

# Review of the “*Ex-ante* assessment of the welfare gains achieved by the GVH”\*

---

**Prepared under grant contract no. AL/9285/2013 by**

**Balázs Muraközy and Pál Valentiny  
MTA KRTK KTI**

**February 2014**

---

\* The original document: Muraközy Balázs és Valentiny Pál: „A GVH működéséből származó jóléti haszon mértékéről (*ex-ante impact assessment*)” című elemzés szakmai értékelése, MTA KRTK KTI, 2014. február.

**Contents**

- 0. Executive summary ..... 3
- 1. Introduction ..... 6
- 2. Types of evaluation used by competition authorities ..... 7
- 3. International practice ..... 7
- 4. Fundamental characteristics ..... 10
  - 4.1. The purpose of the assessment ..... 10
  - 4.2. Publicity and ease of understanding ..... 12
  - 4.3. Ex ante approach ..... 13
  - 4.4. Conservative estimate..... 14
  - 4.5. Additional considerations..... 16
- 5. Implementation of the methodology ..... 18
  - 5.1. Calculation methodology..... 18
  - 5.2. Parameters of the formula, default parameters ..... 18
  - 5.3. Discount rate..... 21
  - 5.4. Selection of cases ..... 22
  - 5.5. Timing ..... 23
  - 5.6. Scope of data used..... 24
  - 5.7. Calculations ..... 25
  - 5.8. Lessons from empirical studies published in Hungary..... 25
- 6. Recommendations ..... 26
  - 6.1. Recommendations for the improvement of the methodology ..... 26
  - 6.2. Possible broadening of scope and alternatives ..... 27
- 7. References ..... 27
- 8. Appendix: Comments on specific cases (non-public) ..... 30

The Appendix to the review contains information not made public by the GVH. Consequently, at the request of the GVH, it is not included in the public version of this review.

## 0. Executive summary

### Introduction

1. The purpose of our review is to determine whether the methodology and implementation of the calculation for the “Ex-ante assessment of the welfare gains achieved by the GVH” complies with international best practice and the available academic findings.<sup>1</sup>

2. In our analysis we start from the premise that the transparency of operation and the demonstration of social utility are fundamental requirements for every authority. In the case of a competition authority, the regular completion of ex-ante impact assessments and the quantification of gains achieved through its activities is a relatively simple procedure. We are in full support of the intention of the GVH to make ex-ante impact assessments a regular exercise.

3. In its ex-ante impact assessment, the GVH took into account proceedings relating to mergers, restrictive agreements and abuse of dominance cases closed in the 2008-2012 period. In addition to the documents received, we reviewed the Hungarian and international literature on the subject, which has become more extensive since the preparation of the GVH’s ex-ante impact assessment. We also made use of the GVH’s offer to make available additional information where required. We looked at the applicability of the chosen method, its reliability, the adequacy of its actual use, and considered any possible future improvements that could be made.

### Key findings

4. In respect of the objectives of the assessment, the GVH followed international best practice: these objectives are accountability, and the demonstration and quantification of the gains achieved by the GVH. Having considered the advantages and limits of the *ex-ante* approach, the GVH made the right decision in opting for an ex-ante impact assessment.

5. The GVH also adopted international best practice in explaining in detail the purposes that the assessment can and cannot be used for. To make the extremely carefully worded assessment accessible for a wider audience, consideration should be given to making certain statements easier to understand and to the broader dissemination of the assessment. The assessment contains such significant intellectual and professional added value that this alone would justify its publication in English.

6. One of the key features of the ex-ante impact assessment is the conservative approach applied throughout the assessment process. In our view, the nature of the ex-ante impact assessment practically demands this approach, because this helps dispel doubts that may arise due to the fact that the assessment is prepared by the authority itself. The conservative approach is manifested in the determination of the criteria used for the evaluation of various cases and groups of cases by the GVH, and by the preference that is given, when in doubt, to the assumption that a smaller, rather than larger, gain has been achieved. The assessment ignored dynamic effects (e.g. innovation), which are difficult to measure and often yield uncertain results, concentrating on the static consumer benefit instead.

---

<sup>1</sup>This review was prepared under grant contract no. AL/9285/2013 of the GVH.

7. In the assessment the GVH demonstrates the direct price-related benefit of interventions in cases involving restrictive agreements, abuse of dominance and mergers. There are few authorities that present a broader scope of indirect benefits, relying mostly on research findings and surveys. On the other hand, recent literature indicates that the full benefit may be several times the direct benefit and therefore in the longer term it may be worth devoting resources to the determination of the magnitude of indirect benefits as well.

8. For the preparation of impact assessments based on the self-assessment method, a balance must be found between disclosing overly optimistic data that appear to be self-justifying on the one hand and excessive conservativeness on the other hand. The GVH steered clear of this pitfall: the conservative nature of its estimations assures that the published results reflect the minimum level of the financial gain for consumers.

9. Having reviewed the practice and publications of the GVH we can establish that the default values used by them comply with international best practice and are sufficiently conservative. The methodology of the calculations of the GVH is in line with international best practice.

10. We also looked at empirical research into Hungarian markets. We found that due to the similarity of the Hungarian markets to their counterparts in other countries, Hungarian empirical literature justifies no departure in the methodology of the GVH from international best practice.

11. The benefit quantified in the assessment for the period between 2008 and 2012 is 58 billion Forints, more than four times the GVH's budget. Based on the above, we consider that this estimation was prepared in line with international best practice and it can be considered to be a lower bound estimate of the real welfare gain; that is, this is the minimum gain that may be achieved and the total gain may significantly exceed this figure.

### **Recommendations for the improvement of the methodology**

12. Based on international best practice, we recommend that in the future similar assessments are prepared on a regular basis and that they are published by the GVH. In view of the small size of the Hungarian market, we do not consider the preparation of such calculations annually to be reasonable, but ex-ante assessments could realistically be prepared every two years. If the GVH opts for this arrangement, it may be worthwhile to switch from a 5-year period to 6 years, to better align the two figures.

13. Future assessments could be improved if the lowest possible number of cases were omitted due to lack of data. In this context it would be desirable if the relevant turnover were quantified in the course of the proceedings in as many cases as possible.

14. For instance, the estimation of the relevant turnover would be facilitated by the use of databases of financial statements of companies in self-regulation cases, and by access to public procurement data in cases involving collusive bidding. We recommend that the GVH estimates the resources required for the use of such databases in these types of cases.

15. It should be considered whether the inflation rate and government bond yields should be replaced, both for theoretical reasons and to facilitate international comparability, by a 3.5 percent real social discount rate for both past and future projected benefits and costs.

16. We deem it important that the assessment should be as understandable as possible because knowledge of competition policy in Hungary falls short of the levels encountered in

countries that are in the vanguard in this respect. Calculations could be illustrated by simple numerical examples. It should be considered how much value the calculation of a rate of return adds and whether its method of calculation and interpretation is worth explaining in more detail in the public version of the document. The transparency of the table listing the cases could be improved if it were to indicate the type of each case and whether it was included in the calculation or, if this raises data protection concerns, the number of cases dropped for substantive reasons or due to lack of data.

17. The publication of the proposed OECD guide is likely to provide the ground for the improvement of the methodology. As this had not been published before the completion of this review, it cannot serve as a basis for comparison in our work. As an important consideration, future ex-ante impact assessments should be in line with the guide as much as possible, and consideration should be given to adding to the present assessment a detailed analysis of its compliance with or departure from the guide.

### **Possible broadening of scope**

18. The reviewed literature underlines that a large part of the positive impacts of competition policy arises from the indirect ‘deterrence’ effect. In theory, calculations that disregard deterrence present those authorities that are the most effective in deterrence to have the lowest rate of return. The inclusion of the deterrence effect appears to be the next logical step when broadening the scope of the ex-ante impact assessment. Consideration should be given to launching a research project to look into its possible introduction in Hungary because international examples may not be readily adaptable.

19. The effect of the GVH’s decisions may vary from case to case: a few cases may be responsible for a very high percentage of the calculated benefit. Consequently, a more complex methodology may be appropriate for some of the cases; for instance, major mergers may warrant simple simulation exercises. However, the design of such an analysis would in all probability be beyond the remit of an ex-ante impact assessment, therefore this may be a realistic option only if such analyses were to be performed in the course of the proceedings.

20. It is worth considering whether quantifications could be extended to other types of cases. Experiments performed by other authorities indicate that the inclusion of consumer protection would be an evident next step. These analyses would require slightly different methodologies to those employed in ex-ante impact assessments, but they may highlight the benefit resulting from the work of the GVH in this area as well. Consideration should be given to launching a research project to look into its possible introduction in Hungary because international examples may not be readily adaptable to Hungary.

## 1. Introduction

21. Under an individual grant application, the Centre for Economic and Regional Studies of the Hungarian Academy of Sciences obtained a one-off grant (AL/928-5/2013) from the Hungarian Competition Authority to prepare a review, in Hungarian, of the ‘Ex-ante assessment of the welfare gains achieved by the GVH’.

22. In the context of the Programme, the Hungarian Competition Authority made available the following documents in electronic format (PDF and XLS files).

23. Document intended for public use (PDF format) with a brief description of the rationale of the methodology of quantification and the results of the calculation, as well as information on the proper interpretation and use of the results. It has annexes describing in detail the calculation method and the list of competition supervision proceedings relevant for the calculation.

24. Documentation intended for in-house use in the GVH (PDF file), containing supplementary and other information recorded in the course of the project concerning the method of calculation and the actual calculation itself. These are in part comments relating to the public document and in part a detailed table of the competition supervision proceedings relevant for the calculation, and also information on the cases that is relevant for the calculation. The version of the document made available contains no trade secret or information that would make possible the reconstruction of trade secrets.

25. Excel worksheet for internal GVH use (XLS format), containing the calculations themselves complete with the input data and the results. The version of the worksheet made available to us contains no trade secret or information that would facilitate the reconstruction of trade secrets.

26. We can say that we have familiarised ourselves, to the extent necessary for the review, with the use of the methodology by the GVH. Our review is valid to the extent that the actual course of the application of the methodology could be established from the contents of the documents received (with the restrictions relating to trade secrets). In its ex-ante impact assessment, the GVH took into account proceedings relating to mergers, restrictive agreements and abuse of dominance cases closed in the 2008-2012 period. In addition to the documents received, we reviewed the Hungarian and international literature on the subject, which has become more extensive since the preparation of the ex-ante impact assessment. We made use of the GVH’s offer to make available additional information where required and looked at the applicability of the chosen method, its reliability and the adequacy of its actual use. We also considered any potential improvements that could be made.<sup>2</sup>

27. In the second chapter of our review, we address the types of assessment used by competition authorities, followed by an overview of the current international practice. The fourth chapter discusses the fundamental characteristics of the assessment used by the GVH,

---

<sup>2</sup>Due to the broad scope and nature of the information made available to us, the GVH has checked the text of this document to avoid factual errors and assure the protection of sensitive information. The changes requested by the GVH did not affect the substance of the review, and we agreed with them.

while in the fifth chapter we comment on the implementation of the chosen methodology. Our recommendations are set out in the sixth chapter. The review ends with an appendix containing our comments on specific cases.

## 2. Types of evaluation used by competition authorities

28. Depending on the purpose of the assessment, the work of competition authorities can be evaluated in several ways. Assessments are prepared either by the authorities themselves or by external experts. In general, the assessments are prepared taking into account the academic results published in the literature on the subject concerned. The adoption of tried and tested methods used by more than one institution speeds up the introduction of the assessment process while the use of international best practice is conducive to the transparency of the assessment and the international comparability of the methods used. With some simplification, assessments can be classified into three main categories:<sup>3</sup>

29. *Evaluation for accountability*: examples include annual reports, which, inter alia, describe the activities of the authority and the resources used. Sometimes they also cover the estimation of the expected welfare impact of the work of the authority. Such assessments have the important function of enhancing the transparency of the authority's work and assuring accountability towards taxpayers. The evaluation is prepared by the competition authority.

30. *Ex-post evaluation of competition policy interventions*: these assessments are typically prepared after the interventions with the objective of estimating their actual impact. Ex-post evaluations tend to be time-consuming and costly, therefore their coverage is limited and they are prepared on an *ad hoc* basis. The evaluation also provides information about the effectiveness of the interventions, which assists authorities to improve their decision making. The analyses may be prepared by the authorities, external experts (academics, consultancy firms) or international organisations.

31. *Evaluation of the broader social and economic impact of competition policy*: in this case, mostly external experts examine the links between competition policy and growth, productivity, employment and innovation as well as the impact of competition on all of these factors.

32. The *ex-ante impact assessment* belongs to the first category: it attempts to quantify the expected welfare impacts of the work of a competition authority. The result of the quantification (typically the consumer benefit) can be compared with the sum used to finance the operation of the competition authority. Depending on the way the benefit is calculated, the resulting ratio may provide an indication of the welfare gain society may expect from the operation of the competition authority concerned.

## 3. International practice

33. As the requirement for authorities to conduct their activities in a transparent manner has become more pronounced, an increasing number of competition authorities have set out to quantify the gains resulting from competition policy. The data collected by the OECD in 2012 reveal that 35 percent of the 46 competition authorities surveyed (16 authorities) claimed to

---

<sup>3</sup> OECD Survey (2012), Ormosi (2012).

prepare some sort of evaluation of the welfare benefits.<sup>4</sup> Four of them (the OFT in the United Kingdom, the FTC and DOJ in the US and, more recently, the FCC in Mexico) have a statutory obligation to do so while the other (12) authorities act on a voluntary basis. 20 to 24 percent of the 46 respondents regularly analyse the welfare effects of interventions targeting restrictive agreements, abuses of dominant positions and mergers, 13 percent also assess the effects of competition advocacy, and 9 percent examine the impacts of other interventions (e.g., consumer protection).<sup>5</sup> Authorities that do not assess the impact of their activities on welfare attribute this to a lack of resources, lack of necessary data, lack of suitable cases or lack of a valid methodology. As these hindrances apply to most authorities, the preparation of the ex-ante impact assessment of the GVH can be considered to be a remarkable achievement.

34. In our analysis we started from the notion that the regular preparation of ex-ante impact assessments and the demonstration of the transparent operation and social utility of authorities are fundamental requirements, but such assessments are feasible only if they can be prepared using standardised methodologies and relatively modest resources. We are in full support of the idea that ex-ante impact assessments should be prepared on a regular basis.

35. Each authority that prepares assessments measures the expected benefits by calculating the direct financial savings achieved through the relatively lower prices that result from intervention. If there is no case-specific information available, they use default values. Some authorities (the OFT and CC in the United Kingdom) also attempt to assess the impact on quality and innovation in cases where it is made possible by the analysis that was carried out in the course of investigation. Sometimes attempts are made to measure the deterrence effect of the interventions of the competition authority; however, for the time being, this is included in ex-ante impact assessments only as general supplementary information.

36. Among the competition authorities that regularly prepare ex-ante impact assessments the most experienced are those of the US (FTC, DOJ), the UK (OFT, CC), the Netherlands (NMa<sup>6</sup>) and the EU (DG Comp), but the practices of other authorities (e.g., the Portuguese PCA) are also worth examining. There are, however, only five authorities that regularly publish their ex-ante impact assessments (EU, FTC, DOJ, OFT, NMa).<sup>7</sup>

37. The framework of the preparation of ex-ante impact assessments has evolved gradually in light of the practical experience of competition authorities, and the process is still ongoing. Such assessments are facilitated by their relative *simplicity, cost efficiency and moderate time requirement* relative to other investigation and evaluation methods (e.g., ex post analyses). The ex-ante impact assessment is fundamentally *ex ante* in nature, examining what would have happened in the absence of the intervention. In other words, it defines the gain as the harm avoided. The analysis focuses on closed cases whereas some of the effects of interventions will appear in the future. Consequently, it has to use information for which there are only assumptions and expectations available.

38. Another assumption used for the ex-ante impact assessment of competition authorities is that the *intervention has no negative impact*. This is thought to be guaranteed by the whole of the institutional system: the competition authority itself would not make a decision if

---

<sup>4</sup> OECD Survey (2012), p. 8.

<sup>5</sup> Idem, p. 9. In respect of the data on consumer protection, we need to consider that many competition authorities do not work in this field.

<sup>6</sup> NMa at the time of the references, ACM as of 1 April 2013. As of 1 April 2014, the OFT and CC merged to form the CMA.

<sup>7</sup> Davies (2010), Davies (2013), p. 8.



expects a negative outcome (in terms of its impact on welfare), whereas incorrect decisions of the competition authority are supposed to be weeded out in the appeal procedure.

39. One of the key features of the ex-ante impact assessment is the conservative approach applied throughout the assessment process. In our view, the nature of the ex-ante impact assessment practically demands this approach as it helps to dispel any doubts that may arise due to the fact that the assessment is prepared by the authority itself. The conservative approach is manifested in the determination of the criteria used for the evaluation of various cases and groups of cases, and by the preference that is given, when in doubt, to the assumption that a smaller, rather than larger, gain has been achieved. The assessment ignores dynamic effects (e.g. innovation), which are difficult to measure and often yield uncertain results, concentrating on the static consumer benefit instead.

40. The experience from regular assessments indicate that the figures obtained for the various years vary significantly due to the varying number of cases and the weight of the different types of cases within the pool of cases considered, thus such fluctuations often reflect only the impact of large but infrequent mergers or cartels. To eliminate this effect, multi-annual moving averages are used to smooth the fluctuations to some extent. The FTC uses moving averages of 5 years, the OFT and the NMa of 3 years.<sup>8</sup>

41. The calculations to determine the gain rely mostly on *point estimation*; results are not disclosed in the form of intervals. In addition to the requirement of a simple procedure to produce estimates and the uniform treatment of different types of cases, the conservative nature of the criteria and estimates also supports this arrangement. In certain cases, however, it may be necessary to publish lower and upper bound estimates (interval estimates) as well (see paragraphs 93 to 98).

42. Ex-ante impact assessments always cover mergers and restrictive agreements; they mostly also encompass abuse of dominance cases and sometimes also other activities of competition authorities. In some cases they also include external estimates for the approximate magnitude of the deterrence effect.

43. The methodology for the calculation applied to mergers, restrictive agreements and abuse of dominance cases sets out to establish the amount that consumers will not need to pay as a result of the intervention of the competition authority, in other words, the loss avoided. Consumers would suffer a loss through the additional expenditure they would incur in the absence of an intervention; the intervention creates a welfare surplus relative to a non-intervention scenario. In order to determine that amount, the *turnover data* affected by the intervention, the size of the price increase eliminated or prevented as well as the *expected duration of the price difference* need to be established.

44. **On the whole, we consider that ex-ante impact assessments in line with international practice is an appropriate method for enhancing the transparency of the work of the competition authority and for demonstrating its social utility, and we condone the major theoretical considerations put forth. We are in full support of the intention of the GVH to regularly prepare ex-ante impact assessments with a view to enhancing the authority's reputation both in Hungary and internationally.**

45. Below we shall analyse the GVH's ex-ante impact assessment and its compatibility with international practice by subject, having regard to the above considerations.

---

<sup>8</sup> Davies (2013), p. 4.

## 4. Fundamental characteristics

46. The GVH is in the category of competition authorities that are under no statutory obligation to quantify the financial gain from its activities. The adoption of the practice of ex-ante impact assessment fits into the trend that has been visible in the GVH ever since its foundation: it strives to creatively adopt international best practice and it assumes an intermediation role to towards the emerging countries of the region. In our opinion, the regular preparation of ex-ante impact assessments and the publication of their results may have a substantial positive impact on the professional reputation of the GVH.

47. The ex-ante impact assessment of the GVH highlights its thorough familiarity with the available international literature and the practices of peer authorities.

### 4.1. The purpose of the assessment

48. The GVH clearly states the purpose of the assessment:

49. *"A.60. ... to visibly demonstrate the existence of the financial benefit resulting from the work of the GVH and to estimate its (minimum) value."*

---

50. Increasing consumer welfare is part of the work of competition authorities everywhere, even if not all authorities consider this to be their primary objective. 39 percent of the 56 authorities responding to the survey of the NMa considered the enhancement of consumer welfare to be their primary objective, 50 percent mentioned it as one of their objectives while 19 percent mentioned increased consumer welfare as one of the possible consequences of their work. 50 percent refer explicitly to consumer welfare in their mission statements when defining their tasks, 20 percent mention it indirectly and 30 percent make no mention of it. 48 percent of competition laws make note of the concept, 28 percent have references to it while 24 percent do not address the issue.<sup>9</sup> The Hungarian Competition Act does not explicitly mention the term, referring to the interests of consumers instead, while the document setting out the tasks and responsibilities of the GVH states that the work of the GVH must result in increased consumer welfare:

51. *"The role of the GVH is to ensure the sound operation of markets (i.e. that they promote competition and benefit consumers). For this purpose – in relation to the freedom of competition – the GVH enforces the competition rules under its competence, in the public's interest, in a manner that enhances long-term consumer welfare and therefore competitiveness. Its role is also to support competition in general, employing all available means, and to facilitate government regulation aimed at creating or substituting competition where competition is not currently possible."*<sup>10</sup>

---

52. Some authorities consider total social welfare, rather than consumer welfare, to be the primary objective of the work of a competition authority.<sup>11</sup> However, these authorities, for instance the Australian competition authority, consider that the long-term consumer surplus is a good approximation of total social welfare. This relationship is probably valid in the long term, but in practice there may be a trade-off between the two approaches. For instance, the DOJ focuses on direct, immediate consumer welfare and reckons with longer-term effects only if they are easy to predict and verify. Several authorities claim that in their enforcement

---

<sup>9</sup> ICN (2011), pp. 11.14. and 15.

<sup>10</sup> GVH (2007), p. 7.

<sup>11</sup> ICN (2011), p. 29.

work they pay less attention to the consideration of total social welfare and that they place more emphasis on it in their competition advocacy work.

53. In the opinion of the Netherlands Authority (NMa), competition enforcement should not aim to maximise welfare but to promote it.<sup>12</sup> Theoretically, the objective should be to promote total social welfare, but for practical reasons the best option for authorities is to aim for consumer welfare.<sup>13</sup> It is expedient to use the former for the long term and the latter for the short term. However, the maximisation of short term consumer welfare should not hinder the investment and innovation activity of producers; that is, the welfare effect must also be present dynamically. In other words, assisting existing consumers should not harm future consumers. The conflict between the approach promoted by economic theory (calculation of total social welfare) and its practical applicability is evident in this case as well. As Massimo Motta states: "In most cases, however, the policy recommendations would not differ if one chose the latter objective [consumer welfare] over the former [total welfare]."<sup>14</sup>

54. If law enforcement in general is necessarily short-term consumer welfare oriented, this is particularly true for the GVH's ex-ante impact assessment as its criteria must be the same as those of law enforcement. In terms of practical application, we consider that the GVH's choice of consumer welfare, more specifically the measurement of financial gain, which is the easiest to quantify, to be the only feasible option.

55. In line with best practice, the assessment also specifies the purposes for which it is not suited:

56. *"For instance, they are not appropriate for demonstrating the absence, existence or magnitude of any competitive effect or civil law damage in an individual case, for assessing the effectiveness and efficiency of the GVH or the professional quality of its work, its priorities or the analytical methods and remedy toolkit applied, and they cannot be used for comparisons over time or between institutions. (Paragraph 7)"*

57. This is because those objectives would need a different empirical approach. The analytical method used in this case is *ex ante* in nature, that is, it relies on information obtained before the impacts actually materialise. This methodology is significantly different from the one that could be used to establish whether the GVH had made the right decision in a particular case. That would require a completely different, *ex post* analysis. This is why it is appropriate for the GVH to restrict the applicability of the assessment in this way, which is also in line with international best practice.

58. We make two comments concerning the purpose of the assessment. First, when the next assessment is prepared, the issue of comparison across different time periods will necessarily arise: no matter how carefully the document explains that it is unfit for that purpose, the general public will always attempt to compare the different periods. In this respect, the choice of a long (five-year) period is fortunate (in view of the relatively low case numbers in Hungary and the possible repetition of the assessment every 2 years, this could be extended to 6 years), as this smoothes the volatility of the results to some extent. Still, a smaller figure relative to the previous assessment might be difficult to communicate.

59. Second, the experiences gained in the course of the ex-ante impact assessment will be incorporated in the future decision making of the authority. The authorities where operating

---

<sup>12</sup> ICN (2011), p. 30.

<sup>13</sup> Cseres (2007).

<sup>14</sup> Motta (2007), p. 22.

costs and benefits are measured by types of cases may want to find out whether they yielded different levels of benefits. For instance, relying on the calculations of the OFT, Davis (2010) notes that the various types of interventions bring about significantly different levels of consumer surplus: merger control and market studies yielded the highest ‘rate of return’ while consumer protection and actions against restrictive agreements had the lowest return. Naturally, such comparisons will always be limited by the different approximate magnitude of the indirect effects foregone in the case of different types of cases. In Hungary, due to the low number of cases, comparison is also hindered by the severe data protection concerns raised by a breakdown by type of case.

60. **In summary, in respect of the objectives of the assessment the GVH followed international best practice: these objectives are transparency, accountability and the demonstration of the benefits produced by the GVH; the chosen method is the ex ante analysis of the existence and minimum size of the financial gain benefiting consumers. The GVH also adopted the best practice in explaining in detail the purposes that the assessment can and cannot be used for.**

#### 4.2. Publicity and ease of understanding

61. Considering that the purpose of the assessment is to improve the accountability of the GVH and to demonstrate its social utility, it is important that it should be understandable not only to professionals and practitioners adept in competition policy but also to university students and ‘generalist’ economists, lawyers and policymakers. The assessment has regard to this consideration and it follows international best practice in terms of its style and depth.

62. One definite positive feature of the assessment is that the version intended for publication and the attached documentation explain the advantages and limitations of the methodology with extreme detail and accuracy. Also, it presents solutions to a number of practical issues of implementation that are not even mentioned in the similar documents of other authorities. To make the extremely carefully worded assessment accessible for a wider audience, consideration should be given to its broader dissemination. The assessment contains such significant intellectual and professional added value relative to the international examples available to us that this alone would justify its publication in English.

63. We consider, however, that in some areas future assessments could be made more readily understandable so that their message can reach an even wider audience. This is particularly relevant as in Hungary familiarity with competition policy and the recognition of the importance of competition lags behind the levels seen in other countries, for instance in the United Kingdom.

64. One such example can be seen in the statement concerning the 103 percent annual rate of return (paragraph 4):

65. *“The quantified gain is more than four times the total budget of the GVH [...] This corresponds to an annual rate of return of 103%. (Paragraph 4)”*

---

66. There is no further explanation in the version intended for publication. In our opinion, readers may find this difficult to understand. In future it may be worth considering how much this indicator contributes to the objectives of the assessment, and if it is found to be important, it may be worth explaining in more detail in the public version of the assessment methodology how it is calculated and how it should be understood.

67. We also recommend that alongside the formula, the calculation should be illustrated through an actual or hypothetical example. This could be done in a text box to help the reader better understand the workings of the computation. Such text boxes could be used to illustrate the treatment of some other issues as well. This is not customary in similar documents published by other authorities but it could be conducive to a better understanding of the methodology.

68. We also consider that in Annex (B) the table of cases could be supplemented with columns specifying the types of cases and whether they were included in the assessment. If the latter is problematic for data protection reasons, we recommend that a footnote is added to the table stating the number of cases dropped from the calculation due to substantive reasons or for lack of data. We consider that this would not violate trade secrecy, and the assessment would be more transparent if readers could see which cases were included in the calculation or how many of the various types of cases were used.

**69. In summary: the description of the methodology of the assessment is extremely accurate and comprehensive. The assessment fulfils the task of calculating the gain and giving a detailed explanation of the methodology used. We think that it comes close to the standard set by the OFT, which is a yardstick for this type of exercise. However, consideration should be given to making certain statements easier to understand to assure the broader dissemination of its valuable message. To make the extremely carefully worded assessment accessible for a wider audience, consideration should be given to making certain statements easier to understand and to the broader dissemination of the assessment. The assessment contains such significant intellectual and professional added value that this alone would justify its publication in English.**

### 4.3. Ex ante approach

70. The impact assessment of the GVH falls into the first of the types of evaluation prepared by competition authorities: it is an evaluation for accountability. It tries to quantify the *expected* welfare impact of the enforcement work of the competition authority.

71. *“A.57. The method is ex-ante in nature as the calculation relies fundamentally (though not exclusively) on pre-existing or contemporaneous information rather than on information reflecting the development of the market in the years since the events that would lend themselves to in-depth ex-post evaluation. This is true even though the effects are quantified ex-post in the sense that the various cases are added to the calculation in the period following their closure.”*

---

72. When the objective is to obtain a comprehensive overview of the welfare benefit arising from the interventions of a competition authority covering a wide range of cases, the international best practice suggests the use of the ex ante approach. This is because the assessment needs to be prepared shortly after the end of the period assessed and also because information that is already available can be relied on for the work. Due to the large number of cases and its ex ante nature, ex-ante impact assessments tend to be highly simplified. Also importantly, as opposed to ex post evaluation, ex-ante impact assessments require relatively modest resources and can therefore be performed regularly. Interventions tend to have long-lasting impacts; there is no clear cut-off point after which the effect would no longer be present, therefore even ex-post analyses fail to definitively identify the welfare impacts of interventions. Indeed, some interventions cannot be assessed ex post (for instance, prohibited mergers), and even the ones that lend themselves more readily to assessment have high resource requirements, therefore such evaluation is performed only in respect of selected individual cases.

**73. In summary: in light of the known advantages of the ex ante approach, the GVH made the right decision in opting for this method.**

#### 4.4. Conservative estimate

74. The assessment does not claim or intend to capture all the benefits arising from the operation of the GVH.

75. *"A.55. It disregards gains which are not primarily financial in nature, such as legal certainty, as well as economic benefits in the broader sense such as the increased competitiveness of firms as a result of competition. As regards financial gain in the narrow sense, it does not reckon with indirect benefits, direct non-price effects or the dead-weight loss; furthermore, it does not encompass the GVH's activities other than the ones relating to mergers and anticompetitive practices. In addition, cases may be left out of the calculation or their calculation may be incomplete, because of lack of data, and the fact that the overwhelming majority of simplifications used in the calculation are conservative also must be taken into account. ..."*

---

76. International examples indicate that some of these effects are extremely difficult to capture, therefore they tend to be disregarded in such studies. Non-economic gains or the effect on competition cannot be quantified with any accuracy and are therefore generally omitted from such papers. Indirect benefits and non-price effects would likewise be difficult to calculate. It is also highly logical that the assessment does not cover the activities of the GVH beyond the cases concerning mergers, abuse of dominance and anticompetitive agreements as their quantification would require the use of different criteria.<sup>15</sup> Having reviewed the assessment, we found that the GVH adopted a consistently conservative stance in selecting its methodology used in the various types of cases.

77. In our opinion, the fact that the assessment does not cover the effects of dead-weight loss or of deterrence is not a deviation from international practice. These factors are seldom analysed and if they are, this is done in a separate exercise, the methodology and approach of which may be significantly different from the estimation of direct impacts.

78. According to the assessment:

79. *"A.55. ... All this means that the actual benefit from the work of the GVH is almost certainly (perhaps significantly) greater than the quantified gain."*

---

80. Below we demonstrate the order of magnitude of these omitted impacts. To this end, we use only a few selected sources, emphasising that even though they are indicative of the potential magnitude of the impacts, they would be difficult to incorporate in such an assessment performed with a uniform methodology.

81. Two papers commissioned by the OFT<sup>16</sup> are the most relevant examples that attempt to estimate the deterrence effect of the operation of a competition authority. For the paper prepared by Deloitte in 2007, lawyers, economists, competition lawyers and companies were interviewed. They found that between 2004 and 2006, for every merger blocked or approved with remedies there were 5 mergers which the parties did not attempt for fear of rejection by the competition authority. Similarly, for every cartel uncovered by the OFT there were 5

---

<sup>15</sup> For instance, the OFT (2009a) devoted a separate study to the gains arising from its consumer protection activities.

<sup>16</sup> OFT (2007a), OFT (2011).

infringements (16 according to the company survey) that had been planned but abandoned. The corresponding figure was 7 for restrictive agreements (also 7 based on the company survey) and 4 (10 in the company survey) for abuse of dominance. The study considers these figures to be conservative estimates. Thus the results of the survey indicate that the deterrence effect is several times the direct impact: even the multiplier of five appears to be a conservative figure.

82. Another paper published by the OFT in 2011 describes the results of the Deloitte study and of another, broader study undertaken by London Economics. These results are published in the most recent impact assessment of the OFT among the research findings. According to this paper, the deterrence effect is 28 times the direct effect in the case of cartels, 40 times in the case of other restrictive agreements and 12 times in the case of abuse of dominance cases.<sup>17</sup>

83. Further literature on the deterrence effect is presented in the work of Davis and Majumdar (2002) and the OFT study (2011).

84. Another element left out is the dead-weight loss, which in theory occurs whenever a price is set above the marginal costs. In competition policy it is a concern as some of the consumers stop buying due to the higher price. The dead-weight loss also depends on the elasticity of demand. When demand is perfectly elastic (as a result of a price increase consumers would stop buying altogether), there is no dead-weight loss. The smaller the price elasticity of demand, the greater the potential dead-weight loss. Naturally, the absolute value of the dead-weight loss is also affected by the size of the market.<sup>18</sup>

85. In their study commissioned by the OFT, Davies and Majumdar (2002) presented the calculation methods available to the OFT through the literature on the assessment of the dead-weight loss. On this basis, the OFT estimated the dead-weight loss in their merger control proceedings. For mergers, they set apart the price effect – which is present for consumers who continue buying despite the higher price – and the dead-weight effect. The latter was approximated as half of the product of the price effect, price change and demand elasticity.<sup>19</sup>

86. The issue of dead-weight loss is worth considering also because several studies have looked at its approximate magnitude. According to the rough estimate of Davies and Majumdar (2002), in the British economy the total consumer harm from the dead-weight loss and excess profits in aggregate may be as high as 10.5 to 11 percent of GDP.<sup>20</sup> Using data from 734 US corporations and 103 UK corporations, Cowling and Mueller (1978) estimated the dead-weight loss to be 3.96 percent of the gross corporate product in the US, and 3.86 percent in the UK.<sup>21</sup> Masson and Shaanan (1984) compared the dead-weight loss of the existing market structure (2.9 percent) and of a hypothetical monopoly scenario (11.6 percent) in 37 US manufacturing industries and measured the ‘value’ of competition with the difference of the two figures (8.7 percent).<sup>22</sup> Finally, we should mention the study of Hüscherlath, who estimated the direct expenditures of competition authorities and the indirect

---

<sup>17</sup> OFT (2013), p. 10.

<sup>18</sup> Motta (2007), pp. 45-46.

<sup>19</sup> OFT (2007b), p. 14., OFT (2010), pp. 19-27.

<sup>20</sup> Davies – Majumdar (2002), Section 3.30. p. 32.

<sup>21</sup> Cowling and Mueller (1978), pp. 740-742.

<sup>22</sup> Masson - Shaanan (1984), p. 520.

costs relating to proceedings to be USD 2.126 billion, and the dead-weight loss to be USD 13 billion, based on aggregate US figures for the 2004-2006 period.<sup>23</sup>

87. Nevertheless, the calculation of dead-weight loss has not become common. To the best of our knowledge, it is calculated by the NMa, the PCA, the OFT and the DOJ in merger cases and by the DOJ in abuse of dominance cases.<sup>24</sup> The dead-weight loss is more likely to be calculated where merger simulation is applied because such models make use of elasticity estimates in every case. Even though it would be highly justified from economic theory considerations, Davies does not recommend its inclusion in the OECD Guide because of the high resource requirement of the computation, the need for a conservative approach and for the uniform treatment of different types of cases.<sup>25</sup>

**88. In summary: we can state that one of the key features of the ex-ante impact assessment is the conservative approach applied throughout the assessment process. In our view, the nature of the ex-ante impact assessment practically demands this approach, because this helps dispel doubts that may arise because the assessment is prepared by the authority itself. The conservative approach is manifested in the determination of the criteria used for the evaluation of various cases and groups of cases by the GVH, in the preference to the smaller of benefits when a choice was required, and in the fact that the assessment ignored dynamic effects (e.g. innovation), which are difficult to measure and often yield uncertain results, concentrating on the static consumer benefit instead. The GVH demonstrates the direct price-related benefit of interventions in cases involving restrictive agreements, abuse of dominance and mergers. There are few authorities that present a broader scope of indirect benefits, relying mostly on research findings and surveys. On the other hand, recent literature indicates that, in line with the findings of the assessment, the full benefit may be several times the direct benefit and the competition authority has an interest in presenting this assumption. It would be appropriate to start a research project to obtain more information on the feasibility of applying methods used in other countries to quantify indirect gains in Hungary.**

#### 4.5. Additional considerations

89. *The intervention has no negative effect:* The safeguard for this assumption used by the impact assessment of the GVH is the whole of the institutional system.

90. *“A.47. When using the formula, the decisions of the GVH are relied upon unless a different final court decision has subsequently been adopted in the course of the judicial review of one of the decisions (in which case the final court decision is taken as the starting point).”*

91. This assumption is in line with international best practice. This logically follows from the ex ante nature of the assessment as the negative effects of a measure could be demonstrated by no other but ex post techniques. This ‘right decision assumption’ is analysed in detail in the explanation to the assessment intended for internal use (ID.28-30), and correctly argues for maintaining the assumption.

92. *Only the effects of restrictive agreements, abuse of dominance cases and merger control cases are included:* This position is in line with the conservative approach intending

---

<sup>23</sup> Hüschelrath (2008), pp. 23-29.

<sup>24</sup> ICN (2011), p. 56., Mateus et al (2008), p. 45., Davies (2013) pp. 6.,7.

<sup>25</sup> Davies (2013), p. 10.



to take account of direct effects only because these are the cases that are easiest to quantify, at least in a transparent manner. In the future, if an appropriate methodology is designed, consideration can be given to the estimation of the impacts of other types of activities, such as consumer protection.

93. *Point estimation:* The ex-ante impact assessment summarises in a single figure the consumer gain achieved through the work of the GVH.

94. *“...the mere purpose of the quantification is to indicate the existence, and conservatively estimate, the (minimum) financial gain benefiting consumers due to the work of the GVH...” (paragraph 7)*

---

95. The assessment argues that this is a ‘conservative estimate’, that is, we can be certain that the gain is not smaller. This approach is in conformity with the strict conservativeness expected from self-assessment; however, summarising an admittedly ‘rough’ estimate in a single figure may lead readers less familiar with the technique to believe that the result is precise to a ‘scientific standard’. In theory the GVH might choose to use an interval in place of the conservative estimate, as it is often done in statistics.

96. However, there are a number of obstacles to such an approach. Some of the gain from the operation of the GVH is not included in the calculation, or is impossible to quantify, due to the absence of data or the related conservative methodological choices. According to the survey prepared by the NMa and published by the ICN, even though three quarters of the authorities believe that the harm to consumers (and thus the welfare surplus generated by the interventions) can be quantified, some consider that they would only be able to determine its rough magnitude or interval.<sup>26</sup> Experience shows that due to the size of the indirect gains, only an excessively large, irrelevant confidence interval could be defined for the total gain. It is not appropriate to define a confidence interval for the lower bound as the bottom of such an interval would be the estimation of the lower bound estimate itself. The experience of foreign authorities also indicates that the problems relating to the definition of a confidence interval are so serious that the result was almost inevitably a conservative point estimate similar to the GVH’s result.

97. This may, however, change in the future because for instance Stephen Davies, when evaluating the methodology of the OFT, explains that some shift towards interval estimation would be possible, giving more emphasis to the indirect benefit arising from deterrence, for instance. The OFT accepted this recommendation to some extent: it continues to give its estimates in the form of point estimates but it also provides its estimation of the indirect benefit derived from research findings as supplementary information. We have information that the OECD Guide to be published also recommends that authorities provide a more conservative and less conservative estimate in addition to the point estimate. It is probably worth waiting to see if these procedures gain ground in international best practice.

**98. In summary: for the preparation of impact assessments based on the self-assessment method, a balance must be found between disclosing overly optimistic data that appear to be self-justifying on the one hand, and an excessively cautious estimation of the impacts of the authority’s work on the other hand. The GVH steered clear of this pitfall: the conservative nature of its estimations assures that the published results reflect the minimum level of the financial gain to consumers.**

---

<sup>26</sup> ICN (2011) p. 43.

## 5. Implementation of the methodology

### 5.1. Calculation methodology

99. In line with international best practice, the assessment follows a simple and very transparent logic. For each case, it quantifies the *relevant turnover*, then determines the *price difference* caused by the anticompetitive practice and its *expected duration*. The direct benefit (prevented harm) results as the multiple of these three factors.

100. The price difference and duration have different default values for different types of cases. If, however, there is evidence to justify departure from the default value, then a case-specific value is used. There are examples for this in the GVH's assessment.

101. This fundamental methodology is fully in line with international best practice.

102. In theory, the GVH could determine the price difference with more complex methods. For instance, the OFT in its most recent assessment ran simulations for three-fourths of the mergers and published a description of the methodology; however, it noted that the simulations used are suitable primarily for estimating the unilateral effects of horizontal mergers.<sup>27</sup> In practice, however, the application of this method leads to severe problems. On the one hand, in the course of an ex-ante assessment there are insufficient resources available to run a new merger simulation, and the required data are unavailable. Such an exercise would be possible if the relevant analyses were prepared during the proceedings. On the other hand, these more complex methods rely on a number of strong assumptions, thus it is highly uncertain whether they would yield more reliable results than a simple approach does.

**103. In summary: the methodology of the calculations of the GVH is in line with international best practice.**

### 5.2. Parameters of the formula, default parameters

104. *Relevant turnover*: For the calculation of the relevant turnover the GVH follows the international practice of taking a broader definition of turnover in merger cases, aggregating the (relevant) turnover of every market participant. In the case of restrictive agreements and abuses of dominance, a narrower definition of turnover is used: the combined (relevant) turnover of the firms exhibiting the anticompetitive conduct.<sup>28</sup>

105. In vertical cases the GVH determines turnover as follows:

106. *“A.15. If an infringement or merger affects more than one level of the value chain (vertical cases) and turnover data are available for more than one level of the chain, the turnover from the level where the competitive restriction is present or where its impact is first felt is used. If this cannot be determined, the smallest turnover from the different levels is used (which is a conservative feature).”*

107. In this case it is questionable to what extent the assumption is satisfied that the entire (measured) effect of the practice on the direct consumer is passed on to the final consumer in some form. In cartel cases with vertical aspects, the OFT uses the turnover closest to the consumers in the value chain when calculating the relevant turnover.<sup>29</sup> In any event, the

---

<sup>27</sup> OFT (2009b) point 4.9. p. 29.

<sup>28</sup> Davies (2013), p. 5.

<sup>29</sup> OFT (2010), point 3.8., p. 16.

practice of the GVH respects the principles of conservatism in this case again, because if the place of the impact is unclear, the smaller value is chosen.

108. To this day the selection of the default values is one of the most controversial elements in ex-ante impact assessments. These values are used if there is no appropriate case-specific data available. The GVH uses the following values:

*109. „A.19. The default value of the price difference is 10% for cases involving anticompetitive practices and 5% for mergers. The default value for expected duration is 2 years for all types of cases. These are conservative values based on international examples and empirical research.”*

---

110. *Price difference:* We looked at the relevant literature quoted by the GVH and also consulted other sources. On this basis, we established that for restrictive agreements the default values of price differences varied between 10 percent and 15 percent in the five authorities examined by Davies. The 10 percent employed by the DOJ has been used in the US for a long time, but its use was initially based on relatively limited experience.

111. The paper of Davies and Majumdar (2002) provides a good summary of empirical research into cartel surcharges. In the literature they quote, more definitive results are described in the field of competitive bidding, where bid-rigging tends to raise prices by more than 10 percent, and often by more than 20 percent. In other markets cartels do not always lead to demonstrably higher prices, but when the researchers did find a positive effect, it was often well in excess of 10 percent. On this basis, Davies and Majumdar concluded that in the case of collusive bidding, the assumption of a conservative 10 percent price increase is appropriate, while in other cases it is suitable only if the market structure is conducive to the emergence of stable cartels.

112. The series of studies referred to by Davies (2010) also show that the 10 percent assumption is probably highly conservative. In their study of 300 international cartels, Bolotova and Connor (2006) found overpricing of 13 to 19 percent, while the analysis of 1517 cartels by Connor (2009) established that the median of overpricing was in the 17 to 30 percent range and that only 20 percent of cartels increased prices by less than 10 percent. Accordingly, Davies recommended that the OFT use a 15 percent value, which the OFT adopted for hard-core cartels.<sup>30</sup>

113. The default values of the price difference in abuse of dominance cases are much more difficult to determine. There is very little literature to rely on, which is explained in part by the relatively low number of cases. This is where the price difference used by the various authorities shows the highest difference: the default value is 1 percent at the FTC and DOJ, it was 5 percent in the OFT until 2010 and is 15 percent at present, while the NMa uses 10 percent.<sup>31</sup> The OFT uses the 15 percent default value for restrictive practices as well as non-cartel agreements.<sup>32</sup> The legitimacy of the use of 1 percent is made questionable by the assumption that if such magnitude of price difference were to be encountered in practice, the authority might not intervene. The use of the 10 percent value is generally supported by the analogy of the hypothetical monopolist SSNIP test. This value is further reinforced by the fact that it is desirable to use similar or identical values for the defaults of restrictive agreements and abuse of dominance.

---

<sup>30</sup> OFT (2010), point 3.11. p. 17.o.

<sup>31</sup> Ormosi (2012), p. 9., Davies (2013), p.7.

<sup>32</sup> OFT (2010), point 3.13. p. 17.

114. Merger cases mostly use results from simulation exercises, as merger simulations are often run in the course of merger proceedings. Where this is not possible in a merger case, the average of the other simulation results, or 1 percent, potentially adjusted for the dead-weight loss, is used as the default. The severity of merger control also affects the choice of the value: a tighter merger control regime would likely require lower default values. There are several publications addressing the price effects of mergers: Borenstein (1990) found the average price increase to be 9.5 percent, Werden, Joskow et al. (1991) 5.6 percent, Ashenfelter – Hosken (2008) 3 to 7 percent.<sup>33</sup> Based on the analysis of 9 studies, Weinberg (2008) found the average price increase to be 7.6 percent.<sup>34</sup> The 1 percent assumption is difficult to apply in this case again: at such magnitude of price increase authorities are unlikely to intervene. This is one of the reasons why Davies may think that this value would give a cartel intervention 10 times the weight of a merger intervention.<sup>35</sup> These arguments and the data found in literature would justify that the GVH uses a value above 1 percent.

115. *Expected duration:* Authorities differ widely in their assessment of the expected duration: the values vary between 1 and 7 years. In respect of the cartels, the literature mainly discusses uncovered cases; however, these figures are not that relevant when we want to estimate the value relative to a scenario where the cartel is not detected. Leniency policy related studies indicate that the least stable cartels are the most likely to make use of the leniency programme. The criteria used in the leniency programme also have an impact on the stability of cartels.<sup>36</sup> The size of the cartel surcharge may also affect their expected duration. Cartels promising higher profits may be more stable, but the same factor may also increase the probability of their detection. Accordingly, a case-by-case examination would be the most satisfactory solution. To promote the uniform treatment of restrictive practices, the default values for the expected duration of abuses of dominance could be approximated to those used in cartels, though some consider that the time required for the market correction of foreclosure should be longer than the duration used in the case of cartels.<sup>37</sup> For cartels, there are proponents of the adoption of the EU practice, where cases are classified into three categories depending on their size and effect, with expected durations of 1, 3 or 6 years.

116. The expected time of market correction is also used in merger cases. Authorities would be unlikely to intervene if the expected correction of the market were to occur soon after the merger. There is little variation between authorities in this type of case, and the default value of the expected duration is generally 1 to 2 years (conservative estimate).

---

<sup>33</sup> Ormosi (2012), p. 8.

<sup>34</sup> Bergman (2008), p. 394.

<sup>35</sup> Davies (2013), p. 10.

<sup>36</sup> Harrington – Chang (2009).

<sup>37</sup> Ormosi (2012), p. 11.

117. The above information is summarised in the table compiled based on the paper of Davies (2013):

**Table 1**

Default value	Authority	Mergers	Cartels	Abuse of dominant position
Price difference (percentage)	EU	3-5	10-15	-
	US FTC	1	-	1
	US DOJ	1 [1]	10	1 [1]
	OFT	average of simulations [1]	10-15	10
	NMa	1 [1] [2]	10	10
Duration (year)	EU	2-7 [3]	1/3/6	-
	US FTC	2	-	2
	US DOJ	1	1	1
	OFT	2	6	6
	NMa	1	1	1

[1]: inclusion of the dead-weight loss

[2]: assuming a 1% efficiency improvement

[3]: depending on the barriers to entry

118. The paper of Davies (2013) for the OECD puts forward proposals as to the default values to be recommended by the OECD to authorities in their ex-ante impact assessments. Once the Guide is out, it would be worth investigating how these default values would affect the results.

**119. In summary: having reviewed the practice of the GVH and the literature we can establish that the default values used by the GVH comply with international best practice and are sufficiently conservative.**

### 5.3. Discount rate

120. In accordance with the methodology of the assessment, in the case of projected future gains:

*121. "A.24. ... The discount rates are obtained from the zero coupon yield curve relating to the beginning (first week) of the year of calculation as published by the Government Debt Management Agency (Allamadósság Kezelő Központ)."*

122. The assessment justifies this choice by stating that "This is the yield curve that is the best approximation of the future expected change in the yield of risk-free investment". For past gains, the assessment uses the observed rate of inflation to adapt the gains to the year of calculation.

123. However, consideration should be given to refining this methodological choice in future assessments. Financial gains realised earlier bring a greater benefit to society even if we disregard inflation. There are several reasons for this. First, such gains can be invested into projects (be it education, infrastructure or reducing the national debt) that generate positive real yields above the rate of inflation. Second, in the longer term, as the national income increases, the same absolute gain will be less and less valuable (a crate of apples is worth more for a poor society than for an affluent one). Third, individuals also appreciate it if they obtain a good earlier rather than later, and social preferences derived from individual preferences must reflect that choice. In summary, in a cost-benefit analysis, when comparison

is made across years, the discount rate used both for future and past gains and costs should reflect inflation as well as the expectation of society for a positive real rate of return.

124. In the literature on public finance, the social discount rate tends to be used in such cases. The social discount rate can be calculated with a number of methods and its value is far from unambiguous. However, the comparability and the consistency of social cost-benefit analyses are enhanced if the methodology used is as uniform as possible. The high-impact study of Moore et al (2004) set out to devise such rules of thumb. The study concludes that where the term of investment is relatively short and it has no significant crowding out effect, a (real) social discount rate of 3.5 percent should be used.

125. This rule has been used in a number of studies, relating for instance to education or global warming. For our purposes it is even more important, however, that the same 3.5 percent social discount rate is used by the OFT, the FTC, the NMa and the PCA, and it is also recommended by the EU for such assessments.<sup>38</sup> It is an important difference though that these assessments relate to shorter time periods, thus the issue of comparability across years is less critical. In our opinion, due to reasons of comparability and the theoretical arguments for the social discount rate, in the future the GVH should also consider applying this discount rate in its assessments.

126. We should also note that in their paper, Moore et al. calculate the 3.5 percent estimate from an optimal growth rate model. The parameters of the optimal growth rate model may vary significantly across countries: in emerging economies, for instance, the rate of growth of per capita consumption may be significantly higher than in developed countries, and thus the discount rate may also be significantly higher in fast-growing economies than in the developed countries studied by Moore et al. In theory this could justify the adjustment of parameters, but in practice it does not appear to be necessary. First, the choice of the discount rate has little effect on the final results. Second, the 2.3 percent growth rate chosen by Moore et al. is not significantly higher than the foreseeable Hungarian growth rate. Third, comparability with foreign examples is a substantial benefit. Fourth, the resource requirement of such an analysis would be out of proportion to the above benefits.

**127. In summary, to assure greater conformity with international practice, we recommend that the GVH consider the use of a 3.5 real social discount rate in its calculations to compare historic amounts and to discount predicted future benefits. In our opinion, this method of calculation does not introduce excessive complexity to the process, though it may lead to difficulties in that the exact timing of the costs and benefits becomes more important (see Section 5.5.). Considering that most of the gains quantified in the ex-ante impact assessment emerged in the past, the use of a real discount rate of 3.5 percent would lead to an appreciable increase in the quantified gain. The current methodology of the GVH can be seen as using a 0 percent real rate of return for discounting past costs and benefits for the comparison of past gains, which is a conservative approach.**

#### 5.4. Selection of cases

128. As an important feature of the assessment, relatively few cases are used to calculate the actual gains. The cases relevant for the quantification numbered 39, of which 17 were dropped due to substantive reasons (commitment decisions, re-opening ordered by the court or omitted for other reasons). However, 9 of the remaining 22 cases were also left out due to

---

<sup>38</sup> Ormosi (2012), p. 7., Mateus (2008), p. 7.

lack of data. This is a very high ratio, and as we note in the (non-published) Appendix, it may be possible to estimate the gain from those cases as well. It appears, however, that these cases are substantially smaller than the ‘average’ quantified cases. This may be because the investigations of the GVH generated more accurate figures for large cases, or because the persons working in the assessment made more effort to quantify larger cases. This leads us to conclude that the weight of the cases left out (in absolute terms) is smaller than their ratio to the total number of cases; however, the aggregate figure would certainly be higher if every case (not dropped for substantive reasons) had been quantified.

129. The case numbers are worth comparing to those of the OFT. In the assessment of the three years between 2006 and 2009, 25 cases were included in the estimation (the annual average number of cases covered by the calculation:  $OFT\ 25/3=8.3$ ,  $GVH\ 13/5=2.6$ ). Again, the problem is that the aggregate figure was very sensitive to specific large-scale cases. The use of a multi-annual moving average addresses this issue to some extent, but the results of assessments prepared in successive years could still fluctuate widely.<sup>39</sup> This is evidenced by the GVH figures: there was a year which contributed no case to the calculation, and the number of cases that could be considered for inclusion varied wildly (there were 10 potential cases in 2008, and 1 in 2012), which indicates that a switch from the 5-year moving average to a 6-year average is worth considering (See paragraphs 12. and 151).

130. As an interesting feature of the method, if the direct gain achieved in a given period were to be recalculated at a later time, a trend-like change could be observed. This is because cases may be dropped during the re-calculation as final court decisions may have been adopted in favour of the firms (A.47.). In this event, the expected value of the quantified direct gain may decrease with each recalculation. As in this respect the GVH complies with the best practice of foreign competition authorities (the OFT’s), no change is necessary; however, this also supports the argument that the results of the ex-ante assessment of a particular period should not be compared with the results obtained for other periods.

131. Clearly, authorities starting to use ex-ante impact assessments are in a learning process, and the frequency of the use of default values is characteristic. Before 2006, the OFT exclusively used default values for the price differences in its cartel cases, while in the 2006-2009 period this ratio declined to one-third of the cases.<sup>40</sup> The GVH was able to use actual figures relying on information from the proceedings in one case, and in 12 cases it had to use default values. As more experience is accumulated, this will probably change.

## 5.5. Timing

132. The assessment states that “A.44. ... *The calculation for a particular period covers the cases closed in that period. This is because the gain captured by the calculation relates to the interventions of the GVH, and the interventions are tied to the closure of the proceedings, that is, to the decisions of the GVH.*”

133. This principle is clear and transparent: it is evident that cases closed in a particular period can be included in the assessment, which is in line with international best practice.

134. We should note that some of the gains or expenditures may arise in a different period than the one identified in the assessment. In the case of expenditures, some of the work relating to decisions adopted early in the period may have been done in previous years, while cases started in the period observed may be closed only in the subsequent period. The same

---

<sup>39</sup> Davies (2010), p.15.

<sup>40</sup> Davies (2010), p.24.

applies to gains. In some of the cases, the illegal practice was terminated when the GVH started its proceeding (which was 2-3 years before the decision was adopted in several cases). In this sense, the intervention of the GVH has an effect from the start of the proceeding, and the adoption of the decision itself may not bring about any change if its content is in line with the expectation of market participants. Furthermore, if in the future the GVH compares different periods using the method we recommend in Section 5.3, the timing of costs and benefits will become more important, and new assumptions may need to be adopted in this respect.

**135. In our opinion, this problem is unavoidable and any other methodological option would be much less transparent. It is conceivable, however, that in future assessments this phenomenon should be emphasised more, as this also shows that the calculations are not suitable for comparison over time.**

## 5.6. Scope of data used

136. The assessment states about the scope of data used:

*137. "A.56. The calculation relies on information that is either readily available to the GVH, or that can be obtained with a reasonable amount of research, as well as on simple estimations based on this information. ..."*

---

138. This is certainly a valid starting point for ex-ante impact assessments as calculations must be performed on a large number of cases in a short time.

139. In practice, the authors of the ex-ante impact assessment mostly relied on information available from the case files of the GVH in respect of the relevant turnover. If the files had no information on the turnover of the firms, the case was generally dropped from the aggregation due to lack of data. Interestingly, Davies also assumes in respect of the authorities that start preparing ex-ante impact assessments that they routinely collect turnover data where an intervention occurs.<sup>41</sup> It would be particularly important that this practice is adopted by the GVH, which would also facilitate the fast completion of an impact assessment after the closure of cases.

140. However, we consider that in certain cases rough estimates could be made using a reasonable amount of resources, relying on publicly available information that is not included in the data available initially. Self-regulation cases are prime candidates, where the practice affects a large number of small companies which in aggregate make up an appreciable, significant part of the industry in the statistical sense (4-digit NACE code).

141. In our opinion, the GVH may have access to the database of financial statements maintained by the Ministry of Justice or to the OPTEN database. This facilitates the calculation of the turnover of companies under the 4-digit industry code, which may then be broken down by geographical region, for instance. It may also be possible to query companies whose name contains the activity investigated, and the average turnover of these companies could be used to estimate the turnover of a typical company operating in the sector.

142. Some cases are related to bid-rigging in public procurement tenders. Here, the level of relevant turnover could in theory be determined with some confidence from public procurement data. While there are research projects looking into corruption, for instance, using the database of the Public Procurement Authority, it may often be rather difficult to

---

<sup>41</sup> Davies (2013), p. 12.



obtain accurate information from this database. Even so, it may be worth testing the reliability of information obtainable from it in a specific case as an example.

**143. Consequently, we recommend that the availability or usability of such public, firm-level data for the purposes of the ex ante assessment is looked into. The assessment would also be greatly facilitated if information on the market size and turnover of the relevant firms were collected in the course the proceedings wherever possible, which would also assure the timely completion of an impact assessment following the closure of proceedings.**

## 5.7. Calculations

144. Relying on the documentation available to us, we examined whether the calculations comply with the methodology (outside the scope of trade secrets). We used the description of the methodology and the spreadsheets made available by the GVH as well as publicly available versions of GVH decisions.

**145. We concluded that the GVH applied the methodology accurately and consistently. We found no significant difference between the methodology and the calculations, and the few comments we have are included in the Appendix to this review (none of which are of major importance, they point to the possibility of alternative solutions in certain cases).**

## 5.8. Lessons from empirical studies published in Hungary

146. We reviewed the empirical studies of Hungarian markets prepared after 2005, mostly relying on the summary of Gergely Csorba (2013). These generally indicate that Hungarian markets work in a way similar to the operation of comparable markets in other countries. For instance, several studies pointed out that weaker competition results in a significant price increase, which may lead us to conclude that pro-competition interventions may result in a higher consumer surplus in Hungary as well.

147. Some studies looked into the effect concentration has on prices. Farkas et al (2009) demonstrated, for instance, that in the regional retail gasoline market an increase in the number of competitors results in a significant decrease in prices, but this effect is small in the economic sense, representing less than one percent of the average consumer price. Csorba et al. (2011) also analysed the retail gasoline market and found that mergers in the market led to price increases.

148. Studies of other markets demonstrated that demand responded rather inelastically to supply. In such markets, the decrease of competition may lead to the exploitation of market power. Nagy et al. (2012) demonstrated, for instance, that the price elasticity of fixed-line telephone subscribers was rather low. Kézdi and Csorba (2012) showed that the existing clients of various banks responded much (70-80 percent) less readily to price increases than new clients.

**149. Empirical studies on Hungary generally indicate that Hungarian markets work in a way similar to other European countries. Several studies confirmed that weaker competition leads to higher prices. Due to this similarity of the Hungarian markets to other countries, Hungarian empirical literature justifies no departure in the methodology of the GVH from international best practices.**

## 6. Recommendations

150. In this chapter we put forth our recommendations to be considered for the purposes of future assessments.

151. Based on international best practice, we recommend that in the future similar assessments are prepared on a regular basis and that their results and methodologies are published by the GVH. In view of the small size of the Hungarian market, we do not consider the preparation of such calculations annually to be reasonable, but ex-ante assessments could realistically be prepared every two years. If the GVH opts for this arrangement, it may be worthwhile to switch from a 5-year period to 6 years, to better align the two figures.<sup>42</sup>

### 6.1. Recommendations for the improvement of the methodology

152. Future assessments could be reinforced if the lowest possible number of cases were omitted due to lack of data. In this context it would be desirable if the relevant turnover were quantified in the course of the proceedings in as many cases as possible.

153. The number of cases dropped due to lack of data could be reduced if public databases were also used to estimate the relevant turnover for certain types of cases. For instance, the accuracy of estimation would be promoted by the use of databases of financial statements of companies in self-regulation cases, and by access to public procurement data in cases involving collusive bidding. We recommend that the GVH estimates the resources required for the use of such databases.

154. It should be considered whether the inflation rate or government bond yields should be replaced, both for theoretical reasons and to facilitate international comparability, by the 3.5 percent real social discount rate for both past and future projected benefits and costs.

155. Certain sections of the document could be made easier to understand because knowledge of competition policy in Hungary falls short of the levels encountered in countries that are in the vanguard in this respect. For instance, calculations could be illustrated by simple numerical examples. It should be considered how much value the calculation of a rate of return adds, and whether its method of calculation and interpretation is worth explaining in more detail in the public version of the document. The transparency of the table listing the cases could be improved if it were to indicate the type of each case and whether it was included in the calculation or, if this raises data protection concerns, the number of cases dropped for substantive reasons or due to lack of data.

156. The publication of the proposed OECD Guide is likely to provide the ground for the improvement of the methodology. As this had not been published before the completion of the review, it cannot serve as a basis for comparison in our work. As an important consideration, future ex-ante impact assessments should be in line with this Guide as much as possible, and consideration should be given to adding to the present assessment a detailed analysis of its compliance with or departure from the Guide.

---

<sup>42</sup> This is in line with the OECD recommendations (Section 9e). It proposes, however, that assessments are made for a 2-year period as well as the moving average of the past 2x3 years.

## 6.2. Possible broadening of scope and alternatives

157. The reviewed literature underlines that a large part of the positive impacts of competition policy arises from the indirect ‘deterrence’ effect. In theory, calculations that disregard deterrence present those authorities that are the most effective in deterrence to have the lowest rate of return. The inclusion of the deterrence effect appears to be the next logical step when broadening the scope of the ex-ante impact assessment. Consideration should be given to launching a research project to look into its possible introduction in Hungary because international examples may not be readily adaptable.

158. The significance of the GVH’s decisions varies: a few cases may be responsible for a very high percentage of the quantified benefit. Consequently, a more complex methodology may be appropriate for some of the cases; for instance, major mergers may warrant simple simulation exercises. However, the design of such an analysis would in all probability be beyond the remit of an ex-ante impact assessment, therefore this may be a realistic option only if such analyses were to be performed in the course of the proceedings.

159. It is worth considering whether quantifications could be extended to other types of cases. Experiments performed by other authorities indicate that the inclusion of consumer protection would be an evident next step. These analyses would require slightly different methodologies to those employed in ex-ante impact assessments, but they may highlight the significant benefit resulting from the work of the GVH in this area as well. Consideration should be given to launching a research project to look into its possible introduction in Hungary because international examples may not be readily adaptable.

## 7. References

Ashenfelter, Orley – Hosken, Daniel (2008): The effect of mergers on consumer prices: evidence from five selected case studies. NBER Working Paper, N° 13859.

Bergman, M.A. (2008): Quis Custodiet Ipsos Custodes? Or Measuring and Evaluating the Effectiveness of Competition Enforcement. *De Economist*, Vol. 156. No. 4. pp. 387-409.

Bolotova, Yuliya – Connor, John (2006): Cartel Overcharges: Survey and Meta-Analysis. *International Journal of Industrial Organization*, Vol. 24. No. 6. pp. 1109–1137.

Borenstein, S. (1990): Airline Mergers, Airport Dominance, and Market Power. *American Economic Review (Papers and Proceedings)*, Vol. 80. No. 2. pp. 400-404.

Connor J, (2009): Price-fixing overcharges: revised Edition, manuscript, Purdue University, July 29 2009.

Cowling, Keith - Mueller, Dennis C. (1978): The Social Costs of Monopoly Power. *Economic Journal*, Vol. 88. No. 352, pp. 727-748.

Cseres, K. J. (2007): The Controversies of the Consumer Welfare Standard. *The Competition Law Review*, Vol. 3. No. 2. pp. 121-173.

Csorba, Gergely – Koltay, Gábor – Farkas, Dávid (2011): Separating the ex post effects of mergers: an analysis of structural changes on the Hungarian retail gasoline market. MTA-KTI Discussion Papers, MT-DP-2011/18.

Csorba, Gergely (2013): Magyarországi empirikus piacszerkezet-elemzések kutatási eredményeinek és gyakorlati alkalmazásainak áttekintése [Review of the findings of empirical market structure research in Hungary and of their practical application]. In: Verseny és Szabályozás 2012. (ed. Valentiny, Pál, Kiss, Ferenc László, Nagy, Csongor István), Budapest, MTA KRTK Közgazdaság-tudományi Intézet, pp. 13-31.

Davies, S. – Majumdar, A. (2002): The development of targets for consumer savings arising for competition policy. OFT386.

Davies, Stephen (2010): A Review of OFT's Impact Estimation Methods, OFT1164

Davies, Stephen (2013): Assessment of the Impact of Competition Authorities Activities. OECD, DAF/COMP/WP2(2013)1

Farkas, Dávid – Csorba, Gergely – Koltay, Gábor (2009): Árak és koncentráció a Magyar kiskereskedelmi üzemanyagpiacon [Prices and concentration on the Hungarian retail market for motor fuels]. Közgazdasági Szemle, Vol. 56. No. 12. pp. 1088–1109.

GVH (2007): Fundamental principles of competition policy as applied by the Hungarian Competition Authority (GVH).

Harrington, J. E. – Chang, M.H. (2009): Modelling the Birth and Death of Cartels with an Application to Evaluating Antitrust Policy. Journal of the European Economic Association, Vol. 7. No. 6. pp. 1400-1435.

Hüschelrath, Kai (2008): Is it Worth all the Trouble? – The Costs and Benefits of Antitrust Enforcement. ZEW Discussion Paper No. 08-107.

ICN (2011): Competition Enforcement and Consumer Welfare. Setting the Agenda. ICN.

Kézdi, Gábor – Csorba, Gergely (2013): Estimating consumer lock-in effects from firm-level data. Journal of Industry, Competition and Trade, Vol. 13. No. 3. pp. 431-452.

Masson, R.T. – Shaanan, J. (1984): Social cost of oligopoly and the value of competition. The Economic Journal, Vol. 94. No. 375. pp. 520-535.

Mateus, A. – Goncalves, P. – Rodrigues, J. (2008): Performance of national competition authorities: A method for assessment. Concurrences, No. 3. pp. 40-54.

Moore, M. A. - Boardman, A. E. - Vining, A. R. - Weimer, D. L. - Greenberg, D. H. (2004): "Just give me a number!" Practical values for the social discount rate. Journal of Policy Analysis and Management Vol. 23. No. 4. pp.: 789–812

Motta, Massimo (2007): Competition policy. Theory and Practice. Cambridge University Press, 2004.

Nagy, Péter – Pápai, Zoltán – Muraközy, Balázs – Micski, Judit (2012): A vezetékes telefonszolgáltatás rugalmasságának vizsgálata a piacmeghatározás empirikus megalapozása céljából [Study of the elasticity of land-line telephone services with a view to empirical

market definition]. Appendix II to Decision HF/25000–9/2012. of the National Media and Communications Authority.

OECD (2012): Evaluation of Competition Enforcement and Advocacy Activities: The Results of an OECD Survey. OECD, DAF/COMP/WP2(2012)7/FINAL

OFT (2007a): The deterrent effect of competition enforcement by the OFT. A report prepared for the OFT by Deloitte. OFT 962.

OFT (2007b): Consumer savings from merger control. OFT 917.

OFT (2009a): Trading standards impact, OFT 1085.

OFT (2009b): Positive impact 08/09. Consumer benefits from the OFT's work. OFT 1102

OFT (2010): A guide to OFT's Impact Estimation methods. OFT 1250

OFT (2011): The impact of competition interventions on compliance and deterrence. OFT 1391.

OFT (2013): Positive Impact 12/13. Consumer benefits from the OFT's work. OFT 1493.

Ormosi, Peter (2012): Stocktaking on Evaluation, OECD, DAF/COMP/WP2(2012)5.

Werden, G. – Joskow, A. – Johnson, R. (1991): The Effects of Mergers on Price and Output: Two Case Studies from the Airline Industry. Managerial and Decision Economics, Vol. 12. No. 5. pp. 341–352.

## 8. Appendix: Comments on specific cases (non-public)<sup>43</sup>

---

<sup>43</sup> The Appendix contains information not made public by the GVH. Consequently, at the request of the GVH, it is not included in the public version of this review.