FINANCING PUBLIC HEALTH SYSTEM BY MUNICIPAL BONDS – A SOLUTION IN THE CURRENT PANDEMIC

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Abstract: *The social reality of our times presents significant vulnerabilities in both the national and the international health systems. This pandemic reveals major shortages in hospital endowment with the essential equipment for emergency or ICU medical assistance. Because of the economic and social impact the pandemic has generated, our paper has the aim to bring up a less used funding method by the local Romanian authorities: municipal bonds. Knowing that the financial credit instruments may be an important resource for the large strategic investments in the medical field, we have started a scientific project based on the quantitative analysis by tracking how the Romanian public health is financed, how the municipal bonds are used at both worldwide and local economic levels, and what impact a bond loan could have.*

This paper aims at being a useful instrument for the local authorities by explaining in a more accurate way how the municipal bonds work.

Key Words: *health system financing, local public authorities, capital market, municipal bonds*
JEL Classification*: I18, H51, G12*

1. Introduction

Today, the world is facing an unseen and unknown danger with significant effects both at social and economic levels: SARS CoV2. The pandemic declared by the World Health Organization has affected almost all the countries in the world and on 19 April 2020 generated a number of 2,245,875 reported cases, 152,707 deaths (WHO, 2020), with the most cases of COVID 19 infected people in Europe, that is 1,122,189 reported cases, and the most affected being the United States of America, where there are 695,353 reported cases.

The current pandemic has brought forth several deficiencies of the health system, with the most important being the low ability to deal with global issues, from the perspective of equipment and also work procedures.

The COVID 19 infection is not the only pandemic that has affected the world throughout history. There have also been: the Plague or Black Death which led to the death of a third of Europe's population, the Spanish Flu which killed 50 million people, and in our century, SARS has caused 70-billion euro damages along with others such as ZIKA; EBOLA or MERS-COV.

Those medical issues have the focus of specialists in order to identify the most appropriate global solutions implemented locally. Therefore, the PANDEM Project (Pandemic Risk and Emergency Management) conducted by a consortium made up of Galway University Ireland, Public Health Agency of Sweden, Swedish Defence Research Agency, IGS Strategic Communication, London School of Hygiene and Tropical Medicine, Université Catholique de Louvain, WHO Regional Office for Europe, coordinated by Galway University of Ireland and funded by the European Union in the period 2015-2017, had as main objective to identify innovative concepts that would strengthen institutional capacity to manage pandemic risks and to manage emergencies. With a budget of 1,384,807.50 Euros of which 1,277,307.50 granted by the EU, the PANDEM aimed at identifying the best practices on authorities' preparation and response to pandemics, the areas that should be improved, and how to perform communication under such circumstances.

Among the project results is the study conducted by Speakman E., McKee M. and Coker R. which draws the attention of the European Union upon its being unprepared to properly cope with a pandemic, its lack of appropriate steps or its inability to ensure continuity of steps. Speakman *et al.* (2017) show that after the EBOLA occurrence, the only step in the European Union meant to decrease the risks or effects that a pandemic can cause was the establishment of the European Medical Body in February 2016. However, it was deemed to remain without major visible effects as long as the countries' participation was just voluntary (in 2017, only 9 EU states were part of the European Medical Body). The authors point out that the EU can be characterized as having disrupted performance considering that no funding has been offered since 2017 for the FETP programme (Field Epidemiology Training Programme.)

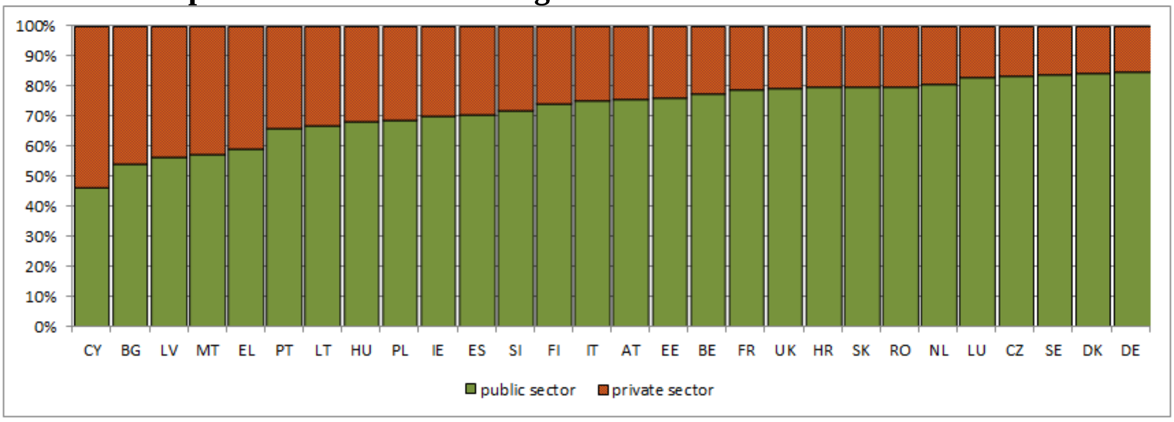
The PANDEM has stated that the European Union should generate a global health project aimed at improving laboratory infrastructure and equipment, increasing test diagnostic capacity, developing a management system based on relevant, correctly interpreted information, by applying the LIMS systems, etc.

2. The Need to Finance Public Health System

Starting from the above-mentioned considerations and from nowadays facts, one can see that the health system is subject to major pressure leading to increased funding. Countries are thus placed in a position to find new financing sources that will generate a reliable system to provide specialized efficient assistance to the population.

The data released by the European Commission show that in the vast majority of countries, the financing of health expenditures comes from the public sector (Graph no. 1).

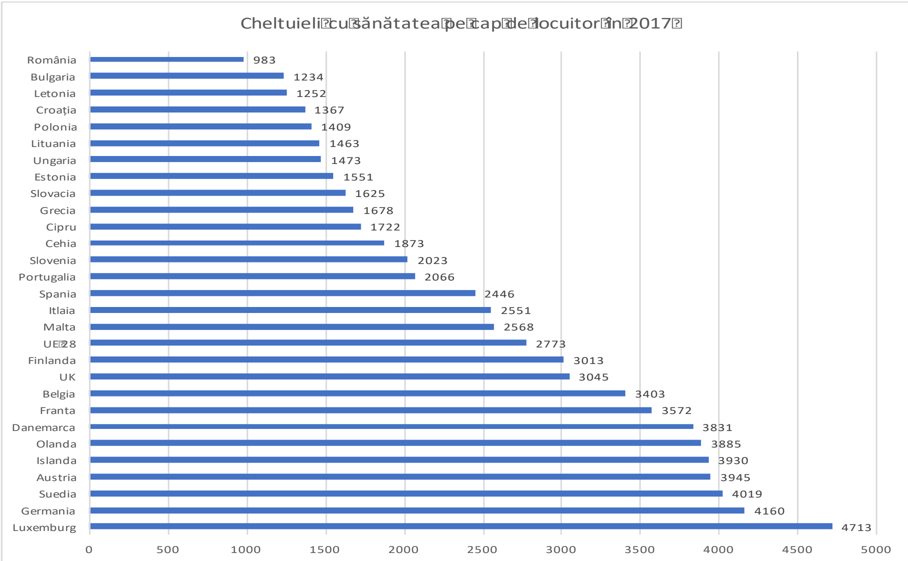
Graph no. 1. Health Financing Sources in EU Member States



Source: European term _ Theme file, health systems, www.ec.europa.eu

Regarding expenditure per capita, the data issued in the OECD/EU Report of 2018 show, in the EU Member States, the highest level in Luxembourg (4,713 Euros per capita) and the lowest level in Romania (983 Euros per capita) (Graph no. 2).

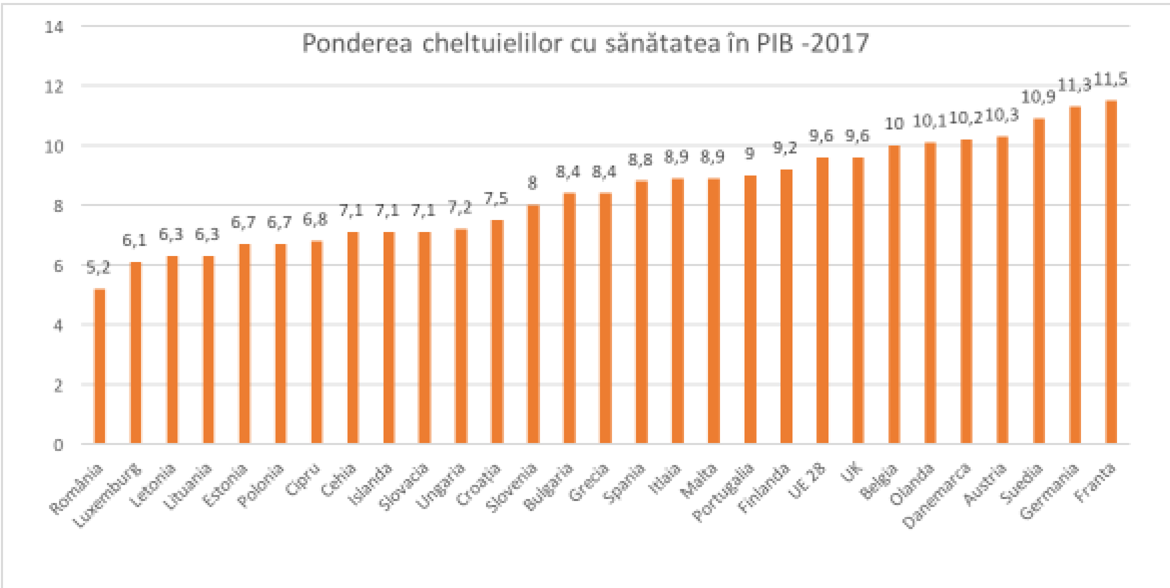
Graph no. 2



Source: Made according to data issued by the OECD/EU (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris, available at: https://doi.org/10.1787/health_glance_eur-2018-en

In terms of GDP share, the first ranking country is France with 11.5%, followed by Germany with 11.3% and Sweden with 10.9%. Here too Romania ranks last, with 5.2% (Graph no.3).

Graph no. 3



Source: Made according to data issued by the OECD/EU (2018), Health at a Glance: Europe 2018: State of Health in the EU Cycle, OECD Publishing, Paris, available at: https://doi.org/10.1787/health_glance_eur-2018-en

A special status among European countries is held by Switzerland which, in 2017, reported both the highest expenditure per capita (5,799 Euros) and the largest GDP expenditure share (12.3%).

The little money granted to the Romanian health sector along with a number of factors identified by the State of Health in the EU Report (2019) mentioning: life expectancy of 75.3 years (among the lowest in Europe) and life expectancy for men with a low level of education (they live 10 years less than men with higher education); the highest number of tuberculosis patients in Europe - 13,000 in 2017; a vaccination rate below the EU average; the lowest number of doctors and nurses per capita, i.e. 2.9 doctors and 6.7 nurses per 1,000 inhabitants, whereas the EU average is 3.6 doctors and 8.5 nurses, raises a major issue: what funding sources can local authorities use in order to ensure major investment for health?

Today, more than ever, solutions must be identified for the health system to face global issues and to provide well-adapted, adequate quality services.

3. Municipal Bonds - Viable Source for Health Financing

The capital market provides issuers and investors with financial instruments that allow them to achieve their targets. Bonds have started to gain importance on the capital market (Table no. 1) given their characteristics and also advantages they generate to issuers. The data provided at the level of the world economy show an increase in that market from $46,189.2 billion in 2003 to $100,133.7 billion in 2017. The structure of the bond market indicates the US market dominance at a level of $39,335.9 billion in 2017 up from 19,829.5. Ranking second at a significant gap is the market for bonds issued in the EU, with $28,156.7 billion, going up by 93.31% compared to 2003 (Table no.1).

Table no. 1. Changes in the Bond Market

Country/Year	**2003**	**2008**	**2015**	**2016**	**2017**
Market total of which:	46,189.2	73,813.9	88,815.6	91,917.6	100,133.7
USA	19,829.5	30,296.1	36,924.1	38,099.7	39,335.9
Japan	8,729.6	12,329.8	11,239.7	12,031.6	12,665.1
EU 28	14,564.9	24,355.6	25,778.6	24,862.6	28,156.7
Canada	1,088.7	1,368.0	2,039.2	2,178.2	2,428.5
China	459.6	2,228.0	7,752.6	9,408.8	11,756.9
Australia	735.2	1,367.8	1,975.4	1,971.7	2,149.3
Emerging markets	447.3	1,280.0	1,986.1	2,196.0	2,289.2

Source: SIFMA Fact Book, 2018

The importance and role of bonds in financing local public services are also justified by the high level of using that financing source in the USA. Istrate (2013) shows that the US infrastructure was largely financed through municipal bonds: in the period 2003-2012, administrations used debt securities to achieve 21 investment objectives, with the most important being, through the funds obtained by means of municipal bond mechanisms: schools ($514.1 billion), hospitals ($287.9 billion), water and other facilities ($257.9 billion), roads ($178 billion). Moreover, the 2017 municipal bond market was characterized by a capitalization of 4 trillion Dollars, 55,000 issuers, 1.5 million bonds issued and 100 to 200,000 new bonds issued every year (Cestau et al., 2019).

In Europe, Poland offers a positive example of using municipal bonds to finance local interest objectives. Galinski (2013) shows that municipal bond financing had spectacular increases in the period 1996-2010, from 10 to 458 issues. There are at least two elements that encouraged the significant increase in the use of those financing instruments: the former envisages the use of municipal bonds to ensure the co-financing of European projects in the financial year 2007/2013 in the fields of infrastructure, local transport, environment, sewerage, etc.; the latter is defined by Poland's hosting the 2012 European Football Championship, which made it necessary for them to carry out infrastructure investment that was financed by issuing bonds.

Romanian Law 56/2006 on health care reform defines in Chapter 4 the sources for the financing of hospitals. Thus, the law shows that clinical hospitals with university departments are financed by the state budget, the county ones are financed by the county budget, and the local budgets can finance both county and local hospitals. The financing of hospitals carried out by local public authorities may target investments, modernizations, the purchase of medical equipment, the financing of management and operation expenses, goods and services.

Achieving well-defined objectives and long-term investment elements requires the mobilization of long-term capital. In this respect, potential financing sources can be: own sources, bank loans, special financing techniques such as leasing, factoring, capital market. The access to the capital market is allowed to all legal persons as issuers, and to natural and legal persons as investors.

As regards the issuers, they can be: state or private business agents, financial - banking companies, central and local public administration. Local councils, county councils and the General Council of Bucharest Municipality, as the case may be, may approve the contracting or guaranteeing of internal or external loans on short, medium and long terms for local public investment as well as for refinancing local public debt. Local investment in ensuring appropriate facilities for hospitals to provide good quality medical services may be financed by administrative-territorial units in compliance with the law on public finance which lays down that the total annual debt (consisting of due instalments of contracted and/or guaranteed loans, interests and fees thereof) must fall within the limit of 30% of the arithmetic mean of own revenues minus revenues from capitalization of goods during the last three years prior to the year when financing is requested by loans.

The law on local public finance describes the method of calculating the classification within that limit as such:

$$(C_c + C_n) \leq 30\%\ din\ \frac{(V_{pt\text{-}3}\text{-}V_{ct\text{-}3})+(V_{pt\text{-}2}\text{-}V_{ct\text{-}2})+(V_{pt\text{-}1}\text{-}V_{ct\text{-}1})}{3}$$

where:

C_c- loan instalment + interest + fees for contracted loans;

C_n – loan instalment + interest + fees for new loans;

V_{pti} – own revenues during the years prior to the years which loan contracting is requested for;

V_{cti} – revenues obtained from capitalization of goods during the years prior to the year which loan contracting is requested for.

Administrative-territorial units can finance investment projects using capital market-related instruments. In the category of financial instruments – stocks and shares, securities for participation in collective investment undertakings, monetary market instruments, including government securities with less than one year maturity and deposit certificates, financial futures contracts, FRA's, swaps, options - only bonds called municipal bonds can be issued by territorial administrative units.

Bonds are financial securities representing the claim of a bond's holder over the bond's issuer resulting from a loan for which the latter - a company, a public agency or a central or local government - periodically pays interest, which is usually fixed, in order to redeem the bond after a certain term. Bonds issued can be insured by means of specialized institutions or they can be issued based on the issuer's honour. (Denison, 2001)

Municipal bonds are in fact debt securities issued by cities and regional/county authorities for financing important goals for the community. (Brancaccio et al., 2017) In Romania, the first municipal bonds have been used since 2001 (Brașoveanu, 2011) by the Predeal Municipality which issued 50,000 bonds at a face value of 1,000 Lei. (Matei et al., 2009)

At present, 38 municipal bonds issued during 2005-2018 are being traded on the Bucharest Stock Exchange. The data provided by the Bucharest Stock Exchange show that 81.57% of the issuers were cities and municipalities, and 15.7% were county councils. An interesting element is related to the fact that during the 15 years only one rural town hall issued bonds: the Aninoasa Town Hall in 2008 which attracted 3,000,000 Lei for the building of a socio-cultural centre.

The municipal bonds accepted and traded on the Bucharest Stock Exchange did not cause any problems for the investors, except once: the bonds issued by the Băile Herculane Town Hall, which did not pay either interest or principal amount for the bonds issued in 2006 and accepted for trading in 2009, which led to the bonds' suspension from trading.

The most productive year in terms of bond issuing is 2009 when 9 issues were carried out, namely: the town halls of Năvodari, Focșani, Slobozia, Orăștie, Alba Iulia, Bistrița, Bacău, Siret and the Alba County Council.

The sector of municipal bonds is not developed enough, with fluctuating evolution: only 38 issues in 15 years, with periods of time with zero issues: 2012-2014, 2019; or a one single issue in 2018.

Technically speaking, commencing and developing such a financing technique involves the following steps:

1. Preparing and planning the offer - During this stage, the issuer makes the decision on financing via bond issuance through a cost-benefit analysis that will take account of: the costs generated by the issuance of bonds; the interest to be paid on the dates set by the issuer; the obligation to redeem the bonds issued; the way in which taxation reflects interest deductibility.

The costs of issuing bonds will also take account of the fees paid to the intermediaries who can ensure the development of the public sale offer. The issuer may resort to one or more intermediaries, in which case they will form an intermediaries' pool. An intermediaries' pool is formed by more than two intermediaries coming together who conclude two contracts, the former aiming to define the relationship between them and is concluded between the pool manager and the members of the intermediaries' pool, whereas the latter is concluded between the manager of the intermediaries' pool and the bond provider.

2. Preparing the issue prospectus. It must include all the elements required by the legal authorities.

According to the national legislation, the public sale offer prospectus must include necessary and sufficient information for investors to be able to make decisions knowingly, i.e. information on the issuers' or entities' assets and liabilities, financial statements, performance prospects, the rights corresponding to the stocks and shares and the reason why bond issuance takes place, as well as its impact on the issuer's performance.

Regarding the content of the public sale offer prospectus, Regulation no.5/2018 lays down the fact that the offer can be presented in a single form or by components. Irrespective of the wording, the elements contained in the prospectus will have to comply with the provisions of EC Regulation no.809/2004 as amended by EU Regulation no.2017/1129.

3. Submitting the application to the Financial Supervisory Authority (FSA) which will adopt the approval decision or not. For the approval of public sale offer prospectus, the bidder must prepare their application including several documents according to the legislation in force, namely Regulation no.5/2018 and Law 297/2004.

4. Releasing the issue is the stage during which the public offer is made public to investors concerned.

After the SFA has approved the application, the bidder will be able to advertise the issue. The legal regulations define the publicity system for public sale offers. Thus, Article 8 of Law 24/2017 clearly defines how a public tender announcement can be made: printed or online newspapers, the websites of the intermediary and the bidder, the FSA website.

5. Underwriting the securities. Allocating and distributing the securities – they correspond to the period during which the securities are purchased by those interested, then they will be distributed and allocated.

The public sale offer is considered to be over at the time of expiry of the date provided in the issue prospectus or at the time when the issued securities are purchased.

6. Reporting - within 5 days from the date of completion of the public sale offer, the bidder must notify the FSA and the market operator about the results of their public offer.

After the public offer has been over, the administrative-territorial unit can request acceptance for trading on the regulated market of the Bucharest Stock Exchange, in the sector of debt securities if it meets several conditions and submits necessary documents: concluding a public bond sale offer which meant a minimum obligatory loan of 200,000 Euros in Lei, or when it is less than 200,000 Euros, it must have the FSA's approval for acceptance to trading.

Acceptance of municipal bonds for trading imposes several, that is: the debt securities must be registered with the FSA, they must be freely transferable, fully paid, issued in a dematerialized form and highlighted by registration in the account (Articles 23, 24 of the BVB Code).

Additionally, the quota maintenance of municipal bonds urges the issuers should assume certain responsibilities typical of the capital market, namely ensuring equal treatment of all investors regarding the rights conferred by holding such stocks and shares, paying interests and repaying loans; appointing a payment agent to help bondholders exercise their financial rights.

Issuing municipal bonds offers investors an alternative for diversifying their portfolios (Pop and Georgescu, 2015) as they generate good returns and also lower risks.

Financing significant objectives by the administrative-territorial units through the Romanian capital market, that is through the issuance of municipal bonds, requires both following a specific methodology and assuming certain responsibilities, but municipal bonds can be regarded as advantageous financing instruments in terms of their costs which are lower than bank loans and of the possibility of monitoring the sources obtained, which is a corporate image contribution with positive effects on future loans (Danulețiu, 2010), completion of projects already started, accelerating local growth which will also lead to increased investor confidence in fixed income instruments. Such a financing system generates costs such as: approval of the preliminary announcement for initiating a public offer for municipal bond issuance, intermediary fee, processing fee for acceptance of bonds on the BVB market (1,200 Lei), fee for trading acceptance (0.001% of total face value), maintenance fee (0.05% of total face value but no more than 50,000 Lei) (www.bvb.ro).

Increasing the efficiency of local public expenditures makes it necessary for the authorities to target the investment that will generate positive effects upon the community and help achieve the objectives defined by development strategies. (Moșteanu, Lăcătuș, 2009)

Conclusions

This paper has aimed at drawing the attention of the Romanian local public authorities to a way of financing their investment objectives that should be performed in the health system via the use of municipal bonds. The relatively easy financing mechanism, not very high costs, and also increased interest of investors, individuals and legal entities in diversifying their portfolios, in reducing risks and ensuring constant incomes can be arguments in favour of using such instruments. It is believed that public authorities should consider this financing choice because neither the state budget nor even local budgets can support large-scale investment projects in the health sector. Investors' involvement can also be used as a good corporate image that the authorities can gain without too much effort and with long-term effects. All they have to do is require specialist advice, conduct market research to identify the attractiveness of instruments among investors, and thus generate added value for the local community and for the economy in its entirety.

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