



FIG. 1. PROPORTION OF NASH EQUILIBRIUM CHOICES

Conclusion

The predictions of the model are thus supported by experimental tests. The "good" equilibrium can be re-established as an equilibrium with sufficient meta-regulation of the SRO. The results thus indicate a continuing need for meta-regulation in these settings. This form of meta-regulation may be of a relatively light-handed nature, limited to verifying and sanctifying that the SRO implements its announced policies.

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THE ROLE OF MUNICIPAL BONDS IN PUBLIC GOVERNANCE AT THE LOCAL LEVEL: FOREIGN AND UKRAINIAN PRACTICES

The Decentralization Reform in Ukraine was designed for the purpose of providing local communities with additional administrative powers and possibilities. It was planned that local authorities would get the access to more complicated and advanced tools for mobilizing funds from all available sources in order to satisfy public demands and needs, develop regional infrastructure and provide stable long-term growth of the territory. In addition to exploiting own resources of local communities (such as local taxes and profits of municipal businesses) authorities may attract external resources from individuals, businesses and even foreign countries. The most commonly used instruments of raising money are bank loans, private and public partnership and issuing of securities.

The legislation of Ukraine allows local authorities (city councils) to issue securities in the form of municipal bonds. In general, municipal bonds are debt obligations in national or foreign currency issued by the Supreme Council of the Autonomous Republic of Crimea or the

city councils in order to finance the development budget of the territory. According to the law, these funds borrowed from the purchasers of these financial instruments should be used to create, develop or upgrade strategic objects of long-term use or objects that ensure the fulfillment of the tasks of authorities - to satisfy the interests of the population of the local communities.

The global municipal bond market is estimated to have the total value of USD 3.7 trillion ^[1]. There are municipal bonds of nearly 50 countries in current circulation on the global financial market. Nearly 60 percent of the overall value of municipal bonds in the world account for general obligation bonds, securities which are backed by the credit and taxing power of the issuing authority rather than the revenue from particular projects. The remaining 40 percent of municipal bonds are revenue bonds which finance a particular income-producing project – road, stadium or other facilities. These bonds usually have a longer maturity term (up to 20 or 30 years) and higher interest rates than general obligation bonds because they are secured only by revenues from one specified source - the tolls collected from vehicles using the road, the fees received for the rent of the stadium etc. There is some risk that project funded by an issue of revenue bonds will not bring enough revenues to pay it off in future and the investors won't get their money back.

In Ukraine there were 68 issues of municipal bonds worth more than USD 11 billion over the past 15 years ^[2]. The maturity term for these bonds can reach 5 years which makes it more attractive way to raise money for local authorities for a long period of time because banks and financial institutions rarely agree to grant a long-term loan for local governments. According to the law, the interest rate on municipal loans should exceed the discount rate of the National bank of Ukraine (which now equals 18 per cent annually) but usually it is still more advantageous than interest rates on loans given by commercial banks in Ukraine.

One of the greatest advantage of municipal bonds is their tax-exempt status. The interest rates on municipal bonds are usually lower compared to similar long-term financial instruments but tax preferences can make them more profitable than other securities. For example, in the USA municipal bonds issued in any location are exempt from federal, state and local income taxes if the bond owner lives in this location ^[3]. In Ukraine, since September, 2017, an income received by non-residents in the form of interest on municipal bonds is tax free as well as for the residents. Another advantage of municipal bonds lies in its relatively low administrative costs for the bonds' issuers: servicing of bonds' book-entry issue, the assignment of the international securities code, information and technical support don't require sizeable amounts of money.

Despite being usually secured by the state and considering to be risk-free, there are some major risk factors of municipal bonds to be taken into account, including inflation risks, market risks, interest rate risks and even credit risks (the risk of insolvency of local authorities). In the history of Ukraine there was only one case of default of municipal bond which took place in Odesa. In a few years, the bonds were paid off by the central government but it caused irreparable damage to the investment reputation of local authorities in this city.

The cases of bankruptcy can be observed even in such highly-developed countries as China and the USA. For example, every year Moody's Investors Service releases a report on more than 10,000 municipal bond issuers across the USA ^[4]. Between 1970 and 2007, there were an average of only 1.3 municipal bonds default cases per year, but after the global financial crisis the amount of bankruptcies quadrupled with the maximum of seven defaults in 2013. The total default amount in 2016 was estimated as USD 22.6 billion which is the highest volume in the USA during all observed period of time. All these cases took place in economically disadvantaged area of Puerto Rico.

In recent years the national economy of China demonstrates slowdown in economic growth, and at the same time established by law quota for issuance of traditional municipal bonds does not fulfill the need to maintain the stable growth of all regions. Trying to solve this

problem and raise funds, local authorities across the country asked help from Chinese local government financing vehicle (LGFV) institutions. In legal terms, LGFVs are not required to have the full compulsory financial security by local authorities. That's how local governments in China could accumulate an off-balance sheet debt of 40 trillion yuan (USD 5.8 trillion), indicating the possibility of new defaults ^[5]. This situation raises the concern among investors about the sustainability of China's debt and increases pressure on yuan.

In view of the above, municipal bonds can serve as a convenient instrument for local councils in Ukraine to raise funds but there are some risks and restrictions to be considered.

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E-COMMERCE MARKET DEVELOPMENT TRENDS IN UKRAINE AND IN THE WORLD

The rapid development of electronic systems and technologies and the expansion of Internet access have led to the emergence of the e-commerce market, which brought manufacturers and consumers, as well as suppliers and agents, together. Also it added flexibility and efficiency to business.

The research of this issue was carried out by such domestic and foreign scientists as: I. Boychuk, Gr. Dunkan, D. Kozye, A. Summer, A. Yudin, V. Zwass and others.

The first prototypes of "e-commerce" ("electronic commerce") appeared in the 1980s in the US as a result of the use of intercompany and corporate information networks for organizations to function.

A. Summer, Gr. Dunkan and V. Zwass define "e-commerce" as any form of business process, when interaction between the parties takes place electronically using Internet technologies [2, 3]. D. Kozye adds that e-commerce includes not only the purchase and sale of goods and services over the Internet for direct profit. This concept, in his opinion, also includes support for profit, creation of demand for goods and services, introduction of after-sales customer service, facilitating the interaction between business partners [4].

The foundation of legal regulation in the field of e-commerce was laid down by the UNCITRAL Model Law on Electronic Commerce, adopted in 1996 in the United States. In Europe the following agreements are used: the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data of 28 January 1981, the Declaration on Global E-Commerce of 20 May 1998, the Electronic Commerce Agreement of 26 March 2000, the Convention on Information and Legal Cooperation on Information Society Services of 4 October 2001.

In Ukraine, the legal and organizational framework of e-commerce activities is regulated by the Law of Ukraine "On E-Commerce" dated 9 September 2015, No. 675-VIII. This law establishes the procedure for the implementation of electronic transactions with the use of information and telecommunication systems and defines the rights and obligations of participants in e-commerce relationships. It has been stipulated in Article 3 of the Law of