

A STATISTICAL ANALYSIS OF THE EFFICIENCY OF ASSET FORFEITURE PROCEEDINGS IN THE CZECH REPUBLIC

Markéta Arltová – Luboš Smrčka

Abstract

The study concerns the problem of enforceability of receivables in asset forfeiture proceedings in the Czech Republic. It analyses the data of individual distrainer's offices in relation to regions and the specific parameters thereof (median wages, unemployment et al.) and also in terms of the relationship between distrainer's offices and the type of enforced receivables (bank receivable, telephone operators and so forth). These data are subjected to statistical analyses and the results thereof are further analysed. All data on debtors, creditors and distrainer's offices are anonymous, as these are data which are confidential and are not usually released. The individual distrainer's offices which have participated in the survey in progress and the creditors who have enabled usage of data are therefore stated in codes.

This is a survey which has not yet been undertaken in the Czech Republic and which has therefore not been published owing to the fact that, since the coming into effect of the Asset Forfeiture Code (Act No. 120/2001 Coll., on court distrainers and asset forfeiture activities and on the amendment of other acts), no relevant data has been published regarding the degree to which the system as a whole is successful for creditors, what its costs are and whether any fundamental differences in enforceability of receivables occur as regards to their type, region of the debtor's residence or the distrainer's office which enforces the receivable.

Key words: asset forfeiture; Asset Forfeiture Code; regression analysis; statistics

JEL Code: G30, G33, K29

Basic information on research

Together with insolvency proceedings, asset forfeiture proceedings are among the methods for enforcing receivables, and from the side of the state they are fixed by a special

act¹. They enter in the event of inability or unwillingness to repay and when the supply of other legal procedures has been exhausted. In the bounds of an organized method, both proceedings enable enforcement of a receivable by seizing the debtor's property, monetizing it, and (following payment of expenses) transferring the yields into the hands of the creditor or creditors. The very existence of special acts (which have, moreover, been supplemented by numerous other auxiliary acts, a number of decrees and other legislative steps) indicates the significance of these proceedings which is given to them in the system of state power and regulation of behaviour.

Historically, this is a comprehensive summary of the experience of several thousand years, in which a debtor's inability to repay was the cause of what was frequently extremely violent and often cruel settlement (Coleman, 1999 and Francis, 1985).

Insolvency proceedings are a mechanism for collective enforcement, when regulation arises due to the number of creditors, with the aim of achieving their proportional satisfaction. Solution of the "common pool" situation is at issue, for the legislator observes the necessity of preventing application of the "first takes all" principle, which by the logic of matter would lead to a fight among creditors for "first place" during enforcement² (Richter 2008). There are not a lot of pieces information available about insolvency proceedings and their results because the data collection is not ideal. Further information about insolvency proceedings could be found in Čámská (2013), Kislingerová and Schönfeld (2014) or Svobodová (2013). These sources are primarily focused on the number of entrepreneurial insolvency proceedings, their development, regional proportionality, subject size or affection of industry branches. Researches about recovery rates of receivables have not yet been clearly published in the Czech Republic. Insolvency proceedings are a mechanism for collective enforcement and research is especially done in the area of entrepreneurial entities. Exceptions are presented by Paseková and Bařinová (2013) or Paseková, Crhová and Bařinová (2015) who focused on the cases of non-entrepreneurial entities and also the level of recovery rates. The weakness of these researches are in regional focus and for our comparison it is focused on the collective enforcement. On the other hand asset forfeiture proceedings are an act of individual enforcement; in the logic of matter it thus precedes prospective insolvency

¹In the environment of the Czech Republic, this concerns Act No. 182/2006 Coll. on bankruptcy and its settlement methods (Insolvency Act) and Act No. 120/2001 Coll. on court distrainers and seizure activity (Asset forfeiture Code) and on changes of other acts.

²It is, however, a question which is handled by broad theoretical literature – the extent to which application of such an essentially market principle is truly damaging and the extent to which it would lead to higher general inefficiency than with the regulated collective method. We will not, however, realize this discussion here, for it concerns our problem only to a limited extent.

proceedings(Smrčka, 2012).The relationship between both types of proceedings is specific par excellence, and it applies also here that the harmonization thereof and their reciprocal succession is the subject of numerous reflections. The standard solution is the factual nullity of steps implemented in the area of individual enforcement the moment insolvency proceedings are commenced, whereas funds previously expended by the creditor in individual enforcement are not in any way prioritized in the bounds of insolvency proceedings³.

The survey here described stems from the hypothesis that, in the bounds of insolvency proceedings, a crucial aspect for the assessment of the efficiency thereof is primarily data on enforced debt, which we state as a percentage of the required (and verified) receivable, including costs thereof (however, upon deduction of expenses for asset seizure and the distrainer's fee.We pass over the time aspect, i.e. the time in which the creditor claims a part of the receivable. By this we do not mean that time would not be a fundamental aspect of asset forfeiture proceedings, although the matter would become unusually complex⁴.

The study is based on a series of basic hypotheses which we attempt to verify or refute with the aid of data collection and subsequent mathematical analyses thereof. The above-mentioned hypotheses can be expressed in the following manner:

- The efficiency of enforcement is dependent on the debtor's region of residence or operation.
- The main aspects of region definition in this connection are the median wage level and the level of standard unemployment.
- These two data determine the "debtor utilization percentage" in the region, which is statistical data and need not necessarily fit all specific asset forfeiture proceedings.

The survey described in the study further confronts certain specific asset forfeiture proceeding parameters. First and foremost, we take it as proven that the dispensation of ruling (the actual seizure of the assets of the liable) as such is entrusted to individual distrainer offices which operate throughout the territory of the state and vary, often significantly, in their results.This aspect is significant, and this is why further defined model cases work with data with the awareness of the necessity of defining proportions of individual distrainers' offices in the

³This solution is indeed standard, although it is a question whether it is at the same time practical, and we can most certainly cast into doubt its "correctness" from the perspective of fixing relationships between the creditor and debtor and among creditors reciprocally. Even here, however, we remain only in this general assertion, for it is a problem related only peripherally with the subject of this study.

⁴We are aware of the problem with the price of money in time. In view of the fact, however, that satisfaction of receivables usually occurs gradually in asset forfeiture proceedings and often over a time period of many years, ascertainment of the efficiency of enforcement whilst taking into account the time aspect would be very demanding. For the calculations to follow, we thus anticipate that the price of money in time is nil and at the same time that periods of time and the course of enforcement are identical in individual cases.

model sample.

Furthermore, it was necessary to confront the fact that not even receivables are a homogenous entity as they have various conditions, size, manner of emergence and other specific attributes, which has to be considered to be a substantial circumstance when assessing their “utilization percentage”. In reality, it applies that various types of receivables tend towards various social groups of inhabitants, which is a fact that creates an unusually complex analytical environment⁵. This aspect will later be explained when describing individual samples.

The first results of the analyses prove reciprocal relationships both in the issue of the debtor’s region of residence as well as in the reciprocal differences in the successfulness of individual distrainer’s offices. In the second case, there are differences of tens of percent (measured by creditor yield) in the same characteristic of enforced receivables. For instance, in the case of enforced instalment company receivables, the enforced sum fluctuates after 24 months as of the commencement of asset forfeiture proceedings, from almost seven percent to 31 percent. Among telephone operator receivables, enforcement after a six-year duration of asset forfeiture is in the vicinity of 25 to 83 percent of the total sum (once again according to the commissioned distrainer’s office). Other cross-analyses then show dramatic differences according to the region of the debtor’s residence, whilst one can (aside from the fact of markedly variant productivity of enforcement among distrainer’s offices) also form certain conclusions regarding the influence of the unemployment level and median wages on the efficiency of enforcement.

Primarily data collection was and remains the foundation for the entire survey, for the necessary results of asset forfeiture proceedings are not publically accessible⁶ – only the pending number and certain other, less significant data are known. Firstly, distrainer’s offices were approached, and then large creditors from the ranks of banking houses, instalment companies, leasing companies, insurers, transport companies, network suppliers, telephone

⁵It is possible only briefly to formulate several examples – enforcement of receivables from fines for “illegal riding” in public transportation will tend towards groups of inhabitants thoroughly divergent from receivables having arisen from instalment sales, and these will diverge from receivables the foundation of which is in standard credits or which are even based on a mortgage. In all of these cases, it can effectively be assumed that the liable will fall into quite divergent societal social groups. In no way is anything asserted thereby as to their real ability to repay and it bears absolutely no testimony as to the willingness to pay a receivable in individual specific cases.

⁶The reasons for this fact would deserve an independent analysis, but this would focus more on researching the political background and political decisions than on national-economy research. The fact is that there is a certain specific aversion on the parts of numerous professional groups to making information on asset forfeiture proceedings and insolvency proceeding publically available. It would be possible to write a series of texts on the reasons for this aversion, for it is an unusually patulous and multi-layered theme. Nevertheless, it applies also here that it is not a theme directly related to the issues handled in this work.

operators and other companies. They were asked primarily for data relating to debtors – non-entrepreneurial natural persons, for cases of asset forfeiture against the business sphere are specific and the count thereof is, moreover, relatively low. In view of the limited willingness of the above-mentioned subjects to cooperate in data collection, it was therefore highly probable that data on asset forfeiture against business and corporate bodies would not have predicative capability in regional classification. For the purposes of further release all data have, been made anonymous – which was a condition both from the sides of distrainer’s offices and from the sides of creditors. Without fulfilment of this condition it would have been impossible to commence cooperation with even a limited amount of approached institutions and subjects.

From the data documents gained, we subsequently selected files which underwent testing as to their homogeneity and, at the same time, their adequate predicative capability – in this sense it can be said that approx. thirty percent of available data were used for the presented analyses, whereas certain above-mentioned conditions were not fulfilled in other groups. It was, for instance, quite standard that data on a specific distrainer’s office covered only a very small section of regions in the Czech Republic in a statistically appropriate manner, whereas there was no data from the remaining regions, or the amounts thereof were so small that they could not be considered valid and predicative. In this sense, data from creditors (with the exception of transport companies) transpired to be more appropriate; here, however, the survey was often faced with the problem of differences between court and administrative regions in the Czech Republic⁷.

Then the following was asserted in the first phase of data processing: The first results of the analyses prove reciprocal relationships both in the issue of the debtor’s region of residence as well as in the reciprocal differences in the successfulness of individual distrainer’s offices. In the second case, there are differences of tens of percent (measured by creditor yield) within the same characteristic of enforced receivables. For instance, in the case of enforced instalment company receivables, the enforced sum fluctuates (after 24 months as of the commencement of asset forfeiture proceedings) from almost 7 percent to 31 percent.

Among telephone operator receivables, enforcement after a six-year duration of asset forfeiture ranges between 25 and 83 percent of the total sum (once again according to the commissioned asset forfeiture authority). Other cross-analyses then show dramatic differences

⁷In view of the fact that the number of regional courts is lower than the number of administrative regions, certain court have branches in other regions, possibly only filing rooms, or are not represented in an administrative region at all. Usually it was possible to identify this problem thanks to district division, but not always.

according to the region of the debtor's residence, whilst one can (aside from the fact of markedly variant enforcement productivity among asset forfeiture authorities) also form certain conclusions regarding the influence of the unemployment level and average salary on the efficiency of enforcement.

Certain values and data from the previous paragraph, however, were not used for final analyses precisely due to the above-mentioned reasons of insufficient statistical plausibility.

1 Characteristics of samples and environment

As explained above, the characteristic of individual samples was a fundamental moment of the entire study. Three samples of cases were defined for statistical analysis. These were termed Receivables 1, Receivables 2 and finally Receivables 3. The characteristic of the economic environment in individual regions (administrative regions) was a further significant step. As we have mentioned, this was given primarily by two parameters – the level of unemployment and median wage.

1.1 The characteristic of samples of receivables

Three groups of receivables were thus primarily defined:

Receivables 1: These were receivables which arose prior to 2012, in which asset forfeiture was commenced in 2012. The state of enforcement is recorded as at 1 March 2015 (or before if the asset seizure was completed). If the proceedings were suspended for uncollectibility, these proceedings have been contained with 0% value in the sample. Data originating from three distrainer's offices are at issue. Debtors (the liable) can be defined as non-entrepreneurial natural persons. The creditors (beneficiaries) are bank institutions, whereas the most substantial mass of receivables originate from two beneficiaries; the third is represented only marginally. The usual receivable amount, according to the asset forfeiture title (including costs, although not including the distrainer's costs and fee), is in the vicinity of CZK 30 – 80 thousand. The total number of asset forfeiture proceedings in this sample reached the number 24,920; the average cases per one administrative region is 1,780 cases; the real dispersion in numbers of cases reaches values of 207 – 3,129 cases. The number of asset forfeiture proceedings suspended to 1. 3. 2015 for uncollectibility with a probable zero yield or interrupted for other reasons reached about eight percent from the whole⁸.

⁸This is a somewhat problematic assertion in view of the fact that documents were not sufficiently specific in certain partial data and it was necessary to make certain simplifications in the interpretation thereof. In fact, some of these cases entailed a real negative yield for creditors, for the uncollectability of receivables also meant

Receivables 2: these are receivables having arisen in 2009 – 2012, whereas the asset seizures as such were commenced in 2010 – 2013 (approx. 56 percent of cases in the period 08/2013 – 06/2014). The state of enforcing receivables is recorded as at 1. 3. 2015⁹. The usual receivable amount in this group is in the vicinity of CZK 8 – 20 thousand (including costs, without asset seizure and distrainer fee costs). All data are for one distrainer's office, the creditor is a telephone operator in the vast majority of receivables. The total number of asset forfeiture proceedings monitored in this group is 2,954; then, the median for the region is 211, the dispersion in individual monitored administrative regions is in the vicinity of 24 up to 674 cases. The sample contains only cases where enforcement was or still is effective.

Receivables 3: This group contains receivables which arose in various times, asset seizures were commenced in 2010 and 2011. The beneficiaries vary in this group, and institutions, corporations and private persons are at issue. The usual receivable amounts are in the vicinity of tens of thousands of crowns, whereas dispersion from 5,650 crowns up to 987,453 crowns was recorded. Among the liable, 91.5 percent are natural, non-entrepreneurial persons, 8.5 percent is represented by entrepreneurial subjects, usually tradesmen. Data originate from five distrainer's offices and the sample contains a total of 48,006 asset forfeiture proceedings; the state of enforcement is recorded as at 31. 12. 2014 (whilst a similar dispersion, as stated above, applies). In the same manner as in Receivables group 1, enforcement amounting to zero percent was recorded in the event that proceedings were closed for uncollectibility¹⁰. The median number of asset forfeiture proceedings per one administrative region is 3,429 cases; the sample is from 511 – 9,876 cases per one region. In five regions, results from only one distrainer's office (if proceedings conducted by another authority appeared in these regions; the number of such cases is marginal, i.e. 1-3 cases) are available. In one of the regions, cases conducted by five participant offices are represented in a sufficient amount; an adequate amount of data from four offices is available in three regions.

that the costs of asset forfeiture proceedings and creditors' previously expended funds connected with enforcement were not paid by the debtor and thus became the creditor's already realized loss, or they were required from the creditor by the distrainer's office. Because, however, agreements are often made between creditors and distrainer's offices regarding costs of vain seizures in a manner other than real payment from the creditor's side, it is not possible to pronounce a clear and founded judgement in this matter. Moreover, samples contain a certain smaller multiple of cases where payment of costs and other financial sums connected with enforcement procedures were made, although the enforcement of the actual receivable was marginal at the given moment, whereas a certain significant change of the situation also occurred at the same time. A classic example is the commencement of insolvency proceedings with the debtor.

⁹The data dispersion here and in other groups reaches roughly 14 – 15 days around the data mentioned; it is given by various setting of case monitoring.

¹⁰Yet all aspects mentioned in this connection in the previous groups apply.

As we can see, Receivables groups 1 and 2 are highly homogenous; Receivables gr. 3 is, by contrast, relatively fragmentary. On the other hand, the number of receivables surveyed in the bounds of Receivables group 3 is marked, and as a result we can here expect at least general sample behaviour in keeping with the above-mentioned hypotheses. In any event, however, it applies that the heterogeneity of the third group serves, in comparison with the homogeneity of the first and second, as a control sample.

Table1: Enforceability according to administrative regions in individual groups

Region	Receivables 1 (%)	Receivables 2 (%)	Receivables 3 (%)	Median wages (CZK)	Unemployment 12/2014 (%)
Prague (PHA)	19.2	45.5	28.9	27, 901	5.0
Central Bohemia (STC)	18.3	41.6	31.2	23, 785	6.4
South-Bohemia (JHC)	14.1	38.4	12.6	20, 911	6.2
Plzeň (PLK)	14.4	37.9	27.9	22, 576	5.7
Karlovy Vary (KVK)	9.2	24.1	18.9	19, 512	8.2
Ústí (ULK)	8.1	24.0	22.8	21, 031	10.7
Liberec (LBK)	11.7	26.7	24.9	21, 980	7.7
Hradec Králové (HKK)	13.3	28.9	19.9	21, 084	6.4
Pardubice (PAK)	12.9	31.0	16.8	21, 260	6.2
Vysočina (VYS)	10.1	23.0	26.9	21, 344	7.4
South Moravia	14.0	39.8	17.9	21, 831	8.2
Olomouc (OLK)	10.8	26.8	33.1	21, 184	8.8
Zlín (ZLK)	12.2	28.8	19.8	20, 974	7.4
Moravia-Silesia (JHM)	9.6	23.6	17.3	22, 023	9.8

Source: Own research, own calculations, Ministry of Labour and Social Affairs (median wages, unemployment)

1.2 Characteristic of environment

We defined environment with the aid of median wages¹¹ and unemployment in a given region (see Table1), for according to the initial hypotheses of the work, these are parameters of very strongly correspondent abilities to repay debts.

In wages, we selected the median, for we generally consider it to be a superior predicative amount than the average – especially in relation to receivables which may be distributed in society in a specific manner, although in all three receivable groups they are rather the sort which are more suitably expected in the social strata which circulate in medium income deciles. The data are for 2014, i.e. for the period in which we assumed the greatest pressure in the surveyed receivables for repayment thereof from the sides of the distrainer's offices.

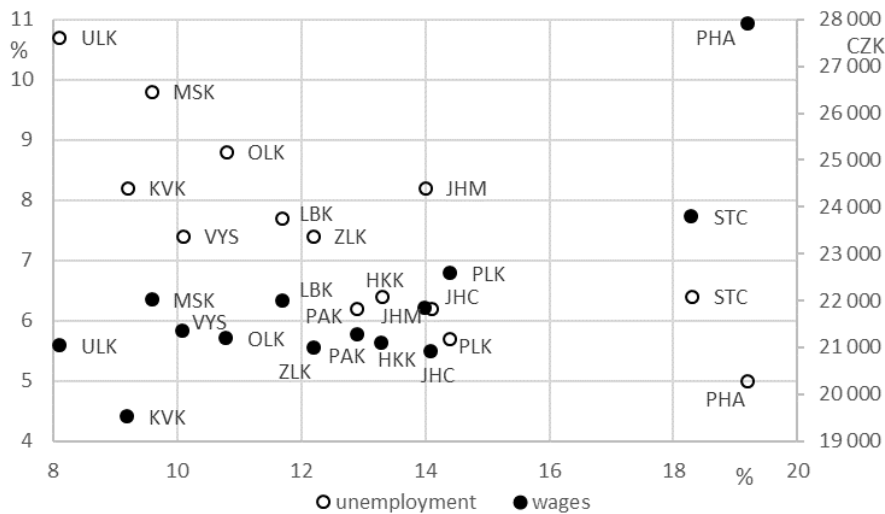
¹¹The selection of wages and not salary was given by the superior information capability of this data, which is not distorted by other factors. Nevertheless, when using salaries the results of analyses realized in other parts of the study are very similar and essential divergence cannot be found.

As regards unemployment, data capture the state at the end of 2014; it applies once again that it is the end of the period decisive for enforceability of the surveyed receivables¹².

2 Analytical part

The analysis stems from simple and multi-dimensional regression analyses (see, for instance, Hindls, Hronová, Seger, Fischer, 2007). In these models we assume dependency of individual types of receivables on median wages (in CZK) and the level of unemployment (in CZK) in individual regions of the Czech Republic in 2014. All tests were carried out for $\alpha = 0.05$.

Figure1: Analysis results for Receivables group 1



Source: Own research, own calculations

As regards Receivables group 1 (see Table 2 and Figure 1), the results precisely confirm the hypotheses stated above. In our model

$$\widehat{receivables\ 1} = 0.000924 \text{ median wages} - 1.020746 \text{ unemployment},$$

the level of enforcement in Receivables group 1 in individual regions (administrative regions)

¹²Starting from January 2013, the Ministry of Labour and Social affairs transferred to a new indicator of registered unemployment in the CR, with the title *Proportion of Unemployed Persons*, which expresses the proportion of achievable candidates for employment at ages 15 – 64 years from all inhabitants of the same age. This indicator replaces the hitherto released level of registered unemployment.

Table 2: Analysis results for Receivables group 1

Dependent Variable: RECEIVABLES1				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MEDIAN_WAGES	0.000924	6.58E-05	14.04469	0.0000
UNEMPLOYMENT	-1.020746	0.190891	-5.347267	0.0002
R-squared	0.829431	Mean dependent var		12.707140
Adjusted R-squared	0.815217	S.D. dependent var		3.224775
S.E. of regression	1.386213	Akaike info criterion		3.622592
Sum squared resid	23.05905	Schwarz criterion		3.713886
Log likelihood	-23.35815	Hannan-Quinn criter.		3.614141
Durbin-Watson stat	2.298781			

Source: Own research, own calculations

depend directly proportionally on the median wages and indirectly proportionally on the proportion of unemployed. Specifically, a rise of median wages by CZK 1,000 causes a rise of enforceability in Receivables group 1 by 0.924 of a percentage point, and a rise in the proportion of unemployed by 1 percentage point reduces the enforceability of receivables by 1.021 of a percentage point, always under the assumption of an unchanging level of the second explanatory variable. The determination index ($R^2 = 0.83$) is high and indicates that the independent variable is highly capable of explaining changes in the dependent variable. The problem of multi-collinearity (Hindls, Hronová, Seger, Fischer, 2007) was tested in the model and subsequently excluded. It was thus confirmed by the model that the enforceability of receivables is truly related to the regional level of unemployment and wage level. The efficiency of enforcement according to regions is thus to some degree variable, and these divergences are not marginal, they can thus influence economic decision-making very strongly.

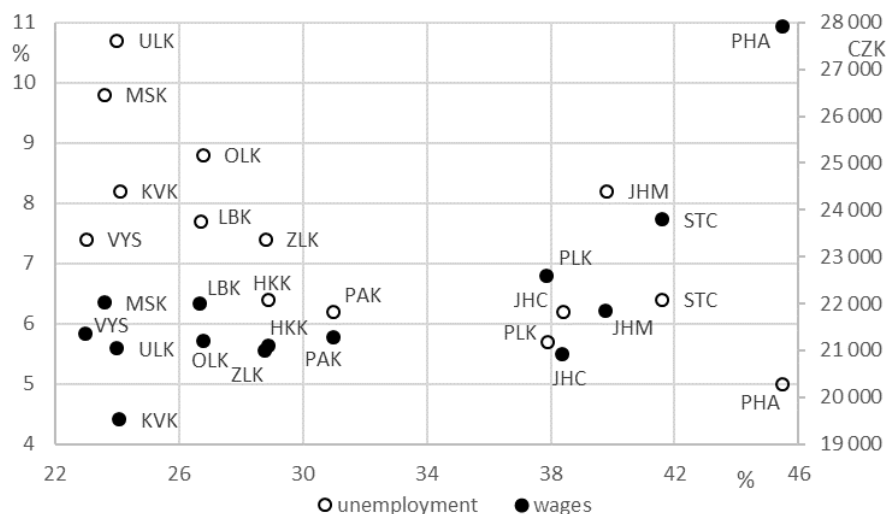
The above-mentioned results, however, have to be further confirmed by analyses of the remaining groups.

The model for Receivables group 2 confirmed our hypotheses yet again:

$$\widehat{\text{receivables}}_2 = 0.002092 \text{ median wages} - 1.953924 \text{ unemployment.}$$

In this group, therefore, enforceability is directly proportionately related to median wages, for a rise of median wages by CZK 1,000 elicits enforceability by 2.1 of a percentage point, and in the same way as in Receivables group 1, we observe that enforceability depends indirectly proportionally on the proportion of unemployed, when the rise of the proportion of unemployed by a percentage point reduces enforceability by 1.95 of a percentage point.

Figure 2: Analysis results for Receivables group 2



Source: Own research, own calculations

Table3: Analysis results for Receivables group 2

Dependent Variable:RECEIVABLES2

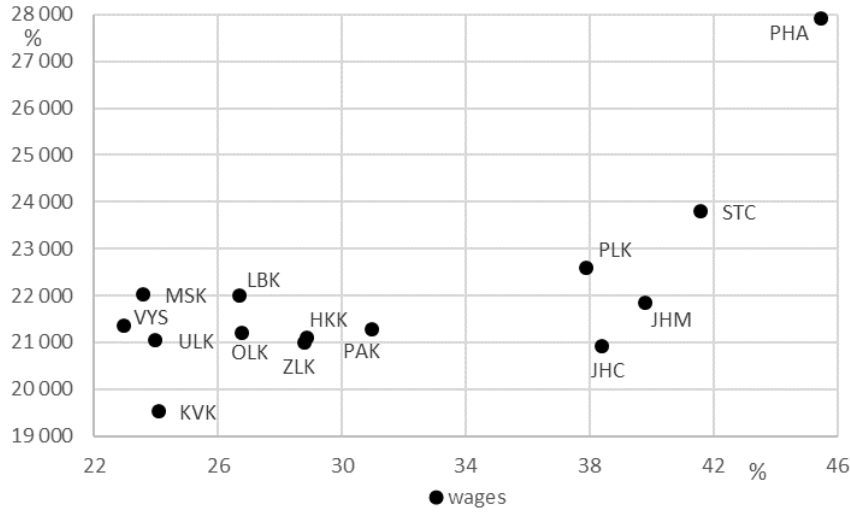
Variable	Coefficient	Std.Error	t-Statistic	Prob.
MEDIAN_WAGES	0.002092	0.000226	9.254055	0.0000
UNEMPLOYMENT	-1.953924	0.656016	-2.978469	0.0115
R-squared	0.641910	Mean dependent var		31.435710
Adjusted R-squared	0.612069	S.D. dependent var		7.648590
S.E. of regression	4.763858	Akaike info criterion		6.091557
Sum squared resid	272.3322	Schwarz criterion		6.182850
Log likelihood	-40.640900	Hannan-Quinn criter.		6.083106
Durbin-Watson stat	2.120071			

Source: Own research, own calculations

The determination index ($R^2 = 0.64$) is also relatively high (albeit lower than in the model for Receivables group 1) and indicates that, even here, independent variables are well able to explain changes in the dependent variable.

In Receivables group 3 we observe the assumed divergences. Because this group is heterogeneous both in the number of distrainer’s offices which have been entrusted with the dispensation of asset seizure and in terms of receivable type and the time circumstances thereof, it was necessary to expect that we would not find clearly-defined relationships here of the type as found in homogenous Receivables group 1 and Receivables 2. This was also confirmed.

Figure3: Analysis results for Receivables group 3



Source: Own research, own calculations

Table 4: Analysis results for Receivables group 3

Dependent Variable: RECEIVABLES3				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MEDIAN_WAGES	0.001041	6.62E-05	15.71961	0.0000
R-squared	0.206058	Mean dependent var		22.778570
Adjusted R-squared	0.206058	S.D. dependent var		6.126886
S.E. of regression	5.459265	Akaike info criterion		6.301255
Sum squared resid	387.446500	Schwarz criterion		6.346902
Log likelihood	-43.108780	Hannan-Quinn criter.		6.297029
Durbin-Watson stat	3.007854			

Source: Own research, own calculations

In this group we do not find a statistically significant dependence of enforceability on the level of unemployment according to regions. It is highly probable that this is a consequence of the fact that in individual types of receivables here unified, some are more sensitive and some less sensitive to this factor, especially, however, the number of five different distrainer's offices, and the variance of distribution of their territorial field of activity causes significant differentiation in results. In fact, it applies that even individual authorities are significantly different from the perspective of their efficiency, and the differences in this area have transpired to be marked.

The statistically significant Receivables group 3 has been proven – at least from the perspective of median wages. This relationship can be expressed by a model in the shape

$$\widehat{\text{receivables}}_3 = 0.001041 \text{ median wages},$$

where enforceability in this group depends directly proportionally to median wages so that a rise of median wages by CZK 1,000 increases enforceability by 1.041 of a percentage point. The determination index ($I^2 = 0.21$) is relatively low and indicates that it would be necessary to add another variable which would supplement the model and improve the explanation of changes in the dependent variable.

Wages as a true barometer of incomes thus transpires to be a more sensitive instrument for recognition of the potential of receivable enforceability than the unemployment level. Explanation quite probably has to be sought in the fact that unemployment necessarily affects only a part of debtors and thus decreases the total enforceability by means of this “decelerating” lever. Contrariwise, the median of wages points towards the economic ability of the entire remainder of debtors who are not in the “unemployed” multiple; the retarder of influence is, for this reason, significantly smaller here.

Conclusion

In essence, the preliminary hypotheses on which the survey is founded and the subsequent analyses were completely confirmed. The assumption according to which enforceability of receivables in regional division is dependent primarily to median wages (salaries, as the case may be, for – as stated above – the results of both of these income groups are very similar) was fully confirmed. Used regression analyses have a high value of the determination index and the explanatory variables as median wages and unemployment are significant. The auxiliary criterion of unemployment proved significant there where homogenous groups of receivables (in terms of their origin and volume) were surveyed, especially in terms of the distrainer’s office entrusted with enforcement. Receivables were not homogenous (in the economic sense) in the sample 3. Sample size is sufficient, especially in the case of Receivables 1 (24 920 cases in total, 207 – 3 129 cases per the administrative region) and Receivables 3 (48 006 cases in total), 511 – 9 876 cases per the administrative region). The case of Receivables 2 is questionable because there were 24 up to 674 cases per the administrative region and therefore the information power is lowered a little bit. The paper uses the regional division according administrative regions and therefore there are 14 regions which differ in the area size, number of population, history, geographical conditions and

quality of economical conditions. It is no miracle that Prague is reaching the top (value of median and wages and level of unemployment). We have to admit that the most cases of receivables are also connected with Prague because of the size but it has no direct influence on our results. The explained variable is not the number of total cases but the level of recovery rate of receivables counted as the average from all cases. From the statistical point of view we can discuss that Prague is an outlier but from the economical point of view it is a nonsense to omit Prague region and run all analyses without it. The limited paper range does not allow it neither.

Besides the already-stated conclusions, this fact enables noting of yet a further ascertained aspect of the situation: in the event of changes of the asset forfeiture system and implementation of so-called territorial field of activity of distrainer's offices (field of activity only at the place of their headquarters), regions would arise in which enforcement would be disproportionately more profitable (for the entrusted office) than in other regions (especially those where it would be possible to detect the concurrency of higher unemployment and a lower median of wages).

The given results therefore have to be considered as being preliminary inasmuch as data collection on results of asset seizure activities will continue and it is thus possible that, in the future, specification of data on the enforceability of receivables in individual regions will occur. On the other hand, it could be said with high probability that these changes would not be fundamental and specification rather than fundamentally divergent data would be at issue.

Acknowledgment

The article is processed as one of the outputs of the research project "*Research of insolvency practice in the CR, with the aim of forming proposals for changes in the legislation that would enable increased yields from insolvency proceedings for creditors, which would contribute towards increasing the competitiveness of the Czech economy*", registered at the Technological Agency of the Czech Republic under the registration no. TD020190 and as an output for the grant of the Grant Agency of the Czech Republic no. P402/12/G097 *DYME-Dynamic Models in Economy*.

References

- Coleman, P. J. (1999). *Debtors and creditors in America: insolvency, imprisonment for debt, and bankruptcy, 1607-1900*. BeardBooks.
- Čámská, D. (2013). *Basic characteristics of enterprises in insolvency*. Jedlička, P. (Ed.), *International Scientific Conference on Hradec Economic Days 2013 – Economic*

Development and Management Region in Hradec Kralove (pp. 83-88). Hradec Králové: Gaudeamus.

Francis, C. W. (1985). Practice, Strategy, and Institution: Debt Collection in the English Common-Law Courts 1740-1840. *Nw. UL Rev.*, 80, 807.

Hindls, R., Hronová, S., Seger, J., Fischer, J. (2007): *Statistika pro ekonomy*. 8. ed., Professional Publishing, Prague.

Kislingerová, E., Schönfeld, J. (2014). *The development of insolvency in the entrepreneurial sphere in the Czech Republic during the crisis years*. Čulík, M. (Ed.), *7th International Scientific Conference on Managing and Modelling of Financial Risks in Ostrava* (pp. 367-378). Ostrava: VSB-TECH UNIV.

Ministry of Labour and Social Affairs (2014). Nezaměstnanost v krajích a okresech (od 1.3.2014). Retrieved from

https://portal.mpsv.cz/sz/stat/nz/uzem?stat=2000000000110&obdobi=L&rok=2014&uzemi=0&send=send&pirpi37_240429_37_240428_240428.pohled=1&piref37_240429_37_240428_240428.xslselect=nazev&piref37_240429_37_240428_240428.xslorder=1&piref37_240429_37_240428_240428.xslmapatag=okresy&piref37_240429_37_240428_240428.xslmapa sloupec=&piref37_240429_37_240428_240428.usr1=0.

Ministry of Labour and Social Affairs (2014). Mzdová a platová sféra. Retrieved from <http://www.mpsv.cz/cs/1933>.

Paseková, M., Bařinová, D. (2013). *An analysis of the incidence of personal bankruptcy in the Moravian-Silesian region in the Czech Republic*. Jircikova, E., Knapkova, A., Pastuszakova, E. (Eds.), *6th International Scientific Conference on Finance and the Performance of Firms in Science, Education, and Practice at Tomas Bata Univ Zlin* (pp. 547-559). Zlin: Tomas Bata University.

Paseková, M., Crhová, Z., Bařinová, D. (2015). Czech Creditor Satisfaction with Debt Relief Under the Insolvency Act of 2008. *International Advances in Economic Research*.

Richter, T. (2008). *Insolvency Law*. ASPI Wolters Kluwer, Prague.

Smrčka, L. (2012) Filosofické aspekty vztahu insolvenčního a exekučního práva. *Komorní listy*, 4, 1, pp. 27–33, Prague.

Svobodová, L. (2013). *Trends in the number of bankruptcies in the Czech Republic*. Jedlička, P. (Ed.), *International Scientific Conference on Hradec Economic Days 2013 – Economic Development and Management Region in Hradec Kralove* (pp. 393-399). Hradec Králové: Gaudeamus.

Contact

Markéta Arltová

University of Economics, Department of Statistics and Probability

nám. W. Churchilla 4, Praha 3, 130 67

arltova@vse.cz

Luboš Smrčka

University of Economics, Department of Strategy

nám. W. Churchilla 4, Praha 3, 130 67

smrckal@vse.cz