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## **ELECTRONIC MONEY IN 2000'S**

*2000'lerde Elektronik Para*

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### **Özet**

Para, dünya ekonomilerinin tümü için gerekli bir araçtır. Buna karşın elektronik para da gelişmiş ülkeler için gerekli bir araç haline gelmiştir. Günümüzde internet ortamı yolu ile yapılan finansal hizmetlerdeki muameleler için elektronik para ve elektronik ödeme sistemleri oldukça popülerdir. Elektronik sistemlerde meydana gelen bu değişimler ekonomik ortamda gerçekleşen perakende satış ödemelerinde geleneksel işlemlerin yanında iki yeni formu ortaya çıkarmıştır. Bunlar, bir kişisel bilgisayar ile evden veya işyerinden banka işlemleri yapmak ve elektronik nakit kullanımınıdır. Söz konusu muameleler güvene dayalı gerçekleştirilir. Özellikle de teknolojilerin hızla değiştiği 2000'li yılları kat edeken, bu sistemde gerçekleşmesi gereken en önemli unsur elektronik paranın kanunlar çerçevesinde değerlendirilmesidir. Fakat Türkiye elektronik para sistemleri için henüz bir kanuni çerçeve çizmemiştir.

**Anahtar Kelimeler:** Tedavüldeki ödeme sistemleri, e-para, Elektronik nakit, Muamele veya mübadele.

### **Abstract**

Money is an essential tool for all of the world's economies. As for electronic money it must be an essential tool for developed countries. Today, electronic money and electronic payment systems are popular for retail transactions in financial services on the internet. These changes, in turn, have led to the emergence of two new forms of retail payment systems: electronic cash and banking from home or company by personal computer. Transactions are based on trust. When pass over the 2000's of quickly changing technology, for this system the most important factor is evaluating of electronic money in law frame. But Turkey has not caught law frame for electronic money system.

**Key Words:** Current payment systems, e-money, Electronic cash, Transaction.

A transaction tool of money, has a long history. Barter in past economies, had competence because exchange of goods and services were limited. As the economies got extended and grew bigger the production of goods and services increase as well. Therefore using barter as an exchange method will be harder. Those circumstances led human different kinds of inquiries such as goods used as money or mental money, and human at last developed banknote. For communities, by whom the money emerged is important as much as emerging money. Influence and power must be held together as a conclusion this situation leads us today's valid systems. Today world economies can not exist without money. Money will exist as an essential tool for development of economies (Luckett;1999).

In 21st centuries economies money exceeds the possessed national value and has becomes usable currency in all worlds economies previously money shows a national characteristic, then money gains an international characteristic and when this situation exists some of powerful and developed centuries currencies compete with each other, but none of these countries can impose its currency to the all of the world. None of national currency can a monopoly position in international area (Ertürk; 1999). This situation is contrary to worlds economic system. Possessing today's meaning of money takes a long time. In time to make a profit from goods, services and other currencies provides us money exchange (Pentecost; 1993). This progress provides money international circulation with opportunity of obtaining needs much more easily.

Development in electronic and communication technologies leads Today's countries to use them. Especially, means in communication networks improved by internet lead economies to take part in this system.

#### **A- A Concept of Electronic Money**

Every transaction is an exchange. People make an exchange of goods and services for money. In this exchange, electronic money as a general concept is an electronic replacement for cash (Lynch and Lundquist; 1996). Electronic money is not virtual, it is an exchange in real economy. The most familiar example of an electronic transaction involves an Automated Teller Machine (ATM). This kind of money can be used for all kinds of goods and services, and carries all the features of traditional money. . Banks can not create new money and they will charge a fee for converting it or taking an agency fee for using it. In the other hand electronic money shows different features according to its technological enviroiment .The process of e-money generation can be presented as follows (<http://storny.wp.pl/wp/ws19>):

- 1- User chooses denomination of the e-banknote;
- 2- Special software generates the demanded e-banknote;
- 3- E-banknote is put into the digital envelope to hide serial number
- 4- User signs it with his private key;
- 5- E-banknote is sent to his issuer; 6. Issuer verifies if there is enough funds for that issue (denomination vs. account balance or cash put in exchange) – the issuer uses different signatures for different denominations thus if user tries to obtain an e-signature for 5 Euro banknote sending instead 1 Euro banknote, his e-banknote will not be valid;
- 6- If so, issuer signs electronically envelope without knowing the serial number;
- 7- Issuer sends back the signed digital envelope with an e-banknote;
- 8- User removes digital envelope;
- 9- Now, user can spend freely e-banknote.

We can define the properties of electronic money in six groups:

- 1- Independence: The security of electronic money does not depends on any physical location.
- 2- Security: Electronic money is not reusable. It is not possible to spend the same electronic money twice.
- 3- Privacy: Electronic money must protect the privacy of its users. Tracing of relationship between a person and a purchase is not allowed.
- 4- Off-Line Payment: It is impossible to make a transaction without networks.
- 5- Transferability: Electronic money must be transferable to others.
- 6- Divisibility: A quantity of electronic money must be divisible into smaller amounts and they must total up again when recombined.

All this changes in electronic systems, make two new form of payments in retail sells. These are making bank processes by a personal computer and electronic cash. You can consume the needed process between two countries on opposite sides of the world with a personal computer and a network connection. For example, a buyer in Turkey can use electronic dollar instead of Turkish Lira to buy goods or services supplied by a merchant located in India. This leads economies the equivalence between electronic money and national money. This means a world money. Electronic money can become a new measurement of exchange in all over the world. Development of electronic money leads us to make transactions, banking processes and monetary systems much more

easily. This idea can be made easily consuming law and network infrastructure. Such developments in globalization world will lead developments for all countries.

There are several companies offering services that enable internet commerce, like electronic bill payment services. Electronic money transactions and credit card purchases can be made easily.

Main differences between current payment and e-money system presented below

**Table 1: Main difference between current and e-money system**

Current payment systems	e-money systems
Physical means of payments-checks, currency	Intangible electronic analogies
Huge infrastructure established world-wide	Downsized, computer based
Relatively labour intensive	Relatively capital intensive
High value infrastructure-brick and mortar	Low cost decentralised facilities
Bank-dominated wire transfers	Personal computer transfers
Highly structured supervision/regulation	Highly technical, yet to be designed
Velocity of money is low	Velocity of money is high
Bank-dominated intermediaries	Non-traditional intermediaries
Clearing mechanism required	Clearing requirement reduced
Transportation-couriers, land, sea, air	Telecommunications
Significant statistical data collection	No methodology for Ms statistics
Economic national borders	No borders, effectively
Defined jurisdictions	Overlapping, unknown jurisdictions
Generally non-refutable, standard methods of validation	Evolving methods of transaction verification

**Source:** "Electronic money laundering: An Environmental Scan"; Department of Justice Canada; Solicitor General Canada; October 1998.

E-money widespread speedy but would e-money prefer to much more rather than cash? Which one is excellent?. There are some answer for all of question. Take a look at the bellow table 2:

Comparison between cash and e-money :

**Table 2: Comparison between e-money and cash**

Comparison	Legitimized	Anonymity	Component of monetary aggregates	Dematerialized	Small value transaction	Under Central Bank control
e-money	-	+/-	-	+	+	-
Cash	+	+	+	-	+	+

In spite of e-money sometimes objectionable, it work. Merchant and client prefer much more e-money than cash in something.

### **B. Physical and Legal Infrastructure**

All these developments take place in the new economic structure. All countries must make laws and codes in order to catch up with the development in technology. As a developing country Turkey too, has to make the same progress. So that Turkey can prevent losses in finance, banking and monetary sectors. Today Europe and America are making a cooperative study to investigate the implications of recent technological advances that make the creation of methods possible for retail electronic payments in this corporation European Central Bank, G-7 countries and G-10 countries working group, OECD countries and such others are taking place. On the review of working group consumer protection stances within the G-10 yielded two main observations.

Most countries are relying on existing laws and regulations in addressing risk such as fraud insolvency, loss laws and privacy concerns rather than enacting comprehensive new measures specially aimed at electronic money.

Government policies on consumer protection and electronic money are still evolving as this technology developing.

To date G-10 countries have generally not seen the need to develop new anti-crime laws directed at electronic money. Continued monitoring, as well as dialogue and cooperation with developers of electronic money will be required.

Traditionally payment management and money creation was implemented into bank activities but with technology development it became possible that other players could enter that market. This fact raises a question whether they should be allowed to issue e-money. There are two approaches – European central banks and U.S. Federal Reserve one.

The latter is of the opinion that non-bank entities should be permitted to issue an electronic substitute of money since it stimulate the development of it. Non-banks will have special competitive advantage but banks have already had many competitive advantages that non-banks do not have and probably will not have (developed relations with merchants, the advancement in their payment systems, the synonym of security).

On the other hand there is an European point of view which is more strict with regard to non-banks. It is stated that only credit institutions or entities supervised by a special body should be allowed to issue e-money.

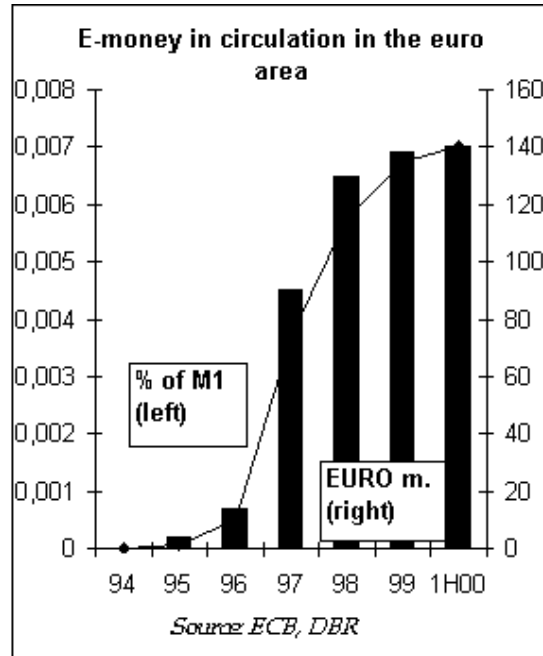
Although electronic money is not a widespread thing at present. It is likely to have significant implications for monetary policy in the future. The E.C.B. regards it essential that the following minimum requirements be fulfilled (European Central Bank; 1998.).

- 1- Issuers of electronic money must be subject to prudential supervision.
- 2- Issuance must be subject to solid and transparent legal arrangements technical security, protection against criminal abuse and the reporting of monetary statistics.
- 3- Issuers of electronic money must be legally obliged redeem electronic money against Central Bank money at par at request of holder of the electronic money.
- 4- The possibility must exist for E.C.B. to impose reserve requirements on all issuers of electronic money. With this concerns outlined above it will be much more secure and comfortable.

E-money institutions have already been in Europe under strong regulations the example of which is the Directive 2000/46/EC. Some of requirements are presented below (<http://strony.wp.pl/wp/ws19>).

- 1- The initial capital 1,000,000 Euro.
- 2- The minimal and permanent own funds have to be equal to or above 2% of the higher of the current amount or the average of the preceding six months' total amount of their financial liabilities related to outstanding electronic money
- 3- The investment of free monetary flow is severely restricted and, among others things, shall be no smaller than financial liabilities related to outstanding electronic money, for example:
  - 4- Asset items which attract a zero credit risk weighting and which are sufficiently liquid;
  - 5- Sight deposits held with Zone A credit institutions; investments may not exceed 20 times the own funds of the electronic money institution

With recent developments some arguments are getting stranger. Especially, the role of governments on money and finance world has to be reexamined. This examination will obtain the role of governments in the chancing economies. Must the governments take active role on the chancing world of money and finance. This question is the first thing in mind. Most of researchers and economist decline that governments must only interfere when the problems occur and must remain passive otherwise. Despite all prospects for e-money projects they are not generally used instruments. According to the Bank for International Settlements data shown in the figure below account for 230 m Euro and reporting to the European Central Bank it represent 140 m Euro in Euro sector.



**Figure 1:** e-money development  
 (Source: Payment and Securities Settlement System in the European Union, ECB, June 2001., DBR.)

E-money accounts for 0.04% of cash in circulation in EMU area and 0.007% of the M1 aggregate.

To these assumptions private sector can find answers to its own problems (United States Department of the Treasury Conference; 1996). But it is important to find governments a suitable concern on fiscal services an new digital world. In most of the developed and developing countries above mentioned conditions have been caused by governments. Governments are thought a secure control mechanism. But this must not mean pressure. The policies must be based on this concept. Especially the both of taking electronic money equalization of national money renew policies and tuned. Our country has the same conditions. Fast changing and fast developing Turkey has some process on electronic money. While this process is being held economy must be guaranteed by law.

**Conclusion**

Developing technology changes the concept of money as an electronic money appreciate to period. Cash money is becoming absolute as a usual of the easy use of electronic money. This popular trend will eventually create problems for the central

banks. With the new and boundless field the internet countries come too new process it is important to make physical and law enterement. The law regulation should however enable the permanent development of electronic payment systems and not slow them down or even destroy them by enforcing sever restrictions. The market requires time to establish standards and rules. Going against market one restrain the acceptance and willingness of customers and investors. A developing country Turkey must make preparation for it is to own economic structure without losing any time to catch the worlds variations.

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