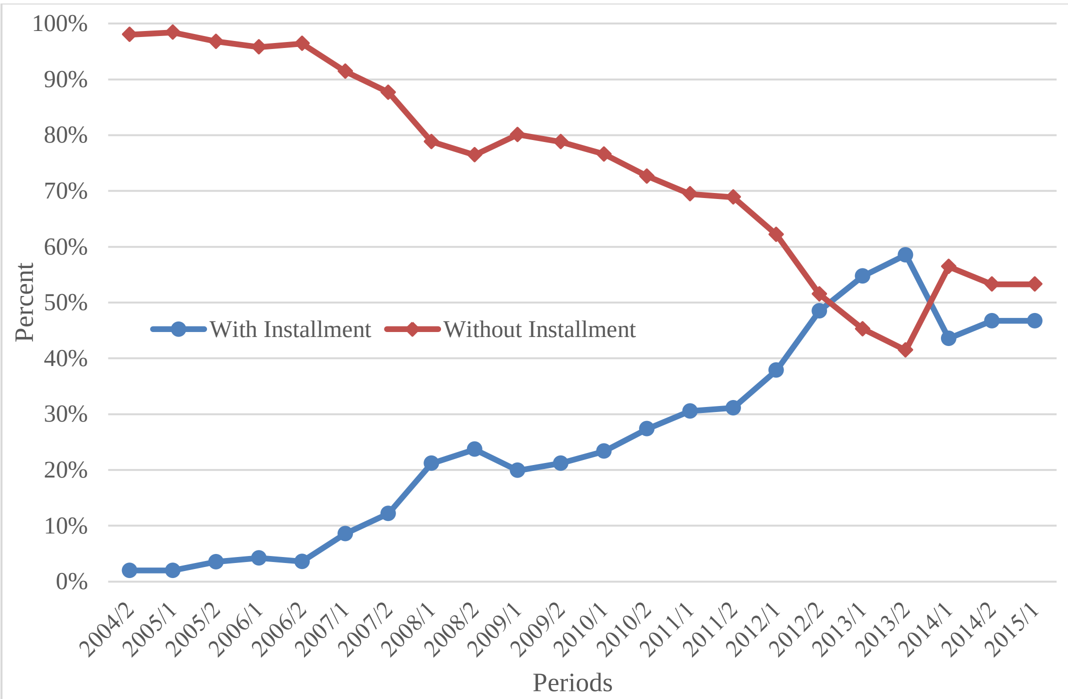


**Figure 9: Corporate Credit Card Debt Balances**[68]

[68] Data obtained from BRSA weekly bulletin. We used a 6 month frequency for the data as each point shows the end of period data (e.g. 2014/2 is end of December 2014, with closest weekly data to the end of period).

Corporate credit card business and its installment data is also very significant in our analysis, although it does not represent household consumption. However, it represents the importance of installments in credit card transactions in Turkey. While in the 2004-2006 period, corporate credit card installments were nearly non-existent, in 2007-2010 during the crisis years, we see an increase in the installments of corporate cards. This can be an indicator of firms to diversify their risks into longer periods, however the extent of corporate credit card usage was very low. Then after 2010, we again observe a similar case as of retail cards in the corporate card segment, and the payments in installments have become 59% of overall transactions as of 2013 year end, decreasing afterwards.

Moreover, we see that banks have created most of their credit card revenues from interest[69] earlier, which was leading to further revolving of the debt[70], if the consumers were unable to pay their debt in time. However, interest rates declined gradually after the interest rate regulation in 2006 (Akin et al., 2013), followed by a decline sequence of indebtedness afterwards. In fact, the structure of competition have also been affected due to the change of events, and banks began to engage in non-interest competition[71]. This, then created a further emphasis on installments, promotions and awards that the banks offered through credit cards.

We observe the results of fierce consumption by looking at the indebtedness structure. As we can see from Figure 10, non-performing credit cards among total non-performing loans comprised of 10% in 2004, however jumped to 20% in 2006, only began to decline after 2010. Still, non-performing credit cards make up of an important portion of total non-performing loans, suggesting that people are yet to leave their consumerist characteristics, although the trend is declining. That is why

[69] Between 60% to 85% from 2003 until 2007 (Akin et al., 2011), credit card interest rate have declined since then and it is 20%-25% now (Özkan, 2014).

[70] There are two types of credit card users that are defined for their spending characteristics, who are: revolvers who pay their debt with future debt, and convenience users who pay their debt regularly in the determined grace periods.

[71] Crotty (2011) argues that incrased non-interest income can be an indirect indicator of innovativeness.

we can easily concur that the boom in the credit cards market are not without its costs. Nonetheless, the market has become more stabilized with the help of regulations and increased awareness.

We now have seen consumer tendencies towards credit card installments and its effects in the market. In 2000s, credit card installments were used in significant amounts. Consumption characteristics of people have changed, they accustomed to make their payments with installment plans. Therefore, society enjoyed delayed payments, leading them to spend more than they make in a month or in a year.[72]

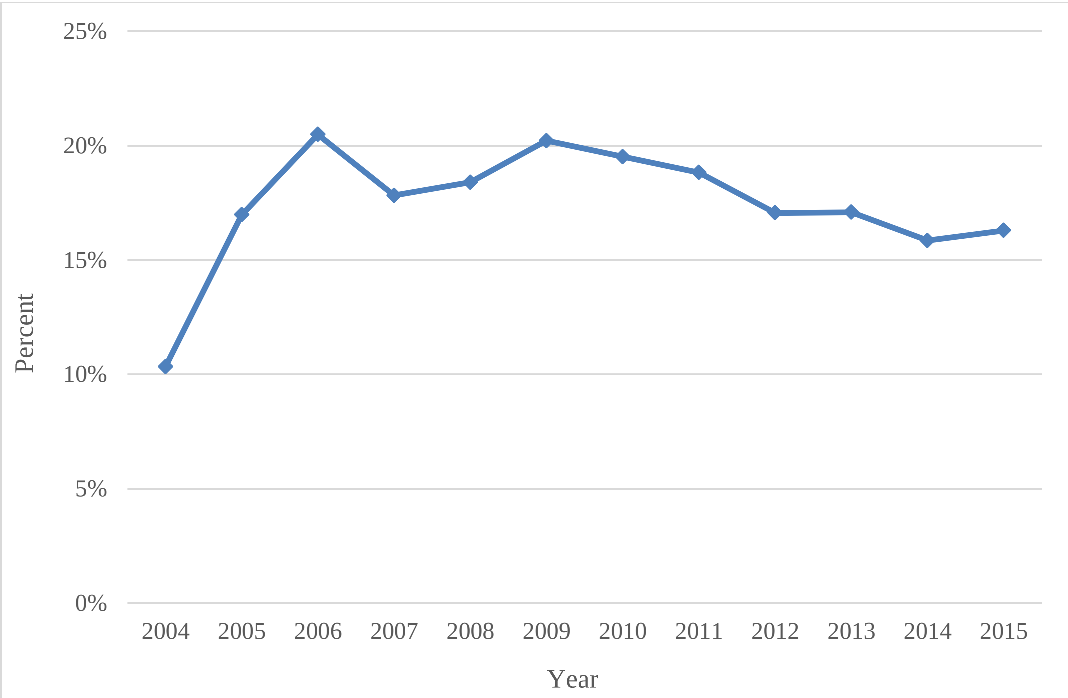


**Figure 10: Non-Performing Credit Cards / Total Non-Performing Loans[73]**

It may be argued that installments have gained people an advantage to purchase that they could not previously, however indebtedness, overconsumption and careless

[72] Prior to the regulations on February 2014, banks were able to determine the limits of their customers freely.

[73] BRSA. Non-performing credit cards are including both retail and corporate debt. Total non-performing loans are gross values.

usage of credit cards became significant problems over the years. The effects of this financial innovation are so big on the overall, market agents and policymakers always considered credit card installments in decision making processes. To observe the changes in the bigger picture, we will touch upon the implications of credit card installments in the next part.

#### 4.1.4.2. Implications on Macroeconomic Conditions

Thus far, we have discussed how credit card installments emerged in Turkey and analyzed some important data regarding its impact on the consumers and the market. Nevertheless, we must also consider the macroeconomic implications of credit card installments, as a financial innovation is expected to leave a considerable footprint on the economy.

From the beginning, we have mentioned the importance of credit card installments on consumption and Figure 11 confirms this statement.

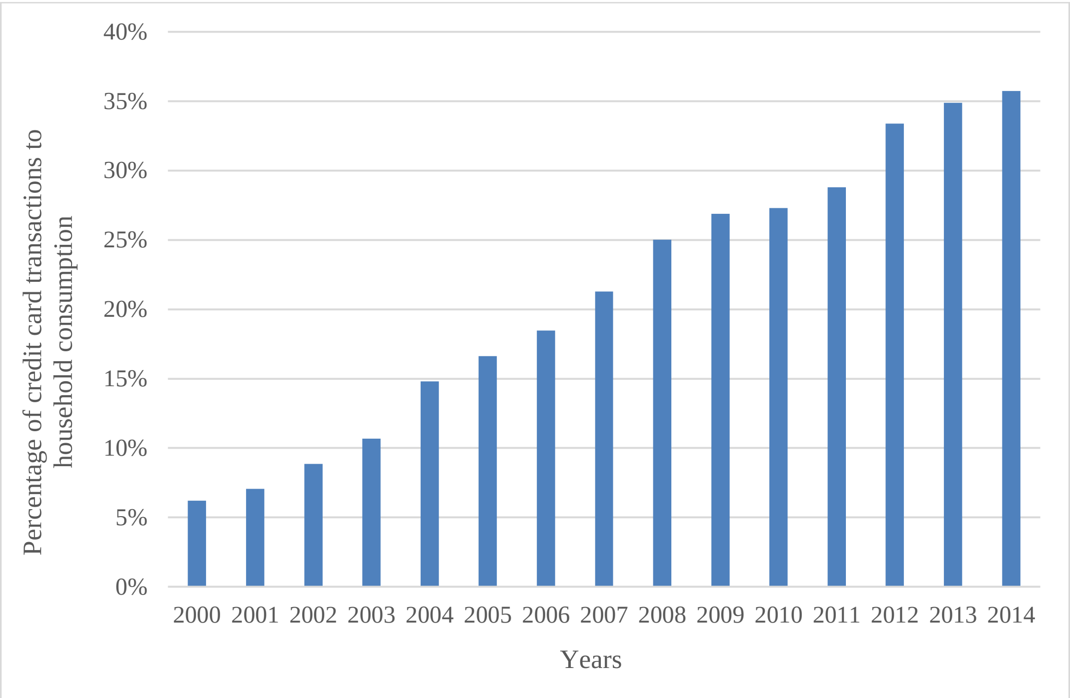


**Figure 11: Household Consumption with Credit Cards**[74]

[74] ICC and TUIK. Values are calculated by dividing credit card shopping volumes to final consumption expenditure of resident households on a yearly basis.

In the last 15 years, we see a continuous increase in the ratio of credit card transaction volume to household consumption. In 2000, the ratio was 5% and multiplied seven-fold during the period. This obvious increase was, to some extent, the result of credit card installments as we discussed above extensively.

Taking the fact that government has put forward a restriction on the installments in early 2014, we might expect this percentage will not increase in the following periods. In fact, our data on installment purchases which extends until the first half of 2015 show that there is a significant decrease in payments with installments, which is expected to adversely affect the trend in Figure 11. In any circumstance, one-third of consumption is made up of credit card purchases, therefore we should expect no sharp drops in the trend.

Regarding a link between consumption and credit card installments, an additional indicator is the ratio of consumption to GDP. As we can see from Figure 12, during 2002-2014, consumption over GDP has fluctuated between 68% and 72%.

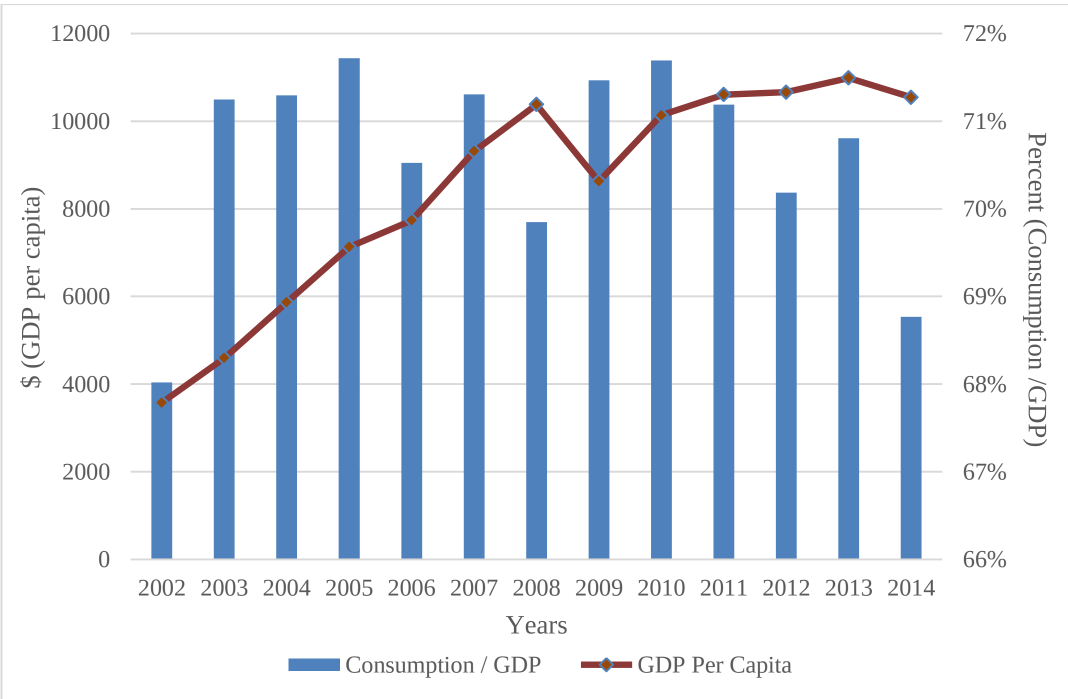


**Figure 12: GDP per capita and Consumption / GDP for Turkey**[75]

[75] World Bank and TUIK.

It took lower values in the years 2002 and 2008 due to the effects of crises. Nonetheless, recoveries from these low values happened very quickly which can be partially attributed to the existence of credit card installments.

However, as the figure shows, although there has been no significant change in GDP per capita and there has been no such economic crises recently, this ratio decreased from 71% to 69% as the end of 2014. This was most probably the result of government regulation of February 2014, which was restricting installments. Hence, this situation might refer to the crucial role that credit card installments played in changing macroeconomic conditions in a great deal.

## 4.2. Gold Accounts Case

### 4.2.1. Gold in Turkey and Links to Innovation

Gold has always been a very important financial asset, used as jewelry and a medium of exchange for all cultures and all societies from the early times in history. Looking from a historical or an evolutionary perspective, gold also has been in the center of various financial innovations, as a matter of fact, it is itself one of the most important financial innovations in broad history.

Gold has also been very significant in Turkey for many years. Especially in the rural parts of Turkey, gold is worn as a jewelry for its physical appearance and held as an indicator of prestige. However, we cannot restrict the gold usage only to rural areas as tradition encompasses all the parts of the society. It has a cultural side, i.e. the significance of it has been represented in various traditional activities of Turkish people. Among those traditions, the ones which come forward are: weddings, engagement ceremonies, circumcision, celebration of newborn babies, and so on. One can infer that most of those activities involves family traditions and religious rituals. Although we can argue that gold is used most of the time in the aforementioned activities as a gift, there are also various customary celebrations that are embedded in the Turkish culture. We can give examples such as: celebration of a new home, a new job, or a success in any work.

Also, as being an economic asset, gold has occupied a very important place in a particular social entity: *altın günü.*[76] *Altın günü* is a gathering of people primarily for social purposes. It takes place mostly monthly, however the frequency of the meetings can be weekly or biweekly, depending on the number of participants to the event or to previously agreed time schedules. The participants to these meetings are women, who are friends to each other or who have family ties[77]. They come together in this socializing event to have progressive conversations about their lives and to share good food which is prepared by the host. Although *altın günü* often takes place at the host's house, participants could meet at different places such as cafés, restaurants, or clubhouses. On the one hand, we could say that the essential feature of these meetings is to have good food, good conversation, and good company, however, on the other hand, there is also a financial motive behind these meetings as in each gathering, participants exchange gold with each other. An example on how this gold exchange works should suffice in understanding the scheme: let us say that there are twelve members of a particular group who agreed to meet monthly. The group also agrees on the type of coin that is going to be exchanged, let it be a 1/1 Republic Coin[78] for each meeting. In each gathering, all the participants give the host their share of gold. In this example, the host obtains eleven pieces of republic gold coins, which value roughly 77 g. times the gram price of gold at that time. The cycle goes on in this manner, providing the host a bulk of asset in terms of gold.

The question of how is the "*altın günü"* scheme is relevant in our analysis can be answered in the following manner. The most significant advantage of these meetings is that it provides the participants an ability to obtain low cost credit. It is in fact a financial innovation itself, however not linked directly to the financial markets. But,

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[76] "Altın günü" can be translated as "the day of gold" or simply "gold day". For detailed information about *altın günü* and *gün* (day) in general, see Eroğlu (2010) and Büyükokutan (2012).

[77] Unlike the predominant portrayal of *güns* as a leisure activity for middle-class women, they are shown to act as a self-welfare instrument whereby poor households acquire the discipline of saving towards both their consumption and investment needs. (Eroğlu, 2010).

[78] A 1/1 Republic Coin in Turkey is produced by Turkish State Mint with a fineness of 22 carat, having a weight of 7.016 g.

the link is provided by the purchase of gold, yielding an increased demand for gold and affecting its sale price. Moreover, it has contributed to the recent developments in the financial markets as the name and a part of its structure is used by commercial banks. In this manner, an informal means of exchange and credit creation process has become a formal one as banks arranged *altın günü* meetings in their branches and accepted physical gold of any sort, where the details of the scheme can be found in the next section. Therefore, financial inclusion of a divergent base of individuals in terms of their socioeconomic status is provided and also a financial asset of great value has been interlinked with the markets in a greater extent.

Before going into the details of the gold accounts innovation scheme, we briefly discuss the existing studies. In fact, since the scheme is relatively new, it has not gained attention in academic literature. There are only works done by central bankers on the Reserve Option Mechanism (ROM), which are dealing with the details of the regulations. Moreover, some central bank publications such as Financial Stability Reports and press releases also deal with the details of the ROM regulation. For the remaining part of the innovative scheme, there are only news and press releases of commercial banks, where one could find information about the matter. However, a study which is published by World Gold Council (WGC) (Turkey – Gold in Action, 2015) is referring to this financial innovation, although the primary aim of this study is to analyze Turkish gold market structure in general, with demand and supply of Turkish markets. As a matter of fact, our study is the first among academic studies discussing the case in the framework of financial innovations in Turkey, as far as we encountered.

In the next section we shall see how the system of the inclusion of “under the pillow gold” into the financial markets work. While the initial step has been taken by the CBRT as a regulation, following steps have been taken by commercial banks and it bring together jewelers, banks, households and regulatory institutions together in building the innovative framework.

#### 4.2.2. A Series of “Golden” Financial Innovations

The history of the bundle of financial innovations that we examine under the gold accounts case goes back only four years’ time, where CBRT (Central Bank of the Republic of Turkey) first introduced its Reserve Option Mechanism (ROM) scheme in September 2011. ROM was a part of a series of policy actions taken by CBRT in order to grant macroprudential protection after the shock of the global crisis and the Euro crisis. According to this scheme, reserve requirement ratios began to be used as an effective tool of monetary policy. Hence, CBRT provided banks a choice of holding some part of Turkish Lira reserves in terms of foreign exchange, and both Turkish Lira and foreign exchange reserves to be held in terms of gold. At first, in September 2011, there was 100% reserve requirement ability for precious metals deposit accounts and at most 10% for TL and FX accounts to be held in terms of gold. Then, this percentage has been increased gradually. In March 2012, the ratio became 20% for TL reserves, however decreased to 0% for FX reserves. In August 2012, the ratio became 30% for TL reserves along with the changes in Reserve Option Coefficient (ROC) (CBRT, 2012).

CBRT’s aim was to provide additional liquidity into the banking system by implementing the ROM. In this way, banks became able to use more of their Turkish Lira holdings of liabilities to be used effectively in funding their businesses in providing credit both to households and to the real sector. The details of the ROM scheme have a lot to do with controlling risks emanating mostly from the outside (foreign) effects, such as capital inflows into the country and it also aimed to control exchange rates when the economy is in distress. However, it is not our aim to discuss the further effects of this mechanism in detail as we focus on the sequence of events (innovations) that take place from here.

There is no doubt that the initial responses to CBRT’s regulation came from banks, they began to engage in attracting more individuals to become their customers. This, in fact, ignited a series of events, which have traditional parts and technological parts in itself. Banks’ primary aim was to benefit from CBRT regulation, to increase their portfolio basis in terms of gold. Therefore, a new type of financial instrument has been created. In addition to gold as a financial asset (customers had the ability of opening up gold accounts in terms of demand deposits or they could buy and sell non-physical gold under their investment accounts), now they became able to use their physical gold to be bought and sold by the intermediation of banks.

When banks see that they can hold Turkish Lira required reserves in the form of gold, they quickly began to create new ways to collect gold from households. The first thing that they did is to attract customers to open gold accounts and thus began a huge advertisement boom in order to increase people's attention. The next thing was making agreements with some store-chain jewelers both to get expert help in valuing gold and to reach potential customers also in different locations other than bank branches. However, this practice has been institutionalized as time went by. Today, most of the banks –all the big ones- have agreements with Istanbul Gold Refinery (IGR) which is a very well-established firm, providing many products and solutions that are gold-related. Now, IGR experts provide services in bank branches on previously announced dates to meet with customers, take and value their gold and help as an intermediator for the bank to open gold accounts. Finally, banks have widened the range of products and services related to this scheme and for gold products in general. Apart from demand and time deposits, banks offer consumer loans backed by gold collaterals, they provide gold transfer service, gold loans, and so on. In addition to these services, some banks also began to establish gold-dispensing ATMs in various locations, where customers can withdraw physical gold coins.[79]

The newly added features and easiness on these banking services attracted Turkish households into banks. People realized that this financial innovation has created a new investment opportunity. Instead of holding gold savings at houses and "under the pillow", they chose to bring their gold to banks and benefit from the advantages. Since banks also offered the choice of withdrawing the savings in physical gold, customers' tendency to participate in this scheme has increased. Moreover, gold

[79] Gold products that can be withdrawn from these gold-dispensing ATMs are ranging from specially produced 1 g. gold coins to ¼ Republic Coins.

deposit accounts are under guarantee by law, as deposit insurance scheme covers gold accounts up to the limit □100,000.

Stemming from a regulation, bringing an old and informal saving custom of Turkish households into contemporary structure of financial markets, gold accounts case has contributed in a significant and rapid way. An alternative saving resource –although existing unrecorded- has been promoted, and a cheap source of liability for banks have been added to the balance sheets; helped increasing liquidity, as well as making central bank reserves stronger. In the next section, we look upon the performance of this financial innovation using quantitative data.

### 4.2.3. Understanding a Financial Innovation: Gold Accounts

#### 4.2.3.1. Developments in the Market

The first thing that we observe is the increase in central bank gold reserves (Figure 13). After the introduction of ROM, gold reserves have increased very dynamically.

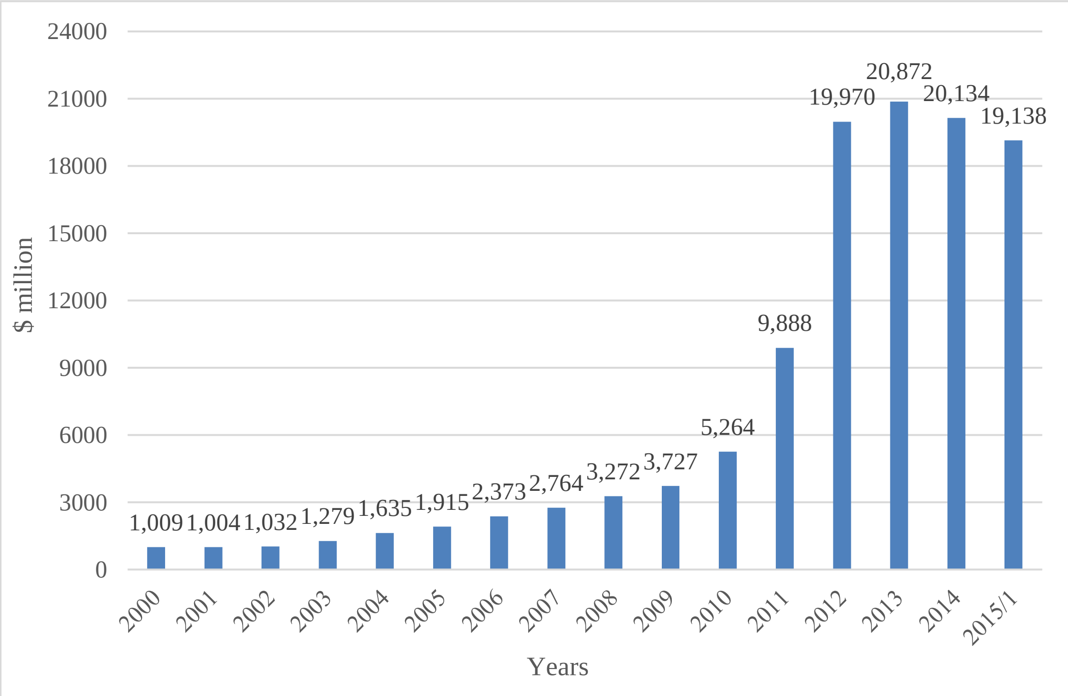


**Figure 13: CBRT Gold Reserves (in millions $)**[80]

[80] CBRT Weekly Gold Reserves Data.

Between 2000 and 2010, gold reserves did not increase significantly, however, especially after 2011, they were quadrupled compared to the past year before the regulation. They now seem to be around $20 billion, having potential to be increased in the following years. In terms of official gold reserves which central banks around the world hold, Turkey is in the 12th place with a holding of 513 tones (WGC, 2015).

In addition, Turkish financial markets' and hence Turkish banks' primary source of funds has always been deposits (Figure 14). In more recent episodes, banks created alternative sources of funds both from domestic and foreign holders of funds. In fact, most of the non-deposit items within the liability side of balance sheets were the result of financial innovations which we discussed in the third chapter (i.e. consequence of increased securitization).

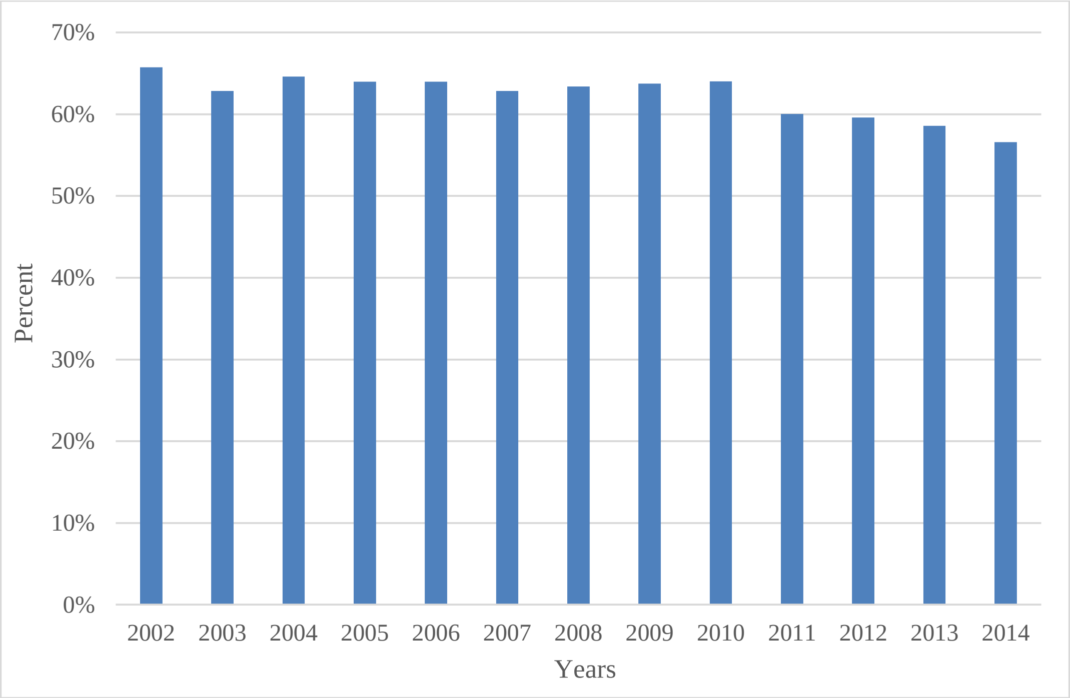


**Figure 14: Total Deposits / Total Liabilities in Turkish Banking Sector**[81]

[81] BRSA Weekly and Monthly Banking Bulletins

However, Turkish banks have always been successful in attracting deposits. We can argue that this is also another example that agents in the market have not yet adopted the recent financial innovations and the classical way of funding still rules the market.

As we can see from Figure 14, deposits constitute 57% of total liabilities as of 2014 year-end and it has always been around 60%. Linked to this structure of financial markets, the financial innovation at hand fitted really well. It contributed to the continuation of deposit dominated funding, maintained the existing structure. Arguably, this new scheme of financial innovations also suppressed further developments in the other end of security innovations. Although it is hard to check such a claim quantitatively, we can argue that it is in line with our discussion that developing countries still need other means to get in the way of security innovations.

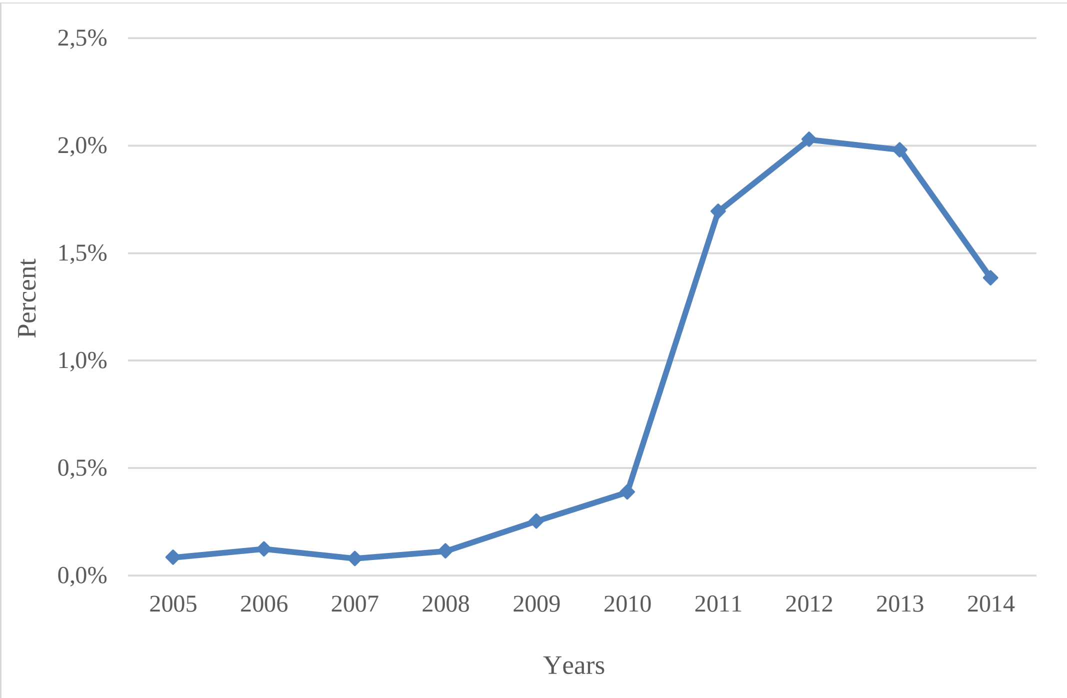


**Figure 15: Precious Stones Deposit Accounts (FX) / Total Deposits**[82]

[82] CBRT Money and Banking Statistics. The values are just for the deposit banks.

Nevertheless, it does not mean that gold accounts and the related innovations have not been increasing financial deepening or raising the level of complexity in the markets. Although seems small, gold accounts began to become a significant part of total deposits (Figure 15). We observe that before the innovation, gold accounts contributed to total deposits in a very negligible amount, close to zero.

However, after the initiation of the scheme, the ratio has reached to two percent, and now being at a 1.5% level. The latest decrease has been the result of the increase in the exchange rates of Turkish Lira against dollar and euro. It is expected that in the medium term, the share of gold deposits will increase more, as the potential "under the pillow" gold is introduced into the financial system.

#### 4.2.3.2. Implications on Macroeconomic Conditions

To show how gold accounts case as a financial innovation changed the structure of macroeconomic conditions, we can look at Figure 16.

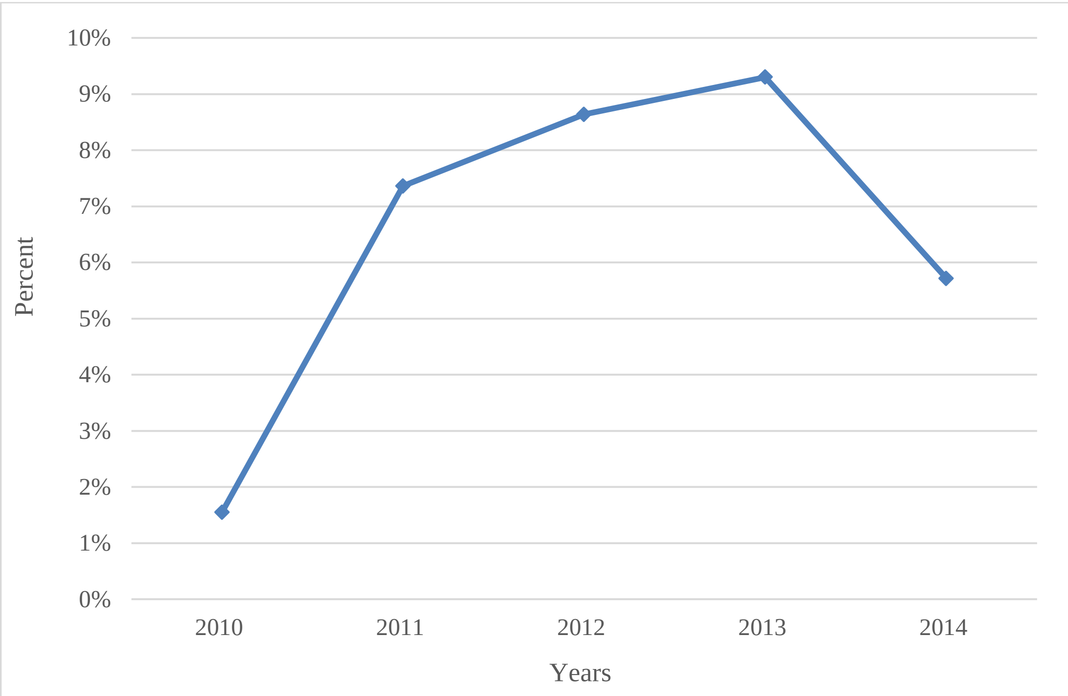


**Figure 16: Gold Accounts / National Savings**[83]

[83] The figure represents the ratio of precious stones deposit accounts value to national savings value (BRSA and TUIK).

As can be seen from the figure, the ratio of gold accounts to national savings started to increase by the end of 2010 with the introduction of financial innovation that we examine here through the end of 2011. While it was nearly 1.5% in this year, it rose to 9% until the end of 2013 and then decreased to 6% in 2014 due to fluctuations in the gold market with respect to political reasons and the decrease in gold demand in that year.

The six-fold increase in the share of gold deposits to national savings stemmed from emergence of the respective financial innovation. Here, we see how this innovation which is completely unique to Turkey changed the structure of macroeconomic conditions.

It should be noted that although two particular financial innovations which we examine in this chapter have decisive roles in determining macroeconomic performance of Turkey, their ultimate effect on national economy worked in an opposite way. Namely, credit card installments have encouraged consumption whereas gold deposits increased savings. Hence, these two financial innovations, being shaped by local socioeconomic and cultural characteristics of the Turkish people, altered the course of development of financial markets divergently.

# CHAPTER 5

# CONCLUSION

In this thesis, we aimed to fulfill the gap related to financial innovations in developing countries in the literature. As financial innovations have become widespread all around the world in the last decades, developing countries have adopted these innovations relatively late, and there are only a few studies which examine the evolution of financial innovations in these countries. As the particular case of Turkey suggests, both adaptation of financial innovations from advanced financial markets and pre-existing institutional heritage of emerging markets have simultaneously shaped and re-shaped the emergence of financial innovations in developing world.

In Chapter 2, we briefly summarized current literature on financial innovations. Being mostly based on developed countries, these studies have discussed how financial innovations emerged, which economic agents have innovated them, and how they have affected both national and international financial markets (i.e. in terms of their productive and unproductive consequences, especially for securitization). While some studies are aiming on theoretical fundamentals, others are focusing on empirical cases benefiting from a limited quantitative data, yet, as we discussed, there is no agreed definition so as to cover financial innovations in broadest terms.

In Chapter 3, we mentioned fundamental differences in the rise of financial innovations between developed and developing countries. In this manner, we have provided a discussion on institutional differences and financial liberalization and integration. These differences might have arisen from dissimilar institutional backgrounds, the dates they started to adopt financial innovations and financial liberalization. In addition to theoretical discussions which addressed to these differences, we benefited from several proxies of financial deepening to show how financial markets through innovativeness evolved differently across countries in the age of neoliberalism and financialization. With a special focus on ten emerging markets and ten developed countries, we compared their financial development trends which catch macro implications on the possible causes on the emergence of financial innovations. Lastly, we have given securitization statistics, which are the most commonly referred financial innovations of the recent years, for developed and developing countries.

In Chapter 4, based on our earlier arguments that we provided in terms of the context of financial innovations, we have examined two cases from Turkey, by extending the existing definitions of financial innovation and approaching the subject matter in an alternative perspective. In this sense, our analysis has touched upon different notions of the market structure by offering institutional and cultural explanations, and utilizing quantitative data on the effects of the financial innovations on the market. For the case of credit card installments, we have referred to a small literature on credit cards discussing market mechanisms, and then we showed the unique characteristics of Turkish credit card market as well as its installment property. For gold accounts case, a literature is almost non-existent, but there are only a few studies, news articles and press releases that we accounted for. For this case, particularly, we again utilized cultural and institutional features in explaining the financial innovation mechanism. For both cases, we have examined the changes in their specific markets and showed the implications on macroeconomic conditions.

In the light of all these arguments, we want to provide our final concluding remarks. Due to absence of studies on financial innovations in developing countries and narrow definitions of this term, the current literature does not totally comprehend financial innovations under broad definitions, hence they leave out important parts. If we use the narrow definitions, we fail to grasp all the dynamics generated by financial innovations for countries which have lagged behind advanced economies. Therefore, there is a need for alternative approaches combining various features within the economies, which would allow us to depart from rigidities regarding explaining financial innovations.

There are obvious differences between developed and developing country financial innovations owing to the nature of financial markets, which are not all similarly designed. Although we can argue that the developing countries are followers of developed countries most of the time, we should also keep in mind that the differences that we enlisted above prevent the former to converge to the latter in a fast pace. However, there can be significant developments in the emerging markets mirroring their advanced counterparts, but having different institutional factors.

After a brief examination of two case studies, we saw that Turkish financial market, unlike its advanced counterparts, is dominated by commercial deposit banks which offer all types of banking and financial services, and the classical and traditional structures of a financial market did not cease to exist for Turkey. Financial institutions are not as diversified as in the case of US (i.e. the size of investment banks and brokerage houses are still small), and they are not in the tendency of change in the near future. Hence, there exists a concentrated structure in Turkish financial markets, especially between commercial banks, which is also reflected in the credit card services in which we examined. Diffusions of financial innovations take place by direct importation and markets are established similar to that of developed countries. However, not all financial innovations fit into this scheme. For instance, credit card is an imported product, but we observed many significant differences, improvements and additional innovations *per se,* that are unique to domestic conditions. Also, applications used in the gold accounts scheme were in fact original to Turkish economy entirely.

Besides, institutional and cultural factors (*veresiye* and *altın günü* examples) proved to be important in the emergence of financial innovations for Turkey as an emerging market. At the same time, non-financial institutions (e.g. retail stores, or jewelers) also helped in the diffusion of innovative products, as they help in the dissemination of innovative processes building on previously existing methods of intermediation. Rather than complex securitized products, simple financial innovations like credit card installments might have a huge impact over the macroeconomic conditions, being a consumer product. We also observed that regulatory actions can also lead the way for the emergence of financial innovations, choosing the correct policies considering market condition is important here. Lastly, the cases that we analyzed here have more direct effects over the economy due to their properties, not indirect effects like securitized products.

In conclusion, how financial innovations have precisely emerged and how they changed the macroeconomic structures of developing countries during the course of financialization and further liberalization are not clear from such a research as we did not go over innovative products or processes one by one due to the limitations of this study. To improve upon the arguments and method used in this study, we provide a roadmap of what should be included in future possible works: First, in order to measure innovativeness of financial firms more precisely, data on R&D spending of banks can be gathered and analyzed. Second, by using local country specific data, examining each developing country individually, market volumes for financial innovations could be collected. Third, and very importantly, in order to make to the point evaluations on how financial innovations diffused in what direction, developments in the legal structure on financial markets could be surveyed. Last but not least, relationships between real innovation and financial innovation in developing countries could be analyzed while utilizing the arguments on service sector innovation literature.

Nonetheless, by focusing on two particular case studies in Turkey, this study provided us a better understanding of how socio-cultural characteristics of a developing country (i.e. Turkey) might have co-existed with adopted (or, imported) financial innovations. This thesis will also lay the groundwork for future comparative works or institutional studies by alternative propositions that are offered here.

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# APPENDICES

## A. TABLES (GDP of selected countries and Equity Linked Derivatives)

**Table A1: Gross Domestic Product of Selected Countries**
**(in current billions of US $)**

| | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2013 |
|---|---|---|---|---|---|---|---|---|
| **Argentina** | 77.0 | 88.4 | 141.4 | 258.0 | 284.2 | 222.9 | 462.7 | 609.9 |
| **Australia** | 149.7 | 180.2 | 310.9 | 368.0 | 415.0 | 693.3 | 1141.3 | 1560.4 |
| **Brazil** | 235.0 | 222.9 | 462.0 | 769.0 | 644.7 | 882.2 | 2143.1 | 2245.7 |
| **Canada** | 273.4 | 363.0 | 592.0 | 602.0 | 739.5 | 1164.2 | 1614.1 | 1826.8 |
| **China** | 189.4 | 306.7 | 356.9 | 728.0 | 1198.5 | 2256.9 | 5930.5 | 9240.3 |
| **France** | 703.5 | 555.2 | 1275.3 | 1609.9 | 1368.4 | 2203.6 | 2646.8 | 2806.4 |
| **Germany** | 946.7 | 729.8 | 1765.0 | 2590.5 | 1947.2 | 2857.6 | 3412.0 | 3730.3 |
| **India** | 189.6 | 236.6 | 326.6 | 366.6 | 476.6 | 834.2 | 1708.5 | 1875.1 |
| **Indonesia** | 78.0 | 87.3 | 114.4 | 202.1 | 165.0 | 285.9 | 709.2 | 868.3 |
| **Malaysia** | 24.9 | 31.8 | 44.0 | 88.8 | 93.8 | 143.5 | 247.5 | 313.2 |
| **Mexico** | 194.4 | 184.5 | 262.7 | 343.8 | 683.6 | 866.3 | 1051.6 | 1260.9 |
| **Netherlands** | 191.9 | 141.5 | 313.0 | 444.8 | 413.4 | 672.4 | 836.4 | 853.5 |
| **Norway** | 63.7 | 64.3 | 117.6 | 148.9 | 168.3 | 304.1 | 420.9 | 512.6 |
| **Russia** | - | - | 516.8 | 395.5 | 259.7 | 764.0 | 1524.9 | 2096.8 |
| **South Africa** | 80.5 | 67.1 | 112.0 | 155.5 | 136.4 | 257.8 | 375.3 | 366.1 |
| **Sweden** | 140.1 | 112.5 | 258.2 | 264.1 | 259.8 | 389.0 | 488.4 | 579.7 |
| **Switzerland** | 118.7 | 107.5 | 257.4 | 341.8 | 271.7 | 407.5 | 581.2 | 685.4 |
| **Turkey** | 68.8 | 67.2 | 150.7 | 169.5 | 266.6 | 483.0 | 731.2 | 822.1 |
| **UK** | 567.1 | 485.8 | 1066.7 | 1235.6 | 1548.7 | 2412.1 | 2407.9 | 2678.5 |
| **US** | 2862.5 | 4346.7 | 5979.6 | 7664.1 | 10284.8 | 13093.7 | 14964.4 | 16768.1 |

Source: World Bank World Development Indicators

**Table A2: Equity Linked Derivatives – Gross Market Values (Total Contracts)**

| | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 |
|---|---|---|---|---|---|---|---|---|---|
| **Total contracts** | 236 | 289 | 255 | 498 | 853 | 1,112 | 648 | 600 | 615 |
| **US equities** | 52 | 65 | 67 | 207 | 200 | 249 | 191 | 216 | 289 |
| **European equities** | 164 | 198 | 169 | 224 | 480 | 610 | 311 | 237 | 179 |
| **Japanese equities** | 7 | 10 | 7 | 14 | 59 | 87 | 77 | 59 | 48 |
| **Other Asian equities** | 3 | 2 | 2 | 7 | 64 | 94 | 24 | 24 | 20 |
| **Latin American equities** | 2 | 3 | 1 | 32 | 9 | 20 | 5 | 11 | 11 |
| **Other equities** | 7 | 12 | 9 | 14 | 41 | 51 | 39 | 53 | 67 |

Source: BIS Derivatives Statistics (values are in billions of US $)

**Table A3: Equity Linked Derivatives – Gross Market Values (Forwards and Swaps)**

| | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 |
|---|---|---|---|---|---|---|---|---|---|
| **Forwards and swaps** | 44 | 61 | 61 | 76 | 166 | 335 | 167 | 157 | 178 |
| **US equities** | 20 | 24 | 20 | 24 | 53 | 97 | 51 | 49 | 76 |
| **European equities** | 19 | 29 | 36 | 41 | 91 | 173 | 91 | 68 | 58 |
| **Japanese equities** | 1 | 3 | 1 | 2 | 3 | 16 | 7 | 8 | 7 |
| **Other Asian equities** | 1 | 0 | 0 | 1 | 5 | 14 | 4 | 6 | 10 |
| **Latin American equities** | 1 | 2 | 1 | 4 | 5 | 15 | 2 | 6 | 8 |
| **Other equities** | 3 | 3 | 4 | 5 | 8 | 19 | 13 | 20 | 19 |

Source: BIS Derivatives Statistics (values are in billions of US $)

**Table A4: Equity Linked Derivatives – Gross Market Values (Options)**

| | 1998 | 2000 | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 |
|---|---|---|---|---|---|---|---|---|---|
| **Options** | 192 | 229 | 194 | 422 | 686 | 777 | 480 | 443 | 437 |
| **US equities** | 32 | 41 | 47 | 183 | 146 | 152 | 140 | 168 | 213 |
| **European equities** | 145 | 169 | 133 | 183 | 389 | 437 | 220 | 169 | 121 |
| **Japanese equities** | 7 | 6 | 6 | 13 | 56 | 71 | 71 | 51 | 41 |
| **Other Asian equities** | 2 | 2 | 2 | 6 | 58 | 80 | 20 | 18 | 11 |
| **Latin American equities** | 1 | 1 | 0 | 28 | 4 | 5 | 3 | 5 | 3 |
| **Other equities** | 4 | 9 | 6 | 9 | 33 | 32 | 27 | 33 | 49 |

Source: BIS Derivatives Statistics (values are in billions of US $)

## B. TURKISH SUMMARY

İnovasyon (yenilik) 21. yüzyılda hem sanayide hem de hizmet sektöründe mal ve hizmetlerin üretimlerinin geliştirilmesi bakımından kaçınılmaz bir önkoşuldur. Son yıllarda artan teknolojik gelişmelere paralel olarak toplumlar hızlı tüketim kültürüne evrilmiş ve piyasa aktörlerinin pazar koşullarına uyum sağlayabilmeleri için inovasyonun önemi daha da artmıştır. 20. yüzyılın başlarında inovasyon kavramı reel sektördeki gelişmelerle ilişkilendirilmekteydi. Ancak yüzyılın ikinci yarısından itibaren inovasyonun sadece reel sektörle sınırlandırılamayacağı fikri finansal sektörde ortaya çıkan inovasyonlarla anlaşılmış oldu. Bu bağlamda, finansal sektörde gerçekleşen inovasyonlar 'finansal inovasyon' (ya da buradan sonra kullanacağımız ifadesiyle 'finansal yenilikler') olarak adlandırılmaktadır.

Geniş bir çerçeveden bakıldığında, finansal yeniliklerin tarihsel süreç içerisinde aslında uzun zamandan beri yer teşkil ettiğini söyleyebiliriz (Madeni paraların ortaya çıkışından, ya da daha eski zamanlardan beri bu yeniliklere rastlamak olasıdır). Ancak, mevcut yazında, finansal yenilikler, özellikle 1980 sonrası teknolojik gelişmelerin ve finansal liberalizasyonun da etkisiyle, daha çok son 30 yıldır ortaya çıkmakta olan menkul kıymetlerle ilişkilendirilmektedir. Bu menkul kıymetlerin bazıları şunlardır: Varlığa dayalı menkul kıymetler, ipoteğe dayalı menkul kıymetler, türev ürünler, şirket tahvilleri vb. Ancak bu ürünler genellikle karmaşık süreçleri olan ürünlerdir ve çoğunlukla finans profesyonelleri tarafından alım-satımları gerçekleştirilmektedir. Finansal yeniliklerin krediye ulaşmada, riskleri azaltma ve dağıtmada, verimliliği ve karlılığı artırmada ve finansal gelişmeyi ve büyümeyi desteklemede faydasının olduğu düşünülmüştür. Ancak öte yandan, son kriz dalgasının da etkisiyle finansal yeniliklere daha temkinli yaklaşımlar sergilenmeye başlamıştır. Şöyle ki, finansal yeniliklerin piyasalarda dalgalanmaya, makroekonomik dengesizliklere, artan risklere ve hatta iflaslara yol açabileceği belirtilmiştir.

Finansal yeniliklere yönelik bakış açısının değişmesi bir yana, yazın bu yeniliklere ait farklılıklara ve benzeri değişik konulara da yönelmiştir. Bunların en önemlilerinden olan finansal yeniliklerin nasıl ortaya çıktığına dair cevaplar bulmaya çalışan yazın, 1980 sonrası sıklıkla görülmeye başlanan yeniliklerin ortaya çıkışlarına zemin hazırlayan etmenleri araştırmaktadır. Bunun yanı sıra tarihsel süreçleri ele alan bir grup çalışmada yazında yer almaktadır. Bu çalışmalara ek olarak, yenilikçilerin hangi kurumlar olduğuna, yeniliklerin finansal gelişme üzerinde etkilerinin neler olduğuna ve yeniliklerin nasıl ölçülebileceğine dair çalışmalar da yazında yerini almıştır. Buna karşın finansal yenilik yazını çoğunlukla gelişmiş ülkelerdeki yenilikler üzerine odaklanmaktadır. Bunun önemli bir gerekçesi gelişmiş ülkelere dair verilerin daha erişilebilir olması ve aynı zamanda finansal yeniliklerin ortaya çıkışında kayda değer bir role sahip olan piyasaların derinliğidir.

Gelişmekte olan ülkelerdeki finansal yenilikler üzerine yapılan çalışmaların azlığı ve hangi koşullar altında söz konusu yeniliklerin ortaya çıktığına dair görüşlere yer verilmemesi bu ülkeleri içeren çalışmaların artması gerektiğine işaret etmektedir. Bahsi geçen eksikliğe bağlı olarak, bu çalışma gelişmekte olan ülkelerde finansal yeniliklerin seyrine yönelik bir analiz ortaya koymayı amaçlamaktadır. Bu çalışmada öncelikle, halihazırda gelişmiş ülkelerdeki finansal yenilikler üzerine yapılmış çalışmalardaki tanımlardan, argümanlardan ve sayısal analizlerden yararlanarak gelişmekte olan ülkelerde finansal yeniliklerin yerinin ne olduğuna dair çıkarımlar yapmaktayız. Bu bakımdan, gelişmekte olan ülkelerin özellikle son dönemlerde ortaya çıkan finansal yenilikleri gelişmiş ülkelerden ithal ettiğini, ancak bunların adaptasyonunun ve uygulamasının yerel piyasa koşullarına bağlı olarak farklılık arz ettiğini öne sürebiliriz. Daha da önemlisi, belli başlı bazı finansal yeniliklerin yerele özgü kurumsal ve ekonomik koşulların etkisiyle farklı şekillerde ortaya çıkabileceğini savunabiliriz. Yukarıda saydığımız nedenlere dayanılarak hazırlanan bu tezin vaka çalışması bölümü Türkiye'den iki finansal yeniliğe ayrılmıştır. Bunlar kredi kartı taksitleri ile altın hesaplarıdır. Bu iki finansal yeniliği seçmemizdeki nedenler bu yeniliklerin nispeten yakın tarihe ışık tutan gelişmelere yön vermesi ve aynı zamanda bunların finansal yeniliklerin geniş tanımı içerisinde yer alıyor olmasıdır.

Bu tez çalışması üç ana bölümden oluşmaktadır. İkinci bölümde kapsamlı bir yazın taramasına ve bu çalışmayı yapmaya bizi iten nedenlere yer verilmiştir. Üçüncü bölümde, gelişmekte olan ve hâlihazırda gelişmiş bulunan ülkelerin karşılaştırılması yapılarak bu ülkelerdeki finansal yenilikler ele alınmaktadır. Bu bölümün ilk kısmında gelişmekte olan ülkelerde finansal yeniliklerin hangi sebeplerle farklı biçimde ortaya çıkabileceği kurumsal farklılıklar ile finansal liberalizasyon ve entegrasyonun etkileri üzerinden tartışılmaktadır. Üçüncü bölümün ikinci kısmında ise, aynı zamanda finansal piyasa derinliğinin bir göstergesi olarak kullanılan mevduat bankalarının varlıkları ve borsa kapitalizasyonu verilerinin gayrisafi yurtiçi hasılaya oranları ile özel sektöre verilen kredilerin miktarı finansal yeniliğin göstergesi olarak kabul edilerek karşılaştırmalı çıkarımlar yapılmaktadır. Üçüncü bölümün üçüncü kısmında menkul kıymetleştirilen ürünlerin kısa bir karşılaştırmalı analizi yapıldıktan sonra son kısımda üçüncü bölüme ait sonuçlarla birlikte vaka çalışmamızın temellerini oluşturan faktörler ele alınmaktadır.

Bu çalışmanın belkemiği olan dördüncü bölümde, kredi kartı taksitleri ve altın mevduat hesapları incelenmektedir. Her iki yeniliğin ortaya çıkışında da kurumsal ve kültürel sebeplerin etkili olduğunu söyleyebiliriz. Argümanımızı bu yeniliklerin ortaya çıkışından sonra görülen çok hızlı yayılımları ile piyasa yapısı ve makroekonomik göstergeler üzerindeki etkilerini göstererek desteklemekteyiz. Örneğin, Türkiye için özgün özelliklere sahip olan kredi kartı taksitlendirmesi uygulaması, alışverişlerde tüketiciler için ek maliyet getirmemekle birlikte tüketim eksenli büyümeye de çok önemli katkı sağlamıştır. Öte yandan, altın mevduat hesapları Türkiye Cumhuriyeti Merkez Bankası'nın (TCMB) düzenlemesiyle birlikte inovatif bir programın parçası haline gelmiştir ve altın gayri resmi bir tasarruf aracından resmi bir tasarruf aracına dönüşmeye başlamıştır. Her iki finansal yeniliğin de toplumun geniş bir kesimini finansal piyasalara artan derecede entegre ettiği düşünülürse, bu iki yeniliğin efektif finansal yenilikler olduğu görülebilecektir.

Bu tez çalışmasının beşinci bölümü ise bulgularımızı ve incelediğimiz iki yenilik üzerinden yazına egemen olan görüşe atıflarımızı sergilediğimiz sonuç bölümüdür. Gelişmekte olan ülkelerde finansal yenilikler incelenirken daha geniş bir çerçeveden bakmak gerektiği, problemlere farklı tepkilerin verilmesi ve fırsatların farklı pencerelerden sunulması ile ortaya çıkmaktadır. Bu çalışmada görebileceğimiz üzere, düşük tasarruf oranlarına ve tüketim odaklı bir yapıya sahip olan Türkiye yenilikçi kurumları ve ürünleri finansal piyasalarla etkileşim içerisinde olan yerel faktörlerin etkisiyle geliştirmiştir.

Çalışmanın ikinci bölümü olan literatür taraması bölümünü daha ayrıntılı özetleyecek olursak; bir grup çalışmanın dar tanımlarla finansal yeniliklerin sadece kısıtlamaları aşmak için ortaya çıktığını söylediğini, ancak tarihsel veya evrimsel bir bakış açısına sahip bir diğer grup çalışmanın hem bu tanımları genişlettiğini hem de finansal yeniliklere dair alternatif açıklamalar getirdiğini görebiliriz. Bu çalışmanın kalan bölümlerinin temelini oluşturabilmek için finansal yeniliklerin tanımlarıyla yapılarını kapsamlı bir şekilde anlayabilmemiz gerekmektedir. Önemli noktaları vurgulayabilmek adına bu bölümde ana akım literatüre ve onun getirdiği bakış açısına yer vermekteyiz. Finansal yeniliklerin farklı tanımlarını, ortaya çıkış nedenlerini, çeşitlerini, ölçütlerini ve yenilikçilerin özelliklerini, son küresel krizden sonra değişen bakış açısını ve son olarak eleştirel bir bakış açısıyla sunduğumuz kendi tanımımızı ve finansal yenilik algısına yönelik tutumumuzu bu bölümde ortaya koymaktayız.

Finansal yenilik tanımları ürün ve süreç yenilikleri ayrımı bakımından reel sektör yeniliklerinden esinlenmiştir. Tufano (2003) finansal yeniliği yeni finansal araçları, finansal teknolojileri, kurumları ve piyasaları ortaya çıkarıp bunları popülerleştirme eylemi olarak tanımlamıştır. Frame ve White (2004) ise finansal yenilikleri maliyetleri düşüren, riskleri azaltan ve piyasa katılımcılarının taleplerini daha iyi karşılayan gelişmiş ürün/hizmet/araçlar olarak tanımlamışlardır. Üzerinde uzlaşılmış bir finansal yenilik tanımı literatürde yer almadığı gibi tanımlar kapsayıcılıktan uzak görünmektedir. Bu nedenle bu bölümün son kısmında daha kapsayıcı bir tanım verilmeye çalışılmaktadır.

Finansal yeniliklerin nasıl ortaya çıktığı konusu literatürde yer bulmuş en önemli başlıklardan biridir ve bu konuya ilişkin birçok farklı açıklama getirilmektedir. Kar maksimizasyonu ve piyasa katılımcılarının talepleri öne çıkan iki neden olarak görünmektedir (Flood 1992, Gennaioli vd. 2012). Piyasa kısıtları ve kurumsal kısıtların etkileri de (finansal kurumların bilanço sınırlamaları, hedeflenen büyüme ve sermaye düzeyleri ve likidite gereksinimleri vb.) yeniliklerin ortaya çıkışında önemli etmenler olarak gösterilmiştir (Ben-Horim ve Silber, 1977). Bir başka ve belki de en önemli ortaya çıkış nedenlerinden biri ise regülasyonlardır (Miller 1986, Flood 1992, Kane 1977). Regülasyonun finansal yeniliklerin ortaya çıkmasında etkisini tartışırken şunu söylemek mümkündür: Her zaman kar maksimizasyonuna ulaşmaya çalışan bir yatırımcı ve istikrar isteyen bir devlet vardır. Risklerden sakınmak yine bir başka faktör olarak karşımıza çıkmaktadır (Levich 1988, Frame ve White 2014). Tüm bu sebeplerle birlikte makroekonomik dengesizlikler, eksik piyasa, asimetrik bilgi, rekabet koşularındaki değişiklikler de finansal yeniliklerin ortaya çıkmasında önemli etmenler olarak yerini almıştır.

Finansal yeniliklerin ortaya çıkması ve gelişiminde etkili olan yukarıda saydığımız etmenlerle beraber tarihsel açıklamalar da getirilmektedir. Bu görüşe göre finansal yenilikler aslında sürekli değişen ekonomik çevrenin doğal parçasıdır. Yani finansal yenilikler var olan ürün veya süreçlerin daha başarılı adaptasyonları ya da gerekli görülen modifikasyonlar olabilir (Battilossi 2000, Van Horne 1985, Flood 1992, Tufano 2003). Tüm bu tartışmalardan çıkarılabilecek özeti şöyle sunabiliriz: Finansal yeniliklerin ortaya çıkışında birçok faktör rol oynayabilirken aslında devamlılık gösteren ekonomik süreçlerin bir parçası olarak gereksinimlerden ve bazı durumlarda iç talepten doğan nedenlerle bu yenilikleri görmeye başlayabiliriz.

Finansal yeniliklerin ortaya çıkışında etkili olan sebepleri araştıran çalışmalar bir yana; bu yeniliklerin çeşitlerine, ölçütlerine ve yenilikçilerin kimler olduğuna değinen çok sayıda çalışma da bulunmaktadır (çeşitler için bkz. BIS 1986, Frame ve White 2004, Llewellyn 1992, Tufano 2003; finansal yeniliklerin ölçümü için bkz. Lerner 2006; yenilikçilerin karakteristikleri için bkz. Ross 1989, Bhattacharyya ve Nanda 2000, Battilossi 2000).

Özellikle 1980 sonrası liberalizasyon ve entegrasyon süreçleriyle birlikte aşina olmaya başladığımız finansal yenilikler 2008 global krizi öncesinde genellikle pozitif etkileri olan araçlar olarak görülürken, bu bakış açısı krizden sonra değişmeye başlamıştır ve hatta bazı araştırmacılar tarafından krizin sorumlusu olarak bu yeniliklerin aşırı miktarda kullanılmaları gösterilmiştir (finansal yeniliklerin olumlu yanları için bkz. Van Horne 1985, Boot ve Thakor, Laeven vd. 2015, Duffie ve Rahi 1995, Merton 1995, Lerner ve Tufano 2011, Frame ve White 2004, Levich 1988, Mishra 2008; olumsuz yanları için bkz. Geithner 2006, Gennaioli vd. 2012, Thakor 2012, Beck vd.). Kısaca özetlemek gerekirse finansal yenilikler pozitif bir ekonomik atmosferde olumlu sonuçlar doğururken, eğer etkili bir şekilde kontrol edilemezlerse finansal piyasalarda bozulmalara sebebiyet verebilirler.

İncelediğimiz finansal yenilik literatürü ışığında eksik kalan veya sıkça değinilmeyen bazı noktalara ikinci bölümün son kısmında bu çalışmanın geri kalanı için yol göstermesi açısından yer verilmektedir. Bu noktalar kısaca şöyle özetlenebilir: Finansal yenilik tanımlarının kapsamının genişletilmesi gerekmekte ve ortaya çıkışlarını anlayabilmek için alternatif açıklamalara ihtiyaç bulunmaktadır. Bunun yanında, tartışmalarda kendisine neredeyse hiç yer bulamayan gelişmekte olan ülkelere odaklanmak gerekmektedir. Finansal yenilik tanımını şöyle revize edebiliriz: Değişik kültürel ve yerel faktörler ile kurumsal yapılara sahip birbirinden farklı öncül koşulları bulunan farklı finansal piyasalarda ortaya çıkabilecek yeni ürün ve/veya süreçler. Finansal gelişimlerinin erken aşamalarında bulunan gelişmekte olan ülkeler için kurumsal farklılıkları gözeten bir tanım yapma gereksiniminin bulunduğunu, bu ülkelerin bu farklılıklardan kolaylıkla etkilenebilecek olmasıyla açıklayabiliriz. Tarihsel ve kurumsal bir bakış açısıyla finansal yeniliklere yaklaştığımızda finansal yeniliklerin yayılma hızı ve karakteristiklerinin farklı olduğunu söyleyebiliriz. Bu nedenle yapmış olduğumuz tanım hem gelişmiş hem de gelişmekte olan ülkeler için geçerlidir ve birçok faktörü bir araya getirmektedir.

Bir yenilikçinin birincil motivasyonu hiç şüphesiz karını maksimize etmektir. Buna paralel olarak, karlılığı sınırlandıran regülasyonların varlığı finansal yeniliklerin ortaya çıkmasında önemli bir nedendir. Finansal kuruluşlar bu düzenlemelerden kaçınabilmek için yenilikler yapmaktadır, böylece giderler minimize edilip karlılık artırılmak istenmektedir. Ancak, bunun tam tersi bir süreç de işleyebilir. Çalışmamızın dördüncü bölümündeki altın hesapları kısmından da görülebileceği gibi düzenlemeler yeniliklerin oluşumuna pozitif katkı da sağlayabilmektedir. Buna ek olarak, teknolojinin getirdiği globalleşme ve finansal bütünleşme gelişmekte olan ülkelerdeki yeniliklerin araştırılması için büyük önem arz etmektedir. Aynı zamanda, finansal yenilik sürecinde birden çok aktör rol oynayabilmektedir. Bunlar arasında hane halkları, devletler ve uluslararası kuruluşlar yer almaktadır (Minsky, 1992). Gelişmekte olan ülkeler için hane halkı davranışlarının ve devletlerin karar mekanizmalarının üzerinde durulması, yeniliklerin ortaya çıkışı ve piyasa oluşturmasına etkileri bakımından önemlidir.

Çalışmamızın üçüncü bölümü gelişmiş ülkelerle gelişmekte olan ülkelerdeki finansal yeniliklerin ortaya çıkışlarını ve bu yeniliklerin etki ettiği piyasalara ait verileri karşılaştırmalı olarak analiz etmektedir.

Bretton Woods sistemi ve kurumlarına uygun biçimde yürütülmeye başlanan savaş sonrası finansal düzen küreselleşmenin başlamasında ve gelişmekte olan ülkelerin kalkınma planlarının hazırlanmasında etkili olmuştur. Bu sistem 1980'lerden itibaren yerini liberalleşme sürecine bırakmıştır. Bu dönemde yeni finansal sistem ve onun çok önemli bir parçası olan menkul kıymetleştirme sürecine gelişmekte olan ülkeler geç dahil olmuştur. Bununla birlikte finansal aracılık faaliyet karlarını artırmada ve riski dağıtmada etkili olmaya başlayan liberalizasyon ve yenilik süreçlerine gelişmekte olan ülkelerin deregülasyonla birlikte katılımı kolay olmamıştır. Çünkü finansal gelişmişlik seviyesi ve bunun finansal yeniliklerin doğması için yarattığı pozitif ortam gelişmiş ülkelere tarihsel olarak bir avantaj sağlamıştır. Finansal yeniliklerin gelişmekte olan ülkelerde ithal edilmiş ürün ya da süreçler olarak ortaya çıktığı iddia edilebilir, çünkü bu yeniliklerin azımsanamayacak derecede önemli bir bölümü gelişmiş ülkelerde üretilmiştir. Ancak artan entegrasyon geçişleri hızlandırmıştır.

Kurumsal yapıdaki farklılıkları incelemek gelişmiş ülkeler finans piyasalarıyla gelişmekte olan ülkelerdeki piyasaları karşılaştırmak adına önemli ipuçları vermektedir ve kurumsal yapılardaki ayrımlar, finansal yeniliklerin ortaya çıkmasında da etkili olmaktadır. Düzenleyici yapının, arz-talep dinamiklerinin ve risk algısının farklı olduğu ülkelerde veya piyasalarda kurumsal farklılıklar da görülecektir. Karşılaştırmalı bir pencereden bakıldığında kurumsal farklılıklar aşağıdaki kapsamlarda kendini göstermektedir: Piyasa-egemen ve devlet yönelimli yapılar, düzenleyici kuruluş yapısı, finansal aracı kurumlardaki farklılıklar, bankacılık sistemi ve sermaye piyasaları, rekabetin yapısı, finansal aracıların uzmanlık seviyeleri, finansal piyasalardan talep edilen hizmetlerin öncelikleri.

Finansal liberalizasyon hareketlerinin ve devamında görülen entegrasyonun finansal yenilikçiliği önemli derecede etkilediğini hesaba katmak gerekmektedir. Bunun önemli bir sebebi gelişmekte olan ülkelerin finansal yenilikleri genellikle (yeni ürün, süreç ya da organizasyonlar) gelişmiş ülkelerden alıyor olmalarıdır. Politika değişiklikleri, yabancı finansal kuruluşlardan gelen yayılma etkisi ve yaparak öğrenmenin finansal aracılık faaliyetlerinde görülen yeniliklere katkısı bu çerçevede düşünülebilecek başlıklardır. Ancak finansal liberalizasyon ve entegrasyonun etkileri tabii ki yukarıda saydığımız etmenlerle sınırlı kalmayacaktır. Çünkü finansal anlamda küreselleşme aslında yeni bir olgu değildir ve temelleri bir yüzyıl öncesine kadar uzanmaktadır, ancak finansal piyasaların derinliği finansal yeniliklerin çok hızlı bir şekilde yayılmasıyla birlikte son çeyrek yüzyıldır görülmemiş düzeyde artmış durumdadır. Bu bağlamda düşünüldüğünde gelişmekte olan ülkelerin yeni finansal sisteme entegrasyonunu hala tam anlamıyla tamamlamadığını son krizden daha az etkilenmiş olmaları neticesiyle söyleyebiliriz. Gelişmekte olan ülkelerde görülen etkiler sermaye akımlarının kesilmesi nedeniyle ortaya çıkmıştır ve finansal yeniliklerin bu açıdan oynadığı rol gelişmiş ülkelerdekine göre çok daha azdır. Finansal yeniliklerin yerel düzeyde piyasaları daha çok kapsayabilmeleri için içsel koşulların önemi büyüktür.

Finansal yeniliklerin düzeyini ölçmede reel sektörde kullanılan Ar-Ge harcamaları gibi bir veri bulunamadığından farklı ölçme teknikleri kullanılmıştır ancak bunların hiçbiri kesin olarak finansal yenilik ölçütü olarak tanımlanamamıştır. Bizim çalışmamızda da finansal derinlik ölçütleri finansal yeniliklerin göstergesi olarak kullanılarak bazı çıkarım ve sonuçlara ulaşılmaya çalışılmıştır. On yükselen ekonomi ve on gelişmiş ülkenin verileri bu sonuçlara ulaşabilmek için incelenmiştir. Kullandığımız ilk iki ölçü mevduat bankaları varlıklarının gayrisafi yurtiçi hasılaya oranı ve hisse senedi piyasaları kapitalizasyonunun gayrisafi yurtiçi hasılaya oranıdır. Özellikle gelişmekte olan ülkelerde yenilikçilerin büyük bankalar olması, ayrıca sermaye piyasalarının büyüklüğünün menkul kıymet ürünlerinin kullanılma miktarlarında gösterge niteliği taşımasından dolayı bu ölçütler finansal yeniliklerin yaygınlığının bir ölçütü olarak değerlendirilebilir. Bu verilerin incelenmesinden çıkan sonuçlar üçüncü bölümün ikinci kısmında paylaşılmıştır. Gelişmekte olan ülkelerin finansal yenilikleri piyasalara entegre etmede kat etmesi gereken mesafe büyüktür. Yine bu kısımda özel sektöre finansal kuruluşlar tarafından verilen kredi miktarları incelenerek finansal yeniliklerin boyutu hakkında çıkarım yapılmıştır. Finansal yeniliklerin var olmasıyla alternatif fonlama kanallarının artması ile klasik kredi-mevduat ilişkisinin ve firmaların bankalardan kullandıkları kredilerin miktarında düşüş beklenmelidir. Bu anlamda gelişmekte olan ülkeler gelişmiş ülkeleri önemli sayılabilecek bir gecikme ile takip etmektedir.

Ülkeler bazında verinin bulunduğu borçlanma araçları istatistikleri ile hisse senedine dayalı türev ürünlerin istatistiklerinin verildiği üçüncü kısımda menkul kıymetleştirme düzeyleri ile ilgili çıkarımlar yapılmaya çalışılmıştır. Özetle yine gelişmekte olan ülkelerin önemli derecede geriden takip ettiği söylenebilir.

Finansal yenilik düzeylerinin ölçülmesinde sayısal verilerin kısıtlılığı ve gelişmekte olan ülkeler bazında çalışmaların sınırlı düzeyde kalması nedeniyle kesin sonuçlara ulaşmak zor olsa da bu bölümde sunduğumuz tartışma ile bazı cevaplar verilebilmiştir. Finansal derinlik verilerinde de yine kısıtlar mevcuttur çünkü sadece finansal yeniliklerin düzeyini göstermemektedir. Ancak bulgularımız belli noktalara işaret edebilmektedir. Gelişmekte olan ülkelerde finansal yenilikler çoğunlukla doğrudan ithal edilmiş ya da imitasyon ürünler ya da süreçlerdir. Ancak ülkeler özelinde yapısal özelliklerin ve taleplerin farklı olması değişik sonuçlar doğurabilmekte, menkul kıymetler dışında kalan bazı finansal yeniliklerin büyük piyasalar oluşturabilmesine de sebebiyet verebilmektedir. Bu durumdan yola çıkarak bir gelişmekte ülke örneği olan Türkiye'den iki finansal yeniliğin araştırmasını yapmaktayız.

Çalışmamızın dördüncü bölümü Türkiye'den iki finansal yenilik örneğinin ortaya çıkışında etkili olan nedenler ve piyasalarının gelişimini ortaya koymaya adanmıştır. Bu finansal yenilikler kredi kartı taksitleri ve altın mevduat hesaplarıdır. Öncelikle bu iki örneğin nasıl finansal yenilik olarak tanımlandığı anlatılmaktadır. Daha sonra nasıl ve neden ortaya çıktıkları piyasa aktörlerinin birbirleriyle olan ilişkileri de göz önünde bulundurularak açıklanmaktadır. Kurumsal, kültürel ve içsel faktörler hem başlangıçta hem de yayılımda etkili olmuştur. Bu iki yeniliğin makroekonomik göstergelere olan etkileri ve piyasa gelişimleri de sayısal olarak analiz edilmektedir. İki finansal enstrüman da Türkiye finansal piyasasına özgü spesifik özelliklere sahiptir ve bu durum aynı ürün veya süreçlerin aslında farklı ek özelliklerinin ve farklı sonuçlarının olabileceğini bize göstermektedir. Her iki finansal yenilik de Türkiye'de önceden var olan bazı kurumsal ve kültürel faktörlerle beraber bir devamlılığın göstergesi olarak tanımlanabilir. Bir tarafta tüketim alışkanlıklarını, diğer tarafta da tasarruf alışkanlıklarını yansıtmakta olan bu geleneksel özelliklerden ilki veresiye, ikincisi ise altın günleridir.

Türkiye'de kredi kartı piyasasının gelişimine baktığımızda küresel piyasa yapısına benzer özelliklere sahip olduğunu gözlemleyebiliriz. Ancak piyasa yerelde farklılaşma geçirmiş ve kurumsal yapılarda çeşitliliğe neden olmuştur. 1990'ların sonundan itibaren Türkiye'de önemli bir konuma yükselen kredi kartları ve taksitlendirme özelliği, 2000'lerden itibaren ise tüketimin belirleyici faktörlerinden biri haline gelmiştir. Yastık altından finansal sisteme kazandırılan önemli bir finansal varlık olan altının bu entegrasyon sürecinde görülen olaylar bütünü ve süreçler de çalışmamız açısından önemli sonuçlar sunan bir örnektir. Altın Türkiye'de hane halkları için her zaman önemli bir yer tutmuş ve kaydi olmayan bir tasarruf aracı olarak kullanılmıştır. Kültürel faktörlerin ve teknolojik gelişmenin bütünleşmesi sonucu incelemekte olduğumuz süreçler ortaya çıkmıştır. Diğer yandan bu yeniliğin ortaya çıkmasının ilk basamağı Merkez Bankası'nın düzenlemesi olmuştur ve bu düzenleme anında karşılık bularak faydaya çevrilmiştir.

Gelişmekte olan ülkelerde finansal yenilikler perspektifinden bakıldığında iki finansal enstrümanın da piyasada geniş bir katılımcı tabanı bulduğunu ve bireylerin finansal aktiviteye daha fazla dahil olduğunu belirtmek gerekmektedir. Bir yandan da finansal yeniliklere bakış açısını değiştiren bu araçların kurumsal yapı faktörünün ne kadar önemli olduğunu ortaya çıkartması açısından önemini vurgulamak lazımdır.

Kredi kartları örneği için daha fazla veri ve tartışma bulunmasına rağmen altın için bu daha azdır. Ancak bu durum altın hesaplarının bir finansal yenilik olarak öneminin daha az olduğunu göstermemektedir.

Kredi kartlarının kavramsal ve yapısal özellikleri ile piyasa durumunu daha iyi anlayıp bunu finansal yenilik yazınıyla bağdaştırabilmek için kredi kartı literatürüne kısaca değinmeye ihtiyaç vardır. Bununla beraber piyasa mekanizmasının işleyişini rahatça anlayabilmek adına belli başlı bazı kavramlara da yer verilmiştir. Dünyada ödeme sistemlerinin birbirine son derece benzer olması dolayısıyla kredi kartlarının da evrensel bir yapısı vardır. Kredi kartı yazınında öne çıkan konular tüketici tercihleri ve alışkanlıkları, kart ağı ve piyasa yapısı, rekabet ve fiyatlardır. Bunların önemi Türkiye piyasası incelenirken de görülmüş ve tartışmada bu konulara da yer verilmiştir. Çalışmamız aynı zamanda kredi kartlarına ve taksitlendirmeye Türkiye'de finansal yenilik perspektifinden bakmasıyla bir ilk olarak yer etmektedir.

Kredi kartları teknolojik gelişmelerin bir ürünü olarak ödeme ve kredi işlemlerinde yeni bir araç haline gelmiştir. Müşterilerin kredi geçmişlerinin bilgisayar teknolojileriyle takip edilmesiyle beraber teminat gerektirmeyen bir ürün olarak zamanla yerini pekiştirmiştir. Kredi kartını ihraç eden ve kabul eden kuruluşlar açısından yeni gelir ve gider kalemleri kredi kartları sayesinde ortaya çıkmıştır. İki taraflı piyasa sistemi içerinde birçok kullanıcı çift yönlü finansal aktarım mekanizmasına kredi kartlarıyla beraber dahil olmuştur. Kredi kartları hem ürün hem de süreç yeniliği olarak karşımıza çıkarken taksit özelliği süreç değişikliğine yönelik katkı sağlamıştır. Türkiye özelinde taksitlendirmeye baktığımızda bunun piyasada daha önce kullanılan bir ödeme metodunun yenilenmiş bir sürümü olarak ortaya çıktığını ve aslında devamlılık arz eden bir sürecin var olduğunu söyleyebiliriz. Bu ödeme metodu veresiye olmakla birlikte, kredi kartı taksitleri bunu kişisellikten çıkararak kişisel olmayan ve finansal kuruluşların aracı olduğu bir sisteme çevirmiştir. Ek olarak, alışveriş kültürünün değişmesiyle birlikte tüketicilerin büyük perakendecilerden (alışveriş merkezlerinden) mal ve hizmet almaya başlaması ile birlikte taksitlendirmenin ilk örnekleri de buralarda görülmeye başlanmıştır. Saydığımız nedenlerle tüketicilerin taksitlere daha kolay alışması sağlanmış ve bankaların kredi kartlarına bu özelliği kazandırmasıyla beraber yaygınlaşması çok daha hızlı olmuştur. Bankaların taksitle yapılan alışverişler dolayısıyla müşterilerine ek maliyet çıkartmaması da yine Türkiye'ye özgü bir durum olarak karşımıza çıkmaktadır.

Türkiye'de kredi kartı piyasasının gelişimine baktığımızda kartların yabancı ödeme ağı şirketlerinin ülkemize girmesiyle ortaya çıktığını görmekteyiz. Ancak Bankalararası Kart Merkezi'nin bankaların ortaklığıyla kurulması ve kredi kartı piyasasının işleyişi ve kontrol mekanizmalarının iyi düzenlenmesiyle birlikte Türkiye'nin Avrupa'da ve dünyada hızla büyüyen bir kart piyasasına sahip olduğunu görmekteyiz. Finansal piyasada yer etmiş diğer ürünlere göre karşılaştırma yaptığımızda yine hacim olarak kredi kartı piyasası önemli bir yere ulaşmıştır. Bankaların piyasaya sunduğu kartların özel fırsatlar sunan ve müşteri tabanını artırmada etkisinin büyük olduğu sadakat programlarının var olması da yine bu gelişimde etkilidir. Bu fırsatlar arasında en önemlisi kredi kartı taksitleri olarak görülmektedir.

Perakende satış yapan büyük firmaların uygulamaları ve bunun sonrasında banka kartlarına geçişi, tüketicilerin kredi kartlarında aradığı en önemli özelliğin taksitler olması, çek ve senetle gerçekleştirilen taksit işlemlerinin elektronik ortamda yapılmaya başlanması ve taksitli işlemlere ait Türkiye'ye özgü birçok özelliğin olması ile birlikte piyasa hızla gelişmiştir. Bu gelişmeyi veriler yardımıyla takip edebilmekteyiz. İncelediğimiz veriler arasında kredi kartı ve banka kartı işlem hacimleri karşılaştırması, harcamaların ortalama değeri, bireysel ve kurumsal taksitli kart bakiyesi ile takibe düşen kredi kartlarının toplam takipteki kredilere oranı bulunmaktadır. Bu verilerin incelenmesi ile birlikte elde edilen çıkarımlar 4.1.4 kısmından görülebilir. Aynı zamanda yine taksitli satışların artmasıyla birlikte bunun hane halkı tüketimine etkisi de tartışılmaktadır. Kredi kartlarıyla yapılan harcamaların toplam tüketim içerisindeki payı ile tüketimin gayri safi yurt içi hasılaya oranı verileriyle taksitin bir finansal yenilik olarak önemini görebilmekteyiz. Kısaca, kredi kartı taksitleri yukarıda listelediğimiz göstergelerin hepsinde önemli yer tutmaktadır ve Türkiye için önemli bir finansal yeniliktir.

Altın hesapları örneğine baktığımızda ise yine kredi kartı taksitlerine benzer olarak önemli bir finansal yenilik olduğu sonucuna varabiliriz. Altın Türkiye'de her kesimden insan için kültürel olarak ve bir tasarruf aracı olarak önemli yer tutmuştur. Ancak Türkiye'de altın çok yüksek oranlarda fiziki olarak saklanmaktadır (yastık altı altın). Piyasalarda finansal varlık olarak işlem gören bir emtia olarak altın ise genellikle kurumsal yatırımcılar için bir çekim alanı oluşturmaktaydı. Merkez Bankası'nın altını zorunlu karşılıklar içerisine alan düzenlemesiyle birlikte bankaların bu önemli emtiayı finansal sisteme altın mevduatları şeklinde çekmek için attığı adımlar ve süreç geneli itibariyle önemli bir finansal yeniliktir.

Türkiye'de önemli bir sosyal ve aynı zamanda ekonomik aktivite olan altın günleri ise üzerinde çalıştığımız finansal yenilik süreci üzerinde önemli bir etkiye sahiptir. Bankalar altın günü etkinliğinin ismini ve bir bakıma yapısını kullanarak tasarruf sahiplerine hitap etmiştir. Bankaların düzenlediği etkinlikler çerçevesinde her türlü fiziki altın kabul edilmiş, değerlemesi yapılmış ve aynı miktardaki karşılığı müşterilerinin altın hesaplarına yatırılmıştır. Böylece bankalar önemli bir mevduat kalemine daha sahip olmuşlardır.

Merkez Bankası'nın Rezerv Opsiyon Mekanizmasını bir politika aracı olarak sunması ve zorunlu karşılıkların bu mekanizma içinde efektif bir biçimde kullanılması 2011 yılında başlamıştır. Akabinde altın da kabul edilmeye başlanan rezervler içerisinde yer almıştır. BDDK'nın kararıyla bankalara fiziki altın toplayabilme yetisi kazandırıldıktan sonra ise bankalar harekete geçmiştir. Öncelikle bankalar finansal yeniliği tanıtım amaçlı reklam kampanyalarına başlamışlardır. Kuyumcular ve altın işiyle uğraşan büyük firmalarla ekspertiz için anlaşarak şubelerinde altın günleri düzenlemeye ve çeşit ayırt etmeksizin fiziki altın toplanmaya başlamışlardır. Bankaların altın hesaplarında biriken mevduatları Türk Lirası mevduatları yerine zorunlu karşılık olarak kullanması ile bankalar TL fonlama kapasitesi bakımından önemli bir kazanım elde etmiştir.

Sayısal verilere bakacak olursak altın hesaplarının bir finansal yenilik olarak piyasada ne derece etkili olduğunu kavrayabiliriz. Bu kapsamda Merkez Bankası altın rezervleri, toplam mevduatın toplam yükümlülüklere oranı, kıymetli maden depo hesaplarının toplam mevduata oranı ve altın mevduat hesaplarının ülke tasarruflarına oranı kullanılmıştır. Özetle, incelediğimiz tüm bu verilerde önemli değişiklikler olmuş ve altın hesaplarının piyasa ve makroekonomik değişkenlere etkisi açıkça görülmüştür.

Çalışmanın sonuçları beşinci bölümde verilmektedir. Bu tez çalışmasında yazındaki gelişmekte olan ülkelerdeki finansal yeniliklere ait var olan boşluğun doldurulması hedeflenmiştir. Üzerinde çalıştığımız Türkiye örneğinden de anlaşılabileceği gibi finansal yeniliklerin gelişmiş ülkelerden adaptasyonu ve yükselen ekonomilerde önceden var olan kurumsal miras eşzamanlı olarak finansal yeniliklerin ortaya çıkmasında ve gelişiminde etkili olmuştur.

Bu çalışmayla birlikte tanımsal kısıtlar aşılıp farklı finansal yenilikler üzerinde araştırma yapılarak süreç dinamiklerinin ve yerel özelliklerin etkileri gösterilmiştir. Farklı biçimde tasarlanmış finansal piyasaların kendi doğalarından kaynaklanan nedenlerle gelişmiş ve gelişmekte olan ülkelerde görülen finansal yenilikler arasında da farklılıklar bulunmaktadır. Gelişmekte olan ülkeler finansal yenilikler anlamında takipçiliklerini devam ettirseler de gelişmiş ülkeleri yakalamakta zamana ihtiyaç duyacakları görülmektedir. Bunun yanında kurumsal farklılıklardan dolayı benzer finansal yenilikler farklı yönlere doğru gelişimini sürdürebilmektedir.

Türkiye örneği açısından bakacak olursak; yukarıda da tartıştığımız gibi kredi kartları dışarıdan alınmış bir ürün olmasına rağmen yerelde görülen geliştirmelerle ve ek yeniliklerle farklı bir gelişim süreci oluşmuş ve farklı bir piyasa yapısı yerleşmiştir. Diğer taraftan altın hesapları örneğinde görülen yenilikler tamamıyla Türkiye’ye özgüdür. Kültürel ve kurumsal etkiler bir yana regülasyonun da literatürde bahsedilenden farklı bir etkiyle finansal yeniliklerin ortaya çıkmasında bir neden olabileceği anlaşılmıştır. Ayrıca, Türkiye örneğinde yer alan finansal yeniliklerin makroekonomik yapıya etkileri menkul kıymetleştirilen varlıkların etkisine nazaran daha doğrudan olmuştur.

Sonuç olarak, finansal liberalizayon ve entegrasyonun hakim olduğu yakın dönemde finansal yeniliklerin nasıl ortaya çıktığını kesin olarak belirlemek ya da gelişmekte olan ülkelerin makroekonomik yapılarını kesin olarak hangi şekilde değiştirdiğini açıklamak, her bir ülke ya da her bir finansal yeniliğe tek tek değinme imkanı bu çalışmanın kısıtlarından dolayı bulunmadığı için, mümkün olmamıştır. Ancak, Türkiye örneği üzerinden çalışılan iki finansal yeniliğe odaklanarak bu çalışma, gelişmekte olan bir ülkenin sosyokültürel faktörleri ile uyarlanmış finansal yeniliklerin nasıl eşzamanlı var olabileceğini daha iyi anlamamıza aracı olmuştur. Bu çalışma ileride yapılabilecek karşılaştırmalı analizler ve kurumsal çalışmaların temelini oluşturabilecek alternatif önermeleri de sağlamış bulunmaktadır.

## C. TEZ FOTOKOPİSİ İZİN FORMU

**ENSTİTÜ**

| | |
|---|---|
| Fen Bilimleri Enstitüsü | |
| Sosyal Bilimler Enstitüsü | X |
| Uygulamalı Matematik Enstitüsü | |
| Enformatik Enstitüsü | |
| Deniz Bilimleri Enstitüsü | |

**YAZARIN**

Soyadı : Hergüner
Adı : Armağan Önder
Bölümü : İktisat

**TEZİN ADI** (İngilizce) : FINANCIAL INNOVATIONS IN DEVELOPING COUNTRIES: THE CASE OF TURKEY

**TEZİN TÜRÜ** : Yüksek Lisans [X] Doktora [ ]

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir. [ ]
2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir. [ ]
3. Tezimden bir (1) yıl süreyle fotokopi alınamaz. [X]

**TEZİN KÜTÜPHANEYE TESLİM TARİHİ**: