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**The Effects of Compensation on the
Quality of Financial Advice**

The Case of the Closing Provision

The effects of compensation on the quality of financial advice:
the case of the closing provision

by

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Abstract

This paper discusses the effect of compensation on the quality of financial advice. From personal experience working at Zwitserleven, the ban on closing provision is discussed as a practical case. From the literature it becomes clear that the discussion is highly technical and that based on the literature alone it is hard to draw a conclusion. Empirical evidence seems to indicate that the lower the provision the intermediary receives, in general the higher the quality of financial advice is. And that therefore the change from closing provision to continuing provision to a fee-based system is likely to improve the future quality of financial advice. However, for financial intermediaries working today the future may still seem very uncertain.

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1. Introduction

The importance of incentives influencing human behaviour was already recognized in 1776, when Adam Smith wrote his infamous 'An inquiry into the nature and causes of the wealth of nations'. Smith gives the following characterization of incentives: *"Public services are never better performed than when their reward comes in consequence of their being performed, and is proportioned to the diligence in performing them."* (Smith 1776, The Wealth of Nations, Book V, Chapter 1, Part II, p. 719)

However, Smith also cleverly recognized that incentives can also have an adverse effect on effort: *"It is the interest of every man to live as much at his ease as he can; and if his emoluments (=compensation) are to be precisely the same, whether he does, or does not perform some very laborious duty, it is certainly his interest... either to neglect it altogether, or... to perform it in [a] careless and slovenly a manner..."*. This means that incentives relate effort put in by the intermediary to the compensation he expects to receive. These two counterproductive effects of incentives are still very important when determining the adequate compensation of agents living today.

The discussion of incentives will be applied to the case of financial advice. Financial advice is the collective name for the provision of financial services to individuals, businesses and government. The scope of financial advice is broad, and includes amongst others investment advice, pension planning, insurance and mortgage advice. For the customer, financial advice is important to maintain a right balance of income versus an acceptable level of risk. The objectives of the provider of financial advice and the intermediary are different, however, and need to be balanced with the objectives of the customer. The provider of financial advice is a firm, and its goal is to maximize profits or satisfy the interests of their stakeholders as a group. And the intermediary is primarily motivated by the amount of compensation he receives and his reputation.

A practical application is discussed by means of the case of the closing provision. As an intermediary, compensation has traditionally comprised of a closing provision for achieving a contract with a customer and a continuing provision for maintaining the contract. Anticipating on expected government regulation banning the closing provision starting 2013, Zwitserleven as a major life insurer has decided to start phasing out the closing provision from July 2011. Intermediary compensation will then be comprised of a continuing provision only, and in the long term it is expected that intermediaries will be compensated solely on a fee-basis.

The structure of this thesis is as follows. First, a scheme of financial advice will be discussed in order to understand the basic interactions between the players involved in financial advice. The concept of quality is discussed with respect to financial advice. To be able to analyze the effect of compensation on the quality of financial advice, it is important to discuss the compensation of intermediaries. The presence of (government) regulation acts as a constraint on the possibilities that providers and intermediaries have to influence compensation and quality.

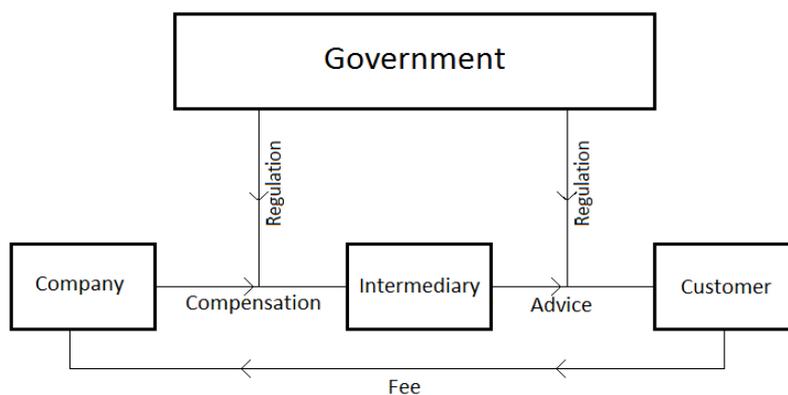
Next, the literature on compensation and financial advice is presented. The literature provides a foundation for the empirical section. The empirical analysis focuses on a simulation of the models in the literature review. The parameters in the models can be roughly estimated. The use of these parameters in a model yields predictions. A sensitivity analysis is conducted (by varying different model parameter values), which can provide valuable policy implications.

Finally, the results of the previous literature study and empirical analysis can be used to answer the research question *“What effects (if any) do the amount and the type of compensation provided by firms to intermediaries have on the quality of financial advice provided to the customer? And what effect is the ban on closing provision likely to have on the future quality of financial advice?”*

2. Financial advice and quality

2.1 Financial advice scheme

To understand the basic interactions involved in the provision of financial advice, a scheme of financial advice can be constructed:



The players in the model and the way they interact will be discussed in this section. A basic understanding of this model is vital in understanding the effect of compensation on the quality of financial advice, and parts of the model will definitely recur throughout the subjects’ discussion.

As is increasingly prevalent in economic analysis, we will start from the perspective of the customer. The customer is not perfectly rational. The concept of bounded rationality was first introduced by Herbert Simon (‘Models of Man’ 1957, p. 279), and is subsequently used as one of the major tenets of a new stream of economics called behavioural economics. This stream of economics emphasizes other deviations from the neoclassical rational economic model, such as satisficing (rather than maximizing), incomplete information and markets and limited self-interest. This implies that customers cannot make all decisions for themselves. In more complex financial decisions they need help from a third party who possesses expertise on the particular subject.

This is where companies come in. A company generally possesses a stock of knowledge and expertise on a particular field. Most of this knowledge is captured in the company by means of processes and standards, but a large source of knowledge when it comes to financial expertise comes from the people that work at the companies. The term ‘intermediary’ in this model represents both employees of the company (and hired external professionals) as well as separate companies that specialize in the provision of financial advice. This is in contrast to the general interpretation of an intermediary being a third party that offers intermediation between two trading parties. In the case of financial advice, more often than not the provider of financial advice works for the company and is not a third party.

For receiving financial advice, the customer generally pays a fee to the providing company. This is often made explicit by means of a contract that specifies the terms of the financial advice provision.

However, key to the discussion on the effects of compensation on financial advice is the interrelation between intermediaries and the company on the one hand and the customer on the other hand.



In the introduction the concept of incentives first introduced by Adam Smith was discussed. The amount of compensation the intermediary receives from the company, for a particular amount of effort provided, acts as an incentive that influences the agents' behaviour. An account of the types of compensation will be given shortly. Given the amount of compensation the intermediary receives, he determines the amount of effort that will be put into providing financial advice. The amount of effort put in generally determines the quality of the financial advice provided to the customer.

However, neither the intermediary nor the company are completely free in determining the amount of compensation and the amount of effort put in respectively. As we have seen there is a fourth player in the form of the government or government agencies. The government (agency) sets regulation (such as the Wet Financieel Toezicht, WFT, or the Pensioen Wet, PW) on financial advice, which act as constraints on both the company's and the intermediary's behaviour. Regulation on compensation determines the types of compensation the company can offer their intermediaries, and the minimum amount of compensation required to compensate the intermediary for his efforts. Regulation on advice concerns the quality of financial advice provided. A minimum quality is set that the intermediary is required to maintain in the provision of financial advice to each customer. The determination of the quality of financial advice is a topic that we will discuss next.

An important issue when it comes to the provision of financial advice is the impartiality of the intermediary and therefore the impartiality of the advice. The advice is generally supposed to serve the best interest of the customer, but the conjecture is that the intermediary's advice is made dependent on the interests of the company. For example when fees that the customer pays to the company on different products are different, the intermediary could be instructed to advise the customer to choose those products with the highest fees or the intermediary can be incentivized by making his compensation more favourable when advising these particular products. Whether this impartiality concern is true in practice is open to debate, but it will become clear that the concern is more or less relevant under particular methods of compensation.

2.2 Measuring quality

When it comes to measuring the quality of financial advice provided by financial intermediaries to the customers of the company, there are at least two complicating factors. Firstly, quality is a subjective measure. The quality of a unit of financial advice is likely to differ across customers and time. Recognizing that quality is subjective, a good way to measure quality is by means of surveys.

Second, the quality of the financial advice provided must meet the customers' needs. An advice that is of very high quality but doesn't meet the customers' needs is useless, since the customer has no

use for the advice. Therefore, in assessing the quality of financial advice, it is important to recognize the degree to which the advice meets the needs of the customer.

The government (agencies) can more objectively measure quality by means of quality standards, certification of intermediaries and supervision of intermediaries. The trends are towards stronger regulation on the education and certification of intermediaries. However, these objective methods are difficult to perform. The best way to measure quality seems to be the administration of surveys.

Here the results of one particular survey will be discussed. The Australian Securities & Investments Commission administrated such a survey ('Survey on the quality of financial planning advice', February 2003). Although the data come from Australia, their results can be applied generally.

The survey was administered on 53 consumers each approaching 3 financial planners and seeking a comprehensive financial plan. The survey contains 124 plans, assessed on the criteria 'good practice standards', 'consumer expectations' and 'regulatory obligations'. Based on the quality of the advised plan, a score out of 100 was given to each plan. The results are:

Grade	Score	No. of plans	Percentage of plans
Very Good	75-100	2	2%
Good	65-74	23	19%
OK	55-64	36	29%
Borderline	45-54	30	24%
Poor	35-44	21	17%
Very Poor	0-34	12	10%
Total		124	100%

Source: Survey on the Quality of Financial Planning Advice (Australian Securities & Investments Commission, February 2003)

As the table shows, only a minority of the plans fall in the categories 'Good' and 'Very good'. The most important deficiencies in the plans were:

- Failing to match the plan with the customer; ignoring customer requirements
- Plans were hard to read and filled with basic information (communication problems)
- High-fee investments were recommended without motivation

It was further found that intermediaries with higher certification had higher quality scores.

The quality was significantly worse if the intermediary was solely paid with commission (44% of commission only plans are graded in the "Poor" or "Very poor" categories).

These results have implications for the quality of financial advice. They suggest that to improve the quality of financial advice, a better match must be made between customer requirements and the plans advised by intermediaries. Certification of their intermediaries should be a priority in companies as the quality of financial advice provided is found to improve. And finally, intermediaries should be made more impartial in providing advice, rather than solely looking out for the company's needs by recommending high-fee investments. In the empirical section we will see whether these implications for financial advice are important in practice as well.

2.3 Compensation

Types of compensation

Three types of compensation will be discussed: closing provision, continuing provision and fee-based compensation.

Closing provision is a provision that an intermediary receives when closing a contract with a customer on behalf of the company. A typical figure would be 4.5% denominated in the total value of the fee paid by the customer. The closing provision is typically earned over the course of the contract. Therefore there is also a risk for the intermediary that the contract expires and part of the closing provision has to be booked back.

Continuing provision is a provision that is the reward for the intermediary for work that is related to the maintenance of the contract arrangement with the customer. A typical figure would be 2% denominated on a duration base, for example a year.

Fee-based provision is a provision arrangement where the intermediary is rewarded with a standard fee for the closure and maintenance of a contract. The typical figure would be dependent on the arrangement of the company with its intermediaries, generally on an invoice per hour basis.

Regulation

The Dutch government is planning to forbid the use of closing provision starting 2013. However, more information on this ban is not yet available. Zwitserleven as one of the major life insurers in the Netherlands is planning to phase out the closing provision starting the first of July, 2011. By doing this, Zwitserleven is ahead of the market and is able to smooth the transition to a world without provision. The importance of a transition period is underlined by the following excerpt from an internal magazine:

“If all provision rights would cease starting January 1st 2013, that would be very cold turkey” (Leo de Boer, director of the Verbond van Verzekeraars).

This means that if closing provision were to be banned starting January 1st 2013, the intermediary would have to deal with a very sudden change in compensation. If it is true that the amount and type of compensation affects the quality of financial advice, then for the customer this sudden change in intermediary compensation will result in sudden quality shocks. It is better for all parties (intermediaries, customers and companies) to gradually phase out the closing provision in order to avoid any unsuspected shocks in compensation, price or quality of financial advice.

In the same internal magazine ‘Update’ (No 1. 2011) of Zwitserleven¹, chairman of the board Maarten Edixhoven says the following on the phasing out of the closing provision:

“[...] That stronger demands are being set on pension advice and the maintenance of pension contracts is only beneficial to the image of our branch. That is also valid for the planned decision to

¹ ‘Update’ No. 1 2011 (Zwitserleven) accessed on:
https://go.zwitserleven.nl/download/96fbdf4cd18d256383275e23e05086e5ad8?go_clickout=%2Fpdf%2Fupdate%2F2011%2Ffebruari%2Finterviewmaarten%2F1&go_coed=1

phase out the provision-remuneration on pension arrangements. A clean relation between provider and advisor is in the interest of the customer. Fee-based advice has the future, of that we are convinced. That is why we have recently decided to start phasing out the closing provision as a reward element to facilitate a gradual transition to the new world. We are in deliberation with advisors how we are going to precisely execute this. As a marathon runner, I know that you shouldn't start too hard, but steady and on schedule. Each step is 1 towards the finish."

For now, a shift from closing provision combined with continuing provision to a continuing provision only is being considered. But as the quote shows, the ambition is to move to a fee-based provision only. A typical figure for a continuing provision would be a continuing provision of 8%, which for the customer is roughly equal to 4.5% closing provision and 2% continuing provision. If you consider a hypothetical customer with a contract value of 1000 euros for example, this translates into a 45 euro closing provision and a 20 euro continuing provision annually for the intermediary. With continuing provision only, the intermediary receives 80 euros annually for maintenance of the contract.

2.4 Recent developments

Since the government announced a ban on closing provisions starting 2013, the topic of compensation and advice has received great attention in the academic literature and in the companies who are going to be affected by the policy change. Therefore, there have already occurred interesting developments in politics and the market since this thesis project was started up. In this section, the most important recent developments relating to closing provision and compensation and advice in general are discussed.

Politics

According to the Assurantie Magazine website², in a plenary council of the Dutch parliament on the 7th of June 2011, finance Minister Jan Kees de Jager managed to reach a majority vote for his plans on the introduction of a ban on provisions for complex financial products starting 2013. The parties in favour of the plan were VVD, PvdA, CDA and D66. De Jager says it is about "finding the balance between consumer protection and regulation". Important is the 'open norm' that the supervisor can apply in judging possible excessive rewarding. Furthermore, he is open to the much contested idea of a level playing field for the entire sector, although "there are still many bumps in the road and we should not expect too much of it". On certification of intermediaries, the plan is to only mandate it for advisors that advise the customer directly. Future political debate on the subject is to be expected, however it seems that the majority vote in favour of the ban on provisions is the definitive signal that the days of the closing provision are counted.

In the free magazine Verzekerd! of December 2010³ there is a chronological description of the regulation concerning the provision system. In the table below this chronological timeline of regulation is summarized shortly, with an explanation on the contents of the regulation and its (expected) effects.

² Website of the Assurantie Magazine accessed on <http://www.amweb.nl>

³ Verzekerd! (free magazine of the Verbond van Verzekeraars), No. 2 (December 2010), pp. 22-24

Year	Regulation	Content of regulation	(Expected) effect of regulation
1952	Wet Assurantiebemiddeling	Reward of intermediaries consists solely of closing provision or incasso provision	-
1991	Wet assurantiebemiddelingsbedrijf	More modern wording of the Wet Assurantiebemiddeling.	Begunstigingsverbod: advisors may not give part of the received provision to clients
1995	Branche (through representative organ CUPO) warns for ban on provision maximization	-	Expectation was that this could increase provision driven sale
2000 (Jan)	Ban on Begunstigingsverbod	-	none
2004	Ecorys investigates in order of the Ministry of Finance the operation of the mortgage advice market	Conclusion is that the reward structure (bonus- and revenue provisions) contain financial stimuli	Reaction CPB (2005)
2005	CPB concludes that this 'stimulus structure for intermediaries' stands in the way of an optimal competition structure	Recommendation: insurers and intermediaries should be obligated to give more clarity on maintenance remunerations and provisions Ban on contract conditions that lead to business with only one or a few providers	Broad media attention. Form of rewarding the intermediary and the role of the intermediary are brought under discussion. The process in the intermediary column of the company is put under strict regulatory supervision
2006	Wet financiële dienstverlening	-	Becomes Wft (2007)
2007	Wet financieel toezicht (Wft)	Reward regulation of intermediaries is continuously sharpened. Important point is the matching of advice	First step to reward- and cost-transparency and a new reward structure with closing- and continuing provision
2009 (end)	Tweede Kamer speaks in favor of an overall provision ban	Tweede Kamer concludes that the provision system in its basis is an inadequate reward instrument for securing that advisors focus solely on consumer interest	Reaction Verbond van Verzekeraars (feb 2010)
2010 (feb)	Verbond Van Verzekeraars publishes the paper 'De klant	For advice there is only one money flow possible: from the	A turbulent year follows, which manifests itself in 'heated

	aan het stuur, ook in de relatie tot zijn intermediair'	customer to the advisor, the so-called Customer Agreed Remuneration model	relations' between insurers and intermediaries. Eventually all parties reach common ground
2010 (end)	Research by SEO	Consumer does not seem very interested in the way of remunerating the intermediary	Role for the Verbond van Verzekeraars and AFM in informing the consumer
2010 (end)	Tweede Kamer gives a green light for the provision ban on complex products starting the 1 st of January 2013	Tweede Kamer wants to prevent expected declaration behavior with advisors and investigates measures for adequate rewarding (effectuation expected per 1 January 2012)	-
2013 (Jan)	Provision ban for complex products		

This chronological trend, from closing provision under the Wet Assurantiebemiddeling in 1952 to the expected provision ban on complex products in January 2013, is the reason why the topic of compensation and advice and in particular the case of the closing provision has become such an important topic in recent literature and the reason why it is so insightful to investigate the expected effects of a ban on provision for complex products.

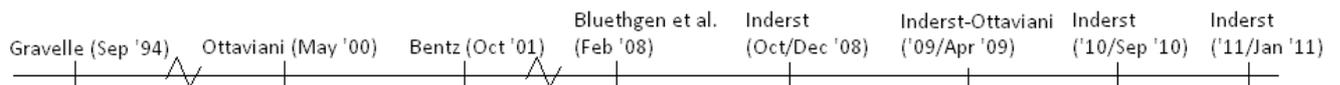
Companies

Following the example set by Zwitserleven, who as we have seen decided to start phasing out the closing provision starting July 2011, Generali (insurance group) has decided to stop paying out closing provision on complex life insurance products starting July 1st, 2011. According to the Assurantie Magazine website this new regulation is effective for all collective pension products and individual life insurance accounts of Generali, with the exception of (collective) life insurance products. For these products, the closing provision will be paid in terms and bound to a maximum of 165% of the first year's premium. The amount previously destined for closing provision will be made available for continuing provision. Generali is the second company to anticipate on the government announced ban on closing provision, but it is to be expected that in time more companies will follow.

Now that the general framework has been outlined, we can turn to the literature to see what is already known about the relationship between the firm, the intermediary and the customer with respect to financial advice.

3. Literature review

Interest in the topic of compensation and financial advice has increased only in recent years, with academic literature on the topic starting from 1994 but predominantly dating from the last decade. In the timeline below the most important papers are listed chronologically. This literature review section will briefly discuss these papers and will provide a theoretical basis for the empirical section. Details of the papers can be found in the Appendix. In order to structure this section the following timeline visualizes the main papers in this stream of literature.



Gravelle (1994) makes a comparative analysis of the commission and the fee-based system. A model is used in which the price of advice, the price of the product and quality of advice are determined. The criterion on which he compares both compensation systems is whether the system achieves a first- or second-best efficient allocation. He argues that since neither system is able to achieve a second-best efficient allocation, consumers are being exploited even if the advice and the product are sold separately. This paper has the disappointing implication that even if the commission system results in poorer quality of financial advice, this does not imply that the fee system is preferable since the price of advice is lower and consumers may be overall better off.

Ottaviani (2000) takes a step back from the complicated Gravelle model, and formulates a simple model of advice. In the model, the agent provides information to the principal with an unknown sophistication level (naïve or sophisticated). Using the simple model, a comparison of cheap talk (the result of advising a sophisticated consumer) and communication (the result of advising a naïve consumer) is discussed. The comparison results in the relation

$$V_D^P - V_{CT}^P = \frac{1}{12N} + \frac{b^2(N^2 - 4)}{3}$$

Where V_D^P and V_{CT}^P are the payoffs of delegation and cheap talk to the principal respectively, N is the number of equilibrium messages, and b is the value of the agent's bias. This equation tells us that the greater the agent's bias, the greater the value of delegation relative to cheap-talk for the consumer.

Bentz (2001) defends the commission based system. By means of a repeat purchase model he shows that commission payments act as a signal of quality to the consumer. High commission payments are attached to high-quality products.

Bluethgen et al. (2008) focus more on the characteristics of financial advisors that may serve as quality indicators. Using a survey of 260 German financial advisors he obtains three findings. There is a high degree of heterogeneity in quality among financial advisors, the extent to which advisors receive fee-based compensation instead of commissions and the degree to which advisors are rational in decision making are predictive of high-quality financial advice.

Inderst (Oct/Dec 2008) studies the various roles that commissions can perform and the implications of different policy alternatives (mandatory disclosure, increased liability for agents, caps on commissions or product prices). He finds that disclosing commission may not increase efficiency but may lead to less provision of other services or inefficient advice. With disclosure, any policy to cap commissions or increase the agent's liability can only reduce efficiency.

Inderst-Ottaviani (2009) try to analyze the implications of the conflict the intermediary faces between prospecting for customers and advising the customer on the suitability of the product specific to the needs of the customer. There is a trade-off involved between these two objectives. Firms trade off expected losses from mis-selling unsuitable products with the agency costs of providing marketing incentives. The equilibrium amount of mis-selling depends on features of the agency problem (internal organization of sales process, transparency of commission structure and steepness of agent's sales incentives). The model they use is elaborated below, since the simplicity of the model makes it an excellent model to use in the empirical analysis of this study.

Model

The agent exerts sales effort at disutility c_s and contracts a potential customer with probability μ . There are two customer types $\theta = l, h$. The customer derives utility u_θ from the product. The firms' cost of serving the customer is k_θ , and it is dependent on the type of customer. The probability that $\theta = h$ is given by q . The agent observes a presale signal $s \in [0,1]$ about customer type. The realized s is distributed F_θ , and the density is $f_\theta(s)$.

The firm compensates the agent based on the sale and on the post sale signal $0 < \psi < 1$ (verifiable complaints). The expected penalty for misselling is ρ . A fraction $0 \leq \eta \leq 1$ represents a compensatory transfer to the customer.

The timing is as follows:

1. The firm sets product price p
2. The firm sets the compensation scheme for the agent
3. The agent chooses whether to exert effort to prospect for a customer
4. If the agent exerts effort, then a customer arrives with probability μ
5. The agent privately observes signal s about the customer's type
6. The agent advises the customer whether to purchase
7. The customer decides whether to purchase at price p
8. Conditional on a sale to type- l customer, the firm observes a negative signal with probability ψ
9. Conditional on a sale to type- l customer, the firm pays an expected penalty ρ , a fraction η which is rebated to the customer.

For the agent, w is the base salary and b is the additional commission for the sale. The agent's payoff is zero when a sale is contested with probability $\psi[1-q(s)]$. Conditional on observing signal s , the agent's expected compensation from a sale is

$$V(s) := [1 - \psi[1 - q(s)]](w + b).$$

If $V(0) < w$ and $V(1) > w$ hold there exists a cut-off signal s^* at which the agent is indifferent between making a sale or not: $V(s^*) = w$. The requirement becomes:

$$\frac{b}{w} = \frac{\psi[1 - q(s^*)]}{1 - \psi[1 - q(s^*)]} \quad (\text{Equation 1})$$

The ratio of commission to salary, b/w must be lower if the firm wants to ensure compliance with a higher standard s^* . A higher salary w increases the standard s^* .

Inderst-Ottaviani (2010) discuss the foregoing model further. The limit for internal compliance is what they term the existence of an upper boundary on the feasible standard of advice. Up to this boundary, they claim, the standard of advice increases with commissions. They use a model and the method of first differencing to support their hypotheses. They find that while biasing the intermediary's advice, commissions can enhance efficiency by improving the intermediaries' incentive to acquire information. Naïve customers are exploited by increasing product prices and commissions. They further discuss regulation to protect these customers from exploitation.

Inderst-Ottaviani (2011) take a much broader view and discuss the market for financial services and financial advice as a whole. They identify the evaluation of the quality of advice specific to the customer as a key challenge. They formulate a model to analyze competition through commissions, and show that mandatory disclosure and caps on commissions may have unintended welfare consequences.

4. Empirical analysis

4.1 Method

Although the literature review section may already have provided an intuitive explanation, in this section an empirical analysis will be conducted. In order to provide an answer to the research question, the method of Inderst-Ottaviani (2009) and in particular the following formula from that paper will be used, which was introduced in the previous section:

$$\frac{b}{w} = \frac{\psi[1 - q(s^*)]}{1 - \psi[1 - q(s^*)]}$$

The analysis of Inderst-Ottaviani (2009) is relatively simple compared to other more complicated models in the literature (for example Gravelle 1994), and therefore the findings derived from the model will be more intuitive and easy to understand.

This particular formula is chosen because it relates the variables commission of the intermediary b , wage of the intermediary w , the conditional probability that the customer is a type-l customer (naïve) and has a verifiable complaint ψ , to the suitability standard of advice $q(s^*)$. Note that in this formula $q(s^*)$ is used instead of s^* . The variable q ($0 < q < 1$) is the probability that the customer is a type-h (sophisticated) customer. Therefore $q(s^*)$ can be interpreted as the outcome of the formula for the suitability standard of advice given the outcome of the type of customer. It therefore gives a good measure of the quality of financial advice, even though it is unknown whether it concerns a naïve or sophisticated customer.

The first step in solving this formula for the quality of financial advice is to determine the values of the variables that we are able to determine a value for. The first variables for which this is possible are on the left hand side of the equation: b (commission) and w (wage) of the intermediary, and these variables are determined on a yearly basis. This is convenient, because in this way any variation in the values of these variables is minimized: it could be possible that in a given month the intermediary for example earns a higher commission than average, and this could in turn be for very different reasons (higher effort, seasonality in demand).

These numbers can be found nearly everywhere: the average intermediary compensation is of course documented by various parties (governments, companies, unions). The numbers below represent the average yearly wage and compensation denominated in Euros. The initial figures⁴ were denominated in U.S. dollars. An exchange rate equal to 0.7015⁵ (2nd September 2011) was used to convert the dollar figures into euros.

Symbol	Symbol meaning	Low	High
w	Wage (yearly)	€24.816	€52.516
b	Commission (yearly)	€7.298	€42.821

Source: eHow Money (3rd September 2011)

⁴ http://www.ehow.com/facts_6954233_average-salary-financial-advisor.html

⁵ <http://www.x-rates.com/d/USD/EUR/data120.html>

From these values, 10.000 random numbers are drawn for the variables wage and commission that lie within this range. The method in which these numbers are drawn is by drawing them from a uniform distribution. Subsequently, the individual values for commission are divided by the values for wage in a new column denoted b/w , which of course represents the left hand side of the equation.

The right hand side of equation 1 is more difficult to determine because the functional form of the variable ψ is unknown, but also because it requires some recalculation of the formula to obtain equations for ψ and $q(s^*)$. Factoring out these variables gives:

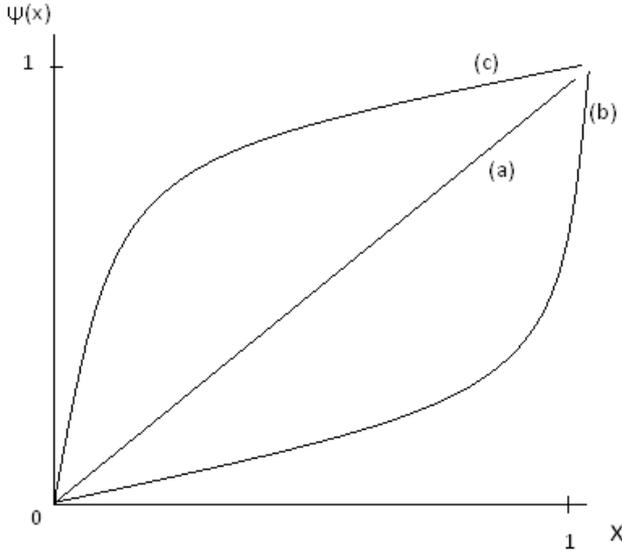
$$\psi \geq \frac{b}{w + b}$$

and

$$q(s^*) = 1 - \frac{b}{\psi(b + w)} \quad \text{Equation 3)}$$

Given that $0 < \psi < 1$, combined with the above equation this leads to the interval $[b/(w+b), 1]$ in which the value of ψ must always lie. Again a random value of the variable ψ that lies within this interval can be generated for each observation. These random observations of ψ are also drawn from a uniform distribution. This is a very important assumption, because the distribution of ψ influences the calculated value of $q(s^*)$ more strongly than the distribution of the variables w and b do.

When you consider the different distributions that the variable ψ can take, there are three important possible distribution options. The following figure illustrates these three optional distributions:



Distribution (a) is the uniform distribution assumption. Recall that x stands for $1-q(s^*)$. If the quality of financial advice decreases, or x increases more and more to value 1, the chance that the customer is a type I-customer and has a verifiable complaint increases proportionally. This is logical, because when the quality of advice decreases it is more likely that the customer will complain.

However, in reality this relationship may be more complicated. For example, there could be a barrier for the customer to complain. Only when the quality of financial advice is sufficiently bad, the

customer will take the effort to complain. Complaining can be an effortful activity when the customer has to turn to supervisory organisations, as it may take a lot of customers to make a collective case against a specific provider of financial advice. This distribution is represented by distribution (b). Only when the quality of advice is really bad, or x is very close to 1, the chance of a type-I customer with a verifiable complaint is close to 1. For average or high quality of financial advice, the distribution increases very slowly and there are few type-I customers with complaints.

Distribution (c) can be considered somewhat of a strange case. It seems that even for very high qualities of financial advice (or a value of x close to zero) there are a lot of type-I customers that decide to complain. A possible explanation could be that the type-I customers are delegating their financial decisions to the financial intermediary, and there is a significant amount of mismatch between the needs of the customers and the financial advice that is provided to them.

As sufficient data on the true type of ψ distribution is not available, it is unknown what the true distribution of ψ is. Therefore, it is safe to assume that the true distribution lies somewhere in the middle. In that case, a uniform distribution seems most appropriate to use.

Finally, putting the values of b , w and ψ in the formula for $q(s^*)$, the value of the suitability standard of advice can be calculated (note that $0 < 1 - q(s^*) < 1$ since $0 < q < 1$). Note that the following relations hold:

$\psi(x) \in [0,1]$ and $x \in [0,1]$, where x is equal to $1 - q(s^*)$.

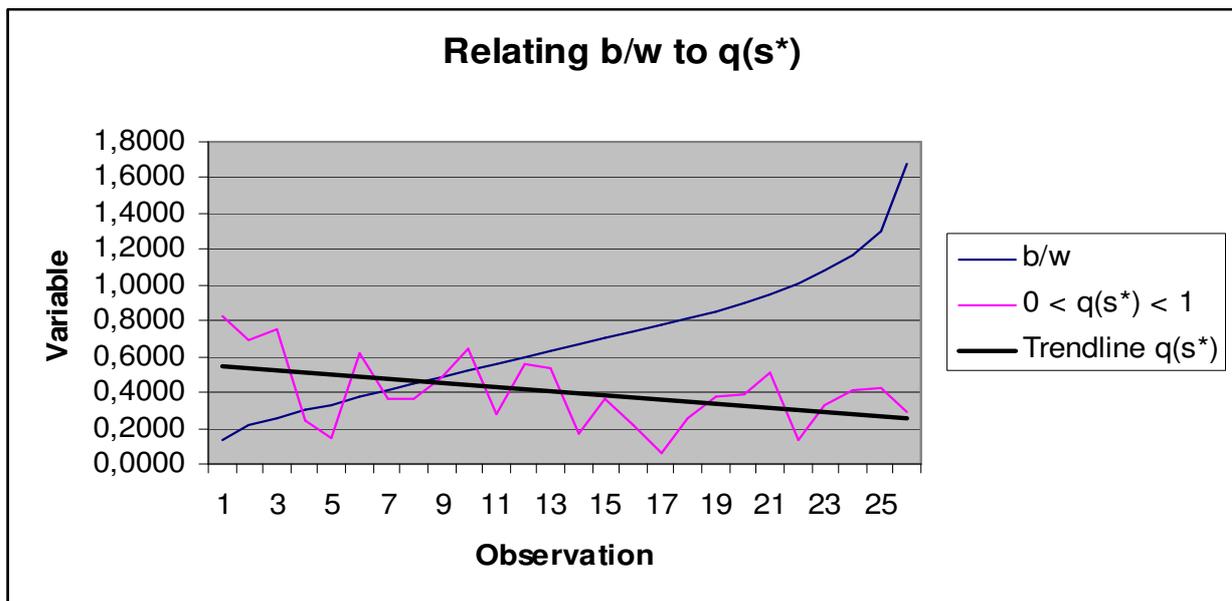
4.2 Sensitivity analysis

The 10.000 randomly drawn observations for commission, wage, ψ and $q(s^*)$ respectively can be ordered in ascending from a small fraction of b/w to a large fraction of b/w . Doing this, it is possible to see easily how the quality of financial advice $q(s^*)$ responds to an increase in commissions relative to wages or in other words to the variable b/w . The table below is a subset of the 10.000 observations, ordered in ascending order of b/w value:

#	Rand(comm)	Rand(wage)	b/w	b/w+b	$0 < \psi < 1$	$0 < q(s^*) < 1$
1	7337	52468	0,1398	0,1227	0,7212	0,8299
400	9917	45174	0,2195	0,1800	0,5807	0,6900
800	10437	39973	0,2611	0,2070	0,8509	0,7567
1200	13106	43955	0,2982	0,2297	0,3021	0,2397
1600	16647	49774	0,3345	0,2506	0,2949	0,1502
2000	14138	37913	0,3729	0,2716	0,7231	0,6244
2400	18289	44596	0,4101	0,2908	0,4572	0,3639
2800	12339	27540	0,4480	0,3094	0,4892	0,3675
3200	19818	40940	0,4841	0,3262	0,6383	0,4890
3600	18221	35212	0,5175	0,3410	0,9695	0,6483
4000	20276	36477	0,5559	0,3573	0,4974	0,2817
4400	22945	38500	0,5960	0,3734	0,8522	0,5618
4800	24752	39251	0,6306	0,3867	0,8233	0,5303
5200	16826	25085	0,6708	0,4015	0,4838	0,1702
5600	36903	52326	0,7052	0,4136	0,6470	0,3608
6000	31008	41853	0,7409	0,4256	0,5431	0,2164
6400	29100	37267	0,7808	0,4385	0,4674	0,0619
6800	29670	36251	0,8185	0,4501	0,6078	0,2595
7200	42384	49500	0,8562	0,4613	0,7368	0,3739

7600	29278	32593	0,8983	0,4732	0,7788	0,3924
8000	42147	44339	0,9506	0,4873	0,9859	0,5057
8400	39706	39382	1,0082	0,5021	0,5815	0,1366
8800	30336	28122	1,0787	0,5189	0,7725	0,3282
9200	31275	26706	1,1711	0,5394	0,9186	0,4128
9600	32536	24889	1,3072	0,5666	0,9883	0,4267
10000	41978	25014	1,6782	0,6266	0,8863	0,2930

To get a clear impression of the relation between the random observations of b/w and $q(s^*)$ the above results can be visualized by a graph. Unfortunately it is not possible to do this for more than 255 observations. Therefore a subset of the observations has been made: each 400th observation is selected to give 26 observations that show the trend in overall observations. The resulting graph is:



Although we have only used 26 observations, the graph gives a clear picture. If more observations were used, the blue line representing b/w would be close to a diagonal line. The spikes in the purple line, representing the observations for $q(s^*)$, would be very close together. This represents the fact that although an intermediary may have close to the same compensation (commissions and wage), it may be that due to other circumstances the suitability of the quality of advice for the specific customer is different. Nevertheless, a clear downward trend in suitability standard of advice is visible the bigger the observation for b/w becomes. It appears that a relative increase in commissions lowers the suitability standard of advice.

4.3 Statistical inference

Now we have all the observations necessary to make inferences about the numbers. A useful summary statistic to use is the correlation coefficient between b/w and $q(s^*)$. This is useful, because when the commission (and thus b/w) would go down, the correlation coefficient will tell us if the suitability standard of advice (or the quality if you will) goes up (which would mean a negative correlation) or down (which would mean a positive correlation). Because 10.000 observations have been generated, the correlation coefficient is reasonably accurate (it does not change very much if 10.000 new observations were to be generated). The correlation coefficient is -0,52. Therefore, if the b/w of the intermediary goes down by 0,1 (due to the commission going down in this case), the

quality of financial advice is expected to increase by 0,052 (or 5,2%). Note that because b/w is not denoted in $0 < b/w < 1$, but that b/w can become bigger than 1, it is not possible to denote the 0,1 decline in a percentage. It appears that the correlation is quite strongly negative, which appears to support the hypothesis that when the amount of (closing) commission declines, the expected quality of advice (the suitability standard of advice) is going to increase.

A second way to make an inference about the numbers is to do a simple linear regression of the form $q(s^*) = \alpha + \beta(b/w)$. Doing this with a statistical package (SPSS 17.0) gives the following equation: $q(s^*) = 0,634 - 0,326(b/w)$. The t-statistic of the beta of this regression is -61,6, and therefore the variable (b/w) is very significant on $q(s^*)$. The R-squared is equal to 0.275, and therefore 27,5% in the variation of $q(s^*)$ is explained by variation in (b/w) .

The regression equation indicates that when (b/w) decreases by 0.1, the value of $q(s^*)$ is expected to increase with 0,0326 (or 3,26%). Apparently there are factors in the alpha that influence the expected outcome of $q(s^*)$ that are not explained by this equation, therefore the different number compared to the correlation coefficient analysis. Note that the root of R-squared (or R) is approximately equal to 0.52, the same value as the correlation coefficient. This could be coincidence, but it is very interesting that these two numbers are the same in this case.

4.4 Practical implications

What do the results of the sensitivity analysis and the statistical inference mean in practice when it comes to the relation between compensation and the quality of financial advice? And what do these results say about the likely effect of the ban of closing provision?

The first thing that the sensitivity analysis shows is that there is a clear negative relation between the relative provision to wage and the quality of financial advice. When the amount of provision goes down relative to the wage of the intermediary, the relation predicts an increase in the suitability standard of financial advice and vice versa. In practice, this means that it is more beneficial to the customer if the intermediary is relatively less compensated by means of provisions. The customer notices this difference in an expected improvement in advice quality (suited to their specific needs) at an assumed same cost.

The ban on closing provision can be seen as the means to realize this decrease in provision compensation to the intermediaries. As a result, they are assumed to give more independent advice, since they do not have the incentive to advise the products with higher provisions anymore. The probable result is the benefit of improved quality at equal cost to the customer described above.

The figures obtained from statistical inference provide further corroboration to the validity of these practical implications. The correlation coefficient of -0,52 tells us that for each decrease of 0,1 in the ratio of provision over wage, the quality of financial advice increases by 0,052 (or 5,2%). As the correlation coefficient is a figure between -1 and 1, a correlation of -0,52 is a reasonably strong indicator that the relation between provision and wage has a moderately strong effect on the suitability standard of financial advice. The beta of the simple linear regression of -0,326 tells a similar story, although here the existence of other variables in the error term somewhat lowers the perceived strength of the relationship between relative compensation and the suitability standard.

5. Conclusion

The financial advice model has been the starting point of the discussion on the effects of compensation on the quality of financial advice. The case of the closing provision has been a case that is illustrative of this relationship. The main research question was formulated as:

“What effects (if any) do the amount and the type of compensation provided by firms to intermediaries have on the quality of financial advice provided to the customer? And what effect is the ban on closing provision likely to have on the future quality of financial advice?”

Findings from the literature on financial advice provide a provisional answer to these questions, although these findings are described in rather technical terms. The key notion used is the notion of first- or second-best efficiency or allocation. Depending on the assumptions and parameters, the preference for either a commission or fee-for-advice system can differ between consumers. The type of consumer (naïf or sophisticate) determines the type of interaction that the consumer has with the intermediary, respectively delegation or cheap talk. The most important aspect of the quality of financial advice is the match of the advice with the consumer’s needs, termed the suitability standard of advice. Policy considerations (disclosure, commission caps) have additional effects on quality.

Although the literature evidence seems conflicting sometimes whether a fee-for-advice system or a commission system is best, the empirical evidence fortunately seems clearer. Using the method of Inderst-Ottaviani (2009) and finding value ranges for all the known variables, a value for $q(s^*)$ or the suitability standard of advice (for a given consumer type) can be found and compared to the ratio of b/w , where a high value of b/w represents a state with high commissions relative to wage income of intermediaries. The correlation between b/w and $q(s^*)$ is found to be -0.52 and the simple linear regression equation gives a beta of -0,326 with t-statistic -61,6 and R-squared 0,275. It seems that commission has a reasonably strong opposite effect on advice quality.

With respect to the research question, we can conclude:

- The higher the amount of (closing) provision, the lower generally the quality of advice
- With respect to the type of compensation, in theory a move to closing provision or a fee-based system leads to a more impartial provision of financial advice by intermediaries.
- The ban on closing provision is therefore likely to improve the quality of financial advice in the future.
- However, intermediaries and advisors in the field who currently receive closing provision are uncertain about what will happen in the future and are sceptical of the benefits of change.

Nobody knows what exactly will happen in the future when the closing provision is banned. The evidence however indicates a positive effect, and that is what matters when investigating the effects *ex ante*.

From my experience working with pension professionals working at Zwitserleven, and informal discussion with professionals in other disciplines related to financial advice (for example an acquainted tax fiscalist that runs his own advisory bureau), it seems that the people working in the field have a mixed view on the developments. Zwitserleven, as discussed, was the first company to anticipate on the government announced closing provision ban in 2013. Therefore, in general they are optimistic about the upcoming changes, although there still exists some uncertainty among advisors, who are the most directly affected by the change.

However, if you talk to other professionals involved in the provision of financial advice, you will get a less positive account of the coming changes. Some financial advice providers are uncertain whether a move to a fee-based compensation system will be beneficial: their fear is that the customer will not be willing to pay for their advice on an invoice per hour basis. Most likely that is because the costs of the advice will become more transparent to them compared to the current situation. Moreover, without strong regulation or supervision on hourly invoice rates of intermediaries there is no certainty that the cost for the customer will stay the same.

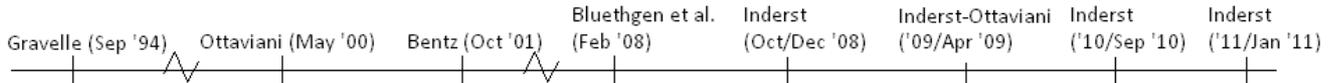
Whether you believe either side of the story, it must be noted that only time will tell what the realized effects are of the change to a fee-based system. We can only go by the evidence that we can get with empirical analysis, and that evidence as we have seen seems to support the validity of a move from a provision based system to a fee-based system.

An interesting future research would be to investigate the fee-based system in more detail as the industry gradually shifts from continuing provision to the fee-based world.

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7. Appendix



Models

Gravelle model

The aim of the model is to investigate whether the fee-for-advice system is better than a commission system. A stylized model is used that makes strong assumptions about markets in reality. The welfare comparison of the fee-for-advice and commission system is ambiguous in the simple framework. Therefore there is no need for a more complicated model.

There are three important players who are similar to the advice model described above.

Life insurers are assumed to be risk neutral, competitive, have identical policies and do not engage in direct marketing.

Consumers

c	constant marginal cost of the product (excluding commission)
N	potential customers who buy at most one unit of the product
$b \in (c, c + Q)$	gross benefit to consumers
$q \in [0, Q]$	mismatch parameter (uniform) F distributed, density f , mean $E q = \mu$
p	price of the product
$U_i(p; b) = \int_0^q (b - p - q) dF$	expected consumer surplus informed customer
$E(b - p - q) = b - p - \mu \geq 0$	uninformed consumer buying condition
$\delta = \delta(p; b) = 0$ if $b - p - \mu < 0$ 1 if $b - p - \mu \geq 0$	conditions for buy function $U_G(p; b) = \delta(p; b)(b - p - \mu)$

Consumers buy the product if $b - q \geq p$, that is if the benefit of the product net of mismatch is bigger than the price the consumer paid for the product. The probability of purchase therefore is:

$\Pr[q \leq \bar{q} \equiv b - p] = F(b - p)$, therefore essentially the probability of purchase is a function of the difference in benefit and cost. The greater this difference (the more the benefit and the less the cost), the greater the probability is that the consumer will buy the product.

Brokers

n	number of brokers in the industry
$K(n)$	broker cost of achieving a contract
$w(n)$	reservation wage (opportunity costs) of marginal broker
r	broker's income
k	commission paid for a sale
α	fee for advice
$D(\alpha)$	demand for advice
B	upper limit of distribution of gross benefit
$H(b), h(b)$	distribution, density function of gross benefit
λ	measure of broker lying about mismatch
$S(p, n)$	welfare function

Market condition: unimpeded entry. Brokers incur two types of cost: cost of achieving a contract $K(n)$ and an opportunity cost of the reservation wage w . Before contacting a customer, the broker knows the gross benefit b of a potential customer and the mismatch distribution $F(q)$. When contacting the customer, he discovers the mismatch and informs the customer about the realized mismatch.

Assumption: brokers have a high cost of dishonesty, therefore the same quality of information is provided under both the commission and the fee-for-advice system.

Equilibrium requires the broker's income to be equal to the reservation wage: $r - K(n) - w(n) = 0$. The equilibrium number of brokers is $n = n(r)$.

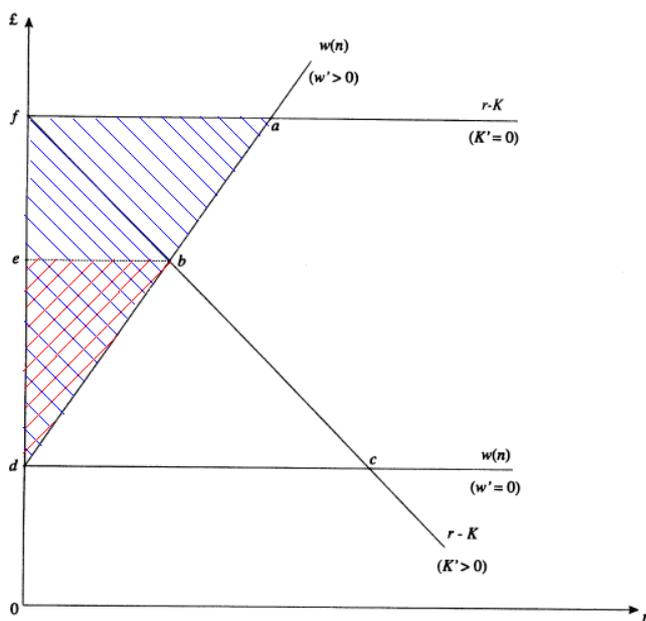
Equilibrium

There are three equilibrium conditions (see figure below):

1. Equilibrium a: no congestion. Total rent earned by brokers is the blue area afd .
2. Equilibrium b: congestion and increasing reservation wage. Total rent earned: red area bed .
3. Equilibrium c: congestion and constant reservation wage. Free entry dissipates all rents.

Congestion is a term for the result of there being a large number of brokers in the market: when congestion occurs, total rent to brokers is dissipated by the occurrence of congestion as brokers compete with each other for customers.

Types of Equilibria in Broker Market



First-best allocation

Assume there is a regulator who uses a welfare criterion of the unweighted sum of the expected surpluses of the $(N-n)$ uninformed potential consumers, the n informed potential consumers, the n brokers, the firms and the taxpayers.

The regulator faces the following constraints:

- firms must at least break even
- the number of brokers is determined by their expected income
- brokers are the only means of informing potential consumers

The sum of the surpluses equals:

$$S = (N - n)U_c(p; b) + nU_i(p; b) + (p - c - t)[(N - n)\delta(p; b) + nF] + n[r - K] - \int_0^n w(\tilde{n}) d\tilde{n} + \{[(N - n)\delta(p; b) + nF]t - nr\}$$

Netting out the tax terms:

$$S = (N - n)U_G(p; b) + nU_I(p; b) + (p - c)[(N - n)\delta(p; b) + nF] - nK - \int_0^n w(\tilde{n})d\tilde{n}$$

Welfare depends on the number of consumers and whether they are informed or not. Therefore, welfare varies with the product price and the number of brokers. Since the regulator can control the product price and the number of brokers, a first best allocation can be achieved by setting t and r such that the partial derivatives of the welfare function with respect to p and n are equal to zero:

$$S_p = -(p-c)nf = 0$$

and

$$S_n = U_I(p; b) - U_G(p; b) - K - nK' - w = 0.$$

The first-best product price is marginal cost. The first-best number of brokers is equal to the sum of the gain to an additional consumer from being informed minus the social cost of an additional broker.

Ottaviani model

In this simple model, an agent has private information about the state of the world. This information is relevant for the decision to be made by the otherwise uninformed principal. Preferences depend on the decision adopted and state of the world. The agent is assumed to act in the best interest of the principal, however the adviser has a 'partisan' objective as well in the form of commissions and long-term relationships with product providers. The communication (or cheap-talk) equilibrium is discussed for both informed (communication) and naive principals (delegation).

The principal (P) has imperfect information about the true state of nature. The agent (A) has information on the state of nature. The action to be taken by the uninformed principal is α . The state of the world is denoted by x . The principals' prior belief about x is uniformly distributed on $[0,1]$: $F(x) = x$ for $x \in [0,1]$. The preferences of the principal and the agent are quadratic: $U^P(\alpha, x) = -(\alpha - x)^2$ and $U^A(\alpha, x) = -(\alpha - (x + b))^2$, where $b \geq 0$ is the bias in the agents' preferences. The agent and principals' most preferred actions are $\alpha^A(\alpha, x) = x + b$ and $\alpha^P(x) = x$.

In the cheap-talk game, the principal listens to the recommendations of the agent, and then takes the ex-post optimal decision. Naive principals follow the advice literally (effectively delegating the decision). The advisor is assumed to be unaware of the consumers' sophistication. The proportion of sophisticated principals is denoted by p .

Equilibrium

Cheap talk communication ($p = 1$)

There cannot be a fully revealing equilibrium. Equilibria correspond to a partition of $[0,1]$. The agent of type x_t has to be indifferent between sending message $m_{t-1} = \{x_{t-1}, x_t\}$ and $m_t = \{x_t, x_{t+1}\}$: According to Crawford and Sobel, the expected payoff of the receiver is equal to the residual variance:

$$V_{CT}^P = -\sum_{i=1}^n \int_{x_{i-1}}^{x_i} \left(\frac{x_{i-1} + x_i}{2} - x \right)^2 dx = -\frac{1}{12n} - \frac{b^2(n^2 - 1)}{3}$$

Delegation ($p = 0$)

The resulting expected payoffs of delegation are $V_D^A = 0$ and $V_D^P = -b^2$.

Optimal mechanism

The optimal mechanism constrains the agent to actions that are in a designed subset A^C of all possible actions. P chooses $A^C = [0, 1-b]$. The payoff to the principal is:

$V_{CD}^P = -b^2 + 4/3b^3 > 0$ for $b \in [0, 1/2]$, and $V_{CD}^P = -1/12$ otherwise. Constrained delegation is better than simple delegation, but requires a sophisticated principal who is aware of the agent's objective.

Comparison of cheap talk and communication

$$V_D^P - V_{CT}^P = \frac{1}{12N} + \frac{b^2(N^2 - 4)}{3}$$

Bentz model

This paper shows that under certain plausible modelling assumptions, commission payments act as signals of quality to the purchaser: high commissions are attached to high-quality products.

Commission-based financial advice is not always bad advice. The paper has two main implications:

- mandatory commission disclosure amounts to publishing product quality
- financial advisors only fulfil the role of allowing insurers to signal the consumer through commission payments.

There are three time periods, $t = 0, 1, 2$. The financial asset has stochastic returns X_t . Some agents observe some $y_t = y_t(x_t)$, and $y_t(\cdot)$ is common knowledge. $Y_t = y_t(X_t)$. The investors' outside investment opportunities r are distributed according to distribution function $G(\cdot)$.

Buyer payoff is $\frac{x_t}{p} - 1$. Per period demand for an asset with this return is $\Pr\{r \leq \frac{x}{p} - 1\} = G(\frac{x}{p} - 1)$

Generally, the return is not known by the buyer. Payoffs are discounted at rate $0 < \delta \leq 1$. The seller can signal s_0 per unit sold in period $t = 0$. Asset demand is q_t and the price is p . Seller expected profit is $(p - s_0)q_0 + \delta p E[q_1 | Y_0 = y_0]$.

The timing of the model is:

- $t = 0$. x_0 realizes: the seller observes y_0 and signals $s_0(y_0^\wedge)$. The buyer infers product quality $\tau^{-1}(s_0)$, where $\tau: Y \rightarrow \Xi$ (Y is the set of all possible values of y_0 and Ξ is the set of all possible values of x_0) and decides whether to buy the asset. If the buyer does not buy, the game ends with zero payoffs for both players.
- $t = 1$. x_1 realizes: the buyer observes y_1 and decides whether to repeat purchase of the asset. If repeat purchase does not occur, the game ends and payoffs are realized. The asset can only be bought by $t = 0$ buyers.
- $t = 2$. x_2 realizes, the game ends and payoffs are realized.

Buyer's problem

The buyer purchases the asset at $t = 0$ if:

$$(1 + \delta)r \leq E_{x_1|y_0} \left[\frac{X_1}{p} - 1 + \delta \max \left\{ \frac{E_{x_2|y_1, y_0} [X_2 | Y_1, s_0(Y_0) = s_0(y_0^\wedge)]}{p} - 1, r \right\} \mid s_0(Y_0) = s_0(y_0^\wedge) \right]$$

Demand at $t = 0$ is:

$$q_0 = \Pr \left\{ (1 + \delta)r \leq E_{x_1|y_0} \left[\frac{X_1}{p} - 1 + \delta \max \left\{ \frac{E_{x_2|y_1, y_0} [X_2 | Y_1, s_0(Y_0) = s_0(y_0^\wedge)]}{p} - 1, r \right\} \mid s_0(Y_0) = s_0(y_0^\wedge) \right] \mid Y_0 = y_0 \right\}$$

Given purchase at $t = 0$, the customer repeats purchase at $t = 1$ if:

$$r \leq \frac{E_{x_2|y_1, y_0} [X_2 | Y_1 = y_1, s_0(Y_0) = s_0(y_0^\wedge)]}{p} - 1$$

Therefore period 1 demand is:

$$q_1 = \min\{q_0, \Pr\{r \leq \frac{E_{x_2|Y_1, Y_0}[X_2 | Y_1 = y_1, s_0(Y_0) = s_0(y_0^{\wedge})]}{p} - 1 | Y_0 = y_0\}\}$$

Seller's profit

The expected profit of the seller, after observing y_0 is:

$$(p - s_0(y_0^{\wedge}))q_0 + \delta p E_{Y_1|Y_0}[q_1 | Y_0 = y_0]$$

Inderst model (2008)

There are two products $n = a, b$. A customer purchases at most one product and one unit. Customer valuation of the product is $\theta = a, b$. Utility is v_i if the good matches the state, but only v_i if it doesn't.

The customers prior beliefs are $\bar{q} = \Pr(\theta = a)$, while the more informed ex-post beliefs are $q = \Pr(\theta = a)$. They are distributed $G(q)$ with density $g(q)$ over $q \in [0,1]$.

One product, $n = b$, is not actively marketed to the agent, while for product $n = a$ the producer tries to influence the agent to recommend the product by paying a commission. This additional fee to the agent is termed a "kick-back". The commission is denoted f , and is not observed by customers.

The prices and costs of both products are p_a, c_a , and $p_b = c_b$ respectively, and are set in $t = 2$. At $t = 3$ the customer arrives. The agent advises the customer which product to buy, and the customer can either follow the advice or not. This setting is similar to the cheap talk game discussed earlier. The agent incurs cost w if the advice is incorrect (mismatch).

The relative net surplus from purchasing product a instead of b is:

$$\Delta(q) := [v_a(q) - c_a] - [v_b(q) - c_b]$$

The equilibrium is found by backwards induction.

The interior cut-off is found to be

$$q^* = \frac{1}{2} - \frac{f}{2w}$$

where the agent recommends product a if $q \geq q^*$ and product b if $q < q^*$.

The maximum price the producer can get is:

$$p_a = c_b + \int_{q^*}^1 [v_a(q) - v_b(q)] \frac{g(q)}{1 - G(q^*)} dq$$

which can be rewritten as:

$$p_a = c + \int_{q^*}^1 \Delta(q) \frac{g(q)}{1 - G(q^*)} dq$$

and the firm's profit is equal to

$$\frac{d\pi_a}{df} = g(q^*) \left[\int_{q^*}^1 \Delta(q) \frac{g(q)}{1 - G(q^*)} dq - f \right] \frac{1}{2w} - [1 - G(q^*)]$$

The equilibrium is characterized by the following three possible situations:

1. If the following condition holds:

$$w \geq \left\{ \int_{0,5}^1 \Delta(q) \frac{g(q)}{1 - G(0,5)} dq \right\} \frac{2g(0,5)}{1 - G(0,5)}$$

then $f = 0$ and $q^* = 0,5$.

2. If the following conditions hold:

$$w \leq \left\{ \int_{0,5}^1 \Delta(q) \frac{g(q)}{1-G(0,5)} dq \right\} \frac{2g(0,5)}{1-G(0,5)}$$

and

$$w \left[1 + \frac{2}{g(0)} \right] > \Delta(\bar{q})$$

then there is a unique cut-off $0 < q^* < 0,5$ solving:

$$q^* = \frac{1}{2} - \frac{1}{2w} \int_{q^*}^1 \Delta(q) \frac{g(q)}{1-G(q^*)} dq + \frac{1-G(q^*)}{g(q^*)}$$

which is obtained by the commission:

$$f = \int_{q^*}^1 \Delta(q) \frac{g(q)}{1-G(q^*)} dq - 2w \frac{1-G(q^*)}{g(q^*)} > 0$$

3. If the following condition doesn't hold (but the other as in situation 2 does):

$$w \left[1 + \frac{2}{g(0)} \right] > \Delta(\bar{q})$$

then $q^* = 0$ and $f = w$

Inderst-Ottaviani (2009)

There is a conflict between two tasks performed by agents: prospecting for customers and advising on the product's suitability for the needs of customers. Firms trade off expected losses from misselling unsuitable products with the agency costs of providing marketing incentives. The equilibrium amount of misselling depends on features of the agency problem (internal organization of sales process, transparency of commission structure and steepness of agent's sales incentives).

Model

The agent exerts sales effort at disutility c_s and contracts a potential customer with probability μ . There are two customer types $\theta = l, h$. The customer derives utility u_θ from the product. The firms' cost of serving the customer is k_θ , and it is dependent on the type of customer. The probability that $\theta = h$ is given by q . The agent observes a presale signal $s \in [0,1]$ about customer type. The realized s is distributed F_θ , and the density is $f_\theta(s)$.

The firm compensates the agent based on the sale and on the post sale signal $0 < \psi < 1$ (verifiable complaints). The expected penalty for misselling is ρ . A fraction $0 \leq \eta \leq 1$ represents a compensatory transfer to the customer.

The timing is as follows:

10. The firm sets product price p
11. The firm sets the compensation scheme for the agent
12. The agent chooses whether to exert effort to prospect for a customer
13. If the agent exerts effort, then a customer arrives with probability μ
14. The agent privately observes signal s about the customer's type
15. The agent advises the customer whether to purchase
16. The customer decides whether to purchase at price p
17. Conditional on a sale to type- l customer, the firm observes a negative signal with probability ψ
18. Conditional on a sale to type- l customer, the firm pays an expected penalty ρ , a fraction η

which is rebated to the customer.

For the agent, w is the base salary and b is the additional commission for the sale. The agent's payoff is zero when a sale is contested with probability $\psi[1-q(s)]$. Conditional on observing signal s , the agent's expected compensation from a sale is $V(s) = [1-\psi[1-q(s)]](w+b)$. If $V(0) < w$ and $V(1) > w$ hold there exists a cutoff signal s^* at which the agent is indifferent between making a sale or not: $V(s^*) = w$. The requirement becomes:

$$\frac{b}{w} = \frac{\psi[1-q(s^*)]}{1-\psi[1-q(s^*)]}$$

The ratio of commission to salary, b/w must be lower if the firm wants to ensure compliance with a higher standard s^* . A higher salary w increases the standard s^* .

The agent's incentive constraint becomes:

$$\mu \int_{s^*}^1 [V(s) - w] f(s) ds \geq c_s$$

In words, there must be a wedge between the expected compensation from a sale and the salary to make exerting effort worthwhile to the agent.

Inderst (2010)

The restriction of limited liability of the agent has an important policy implication. The firm is unable to set a standard of sales above a certain threshold. Making the firm liable for the agent's advice and imposing higher penalties for misselling may be largely ineffective. This paper thus investigates the limits to compliance. The analysis builds on the model described in Inderst-Ottaviani (2009).

Model

The agent will only advise the customer to purchase if:

$$f \geq \eta[\varphi[1-q] + (1-\varphi)q]\delta U$$

which captures the trade-off between earning f now or running the risk of losing his continuation utility. This generates a cut-off q^* such that this equation is only satisfied for values $q \geq q^*$:

$$q^* = \frac{1}{2\varphi-1} \left[\varphi - \frac{f}{\eta\delta U} \right]$$

otherwise the agent would either always ($q^* = 0$) or never ($q^* = 1$) want to advise the customer to purchase.

What standard of advice q^* is optimal for the firm?

The utility for the agent is given by:

$$U = \frac{f[1-G(q^*)] - c}{1 - \delta + \delta \eta \int_{q^*}^1 [\varphi[1-q] + (1-\varphi)q] g(q) dq}$$

There are two conflicting forces: a higher f increases the agent's utility, but also increases the value put at risk δU .

Findings

Gravelle (1994)

Comparing commission and fee-for-advice systems:

- The equilibrium of the commission system is inefficient compared with the first-best allocation.
- The equilibrium of the commission system is second-best inefficient.

- If there are congestion costs, the equilibrium of the fee-for-advice system is not first- or second-best efficient.
- The welfare-maximizing regime does not always maximize broker income and therefore may not be chosen. If there are broker congestion costs, the commission system may generate higher welfare than the fee-for-advice system.

In these findings, it is assumed that consumers are homogeneous. In reality, customers are heterogeneous which has the following consequences on efficiency:

- The commission system is second-best inefficient if consumers have different gross benefits.
- With heterogeneous consumers, the equilibrium of the fee-for-advice system is neither first-best nor second-best inefficient, even if there are no congestion costs.
- For all values of the distributional parameter B there exists a $\hat{b} = \hat{b}(B)$ such that potential consumers with $b < \hat{b}$ prefer the commission system, and those with $b > \hat{b}$ prefer the fee-for-advice system.

For $\lambda = (1,2)$, the qualitative results of the welfare comparisons between commission and fee systems are unaffected by the fact that the commission system leads to misrepresentation by brokers. For $\lambda > 2$, the commission regime is worse than the fee regime.

Ottaviani (2000)

Dependent on whether the consumer is naïve or sophisticated, the interaction between the consumer and the intermediary can either be characterized as delegation or cheap-talk:

- In the uniform/quadratic model, unconstrained delegation gives higher expected payoff to the principal than cheap-talk, whenever the latter is informative.
- For $p \in (0,1)$ there exists a fully revealing equilibrium in which the agent reports message

$$m(x) = x + \frac{b}{1-p} \text{ given the state } x.$$

- With noisy information the principal prefers delegation to cheap talk whenever $N \geq 2$, i.e. whenever cheap talk is informative.
- For a fully revealing equilibrium of the cheap-talk game to exist, the transfer scheme $T(\cdot)$ must be linear as a function of the state x : $T(x) = -2bx + \lambda$, where λ is a real number.
- With transferable utility and unlimited liability, delegation dominates (fully revealing) cheap talk.

Bentz 2001

On the existence of a separating equilibrium and signalling, Bentz finds the following:

- There exists a separating equilibrium s_0^* , if and only if $p \leq E[X|H]$ and $(1+\delta)c_H \leq c_L + \delta p$.
- If, in addition, we have the more stringent condition $(1+\delta)c_H \leq c_L + \delta p + (c_L - p)$, the type H seller prefers to advertise to distinguish itself from the type L seller.
- If per-period returns are independent, signalling cannot occur.
- In the martingale case, a separating equilibrium exists if $h - l$ is sufficiently large
- In the simple martingale example, persistency is higher in a separating equilibrium unless $x_0 = h$ and $M > 0.5h + 0.5l$.

Bluethgen et al. (February 2008)

The quality of financial advice is difficult to assess, even ex-post. What are financial advisor characteristics that may indicate quality? A survey of 260 German financial advisors leads to three main findings:

- there is a high degree of heterogeneity in quality among financial advisors

- the extent to which advisors receive fee-based compensation instead of commissions as well as to which the advisors exhibit rationality in decision making are predictive of high-quality financial advice
- taking the compensation scheme and rationality into account when selecting a financial advisor may therefore improve household investment decisions.

Inderst (2008)

The equilibrium results lead to the following proposition:

Proposition 1: The equilibrium in the basic model has the following efficiency properties:

- If $c_A \geq c_B$, then the equilibrium becomes less efficient as the commission f of firm a increases, which is the case as w decreases.
- If $c_A < c_B$, then for low values of f and high values of w , the equilibrium becomes more efficient as w and f decrease. Instead, for low values of w and high values of f , the opposite relationship holds.

Policy implications

- Liability and capped commissions: for $c_A \geq c_B$: efficiency is highest when the commission is capped at zero or when the agent's liability is chosen sufficiently large. For $c_A < c_B$, commissions should be capped at value \bar{f} .
- Disclosure of commissions: firm a's commission without disclosure is always (weakly) larger than with disclosure, while the respective cutoff q^* is always (weakly) lower without disclosure. With disclosure, any policy to cap commissions or to increase the agent's liability can only reduce efficiency.
- Price caps: with disclosure of commissions, a price cap has no impact if $c_A \geq c_B$, but a non-monotonic impact if $c_A < c_B$.

Disclosing commission does not necessarily increase efficiency, through the reduction in provision of other services that are incentivized by commissions or it may lead to inefficient advice.

Inderst-Ottaviani (2009)

The optimal compensation contract $(w;b)$ minimizes the firm's wage cost. This is proposition 1:

Proposition 1: To ensure the agent's compliance to some standard $s^* > 0$, the firm's optimal incentive scheme prescribes the base salary

$$w = \frac{\Delta[1 - \psi[1 - q(s^*)]]}{\int_{s^*}^1 [q(s) - q(s^*)]f(s)ds}$$

From these two equations, Proposition 2 can be derived.

Proposition 2: The agent's rent w , increases in the suitability standard s^* , increases in the agent's expected sales cost Δ , and decreases in the quality ψ of the post sale signal. The firm's marginal cost of raising the standard, dw/ds^* , is strictly decreasing in ψ and strictly increasing in Δ .

Firm's willingness to sell

$$-f(s^*)\mu\pi(s^*) = \frac{dw}{ds^*}$$

Customer's willingness to pay

$$\hat{p}(s^*) := \int_{s^*}^1 u(s) \frac{f(s)}{1 - F(s^*)} ds$$

Firm's willingness to sell and customer's willingness to pay are both continuous and monotonic in their first derivatives.

Equilibrium

According to Proposition 3, the standard s^* implemented in equilibrium is increasing in the expected penalty ρ , decreasing in the sales incentives Δ , increasing in the effectiveness of monitoring ψ , and decreasing in the fraction η of the expected penalty that represents compensation to the customer.

Role of agency

According to Proposition 4, if through self-regulation a firm could avail itself of the same technology for choosing the level of the expected penalty ρ as a social planner, then an entrepreneurial firm would choose the same ρ , and thus the same standard s^* , as a social planner, while a firm employing an agent would choose a strictly lower ρ , and thus also a strictly lower s^* than a social planner.

Transparency

According to Proposition 5, if the firm's compensation scheme can credibly be made transparent, a higher standard s^* results for any given ρ .

Organization of sales processes

According to Proposition 6, if the agent has to incur an additional private cost c_A to observe the signal s , then the firm must pay a higher sales commission and a higher base salary to ensure compliance with a given standard.

According to Proposition 7, compared to the baseline case in which the same agent who prospects for customers also advises them, a strictly higher equilibrium standard s^* results when one agent is responsible only for prospecting and a second agent is separately in charge of advising.

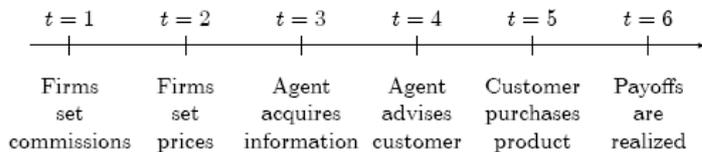
Inderst (April 2009)

The aim of the paper is to analyze when caps on commissions, mandatory disclosure, and other policy interventions aimed at subduing the use of commissions have unintended consequences for the efficiency of advice. The model is in effect the same as Inderst (October/December 2008). However, some general features of commissions are useful to note here.

The three functions performed by commissions are:

1. Steering an agent's advice toward selling a firm's own product
2. Counteracting a rival firm's attempt to steer sales toward their product
3. Affecting an agent's willingness to acquire information about the match between products and customers.

The timing of the cheap talk game is as follows:



The ultimate conclusion the paper reaches is essentially what we have seen before: policies intended at reducing commission levels may have unintended consequences leading to a reduction in welfare.

Inderst-Ottaviani (2010)

Lemma 1 A marginal increase in the sales commission f leads to an increase, rather than a decrease, in the lending standard if:

$$\int_{q^*}^1 [q - q^*] dG(q) \frac{1}{\eta} \frac{1 - \delta}{\delta} \frac{1}{2\phi - 1}$$

Instead, if the converse holds, then the standard decreases.

Proposition 1 Suppose

$$\frac{1}{\eta} \frac{1-\delta}{\delta} \frac{1}{2\varphi-1} < \hat{q}$$

holds. Then there exists $0 < \bar{q} < 1$ satisfying

$$\int_{\bar{q}}^1 [q - \bar{q}] dG(q) = \frac{1}{\eta} \frac{1-\delta}{\delta} \frac{1}{2\varphi-1}$$

such that it is only feasible to implement a standard q^* that satisfies $q^* \leq \bar{q}$. The boundary \bar{q} is higher in case:

- i) the one-shot agency problem is less severe, as φ is higher
- ii) the agent is more patient, as δ is higher
- iii) the agent is fired with a higher probability η after a bad signal

Proposition 2 For given (f, η) , we have the following equilibrium characterization: i) if $c > f$, then no effort will be exerted; ii) if $c = f$, then there exist multiple equilibria in which either no effort is exerted or effort is exerted and the standard $q^* = 0$ is chosen; iii) if $c < f$, then effort is exerted and the following cases apply:

- In case

$$\frac{1}{\eta} \frac{1-\delta}{\delta} \frac{1}{2\varphi-1} < \hat{q}$$

holds together with

$$f \geq c \frac{\delta \eta \varphi}{\delta(2\varphi-1)\eta \hat{q} - (1-\delta)}$$

then there exists a unique equilibrium that leads to an interior cut-off $0 < q^* < \bar{q}$.

- If either of these equations does not hold, then $q^* = 0$.

Optimal standard

The firm's discounted profits are equal to:

$$\pi = \frac{1}{1-\delta} \int_{q^*}^1 [p - f - (1-q)\rho] g(q) dq$$

Proposition 3 Suppose that it is optimal for the firm to implement a strictly positive standard $q^* > 0$.

Then the firm optimally chooses $\eta = 1$, while $q < \bar{q}$ satisfies

$$-[p - f - (1 - q^*)\rho]g(q^*) = [1 - G(q^*)] \frac{df}{dq^*}$$

where $df/dq^* > 0$. Both the prevailing commission and the prevailing standard jointly increase in ρ , while $dq^*/d\rho \rightarrow 0$ as we further increase ρ .

Inderst-Ottaviani (December 2010)

The aim of the paper is to investigate the compensation structure of brokers. Commissions can enhance efficiency by improving the broker's incentives to acquire information. When customers are naïve product providers exploit them by increasing product prices and commissions. The paper analyzes the effectiveness of financial protection regulations.

Findings are that mandating the disclosure of commissions has the following effects:

- it acts as an eye-opener for naïve customers, making them wary of the conflict of interest
- however, disclosure would risk generating unintended consequences

A ban on commissions, in contrast, has the following effects:

- leads to unbiased advice
- can decrease the overall quality of advice in case advisors have to exert effort to acquire information

Inderst (2011)

The paper reviews the key stylized facts in the market for retail financial services, and then discusses the role of advice. The difficulty in evaluating the quality of advice is recognized. Technological improvements may provide new opportunities. To build policy on financial advice, however, more research is needed.

Inderst (January 2011)

A model is formulated to analyze competition through commissions. Commissions make the advisor responsive to supply-side incentives. Commonly adopted policies (mandatory disclosure, caps on commissions) have unintended welfare consequences. The model is equivalent to Bluethgen et al. (2008). Model predictions:

- disclosure leads to a reduction in commissions (more for cost-efficient, high market share firms)
- the impact on disclosure on welfare is ambiguous (depending on suitability)
- additional drawbacks of mandatory disclosure: information overload for other payoff-relevant facts; moral justification for deviating from professional standards and reduction in the quality of advice; product characteristics can be endogenized (less investment and product innovation).