

## METHODOLOGY FOR TRANSACTION COST MEASURING

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### INTRODUCTION

The World Bank has published its „Doing Business” for 2005. The document ranks 155 economies throughout the world on the basis of the *Easy of Doing Business* indicator. This indicator consists of ten indicator topics, the first one being Starting a Business. The topic performs measurement (through a survey) of the procedures, time, cost and paid-in minimum capital requirements needed to start-up a business.

According to this method, Macedonia was ranked on the 81<sup>st</sup> place by *Easy of Doing Business*, but on the 114<sup>th</sup> place out of the list of 155 countries by Starting a Business. For data on other countries, please see Table 2.

In terms of transaction costs, the question is posed on how high transaction costs in Macedonia are compared to other economies worldwide. Hence, we need a benchmarking system.

Out of all ten topics processed for the year 2005, the Macedonian economy shows poorest results in hiring and firing (rank 123), and in starting a business (rank 114). Ranking by all ten topics and the index of easy of doing business have been presented in Table 1.

Table 1. Macedonia’s ranking by easy of doing business and by other topics, out of 155 countries worldwide

<b>Economy</b>	<b>Macedonia</b>
Ease of Doing Business	81
Starting a Business	114
Dealing with Licenses	64
Hiring and Firing	123
Registering Property	73
Getting Credit	53
Protecting Investors	30
Paying Taxes	58
Trading Across Borders	96
Enforcing Contracts	111
Closing a Business	109

Source: the World Bank

Table 2: Doing Business

Starting a Business		Ease of Doing Business	Starting a Business		Ease of Doing Business	Starting a Business		Ease of Doing Business	Starting a Business		Ease of Doing Business
Business	Economy	Business	Business	Economy	Business	Business	Economy	Business	Business	Economy	Business
1	Canada	4	40	Tunisia	58	79	Taiwan, China	35	118	Paraguay	
2	Australia	6	41	Armenia	46	80	Bulgaria	62	119	Jordan	
3	United States	3	42	Netherlands	24	81	Japan	10	120	Guatemala	
4	New Zealand	1	43	Estonia	16	82	Vietnam	99	121	Greece	
5	Singapore	2	44	Zambia	67	83	Costa Rica	89	122	Ecuador	
6	Hong Kong, China	7	45	Italy	70	84	Mexico	73	123	Bosnia and Herzegovina	
7	Puerto Rico	22	46	Turkey	93	85	Argentina	77	124	Madagascar	
8	Romania	78	47	Germany	19	86	Spain	30	125	Senegal	
9	United Kingdom	9	48	Slovak Republic	37	87	Kuwait	47	126	China	
10	Jamaica	43	49	Mongolia	61	88	Burundi	143	127	El Salvador	
11	Ireland	11	50	Morocco	102	89	Philippines	113	128	Congo, Rep.	
12	Israel	29	51	South Africa	28	90	India	116	129	Honduras	
13	France	44	52	Bangladesh	65	91	São Tomé and Príncipe	123	130	Cote d'Ivoire	
14	Iceland	12	53	Fiji	34	92	Poland	54	131	Ghana	
15	Denmark	8	54	Iran	108	93	Kenya	68	132	Bolivia	
16	Afghanistan	122	55	Georgia	100	94	Ethiopia	101	133	Cameroon	
17	Tonga	36	56	Vanuatu	49	95	Venezuela	120	134	United Arab Emirates	
18	Finland	13	57	Malaysia	21	96	Azerbaijan	98	135	Syrian Arab Republic	
19	Norway	5	58	Rwanda	139	97	Korea	27	136	Belarus	
20	Sweden	14	59	Austria	32	98	Brazil	119	137	Cambodia	
21	Panama	57	60	Papua New Guinea	64	99	Lebanon	95	138	Burkina Faso	
22	Marshall Islands	48	61	Oman	51	100	Uganda	72	139	Mozambique	
23	Chile	25	62	Kiribati	45	101	Dominican Republic	103	140	Zimbabwe	
24	Mauritius	23	63	Guyana	105	102	Lao PDR	147	141	Timor-Leste	
25	Maldives	31	64	Sierra Leone	136	103	Croatia	118	142	Niger	
26	Latvia	26	65	Nicaragua	59	104	Portugal	42	143	Mali	
27	Kyrgyz Republic	84	66	Bhutan	104	105	Nigeria	94	144	Indonesia	
28	Switzerland	17	67	Uzbekistan	138	106	Peru	71	145	Guinea	
29	Thailand	20	68	Sudan	151	107	Benin	129	146	Mauritania	
30	Nepal	55	69	Moldova	83	108	Albania	117	147	Saudi Arabia	
31	Russian Federation	79	70	Malawi	96	109	Algeria	128	148	Togo	
32	Solomon Islands	53	71	Samoa	39	110	Ukraine	124	149	Haiti	
33	Kazakhstan	86	72	Hungary	52	111	Lesotho	97	150	Eritrea	
34	Belgium	18	73	Colombia	66	112	Central African Republic	153	151	Yemen, Rep.	
35	Serbia and Montenegro	92	74	Botswana	40	113	Tanzania	140	152	West Bank and Gaza	
36	Sri Lanka	75	75	Micronesia	56	114	Macedonia, FYR	81	153	Congo, Dem. Rep.	
37	Lithuania	15	76	Namibia	33	115	Egypt	141	154	Chad	
38	Pakistan	60	77	Czech Republic	41	116	Uruguay	85	155	Angola	
39	Palau	50	78	Slovenia	63	117	Iraq	114			

Source: the World Bank

## **TRANSACTION COST MEASURING METHODOLOGY**

In this document, I shall discuss a possible methodology to measure transaction costs in the business starting field.

(1) In Table 2, economies have been divided by quartiles. Macedonia has been placed in the third quartile, where the average of easy of doing business is 94. The question is posed on how much transaction costs would decrease if Macedonia could improve the variables covered by the *Starting a Business* topic (number of procedures, time, costs, and minimum capital requirements to start a business) necessary for it to move to the first or the second quartiles. This is how we could also provide for a benchmarking system. (Further on we shall apply the methodology only to the time necessary to start a business, expressed in days).

(2) On the other hand, we also need data on the number of newly-established enterprises in Macedonia as well as the value added for these enterprises. Table 3 shows the assumption that, on average, 1500 enterprises are established in Macedonia each year.

Table 3. Number of newly-established enterprises, by years

<b>Year</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>Average</b>
newly-established	1364	1997	1481	1308	1538

Source: The EC Questionnaire

(3) Table 4 presents the value added by years in Macedonia. On average, a bit more than 200 billion MKD are generated annually by some 55 thousand enterprises (or, expressed through a pure arithmetic mean, one enterprise in Macedonia generates 3.6 million MKD annually).

Table 4. Value added to the Macedonian GDP, and the number of registered enterprises in Macedonia

<b>Year</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>Average</b>
VA (million MKD)	197344	195230	198592	216938	202026
No. of enterprises	53227	55363	54143	n/a	54244

Source: The EC Questionnaire, and the Bulletin of the Ministry of Finance

(4) I shall define the number of working days in Macedonia as the number of calendar days minus weekend days, and I shall get the figure 261. If we consider these days to represent working days, then we can conclude that, in Macedonia, approximately 756 million MKD are generated daily, which makes some 14 thousand denars generated daily by an enterprise. These 14 thousand denars may be defined as the newly-generated value of an average Macedonian enterprise per day, provided it works every day throughout a year, with the exception of weekends.

(5) Now, we can easily calculate the amount of the opportunity cost per working day for an enterprise undergoing a registration procedure. In Table 3, we saw that approximately 1500 enterprises each year undergo the procedure of registration and business startup. This means that each day any of these 1500 enterprises is not working costs Macedonia on average 14 thousand denars newly-generated value, which makes up 21 million denars added value daily, or 5.5 billion MKD lost added value annually (if we calculate this figure by taking into account the figure of 261 working days). These 5.5 billion MKD represent 2.2 percent of the total annual added value in Macedonia.

(6) By calculating the necessary number of days to start a business (a figure to be decreased in order for Macedonia to be positioned in the first or the second quartiles of Table 1), the total transaction cost will be obtained of the inefficient business registration in Macedonia, compared with economies being more efficient in this regard.

(7) Under this criterion, if you wish to start a business in Macedonia, you will need 48 days. The average for the second quartile of countries is 29 days (the case of Austria), and the first quartile average is 16 days (the case of Sweden). Hence, if Macedonia is to decrease the transaction cost of the time necessary for registering new businesses and to pass to the second quartile, it should decrease the business registration necessary time by 19 days; if it wishes to pass to the first quartile, it should reduce the time necessary to start a business by 32 days. This is illustrated in Table 5 below.

Table 5. Necessary number of days to start a business, by country quartiles

Necessary number of days to start a business	Days	Country
First quartile average	16	Sweden
Second quartile average	29	Austria
Third quartile average	152	Brazil
Fourth quartile average	94	Cambodia
Third quartile	48	Macedonia

(8) In 2003, Macedonia's nominal GDP grew by 3.9 %, and its real GDP grew by 2.8% (cf. Table 6). The transaction cost of the delays in the procedure to start a business actually represents an answer to the question: How much would GDP growth in Macedonia increase if enterprises undergoing the registration procedure would be given the opportunity to start working through an abbreviated procedure, similar to those existing in Austria or Sweden? We simply have to multiply the number of necessary days to be reduced by a daily loss of 21 million denars of value added with 1500 enterprises. Results are shown in Table 7.

Table 6. 2003 GDP growth

	2002	2003	2003/2002
Gross Domestic Product	243969	253453	3.9

Source: State Statistical Office

Table 7. Loss in GDP growth due to the inefficiency in business startup procedures

	<b>2003/2002 Macedonia in the first quartile</b>	<b>2003/2002 Macedonia in the second quartile</b>
Gross Domestic Product	4.2	4.1

It may be seen from Table 7 that Macedonia loses between 0.2 to 0.3 percently scores of the GDP annual growth due to inefficient business startups, which in turn represents socio-economic cost.

### *The enterprise size factor*

(9) Data shows relatively high losses in the GDP growth as we view things in the average. To obtain a more realistic insight, the same methodology will be applied, yet account will be taken of the distinction among small, medium-sized, and large enterprises in Macedonia.

(10) Table 8 presents the number of enterprises in Macedonia by their size.

Table 8. Number of enterprises, by size

	<b>2000</b>	<b>2001</b>	<b>2002</b>
Small	52222	54320	52979
Medium-sized	533	532	354
Large	472	511	810
Total	53227	55363	54143

Source: The EC Questionnaire

Table 9. Enterprises by size (structure)

	<b>2000</b>	<b>2001</b>	<b>2002</b>
Small	0.981	0.981	0.979
Medium-sized	0.010	0.010	0.007
Large	0.009	0.009	0.015
Total	1.000	1.000	1.000

Source: The EC Questionnaire

(11) VA generation by enterprise size is shown in Table 10.

Table 10. Value added structure by enterprise size

	<b>2000</b>	<b>2001</b>	<b>2002</b>
Small	43.6	45.7	47.3
Medium-sized	13.8	15.1	9.5
Large	42.6	39.2	43.2
Total	100.0	100.0	100.0

Source: The EC Questionnaire

(12) On the basis of data contained in Tables 8, 9 and 10, it may be concluded that 98% of enterprises are small, and they generate approximately 45% of the value added. As we

calculate the number of days needed to start a business, we should only consider the share of small enterprises.

(13) Bearing this in mind (and with again applying the same procedure of the cost measuring methodology), we shall obtain results as contained in the tables bellow.

Table 4.1. Value added to the Macedonian GDP, and number of registered enterprises (small enterprises only)

<b>Year</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Average</b>
VA (million MKD)	83792	86586	90767	87048
No. of enterprises	52222	54320	52979	53174

(14) We have defined the figure of working days in Macedonia to be 261. In this case, we may conclude that 53000 small enterprises in Macedonia daily generate approximately 340 million denars, which makes approximately 6300 denars daily generated by a small enterprise. This figure of 6300 denars may be defined as the newly-generated value of an average small Macedonian enterprise on a daily basis, provided it works every day with the exception of weekends.

(15) GDP growth loss due to inefficiency in starting businesses is shown in Table 7.1 bellow. This calculation was done by the same methodology as used before. Namely, each of the 1500 newly-created enterprises (assuming that all of them are small), for each day of its non-operation, on average costs Macedonia 6300 denars, which makes up the figure of approximately 9 million denars (on daily basis) added value, or 2.5 billion denars on annual basis lost value added (if we calculate this by using the figure of 261 working days). These 2.5 billion denars represent approximately 1 percent of the total annual added value in Macedonia.

Table 7.1. Loss in GDP growth due to inefficiency in starting a business for small enterprises

	<b>2003/2002 Macedonia in the first quartile</b>	<b>2003/2002 Macedonia in the second quartile</b>
Gross Domestic Product	4.01	3.96

Table 7.1 shows that Macedonia has been losing approximately 0.1 percently scores of the GDP annual growth due to inefficient business startup – 9.5 million denars or approximately 150000 euro daily.

## *Appendix*

The correlation coefficient of starting a business with other topics has been presented in the table below.

<b>Starting a Business</b>	<b>Correlation</b>
Hiring and Firing	0.38
Dealing with Licenses	0.49
Registering Property	0.41
Getting Credit	0.48
Protecting Investors	0.44
Paying Taxes	0.35
Trading Across Borders	0.49
Enforcing Contracts	0.55
Closing a Business	0.54

It may be seen from the above that starting a business is most closely related to enforcing contracts, and least related to labor force hiring and firing.

## *Appendix: Answers to the survey*

### **Towards transaction costs**

#### *Institutions and businesses*

- (1) Most often mentioned institutions and causes of increased transaction costs are: the Public Revenue Office, the Customs Administration, the Law on Working Relations, lack of coordination among ministries, court procedures and the judiciary, bankruptcy procedures, tender procedures, political party-oriented public administration and pressures, and the procedures of issuing licenses and authorizations by ministries.

#### *Public administration*

- (2) In the behavior and everyday work of public administration, certain comfort may be noted in terms of not-adhering to legally determined time frames for businesses to obtain a certain right from it. The “mid-level” administration apparatus and its technical capacities, including the manner in which it provides services, all raise the issue of whether prescribed measures and procedures are perhaps too rigid, or the administration staff has low capacity to process files and submissions – or perhaps, a combination of both factors. A part of this problem may be the fact that there is performance measuring lacking with public administration staff, so once established working relations are perceived as guaranteed regardless of results achieved in work. This eventually jeopardizes the very implementation of legal solutions. Perhaps the remedy to this all may be sought in providing more training and information, and even in the elimination of political party influences.
- (3) Another thing that should be noted is the procedure of issuing various documents, a thing implying only unnecessary administration and costs for businesses. The problem lies in the fact that, in its updating of procedures in this field, the state does not seem to follow rapid changes in competitive conditions of operation and does not consult businesses; yet, the damage has to be highlighted of the too frequent modification of legislation. Some activities have not been fully regulated.
- (4) Information on amendments and on current regulations i.e. the availability of such information to businesses, is of key importance.
- (5) The importance was also stressed of monitoring and control in terms of the existence and operation of relevant standards and laboratories.

#### *The general trend and specific features of the environment*

- (6) A serious disadvantage of our business environment is the (low) quality of human resources as well as the development of professions and their professional and ethic behavior. Unfortunately, the issue remains open on whether we have highly-qualified people or we have the problem of

maintaining bad business ethics. People are simply not used to working by using the capacity needed, a thing required by this market and new conditions of operation.

- (7) More account is taken of personal acquaintances and lobbying than of respecting laws as being the rules of the game.
- (8) The general situation of decreased purchase power, perhaps in combination with mentality, implies expectations that someone performing administrative tasks is to be rewarded for doing what represents their working tasks. This kind of expectations is a two-way one, meaning such things are expected by both the beneficiary and the public administration.
- (9) Some representatives of businesses do not wish to work with state institutions because collection of payment is low, and they do not want to have any contacts with them. The problem is that funds are collected for the payment of suppliers by state administration bodies, and then a percently share of it is requested for accumulated payment although this represents a duty that nevertheless has to be met.
- (10) The confused manner of operation and the lack of coordination, with frequent interferences of politics in the business sector, all result in uncertainty and hesitancy, which in turn destroys from the very start the basic function of each organization, and even of each citizen in Macedonia – the planning. This is especially destructive to the planning of cash inflows, billing, and payment, and this all creates an atmosphere of uncertainty which represents an unfavorable climate for operation. This leaves more space for incidental solutions that are of palliative nature, subject to frequent errors, motivating businesses to behave beyond legally set frames. The monitoring system maintained within various commissions and courts thus becomes overloaded with petty cases, which takes away the time and focus to be allocated to grave criminal behavior and deviations within economy.
- (11) The informal economy brings about unfair competition.