**Case study – Exercise: Multi-criteria analysis – the Late Payment Directive**

**Part 1: assignments**

1. Think about different policy measures/options to reduce late payments
2. Divide the 15 policy measures in Part 2 into the following classification:
   1. Do nothing
   2. Hard legally binding rules
   3. Soft regulation
   4. Education and information
   5. Economic instruments
3. Identify the potential impacts for each of the 15 policy instruments in Part 3
4. Calculate the costs and benefits for option 1 and allocate them to the correct cost/benefit types in Part 4
5. Think about which other measures could reduce late payments in order to strengthen option 1
6. Carry out a multi-criteria analysis (MCA) in Part 4:
   1. Step 1: determine costs and benefits (see 3.)
   2. Step 2: standardization row maximum
   3. Step 3: multiply and sum up
   4. Step 4: determine preference rule
7. What happens if the weights/inputs of the impacts in the multi-criteria analysis are modified?



**Part 2: Measures to reduce late payments**

1. **Stricter payment terms (b)**

The introduction of a maximum 60-day payment period in "asymmetrical" transactions between entrepreneurs, i.e. those in which the payer is a large enterprise and its SME contractor. If the parties reserve a deadline of more than 60 days in the contract (e.g. 120 days), this deadline will not apply and a 30-day statutory deadline will take place in its place. In turn, in transactions in which the public entity is a debtor (e.g. offices, public universities, police units, army etc.), a maximum 30-day payment period will apply, without the possibility of its extension.

1. **Transparency of payment practices (b)**

Measures for transparency of payment practices include legal obligations to periodically publish information on payment practices of companies in specific government databases and registries.

1. **Invoice management measures (c)**

Electronic invoicing (e-invoicing) is a form of electronic billing, which requires software. E-invoicing methods are used by trading partners, such as customers and their suppliers, to present and monitor transactional documents between one another and ensure the terms of their trading agreements are being met. The main responsibility of the accounts payable department is to ensure all outstanding invoices from its suppliers are approved, processed, and paid. Processing an invoice includes recording important data from the invoice and feeding it into the company’s financial or bookkeeping systems. E-invoicing should facilitate the whole payment process.

1. **Alternative Dispute Resolution System (c)**

Negotiated settlements, arbitration and Alternative Dispute Resolution (such as mediation or conciliation) might be an attractive solution for business disputes, as they offer a faster and low-cost alternative to court proceedings. Ombudsmen or arbitration tools are useful in solving payment disputes and maintaining business relations, and they are usually preferable to going to court.

1. **Administrative sanctions (b)**

Administrative sanctions represent an important means of supporting the enforcement of national legislation on late payment. Given that administrative sanctions are enforced by public authorities, direct intervention from the public administration can overcome the ‘fear factor’ and helps to avoid placing the responsibility to take action against the debtor on the creditor.

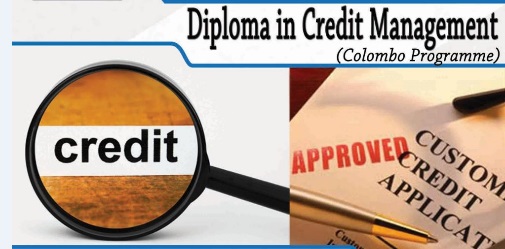
1. **Prompt payment codes (c)**

Codes and charters of good practice encourage signatory companies to respect specific requirements for improving their payment practices.

1. **Corporate social responsibility (d)**

Corporate social responsibility measures are similar in nature to prompt payment codes as they encourage companies to take responsibility for the improvement of their business behaviour, including payment practices.

1. **Credit management education (d)**



Effective credit management shortens the average collection period and maintains an optimal cash flow, thus reducing the risk of default and increasing the potential for growth. Training and support may also make it more likely that SMEs use the remedies of the Late Payment Directive.

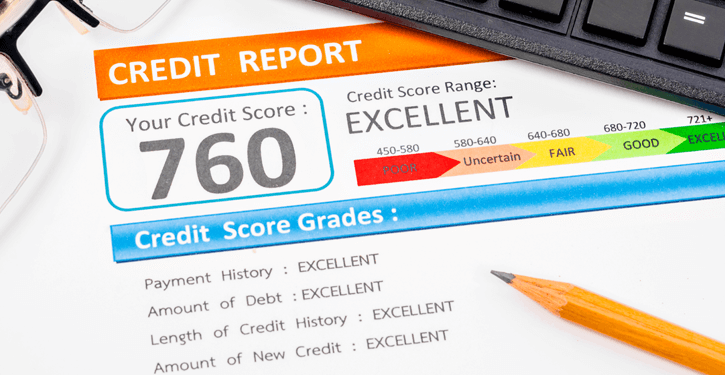
1. **Unfair contractual terms and the role of business organisations (d)**

Business organisations’ representatives could have an essential role in helping SMEs with insufficient resources or lacking the knowledge of the relevant legal framework and available remedies to take action against ‘grossly unfair terms and practices’.

1. **Awareness raising activities (d)**

Awareness-raising activities (events, seminars, information sessions and communication campaigns) aim to increase knowledge about issues related to late payment in B2B transactions, rights and remedies stemming from the LPD or other national measures.

1. **Labels and prize (c-d)**



Based on positive financial figures, background information and good payment behaviour, companies can receive a label/certificate for their good payment practices. The companies provide the information to the government and they decide whether or not they receive a label/certificate.

1. **Working groups (d)**

Governments could use fora and working groups for discussing the issues of late payment, reflecting on solutions and raising awareness of good practices.

1. **Compensation for recovery costs proportional to the size of the debt (e)**

The Late Payment Directive sets out a fixed sum of EUR 40 as compensation for recovery costs that the creditor is entitled to obtain from the debtor once interest for late payment has become payable.

1. **Legal provisions on the retention of title (b)**

The retention of title constitutes a security right that allows the seller to maintain the ownership on the sold good until the buyer has paid the full price. The clause might also establish that the transfer of the ownership happens only once the payment has been performed.

1. **Tax regulations (e)**

Tax regulations can be used to tackle unfair payment behaviour. Two main models have been identified:

* 1. Tax regimes that indirectly sanction non-compliant businesses by transferring the obligation to pay VAT from the creditor to the debtor (e.g. in Czech Republic), or by preventing the debtor from deducting the VAT in case of an unpaid invoice or violation of the payment periods set out by law (e.g. in Slovenia).
  2. Tax regimes that allow creditors to postpone the payment of VAT until the debtor has fully carried out the monetary obligations or obtained tax adjustments.

**Part 3: Potential impacts for each of the 15 policy instruments**

**Table 1: Potential impacts for each policy instrument**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Do nothing | Stricter payment terms | Transparency of payment practices | Invoice management measures | Alternative Dispute Resolution System | Administrative sanctions | Prompt payment codes | Corporate social responsibility |
| **Society** | | | | | | | | |
| Employment, investment, economic growth |  | + | + | + | + | + | + | + |
| **Markets** | | | | | | | | |
| Trust |  | + | + | + | + | + | + | + |
| **Companies** | | | | | | | | |
| Information costs |  |  | + | + | + |  | + | + |
| Compliance costs |  |  |  |  |  |  |  |  |
| *Administrative burdens* |  | + | + | - |  |  |  |  |
| *Start-up or one-off costs* |  |  |  | + |  |  |  |  |
| *Operational or recurring costs* |  |  |  | + |  |  |  |  |
| Financial cost: interest |  | - | - | - | - | - | - | - |
| Delay costs |  | - | - | - | - | - | - | - |
| Enforcement costs |  | + | + | + | + | + | + | + |
| **Institutions** | | | | | | | | |
| Administrative costs |  |  | + |  | + | + |  |  |
| Operational costs |  |  |  |  | + | + |  |  |
| Enforcement costs |  |  |  |  |  |  |  |  |
| *Monitoring* |  |  |  |  |  | + |  |  |
| *Inspection* |  |  |  |  |  | + |  |  |
| *Adjudication* |  |  |  |  | + | + |  |  |
| *Litigation* |  |  |  |  |  |  |  |  |

**Table 2: Potential impacts for each policy instrument (cont.)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Credit management education | Unfair contractual terms and the role of business organisations | Awareness raising activities | Labels and prizes | Working groups | Compensation for recovery costs proportional to the size of the debt | Legal provisions on the retention of title | Tax regulations |
| **Society** | | | | | | | | |
| Employment, investment, economic growth | + | + | + | + | + | + | + | + |
| **Markets** | | | | | | | | |
| Trust | + | + | + | + | + | + | + | + |
| **Companies** | | | | | | | | |
| Information costs |  | + | + |  |  |  |  |  |
| Compliance costs |  |  |  |  |  |  |  |  |
| *Administrative burdens* |  |  |  | + |  |  |  | + |
| *Start-up or one-off costs* | + |  |  |  |  |  |  |  |
| *Operational or recurring costs* |  |  |  | + |  |  |  |  |
| Financial cost: interest | - | - | - | - | - | - | - | - |
| Delay costs | - | - | - | - | - | - | - | - |
| Enforcement costs | + | + | + | + | + | + | + | + |
| **Institutions** | | | | | | | | |
| Administrative costs |  |  |  |  |  |  |  | + |
| Operational costs |  |  | + | + | + | + |  | + |
| Enforcement costs |  |  |  |  |  |  |  |  |
| *Monitoring* |  |  |  |  |  |  |  |  |
| *Inspection* |  |  |  | + |  |  |  |  |
| *Adjudication* |  |  |  |  |  |  |  |  |
| *Litigation* |  |  |  |  |  |  |  |  |

**Part 4: Multi-criteria analysis (MCA)**

The multi-criteria analysis exists of different options. In this case option 0 is the status quo, which used as benchmark for other options. The benefits and costs of other options should be compared with option 0. In other words, the impact of the different measures in option 1 and 2 are marginal effects relative to doing nothing in option 0. You have to calculate the marginal cost and benefits of the first option. The costs and benefits of option 2 are already calculated in order to carry out a MCA.

* **Option 1: Polish cluster of measurements**

Option 1 exists of the Polish measurements that are currently active:

* + Stricter payment terms
  + Transparency of payment practices
  + Alternative Dispute Resolution System
  + Administrative sanctions
  + Compensation for recovery costs proportional to the size of the debt
  + Tax regulations

In order to calculate the impact of the Polish measurements, we take a time span of 10 years into account. The wages of the different stakeholder are mentioned in Table 2.

Due to stricter payment terms, 2 million SMEs should update their general contract terms. This process takes about 30 minutes for administrative employees.

**2,000,000 SMEs \* 0.5 hours \* 40 €/hour = 40,000,000 (administrative burden)**

The reporting obligation concerning the transparency of payment practices is only applicable for companies which have more than EUR 50 million revenue per years (18.000 firms in Poland). The reporting obligation is required quarterly. The first time, it takes about 2 hours of a corporate manager's time to get familiar with the reporting obligation. Drawing up the report takes 1 hour of a financial director's time and 3 hours of a corporate manager's time. To guarantee transparency of payment practices, governments databases and registries should be updated on regularly bases, which takes about 4 hours/week for a of a web design and developer professional's time.

**Start-up: 18,000 firms \* 2 hours \* 70 €/hour = 2,520,000 (administrative burden)**

**Report: 18,000 firms \* 4 quarters \* (3 hours \* 70 €/hour + 1 hour \* 100 €/hour) \* 10 years = 223,200,000 (administrative burden)**

**Government database: 4 hour \* 45 €/hour \* 52 weeks \* 10 years = 93,600 (administrative burden)**

The organisation of an alternative dispute resolution system has a start-up cost of EUR 100,000 for the government. These costs reflect the investment in computer software and a database in which the negotiators have to upload a report. It is expected that on average an alternative dispute resolution system is used by 7,500 SMEs per year. Instead of each firm hiring a lawyer, which spends on average 8 hours per case, there is only one negotiator per 2 firms. The negotiator spends on average 6 hours per dispute and is paid by the companies.

**Start-up: 100,000 (operational)**

**Negotiation lawyer: 7,500 SMEs \* 8 hours \* 90 €/hour \* 10 years = 54,000,000 (enforcement)**

**Negotiation other: 3,750 SMEs \* 6 hours \* 60 €/hour \* 10 years = 13,500,000 (enforcement)**

Administrative sanctions requires a system in which the public administration can help to take action against the debtor. On average, 1,500 enterprises are controlled each year, and the following actions are undertaken:

- 200 warnings;

- 100 injunctions;

- 150 notifications of the application of administrative sanctions.

An average check takes about 2 hours per firm (administrative employee) for the government as well as the firm. On average, the total annual number of administrative fines amounted to EUR 5 million.

**Control government: 1,500 firms \* 2 hours \* 40 €/hour \* 10 years = 1,200,000 (enforcement)**

**Control firm: 1,500 firms \* 2 hours \* 40 €/hour \* 10 years = 1,200,000 (enforcement)**

**Fines: 5,000,000 \* 10 years = 50,000,000 (enforcement)**

The Late Payment Directive sets out a fixed sum of EUR 40 as compensation for recovery costs that the creditor is entitled to obtain from the debtor once interest for late payment has become payable. On average an administrative government employee spends 5 hours a week to make sure the system works correctly. Yearly, the system results in EUR 2 million in compensation. A system of tax regulations requires companies to fill in the correct forms, which have to be checked by the government. On average it takes about half an hour for an administrative employee to per application for the company as well as the government. On average 7,500 applications are filled in per year.

**Control: 5 hours \* 40 €/hour \* 52 weeks \* 10 years = 104,000 (enforcement)**

**Compensation: 2,000,000 \* 10 years = 20,000,000 (enforcement)**

A system of tax regulation requires the government to invest in a software and database infrastructure of EUR 250,000. On average a fulltime administrative government employee (38 hours/week) controls and registers the request for tax reduction. On average 30,000 applications for tax reductions are requested per year, which takes approximately 30 minutes per application of an administrative employees. On the one hand, the tax reduction results in less government revenues, but on the other hand in less costs for the companies. In other words this is a shift between the government and the companies. The average tax reduction amounts to EUR 300 per application.

**Start-up: 250,000 (operational)**

**Government database: 38 hour \* 40 €/hour \* 52 weeks \* 10 years = 790,400 (administrative burden)**

**Firm application: 0.5 hour \* 40 €/hour \* 30,000 applications \* 10 years = 6,000,000 (administrative burden)**

**Financial cost government: €300 \* 30,000 applications = 9,000,000 (financial)**

**Financial revenue firms: €300 \* 30,000 applications = 9,000,000 (financial)**

**Table 2: wages**

|  |  |
| --- | --- |
| **Business** | |
| *Financial director* | €100/hour |
| *Corporate manager* | €70/hour |
| *Administrative employees* | €40/hour |
| *Lawyer* | €90/hour |
| *Negotiator* | €60/hour |
| **Institution** | |
| *Web design and developer* | €45/hour |
| *Administrative employees* | €40/hour |

A survey of 1,000 Polish companies showed that these 6 Polish measurements increased trust with 30%-points compared to the status quo option. Due to the measurements, the liquidity positions of the companies increased and led to more investments. In total the policy measures will lead to an increase of 20,000 employers. On average, the payment delay decreased with 15 days due to the various policy measures. This also led to less costs in loans and credits for companies, for a total of EUR 50 million per year.

Besides lawyer cost savings due to the organisation of an alternative dispute resolution system, other measures also reduce late payments. On average, it saves each 5,000 SME 4 hours of lawyer costs each year.

**Lawyer: 5,000 SMEs \* 4 hours \* 90 €/hour \* 10 years = 18,000,000 (enforcement)**



* **Option 2: Extended Polish version**

Option 2 is an extension/modification of the current Polish policy concerning the Late Payment Directive. The impacts of this option are already calculated, which can be found in the multi-criteria analysis. Some examples of measurements are:

* + Apply stricter payment terms of option 1 only to SMEs with a certain turnovers (e.g. 500,000 euro). This would reduce the administrative burden with 75%, since it would be only applicable to 500,000 firms instead of 2 million.
  + We could also reduce the quarterly reporting obligation to a half-yearly obligations, which would also reduce the administrative burden significantly.
  + Free advice for companies on late payments organised by the Polish government.
  + An obligation to use an e-invoicing system would increase the operational costs.

4 steps in MCA

* Step 1: determine costs and benefits
* Step 2: standardization row maximum
* Step 3: multiply and sum up
* Step 4: determine preference rule

**Step 1: determine costs and benefits**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Option 0** | **Option 1** | **Option 2** |
| **Benefits** | | | |
| *Market* | | | |
| Trust (scale 1-10) | 0 | 3 | 5 |
| *Society* | | | |
| Employment (jobs) | 0 | 20,000 | 15,000 |
| *Business* | | | |
| Delay (days) | 0 | 15 | 20 |
| Operation and financial (€) | 0 | 59,000,000 | 75,000,000 |
| Enforcement (€) | 0 | 72,000,000 | 50,000,000 |
| **Costs** | | | |
| *Business* | | | |
| Administrative burden (€) | 0 | 271,720,000 | 150,000,000 |
| Operation and financial (€) | 0 | 0 | 100,000,000 |
| Enforcement (€) | 0 | 84,700,000 | 75,000,000 |
| *Institutions* | | | |
| Administrative burden (€) | 0 | 884,000 | 0 |
| Operation and financial (€) | 0 | 9,350,000 | 5,000,000 |
| Enforcement (€) | 0 | 1,304,000 | 10,000,000 |

**Step 2: standardization row maximum**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Option 0** | **Option 1** | **Option 2** |
| **Benefits** | | | |
| *Market* | | | |
| Trust (scale 1-10) | 0.00 | 0.60 | 1.00 |
| *Society* | | | |
| Employment (jobs) | 0.00 | 1.00 | 0.75 |
| *Business* | | | |
| Delay (days) | 0.00 | 0.75 | 1.00 |
| Operation and financial (€) | 0.00 | 0.79 | 1.00 |
| Enforcement (€) | 0.00 | 1.00 | 0.69 |
| **Costs** | | | |
| *Business* | | | |
| Administrative burden (€) | 0.00 | 1.00 | 0.55 |
| Operation and financial (€) | 0.00 | 0.00 | 1.00 |
| Enforcement (€) | 0.00 | 1.00 | 0.89 |
| *Institutions* | | | |
| Administrative burden (€) | 0.00 | 1.00 | 0.00 |
| Operation and financial (€) | 0.00 | 1.00 | 0.53 |
| Enforcement (€) | 0.00 | 0.13 | 1.00 |

**Step 3: multiply and sum up**

The next steps include the assignment of criteria weights. These weights, that show the relative importance of criteria in the multi-criteria problem under consideration, can be determined by techniques such as literature review of comparable studies in the past, interviewing experts in the field, the Analytical Hierarchy Process[[1]](#footnote-1), etc.

**Table 3: Weights for MCA**

|  |  |
| --- | --- |
| Trust (scale 1-10) | 10% |
| Employment (jobs) | 20% |
| *Business* |  |
| Delay (days) | 10% |
| Administrative burden (€) | 10% |
| Operation and financial (€) | 10% |
| Enforcement (€) | 10% |
| *Institutions* |  |
| Administrative burden (€) | 10% |
| Operation and financial (€) | 10% |
| Enforcement (€) | 10% |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Option 0** | **Option 1** | **Option 2** |
| **Benefits** | | | |
| *Market* | | | |
| Trust (scale 1-10) | 0.00 | 0.06 | 0.10 |
| *Society* | | | |
| Employment (jobs) | 0.00 | 0.20 | 0.15 |
| *Business* | | | |
| Delay (days) | 0.00 | 0.08 | 0.10 |
| Operation and financial (€) | 0.00 | 0.08 | 0.10 |
| Enforcement (€) | 0.00 | 0.10 | 0.07 |
| **Costs** | | | |
| *Business* | | | |
| Administrative burden (€) | 0.00 | 0.10 | 0.06 |
| Operation and financial (€) | 0.00 | 0.00 | 0.10 |
| Enforcement (€) | 0.00 | 0.10 | 0.09 |
| *Institutions* | | | |
| Administrative burden (€) | 0.00 | 0.10 | 0.00 |
| Operation and financial (€) | 0.00 | 0.10 | 0.05 |
| Enforcement (€) | 0.00 | 0.01 | 0.10 |

**Step 4: determine preference rule**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Option 0** | **Option 1** | **Option 2** |
| **Benefits** | | | |
| *Market* | | | |
| Trust (scale 1-10) | 0.00 | 0.06 | 0.10 |
| *Society* | | | |
| Employment (jobs) | 0.00 | 0.20 | 0.15 |
| *Business* | | | |
| Delay (days) | 0.00 | 0.08 | 0.10 |
| Operation and financial (€) | 0.00 | 0.08 | 0.10 |
| Enforcement (€) | 0.00 | 0.10 | 0.07 |
| **Costs** | | | |
| *Business* | | | |
| Administrative burden (€) | 0.00 | 0.10 | 0.06 |
| Operation and financial (€) | 0.00 | 0.00 | 0.10 |
| Enforcement (€) | 0.00 | 0.10 | 0.09 |
| *Institutions* | | | |
| Administrative burden (€) | 0.00 | 0.10 | 0.00 |
| Operation and financial (€) | 0.00 | 0.10 | 0.05 |
| Enforcement (€) | 0.00 | 0.01 | 0.10 |
| **Total** | **0.00** | **0.10** | **0.12** |

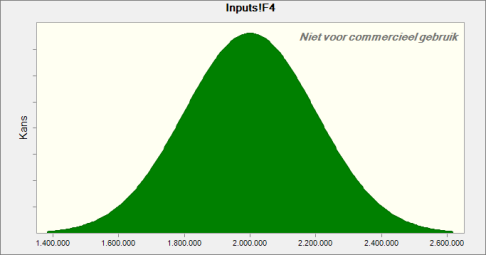
**Part 5: Sensitivity analysis**

**Partial sensitivity analysis**

* MCA 2: Change in weights: Trust: 10% 🡺 20% and Employment: 20% 🡺 10%
* MCA 3: transparency of payment practices: 30,000 companies yearly instead of 18,000 companies quarterly
* MCA 4: tax regulations: 50,000 applications instead of 30,000
* MCA 5: trust increases with 4.5 instead of 3

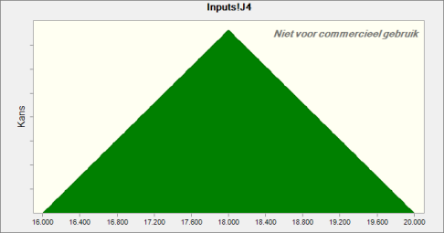
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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **MCA 1** | | **MCA 2** | | **MCA 3** | | **MCA 4** | | **MCA 5** | |
|  | **Option 1** | **Option 2** | **Option 1** | **Option 2** | **Option 1** | **Option 2** | **Option 1** | **Option 2** | **Option 1** | **Option 2** |
| **Benefits** | | | | | | | | | | |
| Market | | | | | | | | |  |  |
| Trust (scale 1-10) | 0.06 | 0.10 | 0.12 | 0.20 | 0.06 | 0.10 | 0.06 | 0.10 | 0.09 | 0.10 |
| *Society* | | | | | | | | |  |  |
| Employment (jobs) | 0.20 | 0.15 | 0.10 | 0.08 | 0.20 | 0.15 | 0.20 | 0.15 | 0.20 | 0.15 |
| *Business* | | | | | | | | |  |  |
| Delay (days) | 0.08 | 0.10 | 0.08 | 0.10 | 0.08 | 0.10 | 0.08 | 0.10 | 0.08 | 0.10 |
| Operation and financial (€) | 0.08 | 0.10 | 0.08 | 0.10 | 0.08 | 0.10 | 0.09 | 0.10 | 0.08 | 0.10 |
| Enforcement (€) | 0.10 | 0.07 | 0.10 | 0.07 | 0.10 | 0.07 | 0.10 | 0.07 | 0.10 | 0.07 |
| **Costs** | | | | | | | | | | |
| *Business* | | | | | | | | |  |  |
| Administrative burden (€) | 0.10 | 0.06 | 0.10 | 0.06 | 0.10 | 0.10 | 0.10 | 0.05 | 0.10 | 0.06 |
| Operation and financial (€) | 0.00 | 0.10 | 0.00 | 0.10 | 0.00 | 0.10 | 0.00 | 0.10 | 0.00 | 0.10 |
| Enforcement (€) | 0.10 | 0.09 | 0.10 | 0.09 | 0.10 | 0.09 | 0.10 | 0.09 | 0.10 | 0.09 |
| *Institutions* | | | | | | | | |  |  |
| Administrative burden (€) | 0.10 | 0.00 | 0.10 | 0.00 | 0.10 | 0.00 | 0.10 | 0.00 | 0.10 | 0.00 |
| Operation and financial (€) | 0.10 | 0.05 | 0.10 | 0.05 | 0.10 | 0.05 | 0.10 | 0.03 | 0.10 | 0.05 |
| Enforcement (€) | 0.01 | 0.10 | 0.1 | 0.10 | 0.01 | 0.10 | 0.01 | 0.10 | 0.01 | 0.10 |
| **Total** | **0.10** | **0.12** | **0.06** | **0.15** | **0.11** | **0.08** | **0.11** | **0.14** | **0.13** | **0.12** |

**Multivariate sensitivity analysis**

****Inputs

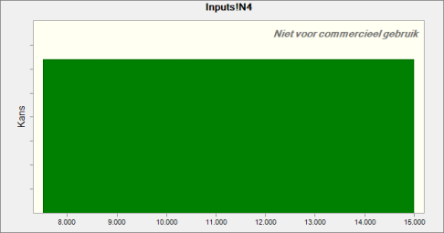
* Stricter payment terms
  + Number of firms:

Normal distribution: avg. 2,000,000 and std.dev. 200,000



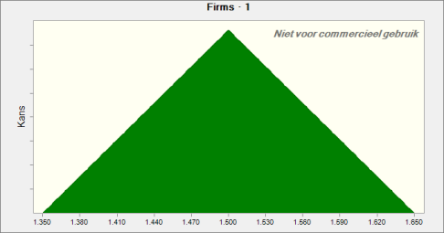
* Transparency of payment practices
  + Number of firms:

Triangle distribution: min 16,000; avg. 18,000; max 20,000



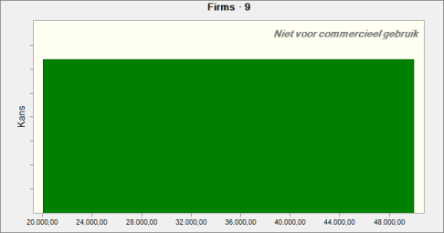
* Alternative Dispute Resolution System
  + Number of firms:

Uniform distribution: min 7,500; max 15 ,000



* Administrative sanctions
  + Number of firms:

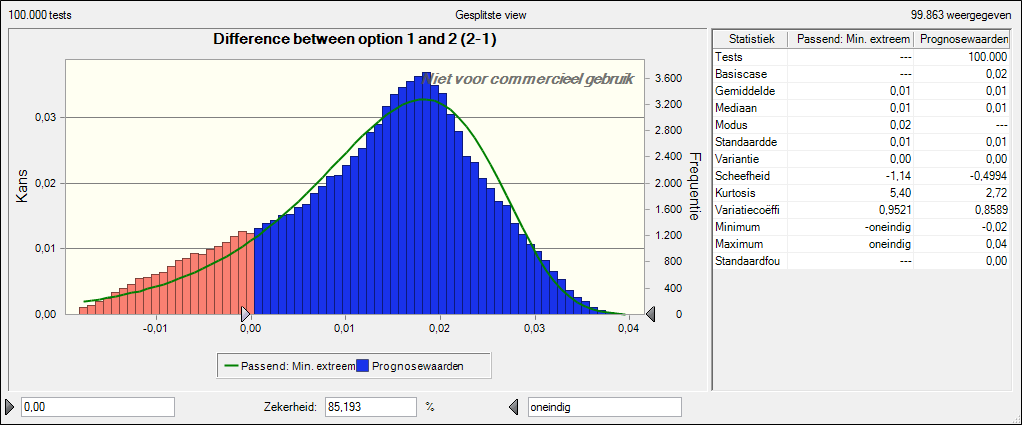
Triangle distribution: min 1,350; avg. 1,500; max 1,650



* Tax regulations
  + Number of applications:

Uniform distribution: min 20,000; max 50,000

**Figure 1: Monte Carlo analysis**



**Figure 2: Sensitivity chart**

1. The Analytic Hierarchy Process (AHP), introduced by Thomas Saaty (1980), is an effective tool for dealing with complex decision making, and may aid the decision maker to set priorities and make the best decision. By reducing complex decisions to a series of pairwise comparisons, and then synthesizing the results, the AHP helps to capture both subjective and objective aspects of a decision. In addition, the AHP incorporates a useful technique for checking the consistency of the decision maker’s evaluations, thus reducing the bias in the decision making process. (<http://www.dii.unisi.it/~mocenni/Note_AHP.pdf>) [↑](#footnote-ref-1)