

Jacek Jaworski

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JACEK JAWORSKI

Wyższa Szkoła Bankowa w Gdańsku

**ENDOGENOUS FACTORS OF CHOOSING A FORM OF INCOME TAX
IN THE SMALL ENTERPRISE SECTOR IN POLAND***

Introduction

One of the key factors influencing the managing conditions of enterprises (especially small and medium) is the chosen form of income taxation, because the cash flows in the enterprise directly depend on this form and rate and amount of taxes paid.

The main objectives of this paper are the identification of the main endogenous factors affecting the choice of income tax form and the analysis of these choices in the context of the diagnosed factors. Criteria for choosing taxation forms required by law are omitted.

1. The Characterization of Taxation Forms Used in the Polish Small Sized Enterprise Sector

According the Polish law, the forms of income taxation in enterprises can be divided into two groups¹:

- general rules – the taxable amount is the surplus of revenue over costs²;

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¹ Martyniuk T., *Small Enterprise. Registration – Taxes – Filing Systems – Reporting*, ODDK, Gdańsk 2010, s. 46.

- flat-rate taxation – the tax depends only on revenue or other easily measurable characteristics of the enterprise.

The first group is required to apply according to the chosen legal form of the enterprise. The general principles rely on estimating the income as the subtraction of the expenses from revenue and then taxing this income by a tax scale. Currently, the Polish tax standards for legal persons stipulate a linear scale with a tax rate of 19%. One tax band is used for natural person (18% for income below 85 528 PLN, 32% for higher income). Individuals running an enterprise, can choose a linear income tax rate of 19%. But then, they lose the possibility of joint settlement with the spouse and the use of tax reductions.

The choice of the general taxation rules determines recording obligations. All legal entities and natural persons that have surpassed the revenues from the sale of € 1 200 000 are required to keep accounting books according to the Polish accounting law³. This system includes classic double-entry accounting books. Despite the numerous simplifications for small firms, these books are the most complicated filing system used in Polish SME sector. The taxpayer must measure all financial categories in the enterprise: assets, equity and liabilities, income and costs, receipts and expenditures.

The firms of natural persons that do not exceed the designated level of income, should provide filing system according to art. 24a. §1 ITNP (income and expenditure tax book - Revenue and Disbursement). The basis of these records are the amounts of revenue and expenditure. As a result, an accountant may at any time determine the profit (revenue minus costs), which is the fundamental category of taxation⁴.

Taxpayers, whose income in the preceding year did not exceed € 150 000 or starting a business, can choose a flat-rate income taxation [FRITNP]⁵. Selected activities such as operation of pharmacies, loans secured (pawnbrokers), exchange offices, some professions such as lawyers or accountants and also trade excise goods and in the last, services listed in Annex 2 to FRITNP are excluded from this rule. Tax rate depends on the type of business, and tax base is a recorded revenue. FRITNP lists five percentage rates (20, 17, 8.5, 5.5 and 3%). In this form of taxation, in addition to revenue records, the taxpayers are obliged to carry out cards of

² Act of February 15, 1992, about the income tax from legal persons [ITLP] Dz. U. 54/2000, pos. 654, as amended, Act of July 26, 1991, about the income tax from natural persons, Dz. U. 14/2000, pos. 176, as amended.

³ Act of September 29, 1994 about accounting, Dz. U. 76/2002, pos. 694, as amended.

⁴ Voss G., Tokarski A., Tokarski M., *Accounting in Small and Medium Sized Enterprise. Simplified filing systems*, CeDeWu, Warsaw, pp. 135–148.

⁵ Act of November 20, 1998, about the flat-rate tax on some parts of income of natural persons, Dz. U. 144/1998, pos. 930, as amended [FRITNP].

staff salaries, fixed and intangible assets records and an annual inventory of materials, finished products and goods⁶.

Another form of flat-rate taxation is a tax card. Taxpayers choosing this taxation form should be guided by a comprehensive Annex no. 4 to FRITNP. In this document, there are listed 95 activities, mainly in the service sector, which may be subject to the tax card. Tax amount in tax card depends on the type of activity, the number of employees and the population of a territorial community where the business is conducted. Determining the amount of tax does not require any special records. Then, companies which have chosen this taxation form must only keep salary cards of their employees. Moreover, they are required to keep copies of sales documents⁷.

In addition to the above, law-related criteria of choosing forms of taxation, there are many other factors affecting the choices made by entrepreneurs. The preferences and special characteristics of the enterprise or its owners (endogenous) are one group of these factors.

2. Sources and Methods Used in the Research

The primary source of the research are the results of a questionnaire survey made among Polish small enterprises in mid 2010. 1,008 respondents were asked about the chosen taxation form. The respondents were divided into groups corresponding to the assumed endogenous factors of choosing these forms (Table 1).

For the evaluation of statistical correlation between the set variables (factors and taxation forms) the Chi-square compatibility test has been used in all examined cases. The mathematical aspect of the Chi-square test is reduced to calculate the statistics⁸:

$$\chi^2 = \sum_{i=1}^k \sum_{j=1}^l \frac{\left(\hat{n}_{ij} - n_{ij} \right)^2}{\hat{n}_{ij}} = \sum_{i=1}^k \sum_{j=1}^l \frac{\hat{n}_{ij}^2}{\hat{n}_{ij}} - n$$

where:

l, k – kinds of first and second variables,

⁶ Voss G., Tokarski A., Tokarski M., *Accounting in Small and Medium Sized Enterprise. Simplified filing systems*, op. cit., pp. 93–104.

⁷ Martyniuk T., *Small Enterprise. Registration – Taxes – Filing Systems – Reporting*, op. cit., p. 112.

⁸ More: Balicki A., Makać W., *Methods of Statistical Inference*, Wyd. UG, Gdańsk 2000, pp. 227–231.

n_{ij} – empirical numbers of the simultaneous occurrence pairs of variables i and j ,

$\hat{n}_{ij} = \frac{n_i \times n_j}{n}$ – expected numbers of the simultaneous occurrence pairs of variables i and j ,

n – number of all respondent's answers.

Table 1

Assumed Endogenous Factors and Respondents Groups

Characteristics of the enterprise	Factors	Respondents groups	Characteristics of the owner/manager	Factors	Respondents groups
	Kind of activity	production services traders mixed		Sex	Female Male
	Number of employees	only owner 1–9 employees 10–19 employees 20–49 employees		Age	to 35 years 36–50 years more than 50 years
	Business activity time	0–3 years 3–6 years more than 6 years		Education	basic or vocational secondary vocational secondary general higher humanities higher technical higher economic
	Phase of a life cycle*	entry phase growth phase stability phase end-stage phase			

*Phase of life cycle was based on the answers to questions about changes in income, profits and investment needs in the enterprise.

Source: own elaboration.

The statistic calculated statistic is compared with the theoretical value of chi-square for specific values of k and l and the significance level. If χ^2 is less than read value, then there is no reason to reject hypothesis about independence of variables. Otherwise, there are reasons for acceptance alternative hypothesis that the variables are dependent.

To determine the strength of correlation between each of the examined factors and chosen form of taxation, T-Czuprow and C-Pearson contingency coefficients⁹ are used (Table 2).

⁹ More: Makać W., Urbanek-Krzystofiak D., *Methods of Statistical Description*, Wyd. UG, Gdańsk 2001, pp. 152–158.

Table 2

Mathematical Definition of T-Czuprow and C-Pearson Coefficients

T-Czuprow	C-Pearson
$T = \sqrt{\frac{\chi^2}{n \times \sqrt{(k-1) \times (l-1)}}$	$C = \sqrt{\frac{\chi^2}{\chi^2 + n}}$

Source: own elaboration based on: Makać W., Urbanek-Krzystofiak D., *op.cit.*, pp. 155.

The values of both coefficients are in the range (0–1). The correlation between examined variables is stronger, when the values of the coefficients are higher. For cases of weak correlation, only general analysis of examined processes was done. For the rest, detailed analysis of the structure of responses was performed.

3. Discussion of the Research Results

Table 3 presents results of the calculation of Chi-square test and T-Czuprow and C-Pearson coefficients for assumed factors of choosing taxation form based on characteristics of the enterprise. Theoretical value of the chi-square distribution was read for the significance level 5%.

Table 3

Research Results for Factors Based on Characteristics of the Enterprise

Factors	Kind of activity	Number of employees	Business activity time	Phase of a life cycle
Empirical χ^2	48.46	257.78	35.38	16.78
Theoretical χ^2	21.03	21.03	15.51	3.84
Hypothesis	variables are dependent	variables are dependent	variables are dependent	variables are dependent
T-Czuprow	0.1188	0.2740	0.1123	0.0933
C-Pearson	0.2159	0.4543	0.1856	0.1712
Strength of correlation	moderately strong	moderately strong	weak	weak

Source: own elaboration.

All of examined factors have an impact on the chosen taxation form. But for the phase of a life cycle and time of activity, the strength of correlation is weak. In

the first case, it means that the condition of the company and a current firm's development phase have only little influence on the choice of taxation form in a small enterprise in Poland. The same situation is diagnosed for the time of activity.

A kind of activity (diagram 1) has a stronger impact on the choice of taxation forms. For all types of business activities, general principles (linear tax) from individuals are favored. The tax from legal persons is on the second position. However, this form of taxation is dominant in a group of service companies. In this area, flat-rate tax is also very popular with lots of tax card payers. The last form of taxation - general principles (progressive tax) for individuals – is the most popular among companies with mixed activities.

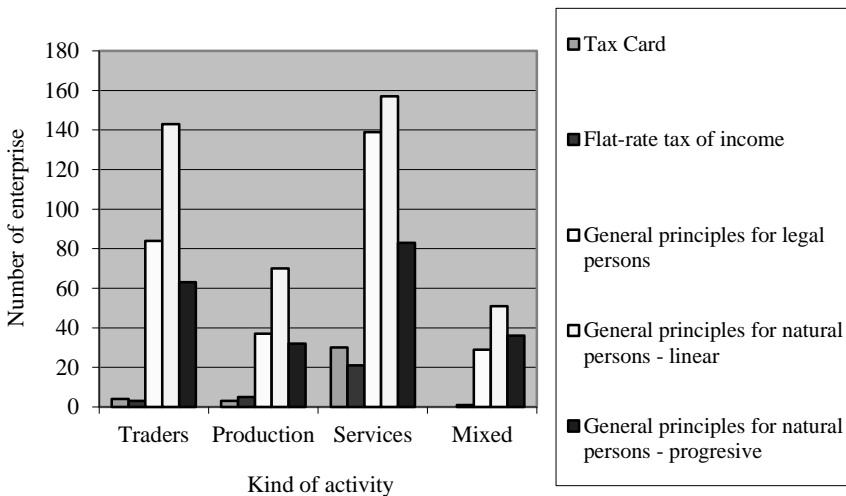


Diagram 1. Relation Between Kind of Activity and Chosen Taxation Forms

Source: own elaboration.

The strongest correlation is diagnosed for a number of employees. It is presented on diagram 2.



Diagram 2. Relation Between Numbers of Employees and Chosen Taxation Forms

Source: own elaboration.

Companies carried out independently by the owner prefer the general principles for individuals (progressive tax). Among this firms, a large share of flat-rate taxation forms is also seen. For companies employing 1–19 employees, the share of the linear income tax from individuals is rising with a decreasing share of flat-rate tax forms. For the largest companies the most popular form of taxation is income tax from legal persons.

In the second part of this research the impact of the owner/manager's characteristics on the chosen form of taxation has been examined. The table 4 shows the results of the calculations.

Table 4

Research Results for Factors Based on Characteristics of the Owner/Manager

Factors	Sex	Age	Education
Empirical χ^2	49.90	12.91	257.67
Theoretical χ^2	9.49	15.51	31.41
Hypothesis	variables are dependent	variables are independent	variables are dependent
T-Czuprow	0.1587	-	0.2414
C-Pearson	0.2190	-	0.4546
Strength of correlation	moderately strong	-	moderately strong

Source: own elaboration.

The research shows that the age of the entrepreneur does not affect the chosen form of taxation. The other two characteristics, namely sex (diagram 3) and education (diagram 4) have a moderately strong impact on that choice.



Diagram 3. Relation Between Owner's Sex and Chosen Taxation Forms

Source: own elaboration.

The research results indicate that men more often choose general principles of income tax from individuals and flat-rate tax of registered income. Among women, tax from legal persons and linear tax from individuals are equally as popular. Women also have opted for a tax card more likely.

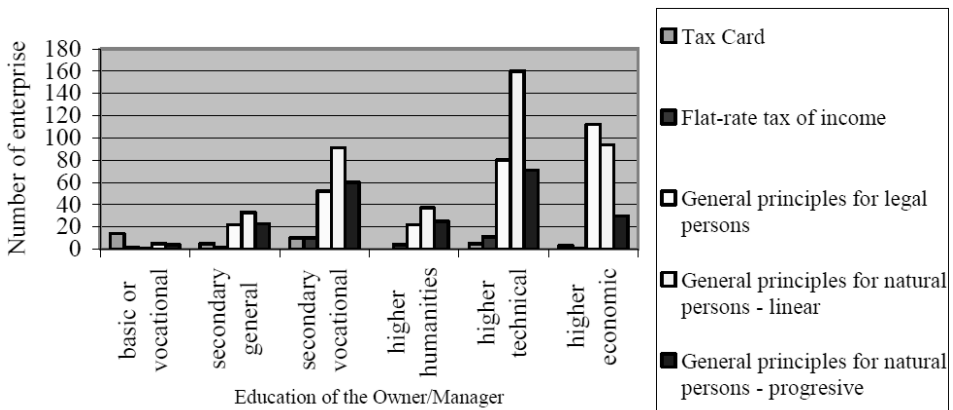


Diagram 4. Relation Between Owner's Education and Chosen Taxation Forms

Source: own elaboration.

The lower the owner's education the simpler forms of taxation are chosen. Among entrepreneurs with primary and vocational education, tax card dominate. Growing education level of the owners stimulates growing preference for general principles of income tax from individuals. Large share of flat-rate tax forms in groups of the entrepreneurs with secondary and higher technical education is also characteristic. Among the companies with the most business-oriented education (higher economic) general principles of income tax dominate with a slight predominance of tax from legal persons.

Findings and conclusions

The Polish SME sector is characterized by very different forms of income taxation. Choosing the form of taxation is limited by legal regulations but also is determined by other endogenous and exogenous factors.

This research has shown that among the assumed endogenous factors influencing the choice of taxation forms, the number of employees has a dominant role, too. This is not a strong relation but still quite significant. The entrepreneur's education influences the choices made with similar strength. A weaker link with the tax forms have: the type and time of activity, the company's phase of the life cycle and the sex of the entrepreneur. In turn, the entrepreneur's age does not affect the choice of taxation forms.

ENDOGENICZNE CZYNNIKI WYBORU FORMY OPODATKOWANIA DOCHODU W SEKTORZE MAŁYCH PRZEDSIĘBIORSTW W POLSCE

Streszczenie

Głównym celem artykułu jest identyfikacja i analiza endogenicznych czynników mających wpływ na wybór formy opodatkowania małych przedsiębiorstw w Polsce. W badaniach pomięto kryteria wynikające z przepisów prawa.

W pierwszej części artykułu scharakteryzowano dopuszczone prawem formy opodatkowania. Następnie zaprezentowano metodykę przeprowadzonych badań ankietowych. W ostatniej części artykułu przedstawiono ich wyniki.