## СЕКЦИЯ 6. ТЕХНОСФЕРА И МЕНЕДЖМЕНТ СПОРТА

**UDC 681** 

## THE EFFECTS OF FISCAL DECENTRALIZATION ON ECONOMIC DEVELOPMENT: LIMITATIONS OF EMPIRICAL RESEARCH

Ph.D. Student Kovalchuk A. School of Economics, Shandong University, China

In the dissertation analysis, we catch sight of fiscal decentralization (FD) to be popular area of modern research. The circumstantial evidence is that FD is suggested to have the potential to improve the performance of the public sector; the common evidence is that FD is considered to have the potential to foster economic development and institutional advancement. However, numerous studies adhere to the conventional argument that FD may raise economic efficiency in the public sector has a possibility not to be suitable in developing countries. Moreover, the conventional argument regarding functional revenue assignment and expenditure responsibilities has been challenged on repeated occasions.

The dissertation research brings up following matters of FD. First, Oates's decentralization hypothesis, FD contributes to economic growth? Second, productivity enhancement hypothesis, where business environment, technology advancement and institutional factors affected economic growth? Third, real population and the ratio of rural citizens in total population as the measures of human capital quality influence the economic growth after the onset of FD? Forth, the ability-to-pay approach, FD differently impacts economic growth in regions depending on the level of economic development. Fifth, convergence hypothesis, balance between expenditure and revenue on lower levels is positively related to economic growth prospects.

The study employs various regression techniques analysis to scrutiny these issues, reveals an up-to-date situation on FD in Ukraine. Controlling for other alongside reforms and multidimensionality of FD the research checks the relationship between FD and the regional economic growth in a panel of 24 regions in a unitary state for the period between 2011 and 2018. Additionally, a survey research method was utilized to collect supplementary questionnaire data. Most importantly, the findings provide evidence that FD has an ambiguous statistically significant impact on regional economic growth in Ukraine. We found out the alongside reforms on business environment as well as social factors, also showed ambiguous effect on regional economic growth; institutional factor caused by the vertical and horizontal fiscal imbalance does matter; technology advancement variable represented in the study appeared to be a weak explanation for reforms in Ukraine; local government

in "developed" regions have more tendency to fiscal autonomy and have more fiscal power than in "not- developed" regions. In Ukraine, local budget revenues are more centralized than expenditures, and local governments are heavily dependent upon intergovernmental transfers to finance local public goods and services, which is detrimental to economic development.

Thus, findings eventually depend on the methods applied, definitions, dependent and independent variables, etc. The slightly detrimental effect of FD indicators on gross regional product (GRP) may be explained by spontaneous decentralization reform accompanied by inefficiency and difficulties in capturing the results of tax decentralization, and because of a time lag between the implementation period and first gains on obtaining an economic effect in the form of an increase in economic growth. That might be an issue of the limitations of our research. Consequently, model uncertainty is arguably the most significant limitation of exploring data procedures. Besides, our study has several more limitations.

First of all, because we cannot obtain any proper data to capture technology advancement by local government, the regression estimations may be to some extent limited. Second, because of the relatively short period of FD launching (since 2014), we have a limited number of time points in the estimation. Third, the issue with the employment of fiscal measures for decentralization has to do primarily with the effects of transfers. This is a typical phenomenon in developing countries. The study supports the idea that conditional transfers are counted as central government expenditures and unconditional transfers are counted as local revenue. Fourth, in order to reinforce the research, we begun to recognize the necessity of accurate and consistent data supported by survey analysis, and the ascertaining of the effects of FD policies as perceived by local officials. So, we have utilized the supplementary data by using survey research, which has limitations due to small sample size and spatial interval in observations. The other weaknesses lay in the data output and additional restrictions in the statistical observations of individual regions. relatively short time-horizon, data availability, and restrictions on the variables, which data missing, and frequent substitutes in data-recording techniques make consistent data collection arguable.

Hence, FD is referred to more effective innovation policy, investment policy, technology advancement, transparency, and local governments' proficiency to meet local needs, adopt budgetary policies. But, in countries lacking the institutional development, legal systems, all these determinants are ruled out as factors to connect to economic performance. Thus, the degree of regional economic growth in Ukraine is hard to specify as a direct result of FD. Finally, having identified an ambiguous causal relationship, from a policy perspective, we assume that policymakers should be aware of the economic compromises when pushing ahead hasty administrative and fiscal reforms towards more decentralization. In addition, the following findings provide interest for the

future research in unitary developing countries in transitioning processes to decentralization. By that, further analysis is most desirable.

## References

1. Kovalchuk A. Fiscal decentralization and economic growth: The case of Ukraine. Journ. of Bus. Econ. Manag., 2020, vol. 8, no. 11, pp. 406–414.

УДК 796.028

## ПРОЕКТИРОВАНИЕ СИСТЕМЫ VAR ДЛЯ ФУТБОЛЬНОГО СТАДИОНА

Студент гр. 11902117 Абрамчук А.А. Белорусский национальный технический университет

В настоящее время футбол является самым популярным и массовым видом спорта в мире. Что касается правильных решений в спорте, то нельзя с абсолютной уверенностью сказать, что тот или иной судья всегда будет работать без ошибок. В таких случаях на помощь приходила система видеоповтора VAR.

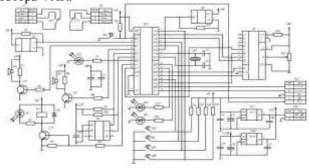


Рис. Принципиальная схема VAR

Система видеопомощи арбитрам сокращенно VAR или видеопомощник арбитра — это технология в футболе, которая позволяет главному судье принимать решения в спорные моменты матча с помощью видеоповторов. Она официально включена в правила игры в футбол в 2018 году после серии испытаний на международных турнирах. Система VAR позволяет просмотреть четыре типа спорных моментов и помочь судье принять правильное решение: нарушение правил при забивании голов, эпизоды с назначением пенальти, ошибочное предъявление красной карточки (эпизоды со второй желтой карточкой не учитываются) и ошибки в идентификации наказанных игроков (помогает определить, кто именно совершил фол). Таким образом, система видеопомощи позволяет официально выявить и подтвердить «очевидные ошибки» судьи во время матча.