

What are the Challenges to the Insolvency Law in the 21st Century?

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Abstract: *The paper is an essay about possible ways of further development of the insolvency law. If the law is expected to meet global current social needs, then the law will be subject to significant changes, along with the changing world. The digital revolution is also ahead of the insolvency law. It is difficult to anticipate all possible directions of changes; however, there are some areas where remarkable amendments will have to take place. The paper starts with a short description of the development of the insolvency law over ages. It is an introduction to the problem of possible changes in axiological assumptions of the law on insolvency in the 21st Century. The insolvency law is going to be changed due to the technological revolution in the 21st Century. In this respect, there are mentioned the idea of prediction of insolvency and the problem of the debtor's assets in the virtual world. Finally, the paper deals with the state debt restructuring under the conventions on external state debt.*

Key Words: *Insolvency Law; Future of the Insolvency Law; 21st Century; Axiology of Insolvency; Toxic Debt.*

Introduction

The law is constantly changing. In the past, it used to last unchanged for generations. Nowadays, along with the acceleration of social transformations, its period of validity is divided into years and months. Fundamental changes are made not only to the content of the law, but also – albeit in the longer term – to its axiological assumptions. In the era of the rapid technological revolution, many traditional legal constructions need to be repealed and rewritten. This also applies to the insolvency law. In the 21st Century, toxic debt seriously affects states, entrepreneurs and consumers¹ (however, the insolvency law does not regulate state bankruptcies; the suspension of payments by the state is a fact of life). The insolvency law is, therefore, a socially very important area of the law.

¹ See ADAMUS, R. *Toksyczny dług XXI wieku*. 1. wyd. Warszawa: Difin, 2020, p. 38. ISBN 978-83-8085-835-0.

However, the social meaning of the term “law” is likely to change in the future. The large part of the law may become a set of rules so detailed that its perception (in place of a human) will become the domain of artificial intelligence. The application of the law will be largely driven by new technologies. The general principles of the law will remain for human consciousness. The changes will affect not only the content of the law, but also the philosophy of its application. The law can become so deeply embedded in new technologies that traditional ways of applying it will change. The ethos of the legal profession will change. The future lawyer is probably a “jurist-engineer”.

1 Insolvency law from its origins to the present day

The insolvency law has travelled a long way from its inception to the present day. However, a real revolution in this area is still ahead of us.

The insolvency law had been created as a legal antidote against too much indebtedness of a human being, and later its organisations. Researcher of the anthropology of civilization, Professor David Graeber, in his brilliant work “Debt: The First 5,000 Years” (2011) makes an interesting hypothesis that the debt institution is older than the institution of commodity exchange or commodity-money exchange. A human being is, therefore, a *homo in debitum*. According to David Graeber, the language of the ancient monuments of the law and religion (including words such as “guilt”, “sin” and “redemption”) was largely derived from pre-formed debt relationships.

At the beginning of its development, the consequence of human’s indebtedness was “slavery to debts”.² Pursuant to the Section 117 of the

² Regarding the beginning of the development of the law in ancient civilizations, which in modern times was defined as the bankruptcy law: PRUSAK, B. red. *Ekonomiczne i prawne aspekty upadłości przedsiębiorstw*. 1. wyd. Warszawa: Difin, 2007, p. 16. ISBN 978-83-7251-768-5; DATTNER, L. *Sejsachteja (oddłużenie) w świetle prawa własności*. 1. wyd. Kraków: Towarzystwo Ekonomiczne, 1934, p. 3; ROSENBERG, J. M. *Geneza i rozwój postępowania upadłościowego w prawodawstwie rzymskim*. 1. wyd. Warszawa: Dzwignia, 1935. 18 p.; ROSENBERG, J. M. *Postępowanie upadłościowe w prawodawstwie rzymskim. Gazeta Sądowa*. 1996, nr 12, p. 8 and following. ISSN 1426-2037; KOLAŃCZYK, K. *Prawo rzymskie*. 2. wyd. Warszawa: Państwowe Wydawnictwo Naukowe, 1976, p. 158; KURYŁOWICZ, M. and A. WILIŃSKI. *Rzymskie prawo prywatne: Zarys wykładu*. 1. wyd. Kraków: Zakamycze, 2000, p. 79. ISBN 83-88551-70-1; WOŁODKIEWICZ, W. and M. ZABŁOCKA. *Prawo rzymskie: Instytucje*. 1. wyd. Warszawa: C. H. Beck, 1996, p. 309. ISBN 83-7110-303-4; and ADAMUS, R. *Judeochrześcijańska koncepcja darowania długów a „względy humanitarne” przy oddłużeniu osób fizycznych*. In: P. SOBCZYK and P. STECZKOWSKI, red. *Człowiek –*

Code of Hammurabi, if a citizen was burdened with a debt obligation and, therefore, he sold or gave into slavery his wife, daughter or son, then their freedom should be returned to them after three years. While the Mosaic Law permitted the debt bondage of the Hebrews, it did require a humane treatment of such persons. However, in the seventh year of captivity, the commandment was to grant the Hebrews personal freedom.³ The father's unpaid debt was the reason why he and his family were sold into slavery. The human being was then treated not only as a sovereign subject of the civil law relations, but also as their object, a thing to be sold. Over time, the law introduced probably less restrictive sanctions in the form of imprisonment for debts.⁴ The assets of the insolvent debtor were simply taken away by the creditors.⁵ With the passage of time, public auctions began to be conducted and the creditors were repaid from the sums collected in this way. Insolvency was the cause of infamy, shame, and sometimes the loss of public rights. From today's point of view, it can be said that the debtor suffered the consequences of his insolvency in the sphere of his property and humanity. Changes began with the invention of a legal personality. Contemporary legal culture aims to protect human dignity regardless of the economic condition. Protocol

Państwo – Kościół: Księga Jubileuszowa dedykowana Księdzu Profesorowi Arturowi Mezglewskiemu. 1. wyd. Lublin: Wydawnictwo Academicum, 2020, pp. 13-30. ISBN 978-83-62475-55-1.

³ See MALINOWSKI, G. Geneza Pięcioksięgu Mojżeszowego. *Theologica Wratislaviensia.* 2011, nr 6, pp. 67-90. ISSN 1734-4182; LIPIŃSKI, E. Rok Szabatowy. *Scripta Biblica et Orientalia.* 2009, nr 1, p. 18. ISSN 2081-8416; and GRZYBEK, S. Rok jubileuszowy w Piśmie Świętym. *Ruch Biblijny i Liturgiczny* [online]. 1974, vol. 27, nr 3, pp. 109-121 [cit. 2021-07-20]. ISSN 2391-8497. Available at: <https://doi.org/10.21906/rbl.3457>.

⁴ On the history of the development of the bankruptcy law in medieval Europe and later, see: BUBER, O. *Polskie prawo upadłościowe.* 1. wyd. Warszawa: F. Hoesick, 1936, p. 7; WOJCIECHOWSKI, R. „Debitor fugitivus” i początki prawa upadłościowego. In: P. JUREK, red. *Postępowanie egzekucyjne w dziejach.* 1. wyd. Wrocław: Kolonia Limited, 2007, pp. 49-55. ISBN 978-83-60631-04-1; WIĄZEK, P. Postępowanie egzekucyjne w średniowiecznej Polsce. In: P. JUREK, red. *Postępowanie egzekucyjne w dziejach.* 1. wyd. Wrocław: Kolonia Limited, 2007, p. 78. ISBN 978-83-60631-04-1; OWSIANKA, M. Postępowanie egzekucyjne w statutach Kazimierza Wielkiego. *Przegląd Prawa Egzekucyjnego.* 2011, nr 1, pp. 5-13. ISSN 1731-030X; and MACIEJEWSKI, T. *Prawo sądowe w ustawodawstwie miasta Gdańska w XVIII wieku.* 1. wyd. Wrocław: Zakład Narodowy im. Ossolińskich, 1984, pp. 84-87. Gdańskie Towarzystwo Naukowe, nr 80. ISBN 83-04-01916-7.

⁵ See ADAMUS, R. Zarys ogólny historii prawa upadłościowego w Polsce. In: E. KOZERSKA, M. MACIEJEWSKI and P. STEC, red. *Historia testis temporum, lux veritatis, vita memoriae, nuntia vetustatis: Księga Jubileuszowa dedykowana Profesorowi Włodzimierzowi Kaczorowskiemu.* 1. wyd. Opole: Wydawnictwo Uniwersytetu Opolskiego, 2015, pp. 609-626. ISBN 978-83-7395-661-2.

No. 4 (which entered into force on May 2, 1968) to the European Convention on Human Rights, signed in Rome on November 4, 1950 (entered into force on September 3, 1953), prohibits debt imprisonment. With the passage of time, insolvency began to be associated mainly with the level of the debtor's property.

2 Modern insolvency legislation

The German *Konkursordnung* (1877)⁶ and the American *Chapter 11 of the United States Bankruptcy Code* are, undoubtedly, the milestones in the modern history of the legislation development in insolvency.

Insolvency is a common phenomenon in the economy. The reasons for the insolvency of entrepreneurs can be divided into internal and external. Internal reasons may be as follows: management errors, outdated technologies in the face of technological progress, increasing competition, unsuccessful investment, product obsolescence, loss of strategic business partners. There are also criminal cases of deliberate bankruptcy by deliberate indebtedness and transferring assets to the detriment of creditors. External factors usually take the form of changes in the market conditions, including, for example, a decline in demand for goods or services.⁷

⁶ See UHLENBRUCK, W. Einhundert Jahre Konkursordnung. In: W. UHLENBRUCK, B. KLASMEYER and B. M. KÜBLER, Hrsg. *Einhundert Jahre Konkursordnung 1877 – 1977*. 1. Aufl. Köln: Carl Heymanns Verlag, 1977, pp. 3-34. ISBN 3-452-18357-2; ENDEMANN, W. *Das deutsche Konkursverfahren*. 1. Aufl. Leipzig: Fues, 1889, p. 6; Von WILMOWSKI, G. *Deutsche Reichs-Konkursordnung*. 6. umgearb. Aufl. Berlin: F. Vahlen, 1906. 788 p.; STELMACHOWSKI, B. *Polskie prawo upadłościowe a niemiecka ordynacja konkursowa na tle ustawodawstwa ziem zachodnich. Polski Proces Cywilny*. 1935, vol. 3, nr 5-6, pp. 129-142. ISSN 2082-1743; STELMACHOWSKI, B. *Zarys procedury cywilnej obowiązującej na ziemiach byłego zaboru pruskiego i na Górnym Śląsku I*. 1. wyd. Poznań: Fiszer i Majewski, 1923. 126 p.; and STELMACHOWSKI, B. *Prawo upadłościowe ziem zachodnich*. 1. wyd. Poznań: Wojewódzki Instytut Wydawniczy, 1932. 174 p.

⁷ According to a report prepared by the European Foundation for the Improvement of Living and Working Conditions (dated on December 8, 2009), the two main internal factors identified as the causes of bankruptcy are excessive indebtedness and failure to develop an effective strategy to compete in the market. In the context of the post-COVID-19 crisis, it is worth quoting the following diagnosis: "Before the financial crisis, loans were cheap, so companies could incur large amounts of debt at low cost; however, as the economic crisis broke out and their sales revenues fell, it became difficult for them to continue servicing their debts. Small and medium-sized enterprises (SMEs), which rely more on loans, seem to be the most vulnerable in this regard". Indebted entities are less responsive to emerging external crises.

The opinion that a good law on insolvency is indispensable reached the legislators' awareness. As a consequence, many countries periodically reform their insolvency laws to adapt them to changing needs.

Currently, due to the globalization, the insolvency law is under a strong unification tendency. Nevertheless, it is a phenomenon characteristic of many areas of the law. Globalization and common internationalization of economic activity are the factors influencing the unification of legal norms. The unification of the law takes place at the regional level, but also at the global level.⁸ The legislative recommendations developed by the United Nations Commission on International Trade Law (UNCITRAL) are of key importance.⁹ Within the European Union, the Restructuring Directive plays a key role. Consultations on the unification of the Second Insolvency Directive have been launched.¹⁰

Insolvency is a problem not only for entrepreneurs, but also for consumers. With the progress of civilization, the explosion of the culture of mass consumption, debt has become a kind of a social disease of the western civilization. Presently, consumer bankruptcy is regulated by a large number of the laws around the world, as it is an important social phenomenon in the credit-based consumption model. At the same time, it

⁸ See ADAMUS, R. Jednolite europejskie prawo restrukturyzacyjne de lege ferenda. In: J. KRUCZALAK-JANKOWSKA, red. *Wpływ europeizacji prawa na instytucje prawa handlowego*. 1. wyd. Warszawa: LexisNexis, 2013, pp. 451-460. ISBN 978-83-278-0151-7.

⁹ See UNCITRAL *Legislative Guide on Insolvency Law: Part One: Designing the Key Objectives and Structure of an Effective and Efficient Insolvency Law*. 1st ed. New York: United Nations, 2005, pp. 9-35. ISBN 92-1-133736-4; *UNCITRAL Legislative Guide on Insolvency Law: Part Two: Core Provisions for an Effective and Efficient Insolvency Law*. 1st ed. New York: United Nations, 2005, pp. 37-286. ISBN 92-1-133736-4; *UNCITRAL Legislative Guide on Insolvency Law: Part Three: Treatment of Enterprise Groups in Insolvency* [online]. 1st ed. New York: United Nations, 2012. 116 p. [cit. 2021-07-20]. ISBN 978-92-1-055716-0. Available at: <https://doi.org/10.18356/c9ed4925-en>; ADAMUS, R. Światowe standardy prawa upadłościowego a interesy banku jako wierzyciela upadłego. *Monitor Prawa Bankowego*. 2013, nr 5, pp. 61-74. ISSN 2081-9021; and ADAMUS, R. Prawo kontraktów a prawo upadłościowe według rekomendacji UNCITRAL. *Rejent*. 2013, nr 6, pp. 9-26. ISSN 1230-669X.

¹⁰ See ADAMUS, R., J. KRUCZALAK-JANKOWSKA and B. GROELE. Insolvency Law – Inception Impact Assessments – Opinion. In: *European Commission* [online]. 2020-12-09, 4 p. [cit. 2021-07-20]. Available at: https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12592-Insolvency-laws-increasing-convergence-of-national-laws-to-encourage-cross-border-investment/F1305083_en.

is the subject of many theoretical dilemmas as to the premises of debt relief, effects of debt relief, recidivism of insolvency, etc.¹¹

Modern legislation should base the procedure as broadly as possible on new technologies in the field of communication between participants in the proceedings and the court (to speed up the procedure). New technologies should be used to inform about the initiated proceedings and their results.

Modern legislation allows insolvency procedures to be conducted only under the supervision of a court. This approach improves the dynamics of the procedure. Increasing importance is attached to the benefits of a quick return for creditors.

The use of artificial intelligence to predict insolvency will, undoubtedly, lead to redefining the basis for the restructuring of the debtor or his/her bankruptcy.

¹¹ See SHUCHMAN, Ph. An Attempt at a “Philosophy of Bankruptcy”. *UCLA Law Review*. 1973, no. 21, pp. 403-476. ISSN 0041-5650; ADLER, B., B. POLAK and A. SCHWARTZ. Regulating Consumer Bankruptcy: A Theoretical Inquiry. *The Journal of Legal Studies* [online]. 2000, vol. 29, no. 2, p. 595 [cit. 2021-07-20]. ISSN 1537-5366. Available at: <https://doi.org/10.1086/468086>; NIEMI-KIESILÄINEN, J. Consumer Bankruptcy in Comparison: Do We Cure a Market Failure or a Social Problem. *Osgoode Hall Law Journal*. 1999, vol. 37, no. 1-2, p. 474. ISSN 0030-6185; MANN, R. J. and K. PORTER. Saving up for Bankruptcy. *The Georgetown Law Journal* [online]. 2010, vol. 98, no. 2, pp. 289-339 [cit. 2021-07-20]. ISSN 0016-8092. Available at: <https://doi.org/10.2139/ssrn.1540216>; HULS, N. American Influences on European Consumer Bankruptcy Law. *Journal of Consumer Policy* [online]. 1992, vol. 15, no. 2, pp. 125-142 [cit. 2021-07-20]. ISSN 1573-0700. Available at: <https://doi.org/10.1007/bf01352132>; FOOHEY, P. A New Deal for Debtors: Providing Procedural Justice in Consumer Bankruptcy. *Boston College Law Review*. 2019, vol. 60, no. 8, p. 2298. ISSN 0161-6587; HALLINAN, Ch. G. The “Fresh Start” Policy in Consumer Bankruptcy: A Historical Inventory and an Interpretive Theory. *University of Richmond Law Review*. 1986, vol. 21, no. 1, p. 96 and following. ISSN 0566-2389; RENNER, L. G. Debt Settlement: New Illinois Law Provides Significant Consumer Relief. *Loyola Consumer Law Review*. 2011, vol. 23, no. 3, pp. 410-433. ISSN 1530-5449; ER, M. The German Consumer Bankruptcy Law and Moral Hazard – The Case of Indebted Immigrants. *Journal of Financial Regulation and Compliance* [online]. 2019, vol. 28, no. 2, pp. 161-181 [cit. 2021-07-20]. ISSN 1740-0279. Available at: <https://doi.org/10.1108/jfrc-04-2018-0064>; ADAMUS, R. Importance of Payment Morality in the Polish Bankruptcy Law. *Journal of Business Law and Ethics* [online]. 2019, vol. 7, no. 1-2, pp. 9-15 [cit. 2021-07-20]. ISSN 2372-4870. Available at: https://doi.org/10.15640/jble.v7n1_2a2; ADAMUS, R. Modes of Debt Relief for Consumers in Poland. *Economic Problems and Legal Practice*. 2019, vol. 15, no. 6, pp. 137-142. ISSN 2541-8025; ADAMUS, R. Consumer Arrangement under the Bankruptcy Law Act in Poland. *Sociopolitical Sciences*. 2019, no. 6, pp. 76-81. ISSN 2223-0092; and ADAMUS, R. Debt Relief through Creditors’ Repayment Plan in Poland. *Economic Problems and Legal Practice*. 2019, vol. 15, no. 6, pp. 130-136. ISSN 2541-8025.

3 Probable directions of transformations of the insolvency law in the 21st Century

3.1 Insolvency law and social and political changes in the world

Geopolitical phenomena such as the relocation of the global economic centre from the Atlantic to the Pacific (to Asia) will certainly trigger further tectonic movements in the economies of many countries. This can cause many new global economic crises. This will also result in searching for more effective legal norms in the field of insolvency.

The insolvency law should be prepared for the impoverishment of many societies. Private ownership of consumer goods such as a flat or a car is becoming scarcer. Most of people can only rent such goods. Procedures based on the liquidation of the debtor's property will become less important.

The insolvency law does not depend on a democracy system, but has strong connections with a free market economy. The insolvency law is, after all, quite independent of the political system. It is needed in the both democratic and authoritarian states. The insolvency law for entrepreneurs works well in free market economy regimes. In a centrally planned economy, the insolvency law is much less useful. Possible changes to the political systems (crisis of a "liberal democracy") will not have a major impact on the law of insolvency. Nevertheless, the state power is necessary to implement the insolvency law. For many reasons, the insolvency proceedings are not a private activity.

3.2 Possible changes in axiological assumptions of the law on insolvency

What is the future for the insolvency law? Global standards for the insolvency law purposes have been – more or less – unified. What are they? Maximizing the satisfaction of creditors, possible restructuring of the debtor, debt relief for natural persons, protection of the economic environment.

Experiences with the financial crisis by the end of the first decade of the 21st Century and the COVID-19 pandemics are somehow changing the way of thinking about bankruptcy. This applies to several dimensions. The freezing of the very strong obligation to file for bankruptcy in year 2020 for the duration of the pandemics reopened a debate about the importance of the public interest in the bankruptcy proceedings. What is of

a greater importance: the advantage of the national economy or the particular advantages of creditors of a given debtor? The dilemma as to whether an insolvency law should take account of the wider context is not new. This applies in particular to the regulation of bank failures.¹² It is not about saving assets to satisfy creditors. It is more important to ensure the consistency of the entire banking system.

The pandemic has highlighted the importance of flexible procedures in the insolvency law. Should the insolvency law be more informal?

The insolvency law is not only one of the main tools of social engineering. Although in the western countries there is a very disturbing phenomenon of impoverishing societies, shrinking middle class, real decline in family income, the bankruptcy law has modest tools to counteract this. The debt relief is not a ticket to the world of the rich. However, the debt relief should remain a useful tool in the fight against economic exclusion.

3.3 Consumer debt relief in a large scale

The further development of the consumer insolvency law should be forecasted. The tendency to increasingly deeply indebted households, even in

¹² See BUSCH, D. and M. B. J. van RIJN. Towards Single Supervision and Resolution of Systemically Important Non-bank Financial Institutions in the European Union. *European Business Organization Law Review* [online]. 2018, vol. 19, no. 2, pp. 301-363 [cit. 2021-07-20]. ISSN 1741-6205. Available at: <https://doi.org/10.1007/s40804-018-0107-5>; GORTSOS, Ch. V. *The Evolution of European (EU) Banking Law under the Influence of (Public) International Banking Law: A Comprehensive Overview* [Research Study] [online]. 1st ed. Prague: Charles University in Prague, Faculty of Law, 2020, pp. 211-236 [cit. 2021-07-20]. Available at: <https://doi.org/10.2139/ssrn.3334493>; HAENTJENS, M. The Changing Role of the Judiciary in Insolvency: The Case of Bank Resolution. In: R. PARRY and P. J. OMAR, eds. *Banking and Financial Insolvencies: The European Regulatory Framework*. 1st ed. Nottingham; Paris: INSOL Europe, 2016, pp. 13-32. ISBN 978-0-9931897-2-2; HERINCKX, Y. Judicial Protection in the Single Resolution Mechanism. In: R. Houben and W. Vandenberghe, eds. *The Single Resolution Mechanism* [online]. 1st ed. Cambridge: Intersentia, 2017, pp. 77-119 [cit. 2021-07-20]. ISBN 978-1-78068-735-3. Available at: <https://doi.org/10.1017/9781780687353.005>; LEHMANN, M. Bail-in and Private International Law: How to Make Bank Resolution Measures Effective across Borders. *International & Comparative Law Quarterly* [online]. 2017, vol. 66, no. 1, pp. 107-142 [cit. 2021-07-20]. ISSN 1471-6895. Available at: <https://doi.org/10.1017/s0020589316000555>; RINGE, W.-G. Bank Bail-in between Liquidity and Solvency. *The American Bankruptcy Law Journal*. 2018, vol. 92, no. 3, pp. 299-333. ISSN 0027-9048; and KOWALSKI, A. Etyczne aspekty przymusowej restrukturyzacji banków. In: *Związek Banków Polskich* [online]. 2018, pp. 1-3 [cit. 2021-07-20]. Available at: https://zbp.pl/getmedia/07765d5e-7c8c-4b11-850d-64f46b226c76/Etyczne_aspekty_przymusowej_restrukturyzacji_bankow.pdf.

rich, economically developed countries, is an increasingly serious social problem.¹³

In the 21st Century, the cult of greedy consumerism has particularly strongly developed. Modern society is a “credit society”. There is a very simple relationship between the rise in insolvency and the rise in debt.¹⁴

The impoverishment of the greater part of society is likely to proceed. The serious danger lurking for the labour market is clearly pointed out by Professor Carl Benedikt Frey from the Oxford University in his 2019 book “The Technology Trap: Capital, Labor, and Power in the Age of Automation”. No one – on a global or local scale – effectively manages the changes resulting from the information technologies revolution in the context of future human labour needs. Probably the process of dying out professions will be faster than the development of new ones.

3.4 Insolvency law and technological revolution in the 21st Century

3.4.1 Prediction of insolvency

The 21st Century is, undoubtedly, the time of the advanced technological revolution; a revolution that will have an incredibly deep impact on the all mankind. This revolution is taking place in an extremely dynamic way. There are several important factors that indicate the changes taking place. First, it should be mentioned the ability to collect and to store massive amounts of data. It is about both the level of detail and scope of data. Also noteworthy is the fact that data is commonly produced and easily collected. The ability to quickly analyse the collected data becomes unprecedented. It exceeds the capabilities of a man (groups of people) and his/her existing, traditional tools. Artificial intelligence exceeds the abilities of the human mind. Artificial intelligence can make a more accurate analysis of the economic future than the human analysis.

The economic future of a human being or of an entrepreneur is always unknown. It is impossible to predict death in an accident, lightning strike, natural catastrophe, etc. However, in the event of unexpected events, thanks to the artificial intelligence, it will be possible to imple-

¹³ See ANIOŁA, P. and Z. GOŁAŚ. Zróżnicowanie poziomu i struktury zadłużenia gospodarstw domowych w krajach Unii Europejskiej. *Studia Europejskie*. 2011, nr 3, pp. 97-111. ISSN 1428-149X.

¹⁴ See WARREN, E. The Bankruptcy Crisis. *Indiana Law Journal*. 1998, vol. 73, no. 4, p. 1080. ISSN 0019-6665.

ment the most optimal procedures. Thanks to the artificial intelligence, estimating future risk will become easier and more accurate. The accumulated unimaginable amounts about the debtor (what sources of income he/she has, what expenses he/she has, how often he/she travels, what bankruptcies he/she has, how much he/she works, etc.) with the data from his/her environment allow for a relatively precise design of his/her economic future. It is similar in the case of entrepreneurs, but the estimation is more difficult.

The technological revolution will not eliminate the need for an insolvency law. Nevertheless, it will significantly affect its shape and functions.

A phenomenon of using artificial intelligence to predict the economic future with simulations of the consequences, of even the most improbable, will change the form of the insolvency law. Contemporary research into the causes of insolvency shows that very rarely insolvency is sudden and unexpected. Insolvency is usually a process that arises gradually. Insolvency can have internal or external causes. The use of advanced early warning mechanisms, based on the analysis of internal and external premises, will allow for easier estimation of insolvency.

The importance of early warning of insolvency and the instruments available for it are highlighted, among others, by attention of the so-called Restructuring Directive. Precise information technologies tools and well-chosen algorithms will make it possible to alert earlier the debtor about the bad economic situation of the debtor long earlier. This will enable the restructuring to be implemented quickly. Accounting systems can automatically generate analytical materials necessary to open the restructuring proceedings. A perfect state will probably never be created that will eliminate the need for bankruptcy. Nevertheless, the restructuring proceedings can greatly cannibalize the bankruptcy proceedings.

3.4.2 Insolvency and the debtor's assets in the virtual world

The bankruptcy law – like other branches of the law – should adjust its content to the reality of the virtual world. Increasingly, the debtors' assets are virtual goods, including, for example, internet cryptocurrencies. The law should assist in the identification, management and decommissioning of such assets. Currently, the ownership of cryptocurrencies resembles the property of the goldsmiths of tsarist coins buried in the field

by the debtor. This is just one example of the need to change backward areas. The insolvency law must, therefore, keep up with the changing reality.

3.5 State debt restructuring – insolvency conventions on external state debt?

A sign of the times in the 21st Century is, therefore, the emergence of a huge budget deficit as well as the growth of extra-budgetary expenditure in many countries of the world already burdened with a large public debt accumulated in the previous years. Currently, not only countries with emerging economies, but also economically developed countries are exposed to the spectre of insolvency.

In year 2010, Jacques Attali's book "The West: 10 Years before Total Bankruptcy?"¹⁵ was published. But the West continues to pay its obligations. In turn, Carmen M. Reinhart and Kenneth S. Rogoff in the monograph "This Time is Different: Eight Centuries of Financial Folly", published by the Princeton University Press in Princeton in year 2009, will cool the emotions a bit by arguing that the bankruptcies of countries that will occur in the 21st Century will not be anything new in the economic history of the world or anything extraordinary.

It can be conventionally assumed that a toxic public debt is a debt above the safety limits of a public debt established on the basis of the Maastricht Treaty as well as the indications of the International Monetary Fund and the World Bank. They are as follows: first, the public debt of the state should not exceed 60 % of the Gross Domestic Product (hereinafter referred to as the "GDP"); second, a country's foreign debt should not exceed 30 % of the GDP; third, the ratio of interest paid on public debt to budget revenues should not exceed 10 %; fourth, the budget deficit should not exceed 3 % of the GDP.¹⁶

¹⁵ In Poland published as ATTALI, J. *Zachód: 10 lat przed totalnym bankructwem?*. 1. wyd. Warszawa: Wydawnictwo Studio Emka, 2010. 255 p. ISBN 978-83-60652-85-5.

¹⁶ See KARAZIJIENĚ, Ž. Critical Analysis of Public Debt and Tendencies of Its Management. *Public Policy and Administration* [online]. 2015, vol. 14, no. 2, pp. 194-208 [cit. 2021-07-20]. ISSN 2029-2872. Available at: <https://doi.org/10.13165/vpa-15-14-2-03>; LANE, Ph. R. The European Sovereign Debt Crisis. *The Journal of Economic Perspectives* [online]. 2012, vol. 26, no. 3, pp. 49-68 [cit. 2021-07-20]. ISSN 1944-7965. Available at: <https://doi.org/10.1257/jep.26.3.49>; HARTWIG LOJSCH, D., M. RODRÍGUEZ-VIVES and M. SLA-VÍK. *The Size and Composition of Government Debt in the Euro Area*. 1st ed. Frankfurt am Main: European Central Bank, 2011. 45 p. Occasional Paper Series, no. 132. ISSN 1607-1484; PACH, J. Implikacje długu publicznego dla polskiej gospodarki XXI wieku. *Prace*

In the 21st Century, there may develop laws (in the format of international conventions) devoted to the restructuring of the states. Countries generally have internal liabilities, e.g. due to issued bonds as well as external debts to other countries and international financial institutions. It seems that foreign indebtedness of the states could be subject to restructuring principles, similar to the restructuring of entrepreneurs' debts.

An informal body bringing together representatives of a dozen or so lending countries is the so-called Paris Club. Since year 1956, the Paris Club held talks on the restructuring of public debt with dozens of countries over amounts amounting to hundreds of billions of USD.¹⁷

Jacques Attali in his book "The West: 10 Years before Total Bankruptcy?" came to the conclusion that there are only a few ways out of the state of excessive indebtedness: first, by increasing taxes and other public levies; second, by reducing expenses; third, through economic development (by increasing the GDP); fourth, by reducing interest rates, which will ensure cheaper debt service; fifth, by increasing inflation; sixth, by obtaining foreign aid. Of course, some options can be combined with each other. These are the "soft" versions of the action. Further, Jacques Attali mentions two remedial methods of the "hard" type: seventh, a victorious and cheap war can be a way out of toxic debt; and eighth, a less drastic solution is also possible, such as refusing payments to creditors.

One can imagine rules for the debt relief of the states with the consent of creditors involved in such quasi-proceedings.

Conclusions

Technological progress will bring even greater use of new techniques, including artificial intelligence, in the area of the insolvency proceedings.

Komisji Geografii Przemysłu Polskiego Towarzystwa Geograficznego [online]. 2015, vol. 29, nr 1, pp. 126-137 [cit. 2021-07-20]. ISSN 2080-1653. Available at: <https://doi.org/10.24917/20801653.291.8>; PTAK, P. Proces wyrastania z długu przez Europę w perspektywie krótko- i długookresowej. *Studia Ekonomiczne*. 2018, nr 347, pp. 57-68. ISSN 2083-8611. Exceeding the debt alarm states affects not only poor countries (euphemistically referred to as the "emerging economies"), but also the rich. Nevertheless, just before the pandemics, economist Olivier Blanchard announced a theory that boiled down to the claim that countries burdened with heavy public debt could incur even more debt than previously thought. Olivier Blanchard believes that with falling bond interest rates loans are cheap and the borrowing economies grow. Such a tendency, observed in a long-term sequence, allows – according to this theory – a relatively safe indebtedness of the state.

¹⁷ See STACHOWIAK, P. Umowa o redukcji zadłużenia Polski wobec Klubu Paryskiego. *Acta Universitatis Lodzianensis: Folia Oeconomica*. 2002, nr 158, pp. 139-140. ISSN 0208-6018.

It's a natural process. The law would have to adapt to the changing reality. Many institutions will undergo a major overhaul. In many cases, the loss of liquidity can be predicted well in advance. It will certainly open up a discussion on the axiology of the premises of insolvency. Along with the change in the mentality of societies, it is possible to change the assumptions of the insolvency law. The ability to quickly and reliably predict liquidity problems may trigger a renaissance of interest in liability restructuring.

Globalization of the principles of the insolvency law should be expected, but also its great diversity. Certainly, there will be a discussion as to the basis for the debt relief for natural persons (cancellation of unmet liabilities). There will be a question about the bankruptcy capacity of artificial intelligence, as long as it would be legally empowered.

Global corporations have budgets that exceed those of many smaller nations. Global corporations can use the insolvency facility; currently, mainly as part of the bankruptcy capacity of its individual members; soon, however, within the entire corporation. There is an opportunity to use the experience of big business to restructure the state liabilities.

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