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Bankruptcy proceedings of empty estates: a Time-Driven Activity-Based Costing-analysis for the trustee

Gauthier Vandenbossche* & Bertel De Groote*

Abstract:

This paper examines the adequacy of the Belgian state funding model for remunerating trustees in empty estate bankruptcy cases, where a fixed fee is provided to the trustee regardless of the case's complexity and the workload. Using a Time-Driven Activity-Based Costing (TDABC) model, the study calculates the actual cost of trustees' activities, comparing this with the fixed fee trustees receive for administering empty estate cases. The findings indicate that in 90% of the cases, the fixed fee does not cover the trustees' cost to carry out the standard tasks, revealing significant 'virtual salary deficits'. The analysis highlights the most resource-intensive activities and time drivers. Potential cost-saving measures, such as eliminating claim verification, are suggested. The study also advocates for a more flexible fee structure that reflects case complexity and provides adequate incentives for trustees linked to the broader societal role of bankruptcy proceedings. This research offers new insights into the policy debate on trustee remuneration and the empty estate problem.

Keywords: Bankruptcy, Trustees, Empty estates, Trustee remuneration, State funding, Insolvency policy, TDABC

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*   Mr Gauthier Vandenbossche is a Ph.D. researcher and academic assistant at the Faculty of Law and Criminology and the Faculty of Economics and Business Administration at Ghent University (Belgium). The author would like to thank Professors Dr Diederik Bruloot, Dr Bertel De Groote and Dr Patricia Everaert for their feedback on the draft version of this paper. Earlier versions of this article were presented at the Fourth YANIL Research Workshop on Restructuring and Insolvency Law in Amsterdam (2023).

*   Prof Dr Bertel De Groote is a Professor at the Faculty of Economics and Business Administration at Ghent University (Belgium). Responsible for suggesting the research methodology to the First author, after having introduced this methodology in a legal context as co-author of Bertel De Groote, Patricia Everaert en Lander Bruneel, 'De winstgevendheid van de collectieve schuldenregeling voor de schuldbemiddelaar: een studie met Time-Driven Activity-based Costing' [2013] P&B 3.

1 Introduction

1. Each year, over 9,500[1] bankruptcy proceedings are opened in Belgium. Under Belgian law, the purpose of these proceedings is to liquidate the bankrupt's estate[2] and distribute the proceeds to the creditors.[3] In order to achieve this objective, a trustee in bankruptcy is appointed for each case. Trustees play a crucial role in bankruptcy proceedings[4] as they are responsible for administering and liquidating the estate. As such, their *legal role* coincides with the *legal objective* of bankruptcy proceedings.[5] To this end, trustees are legally mandated to perform various activities, such as preparing inventories, verifying claims, tracing and collecting assets, negotiating with creditors or third parties, examining the bankrupt's accounts and records, managing the closure of the bankruptcy, and handling correspondence and court pleadings.

2. The legal purpose of bankruptcy proceedings seems to be premised on the presence of assets to be distributed. In practice, however, it is not uncommon for estates to contain *insufficient or no tangible assets*[6] to cover the costs of administering and liquidating the bankruptcy. The standard duties and tasks must also be performed in these bankruptcies. The trustee's fee often constitutes

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1   This represents the average number of bankruptcy proceedings opened between 2010 and 2022. See FOD Economie, 'Jaarlijkse en maandelijkse evolutie van de faillissementen en het banenverlies' (1 June 2023) <economie.fgov.be/nl/themas/ondernemingen/kmos-en-zelfstandigen-cijfers/faillissementen-en/jaarlijkse-en-maandelijkse> accessed 31 January 2024.

2   I.e. the assets of the debtor that are subject to the insolvency proceedings. See UNCITRAL, *Legislative Guide on Insolvency Law* (2005), 5.

3   Art. XX.98 CEL; see also Eric Dirix and Roel Fransis, 'National Report for Belgium' in Dennis Faber, Niels Vermunt, Jason Kilborn and Tomas Richter (eds), *Commencement of insolvency proceedings* (Oxford University Press 2012), 44.

4   See art. XX.104 CEL; Reinhard Bork, *Corporate Insolvency Law* (Intersentia 2020), 43.

5   Jessie Pool, 'Maatschappelijk verantwoord vereffenen: belangenpluralisme bij de maatschappelijke taakuitoefening van de curator' [2022] Tvl 20, 134.

6   For the purposes of this paper, empty estates are those where there are insufficient or no *tangible* assets, in other words, where there are no immediately identifiable assets. However, such an estate may not be 'empty' because there are potential liability claims against the directors or other hidden assets. Yet, the individual cases studied in this paper show that in practice such estates often remain 'empty' for a variety of reasons. For example, the trustee may consider the chances of success of a liability claim to be too uncertain because, for example, the directors are abroad; because the directors themselves are insolvent; because there are no means of bringing a claim and the trustee does not wish to take further uncertain and costly steps. In contrast, if the trustee succeeds in filing and enforcing a liability claim, the estate will no longer be empty (and thus such cases fall outside the scope of this research).

the primary cost of such proceedings.[7] The situation where the estate is insufficient to pay the trustee's normal (minimum) fee is known as part of the *empty estate problem*.[8] Empty estates are a problem because it is widely accepted that trustees need to be adequately remunerated in order to achieve the objective of the bankruptcy proceedings and to fulfil their duties effectively.[9] In 2023, the Belgian Official Gazette reported over 4,000 bankruptcies closed for lack of assets, compared with just under 3,600 concluded through liquidation. The question of how to pay the trustee's fees in empty estate cases is thus a significant challenge today. Since remuneration policies must be designed to ensure that trustees fulfil their duties in line with the objectives of insolvency proceedings[10], they cannot be evaluated in isolation from the legislator's interpretation of both the aims of insolvency proceedings and the trustee's role within that framework. This research contributes to the growing international debate on these intertwined questions.[11]

3.   Previous studies have explored and evaluated four different models for compensating insolvency practitioners involved in estate liquidation: insolvency estate funding, state funding, third party funding and avoiding the opening of an insolvency procedure at all.[12] As for the first model, empirical research has revealed salary deficits within the Dutch system, which relies on the insolvency estate to fund trustees' fees based on hourly rates. These deficits occur when the estate lacks sufficient assets to cover the trustee's estimated salary.[13] Given these findings, some have suggested state funding

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7   UNCITRAL, *Legislative Guide on Insolvency Law* (2005), 181; Judith Dahlgreen et al., *Study on a New Approach to Business Failure and Insolvency: Comparative Legal Analysis of the Member States' Relevant Provisions and Practices* (2016) 215, <data.European.eu/doi/10.2838/8751> accessed 31 January 2024.

8   See also Jessie Pool, Reinout Vriesendorp, Peter van der Zwan, Harold Koster, Wouter Elsenburg and Wassim Ourak, *De beloning van curatoren bij lege boedels* (2024) <www.repository.wodc.nl/handle/20.500.12832/3432> accessed 24 April January 2025.

9   Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2.

10   Nationale Arbeidsraad and Centrale Raad voor het Bedrijfsleven, advies nr. 2.308 *Insolventiewetgeving – Voorontwerp van wet* (19 July 2022) <https://cnt-nar.be/sites/default/files/documents/nl/advies-2308.pdf> accessed on 9 May 2024.

11   Gijs van Dijck, Reinout Vriesendorp, Délon Vielvoye and Nabila Rachid, 'Lege boedels: code rood of vals alarm? Een verkennende empirische studie naar Bredase ervaringen met lege boedels' [2008] TvI 33; Gijs Van Dijck and Martin Gramatikov, 'De beloning van curatoren empirisch onderzocht' [2010] TvI 2.

12   Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2.

13   See Gijs van Dijck, Reinout Vriesendorp, Délon Vielvoye and Nabila Rachid, 'Lege boedels: code rood of vals alarm? Een verkennende empirische studie naar Bredase ervaringen met lege boedels' [2008] TvI 33. See also Gijs van Dijck, 'Biedt een basisvergoeding soelaas? Empirisch onderzoek naar salaristekorten in faillissement' [2013] TvI 3.

models as a viable alternative to address the shortcomings of the insolvency estate funding model.[14] Meanwhile, the European Commission's recent proposal for a directive harmonising certain aspects of insolvency law opts for the other option: not appointing a trustee for microenterprises at all.[15] From a policy perspective, this creates an apparent binary choice: either involving a trustee, who would require compensation (from the estate or, alternatively, by the state), or proceeding without trustee involvement.

4.   In Belgium, a state funding system for empty estates has been in place for several years, making it an ideal subject for research. Under this system, when a Belgian trustee is confronted with an empty estate, the state guarantees[16] a fixed fee (indexed for price developments[17]) for the administration of the case, irrespective of the actual workload or time invested. As of 1 April 2024 this fee is 1,276.29 EUR. The fixed fee is designed to cover the standard activities trustees must typically perform. However, the extent to which this fixed fee corresponds with the actual costs and time spent on the mandatory activities – such as inventory preparation, claim verification, and report writing – performed by the trustee, has not yet been thoroughly investigated. Therefore, in this paper I address the question how the fixed fee received by a Belgian trustee in cases with insufficient assets (to cover normal fees and expenses) compares to the actual (economic) cost of their workload in administering an empty estate case.

5.   From an economic perspective, the fixed fee represents the trustee's *income* for a given empty estate case, while the total time spent by the trustee on that case determines its *cost*, as these activities consume resources (e.g., personnel, materials, equipment).[18] To allocate the costs of the resources to a specific empty estate case, this study uses a Time-Driven Activity-Based Costing (TDABC) model. TDABC is traditionally used to accurately calculate the actual costs of production and business processes, but it also has merits in a

14   Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2.
15   See Commission, 'Proposal for a Directive of the European Parliament and of the Council harmonising certain aspects of insolvency law' COM(2022)702 final.
16   See art. XX.20, §4 CEL; Royal Decree of 26 April 2018 on the rules and scales determining the costs and fees of insolvency practitioners.
17   The fee was originally set at 1,000 EUR. Throughout the remainder of this paper, any reference to 'the fixed fee' refers to the indexed amount of 1,276.29 EUR, unless specified otherwise.
18   Lorena Siguenza-Guzman, Alexandra Van den Abbeele, Joos Vandewalle, Henri Verhaaren and Dirk Cattrysse, 'Recent Evolutions in Costing Systems: A Literature Review of Time-Driven Activity-Based Costing' (2013) 58 Review of Business and Economic Literature 1, 37.

legal context, as it provides insight into the various activities and the resources consumed in the process.[19] This study develops a novel TDABC model specifically tailored to the activities of trustees. The underlying data is derived from interviews and surveys concerning time allocation and cost structures and is applied to a manually collected sample of actual empty estate cases from all Dutch-speaking commercial courts in Belgium.[20] To the best of my knowledge, this is the first empirical study to evaluate the adequacy of a state funding model, in light of the objective of the bankruptcy proceedings. This addresses a gap in the literature[21], distinguishing itself from earlier empirical research focused on salary deficits under insolvency estate funding models. This is of value for determining adequate compensation models and efficiently organising the tasks of the trustee.

6. The TDABC model enables the identification of the activities that significantly contribute to the total cost of an empty estate case and the key factors influencing this cost, complementing previous research on factors affecting the time spent by trustees on estate administration in the Netherlands.[22] From the trustee's perspective, the results of the study reveal what state funding enables trustees to achieve[23] and allow to calculate the extent to which administering an empty estate case is loss-making. This in turn reveals how the current remuneration system could affect trustee behaviour and the incentives embedded within it. Simultaneously, from a policymaker's perspective, the results offer an assessment of the relative cost of the fixed fee model to the Belgian state and its *value for money*. By integrating both perspectives, the TDABC analysis fosters a broader reflection on the legal and societal functions of (the trustee's activities in) bankruptcy proceedings. It contrasts the narrow statutory objective of bankruptcy proceedings – namely, the liquidation of assets and distribution of proceeds – with their wider social purpose, including the investigation of fraud and financial irregularities. This is especially pertinent in empty estate cases. This provides new insights into the viability of a

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19 Bertel De Groote, Patricia Everaert en Lander Bruneel, 'De winstgevendheid van de collectieve schuldenregeling voor de schuldbemiddelaar: een studie met Time-Driven Activity-based Costing' [2013] P&B 3.
20 The data is available on <www.biblio.ugent.be/person/5265D836-600F-11E6-BB46-0867B5D1D7B1>.
21 Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2, 137.
22 Gijs van Dijck and Martin Gramatikov, 'What Determines Bankruptcy Costs? An Empirical Investigation' (2009) Tilburg University Legal Studies Working Paper No. 011/2009, <www.papers.ssrn.com/sol3/papers.cfm?abstract_id=1443113> accessed 31 January 2024.
23 Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2.

state funding model for empty estates and the potential need for alternative funding models, which are currently being explored by national and supranational legislators.

7.   The remainder of this paper is structured as follows: Section 2 provides the necessary background and terminology on trustee remuneration in bankruptcy proceedings and empty estates, along with an introduction to Time-Driven Activity-Based Costing as a costing system. Section 3 describes the development and application of the TDABC model and the methodology used. The data collection process includes literature study, public sources, interviews, surveys, and data from the private insolvency register. Section 4 presents the overall results and conducts an additional bivariate analysis before discussing its implications. The paper concludes with final remarks in Section 5.

2   Background

2.1   The income: trustee remuneration models

8.   The trustee's fee represents their *income* for administering a given bankruptcy case. Across jurisdictions, four dominant models – collectively referred to as *insolvency funding mechanisms* – are typically used to structure the remuneration of insolvency practitioners. Based on comparative research focusing on systems in the Netherlands, the United Kingdom, and Germany, Van Dijck identifies the following models:
   (i)   **Insolvency estate funding**, where the trustee's fee and related costs are paid out of the assets of the bankrupt estate;
   (ii) **State funding**, in which the government compensates the trustee for their services;
   (iii) **Third-party private funding**, often involving a creditor advancing funds to enable the administration of the estate; and
   (iv) **No insolvency procedure**, whereby proceedings are not initiated if the estate lacks sufficient assets to cover basic administrative costs.[24]

9.   When bankruptcy proceedings are followed by liquidation – the default trajectory – remunerating the trustee generally does not pose significant problems. Once the liquidation is complete, a meeting of creditors is held to discuss and

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24   Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2.

close the accounts. These accounts specify the total amount of assets recovered, trustee's costs and fees, the debts of the estate, and the distribution of proceeds among creditors. In such cases, the trustee receives the normal fee to which they are entitled. In Belgium, this consists of a remuneration *proportional* to the assets recovered and realised[25] during the bankruptcy, including funds collected by the trustee and amounts recovered from liquidated assets after the bankruptcy.[26] However, Belgian law also guarantees trustees a *minimum fee* – set at 1,500 EUR and adjusted to 1,914.42 EUR as of 1 April 2024 – even if the proportionate fee falls short of that amount.[27] The trustee's general fee is the remuneration for all services they provided in the normal administration of the estate and the administrative costs directly related to the bankruptcy, including the trustee's staff and accounting costs. As Belgian bankruptcy proceedings are principally funded by the estate itself, these fees and expenses are paid out of the liquidation proceeds.[28]

10. Scholars generally agree that trustee fees constitute the main administrative cost in bankruptcy proceedings.[29] When the insolvency estate funding model is used, the absence of sufficient assets can render the model unsustainable.[30] The situation in which the assets are insufficient to even cover the trustee's minimum fee forms part of the broader *empty estate problem* of bankruptcies closed for lack of assets.[31] The Netherlands provides a particularly well-documented example of the structural challenges associated with the insolvency estate funding model. There, insufficient assets regularly result in what are

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25 Art. 4, §1, 1° Royal Decree of 26 April 2018.
26 Art. 6 Royal Decree of 26 April 2018.
27 See art. 6 Royal Decree of 26 April 2018.
28 See Eric Dirix and Roel Fransis, 'National Report for Belgium' in Dennis Faber, Niels Vermunt, Jason Kilborn and Tomas Richter (eds), *Commencement of insolvency proceedings* (Oxford University Press 2012), 54; Reinhard Bork, *Corporate Insolvency Law* (Intersentia 2020) 60.
29 UNCITRAL, *Legislative Guide on Insolvency Law* (2005), 181; Judith Dahlgreen et al., *Study on a New Approach to Business Failure and Insolvency: Comparative Legal Analysis of the Member States' Relevant Provisions and Practices* (2016) 215, <data.European.eu/doi/10.2838/8751> accessed 31 January 2024. For an empirical analysis of Scottish insolvency law, see Jonathan Hardman and Alisdair MacPherson, 'Small and state-funded: An empirical study of liquidations in Scotland' (2023) Int.Insol.Rev. 32.
30 Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2.
31 Jessie Pool, 'Maatschappelijk verantwoord vereffenen: belangenpluralisme bij de maatschappelijke taakuitoefening van de curator' [2022] Tvl 20; Jeanette Brouwer, 'Fraude en misbruik bij faillissementen: investeren in een aanpak die wél werkt' [2014] Tvl 16. Interviews with trustees (see below) indicate that, in some cases, all assets may have been sold prior to the bankruptcy, the company may have ceased operations long before the filing, or it may only be linked to a P.O. box with no known physical address.

termed *salary deficits* – the difference between the estimated fee based on hours worked and the actual fee paid from the estate. Empirical research in the Netherlands on the number and size of these salary deficits has found that trustees' activities in empty estate cases are not (fully) compensated. Approximately 70% of the bankruptcies studied showed some form of salary deficit, with 42% of cases showing deficits of 1,000 EUR or more.[32] Another study suggests that between 20% and 31% of hours worked in Dutch bankruptcies remain unpaid.[33] According to more recent research, in 21 to 27% of Dutch bankruptcy cases, (a portion of) the trustee's salary remains unpaid, with the median share of the unpaid amount amounting to 61% (median of approximately 7,500 EUR).[34] Given these challenges, some scholars propose state funding models as a viable alternative to address the issues associated with insolvency estate funding.[35]

11. Belgian law, unlike the German system for instance[36], does not require that sufficient assets be present to cover the costs of the proceedings in order to open bankruptcy proceedings.[37] As a result, Belgium faces the same structural challenge as the Netherlands: in many cases, the estate contains insufficient or no assets to cover the administrative costs – let alone to allow any distribution to creditors. Consequently, the value of the realised assets is frequently too low to satisfy even the minimum trustee fee, leading to a substantial number of cases being *closed for lack of assets*. However, Belgium has implemented a more explicit solution to this aspect of the empty estate problem. Since 1 May 2018, a specific state funding mechanism has been in place to address such cases. A

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32 Gijs van Dijck, Reinout Vriesendorp, Délon Vielvoye and Nabila Rachid, 'Lege boedels: code rood of vals alarm? Een verkennende empirische studie naar Bredase ervaringen met lege boedels' [2008] Tvl 33. See also Gijs van Dijck, 'Biedt een basisvergoeding soelaas? Empirisch onderzoek naar salaristekorten in faillissement' [2013] Tvl 3.

33 Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2.

34 Jessie Pool, Reinout Vriesendorp, Peter van der Zwan, Harold Koster, Wouter Elsenburg and Wassim Ourak, *De beloning van curatoren bij lege boedels* (2024) 10 <www.repository.wodc.nl/handle/20.500.12832/3432> accessed 24 April January 2025.

35 Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2; Gijs van Dijck, Reinout Vriesendorp, Délon Vielvoye and Nabila Rachid, 'Lege boedels: code rood of vals alarm? Een verkennende empirische studie naar Bredase ervaringen met lege boedels' [2008] Tvl 33.

36 The insolvency court refuses a request to open insolvency proceedings if the debtor's assets will probably be insufficient to cover the costs of the proceedings, see sec. 26 (1) Insolvenzordnung (Insolvency Code).

37 Eric Dirix and Roel Fransis, 'National Report for Belgium' in Dennis Faber, Niels Vermunt, Jason Kilborn and Tomas Richter (eds), *Commencement of insolvency proceedings* (Oxford University Press 2012), 49.

Royal Decree addresses empty estate situations by stipulating that if the assets are insufficient to cover the trustee's normal (minimum) fee, the trustee will receive a *fixed fee* of 1,000 EUR (excluding VAT), with this amount indexed over time.[38] As of 1 April 2024, the fixed fee stands at 1,276.29 EUR.[39] This fee is paid first from any available net proceeds in the estate, and the shortfall is covered by the Belgian State. In this way, the state guarantees a baseline level of remuneration, even when the liquidation yields minimal or no proceeds.

12. It is important to note that the trustee's remuneration is limited to the fixed fee only in bankruptcies that are formally closed for lack of assets, and in which the net value of recovered and realised assets does not exceed 1,000 EUR (or the applicable indexed amount). In all other cases – i.e. where the estate yields more than this threshold – the trustee is remunerated based on the higher value of the actual net proceeds. For the purposes of this paper, an *empty estate case* is thus defined as a bankruptcy case closed for lack of assets where the net recovered and realised assets do not exceed 1,000 EUR (or the corresponding indexed amount). This definition ensures that only cases where the trustee received the fixed fee are included in the analysis.

13. The Belgian state funding model for empty estates is currently the subject of debate, with two opposing viewpoints emerging. *On one side*, certain Belgian policymakers argue that applying bankruptcy procedures to empty estates is 'expensive' and does not benefit the public, as there is no payout to creditors. Implicit in this critique is the view that the fixed fee offers poor *value for money* – there is no meaningful *quid pro quo*. As a result, there is growing advocacy for an alternative funding model: avoiding to open bankruptcy proceedings for empty estates.[40] A similar trend can be observed at the European Union level. The European Commission, recognising that trustee fees are a major

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38 See art. 9 Royal Decree of 26 April 2018. This codifies a practice that had emerged in the Flemish commercial courts, see Luc Vandenbroucke, 'De curator' in Herman Braeckmans, Eric Dirix, Matthias E Storme, Bernard Tilleman, Melissa Vanmeenen (eds), *Curatoren en vereffenaars : actuele ontwikkelingen III* (Intersentia 2014).
39 Ber., *BS* 19 April 2024.
40 Since 1 September 2023, the commercial court has the option, at the request of the debtor or a third party, to judicially dissolve an empty estate instead of opening bankruptcy proceedings, see Gauthier Vandenbossche, 'Weg van de faillissementsprocedure: gerechtelijke ontbinding van lege dozen in faillissementstoestand (*Corporate Finance Lab*, 24 August 2023), <www.corporatefinancelab. org/2023/08/24/weg-van-de-faillissementsprocedure-gerechtelijke-ontbinding-van-lege-doz-en-in-faillissementstoestand/> accessed 14 October 2024. See also W.A.H. Melissen and Rocco Mulder, 'Beloning curatoren en lege boedels; stand van zaken, wat wordt van curatoren verlangd?', [2009] Tvl 32.

cost in bankruptcy proceedings[41], has proposed avoiding these costs by not appointing a trustee in cases involving microenterprises.[42] *On the other side*, trustees argue that the fixed fee is too low for a diligent insolvency practitioner who is committed to professionally administering an empty estate in the public interest.[43] These conflicting perspectives between Belgian policymakers and insolvency practitioners ultimately raise the fundamental question: To what extent does the fixed fee reflect the actual workload and costs incurred by trustees in administering empty estate cases? This question forms the basis of the present research.

2.2 The cost: TDABC as costing system

14. To accurately calculate the cost to the trustee of administering an empty estate case, an appropriate costing system must be employed. *Costing systems* are designed to estimate as precisely as possible the cost associated with a specific cost object[44] – in this case, an empty estate case. This 'cost' should be understood as the sum of the individual direct and indirect costs required to perform a given service[45] (i.e. administering the empty estate case from the trustee's appointment to the conclusion of the proceedings, including all intermediate activities). *Direct costs*, such as direct labour and materials directly associated with the administration, are relatively straightforward to measure and can be directly attributed to the specific object. In contrast, *indirect costs*, such as overhead, indirect labour and depreciation, cannot be directly assigned to a particular cost object. As such, these costs must be allocated to a cost object using an appropriate allocation method.[46]

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41 Commission, 'Proposal for a Directive of the European Parliament and of the Council harmonising certain aspects of insolvency law' COM(2022)702 final, 17.

42 See Commission, 'Proposal for a Directive of the European Parliament and of the Council harmonising certain aspects of insolvency law' COM(2022)702 final, art. 1, 1., (e) and Title VI.

43 Joris J. De Smet, 'Over de zogenaamde onafhankelijkheid en onpartijdigheid van herstructurerings- en vereffeningsdeskundigen, problematische vergoedingsregels en Europese legistieke acrobatie' [2023] TIBR 2, OP-10.

44 Werner Bruggeman, Sophie Hoozée, Kris Moreels and Thierry Bruyneel, *Time-driven activity-based costing* (Intersentia 2007) 1.

45 Patricia Everaert, Sophie Hoozée and Werner Bruggeman, *Management Accounting* (12th edition, Intersentia 2022) 4.

46 Lorena Siguenza-Guzman, Alexandra Van den Abbeele, Joos Vandewalle, Henri Verhaaren and Dirk Cattrysse, 'Recent Evolutions in Costing Systems: A Literature Review of Time-Driven Activity-Based Costing' (2013) 58 Review of Business and Economic Literature 1, 35.

15.   When choosing the most suitable allocation method, it is crucial to consider that some empty estate cases will require significantly more time – and, consequently, more resources – than others. Bankruptcy proceedings are inherently unpredictable[47], and trustees must often navigate a dynamic, flexible, and variable set of tasks in administering a case. Accordingly, a cost allocation system that can accurately capture and accommodate these variations is necessary. *Time-Driven Activity-Based Costing* (TDABC), introduced by Kaplan and Anderson in 2004, provides such a fitting solution. TDABC offers a more precise way to allocate indirect costs to cost objects by linking them to the time required for specific activities, making it particularly effective in environments characterised by complexity and variability, such as insolvency administration.[48]

16.   The administration of a bankruptcy case involves a series of activities that consume various resources, such as personnel, equipment, and technology. TDABC is an advanced costing technique that assigns these overhead costs to specific cost objects based on the *time units* consumed by the activities involved.[49] TDABC only requires the estimation of two parameters: the unit cost of the resources provided (known as the *capacity cost rate*) and the time required by the resource group to carry out an activity.[50] The model, therefore, requires an accurate estimate of the time needed to process each activity of the bankruptcy process. This step allows the model to account for the unique characteristics and complexity of each case, capturing the variability

47   Annemie Moens and Ilse Van de Mierop, 'Werkwijze van de curator: opstart, beheer faillissement, sluiting in Boek XX WER' in Matthias Storme, Bernard Tilleman, Joeri Vananroye, Melissa Vanmeenen, Robby Houben (eds), *Curatoren en vereffenaars: actuele ontwikkelingen VI* (Intersentia 2021) 1.

48   Rúben Silva Barros and Ana Maria Dias Simões da Costa Ferreira, 'Time-driven activity-based costing. Designing a model in a Portuguese production environment' (2017) 14 Qualitative Research in Accounting & Management 1, 11; Lorena Siguenza-Guzman, Alexandra Van den Abbeele, Joos Vandewalle, Henri Verhaaren and Dirk Cattrysse, 'Recent Evolutions in Costing Systems: A Literature Review of Time-Driven Activity-Based Costing' (2013) 58 Review of Business and Economic Literature 1, 35. See also Patricia Everaert and Werner Bruggeman, 'Time-Driven Activity-Based Costing: Exploring the Underlying Model' [2017] Cost Management 16, 16; Robert S. Kaplan and Steven R. Anderson, 'Time-Driven Activity Based Costing' (2004) Harvard Business Review Working Paper #04-045, 5 <www.hbs.edu/ris/Publication%20Files04-045_d62528d4-7931-4ea1-a205-d9683c639d6e.pdf> accessed 31 January 2024.

49   Ilhan Dalci, Veyis Tanis and Levent Kosan, 'Customer profitability analysis with time-driven activity-based costing: a case study in a hotel' (2010) 22 International Journal of Contemporary Hospitality Management 5, 611. See also Robert S. Kaplan and Steven R. Anderson, *Time-Driven Activity-Based Costing* (Harvard Business School Press, 2007) 23.

50   Robert S. Kaplan and Steven R. Anderson, 'Time-Driven Activity Based Costing' (2004) Harvard Business Review Working Paper #04-045 <www.hbs.edu/ris/Publication%20Files04-045_d62528d4-7931-4ea1-a205-d9683c639d6e.pdf> accessed 31 January 2024; Patricia Everaert and Werner Bruggeman, 'Time-Driven Activity-Based Costing: Exploring the Underlying Model' [2017] Cost Management 16, 16.

of the activities involved.[51] To construct a TDABC model that effectively allocates resource costs to individual bankruptcy cases, six steps are required (see Table 1).[52]

Table 1   Six steps of the TDABC model.

1. *Identify the resource groups responsible for activities.*	A resource group consists of an individual or a team that performs specific activities. For each resource group, a comprehensive list of the activities they carry out should be compiled.
2. *Determine the required time for each event of an activity using time drivers.*	The time spent by the trustee on a particular activity is captured through a time equation. These equations account for the specific characteristics and variations associated with each activity.
3. *Estimate the cost of each resource group.*	This involves calculating the overall cost of the resource group, which includes personnel expenses, equipment, technology, depreciation, and other associated costs. In this context, the total cost calculation pertains to the costs borne by the insolvency practitioner.
4. *Estimate the practical capacity of each resource group*	Practical capacity refers to the actual working time available for the individuals performing the tasks. It is typically estimated at 80-85% of the theoretical capacity, representing the time that the individual can work productively.
5. *Calculate the unit cost of each resource group (capacity cost rate).*	The cost per unit of time, or capacity cost rate, is determined by dividing the total cost of the resource group by its practical capacity. This rate represents the cost of providing capacity per unit of time.
6. *Calculate the cost of a cost object.*	The total cost for a cost object is calculated by multiplying the unit cost by the time required for the specific cost object. In this case, the calculation is applied to determine the individual cost for each empty estate case in the sample.

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51   See also Rúben Silva Barros and Ana Maria Dias Simões da Costa Ferreira, 'Time-driven activity-based costing. Designing a model in a Portuguese production environment' (2017) 14 Qualitative Research in Accounting & Management 1, 11.
52   Patricia Everaert, Sophie Hoozée and Werner Bruggeman, *Management Accounting* (12th edition, Intersentia, 2022) 60.

3   Developing the TDABC model for empty estate cases

17.   This section of the paper details the methodology used to develop the TDABC model for empty estate cases, following the sequential steps of Table 1 (see Figure 1).[53] This section begins with an overview of the trustee's activities, followed by the formulation of time equations for each activity. Next, an overview of all relevant costs is presented, and the cost per minute is calculated. Finally, the model is applied to a sample of actual bankruptcy cases.
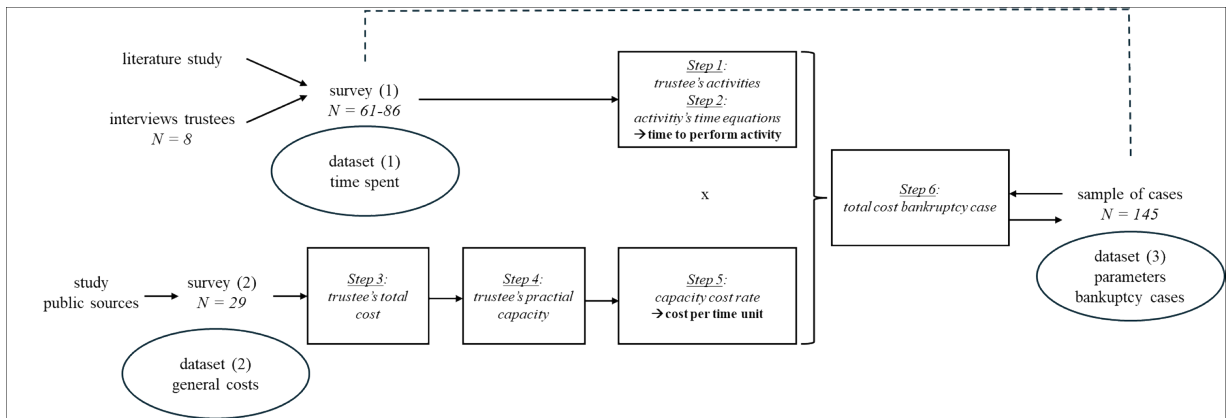

Figure 1   Construction of the TDABC model.

3.1.1   Trustee and its activities

18.   The first step in developing the TDABC model involves identifying the activities performed by the resource group, which is defined as an entity (either an individual or a group) responsible for executing specific activities. In bankruptcy proceedings, various actors are involved, such as the insolvency judge, the supervisory judge, the clerk's office, and the public prosecutor. However, the trustee is most directly involved in the day-to-day management of bankruptcy proceedings.[54] Thus, for this study, the individual trustee serves as the resource group. Identifying and listing all their activities performed in the bankruptcy process is crucial for developing a TDABC model and provides valuable insights into the activities and time required to administer bankruptcy cases.

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53   See also Nathalie Demeere, Kristof Stouthuysen and Filip Roodhooft, 'Time-driven activity-based costing in an outpatient clinic environment: Development, relevance and managerial impact' (2009) 92 Health Policy 2-3, 299.

54   Toon Lyssens, 'Curatoren – Rol in faillissement' in X (eds), *Faillissement & Reorganisatie* (Wolters Kluwer Belgium 2020), 7.C.2 – 1 (3).

19.   To identify the trustee's activities – and, later, the associated time drivers – a multi-step approach was employed. Initially, a draft list of activities conducted by trustees during bankruptcy proceedings was compiled, based on their *legal* requirements and supplemented with relevant legal *doctrine*[55]. This draft was refined through interviews with eight trustees, who were asked to detail their activities and estimate the time spent on each.[56] These interviews aimed to refine the list of activities further and at the same time gather information on the time required for specific activities and the factors influencing this time. The outcome was a revised list of activities, now including draft time equations (*infra*).

20.   Bankruptcy proceedings are opened by a bankruptcy judgment following a petition by a debtor, one or more creditors, the public prosecutor, or a provisional administrator. The bankruptcy court appoints the trustee, who receives a notification from the insolvency register (*RegSol*) about their appointment.[57] After verifying the judgment (e.g., for potential conflicts of interest), the trustee digitally signs to *accept their appointment* [1].[58]

21.   Once appointed, the trustee undertakes the initial administrative steps required by law, such as *requesting the bailiff* to serve the judgment on the bankrupt [2].[59] Additionally, the trustee must ensure that a *summary of the bankruptcy judgment* is published in the Belgian Official Gazette [3][60], for which they review and approve the text prepared by the clerk's office.

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55   Brigitte Vander Meulen, *Praktische gids voor Faillissementscuratoren* (Wolters Kluwer Belgium 2021; Toon Lyssens, 'Curatoren – Rol in faillissement' in X (eds), *Faillissement & Reorganisatie* (Wolters Kluwer Belgium 2020); Frederik De Leo, 'Summiere rechtspleging tot sluiting van het faillissement' in Herman Braeckmans, Stan Brijs, Eric Dirix, Eddy van Camp and Toon Lysens (eds), *Faillissement & Reorganisatie* (Wolters Kluwer Belgium 2019); Joris J. De Smet, *Handboek faillissementsrecht & insolventiestrafrecht* (Skribis 2020); Jellen Rasquin, 'Beheer van het faillissement' in X (eds), *Faillissement & Reorganisatie* (Wolters Kluwer Belgium 2022); Ivan Verougstraete *Manuel de l'insolvabilité de l'entreprise. Edition 2019* (Wolters Kluwer Belgium 2019); Annemie Moens and Ilse Van de Mierop, 'Werkwijze van de curator: opstart, beheer faillissement, sluiting in Boek XX WER' in Matthias Storme, Bernard Tilleman, Joeri Vananroye, Melissa Vanmeenen, Robby Houben (eds), *Curatoren en vereffenaars: actuele ontwikkelingen VI* (Intersentia 2021).
56   On 11 August 2022; 18 October 2022; 21 October 2022; 27 December 2022; 17 March 2023; 22 March 2023; 22 March 2023 and 21 April 2023.
57   See art. XX.104 CEL.
58   See art. XX.126, §2 CEL.
59   See art. XX.106(1) CEL.
60   See art. XX.107 CEL.

22. Certain actions require prior consent from the supervisory judge, such as retaining a specific amount in the bank account or appointing an accountant. For these, the trustee must upload and electronically sign a *petition various acts* on RegSol [4]. In some districts[61], these authorisations may already be included in the bankruptcy judgment, eliminating the need to draft a separate petition.

23. In each bankruptcy case, the trustee is required to obtain professional liability and insolvency *insurance* [5].

24. In order to investigate the bankruptcy, the trustee *compiles a bankruptcy file* [6], drawing on a variety of sources. This process begins with downloading and reviewing company information available via RegSol, including data from the Crossroads Bank for Enterprises, the Belgian Official Gazette, the National Bank of Belgium, and any submitted company reports. At this stage, the trustee also consults publicly accessible sources to gain insight into the context and circumstances of the bankruptcy, as well as the background of the company's directors. The trustee examines financial documents such as the balance sheet and accounts, focusing on indicators like cash withdrawals, current account balances, asset composition, and non-cash transactions.[62] When a bankruptcy petition is filed by a third party rather than by the debtor, the trustee often lacks the necessary contact details of the bankrupt. Thus, in these cases, the trustee must search for contact details of the last-known directors, which may involve additional correspondence and phone calls. Furthermore, if the petition is filed by a third party other than the public prosecutor, additional supporting documents (e.g., enforcement orders, bailiff's reports) may be added to the file, which the trustee must consult. Based on the collected information, the trustee contacts the supervisory judge to discuss whether they will accompany them on site visits. This step prepares for conducting an inventory of the assets.

25. Typically, the trustee conducts the *inventory of the assets*[63] [7] through a site visit. However, in some cases, they may only attempt to contact the directors to complete the inventory without a visit. In all empty estate cases, the trustee

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61 There are five judicial areas in Belgium: Antwerp, Ghent, Brussels, Mons and Liege. These areas are in turn divided in 12 judicial districts each with a commercial court. Each judicial area or district may have slight differences in working methods.
62 See art. XX.147 CEL.
63 See art. XX.134 CEL.

must prepare and upload a detailed report on the absence of assets to RegSol. Additionally, the trustee usually hears the bankrupt using a structured questionnaire to gather more information about the bankruptcy and its records (e.g., bank statements, invoices, title deeds, tax returns). These documents are then compared with the trustee's earlier findings from public sources. In empty estate cases, however, it is often difficult to contact the directors.

26. For each bankruptcy, the trustee *opens a separate bank account* for managing the bankruptcy's income and expenses [8]. Before the case is closed, any remaining funds must be transferred to the Deposit and Consignment Fund. In practice, some trustees choose not to open a bank account for empty estate cases.

27. Using available accounting records, the trustee checks for outstanding customers. If there are any, the trustee requests their details from the bankrupt, including outstanding invoices and reasons for non-payment. If the bankrupt can be contacted and provides this information, the trustee may send a *formal notice to the customers*, requesting payment into the bankruptcy account [9]. In empty estate cases, such information is rarely available.

28. During the bankruptcy proceedings, the trustee must *draft a memorandum* or brief report detailing the probable state of the bankruptcy, including its main causes, circumstances, and characteristics [10]. This is typically done using a standard questionnaire based on the information gathered earlier.

29. Based on the creditors list provided by the bankrupt, the trustee may also *notify creditors* individually to file their claims [11].[64] However, in practice, this is not always done, as creditors are often informed through the publication in the Belgian Official Gazette, or a list of creditors may not be available.

30. The bankruptcy judgment specifies the date by which the trustee must file the first *report of verification of claims* [12].[65] Verification involves examining claims and supporting documents and comparing them with the bankrupt's accounts.[66] For the secured claims, the trustee also verifies the validity and enforceability of the invoked security interest. Claims can be accepted,

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64 See art. XX.155 CEL.
65 See art. XX.104 CEL.
66 See art. XX.158 CEL.

deferred, or contested.[67] The trustee must submit additional verification reports to the register after six and twelve months, respectively.[68] In empty estate cases, verification of claims can be challenging due to the unavailability of accounts or contact with the bankrupt.

31.   To proceed to the early closure of bankruptcy proceedings for lack of assets, the trustee must ensure that all necessary *social documents* (e.g., letters of resignation, employment certificates) are provided to any employees [13]. Usually, a social secretariat handles this process on behalf of the trustee.

32.   At least once a year, starting twelve months after their appointment, the trustee is required to draw up an *annual (financial) report* on the state of the bankruptcy, summarising the accounts and financial transactions [14].[69] The trustee therefore has to keep (limited) accounts during the bankruptcy proceedings. For this purpose, the trustee keeps a record of income and expenditure. In empty estate cases, there are often no financial transactions, making the preparation of accounts unnecessary.

33.   If the trustee finds that the available assets are insufficient to cover the probable administration and liquidation costs, they can *request the court to close the bankruptcy proceedings* [15].[70] This request can be made at any time, even before completing the inventory. Closing the proceedings for lack of assets eliminates the need to summon creditors and the bankrupt to discuss and close the accounts. The trustee must also prepare a petition detailing their fees and costs.[71] Before the closure, the trustee must complete certain administrative tasks (e.g., contacting the clerk's office about any debit costs, issuing tax certificates to creditors).

34.   The bankruptcy proceeding is closed during a *court hearing* where the trustee, supervising judge, creditors, the bankrupt, and the public prosecutor may be present [16]. Typically, the trustee is not required to attend the hearing. The *judgment closing the bankruptcy* for lack of assets must then be published in

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67   See art. XX.164 CEL.
68   See art. XX.161 CEL.
69   See art. XX.128 CEL.
70   See art. XX.135 CEL.
71   See art. XX.20 CEL.

the Belgian Official Gazette [17].[72] The trustee reviews and approves the text prepared by the clerk's office for publication.

35.   At the end of each calendar year, the trustee must file a collective *VAT return* for each bankruptcy case [18]. If no taxable transactions have been made, a nil return is filed.

36.   It is important to note that the activities covered in the TDABC model are limited to standard actions in empty estate cases. Complex and exceptional activities, such as effectively pursuing liability claims, are not included in the basic TDABC model.[73]

3.1.2   Trustee's time estimate for each task

37.   The second step in developing the TDABC model is to estimate the time required to perform each activity (i.e. how long it takes to complete one unit of that activity). These estimates are represented by *time equations*[74], which express the time consumed by the event of an activity, as a function of various characteristics.[75] Some activities are uniform across all empty estate cases and therefore associated with a fixed base time. But a specific activity does not always require the same amount of time for trustees.[76] Many activities contain optional elements that are triggered only under certain conditions and thus depend on the specific characteristics of the case. To account for this varia-bility, additional parameters – referred to as *time drivers* – are incorporated into the time equations.[77] They drive (determine) the time spent on a particular

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72   See art. XX.135 CEL.
73   The sample of empty estate cases used in this research indicates that there is only a limited number of cases in which there is data available on liability claims initiated by trustees and subsequent judg-ments (e.g., director liability). Interviews with trustees revealed several reasons why liability claims are not pursued in empty estate cases: the director may be insolvent, abroad, or cannot be located, or there may be no resources to take further uncertain and costly legal steps.
74   Nathalie Demeere, Kristof Stouthuysen and Filip Roodhooft, 'Time-driven activity-based costing in an outpatient clinic environment: Development, relevance and managerial impact' (2009) 92 Health Policy 2-3, 298.
75   Patricia Everaert, Werner Bruggeman, Gerrit Sarens, Steven R. Anderson and Yves Levant, 'Cost modeling in logistics using time-driven ABC. Experiences from a wholesaler' (2008) 38 IJPDLM 3, 176. See also Patricia Everaert and Werner Bruggeman, 'Time-Driven Activity-Based Costing: Exploring the Underlying Model' [2017] Cost Management 16, 17.
76   See Robert S. Kaplan and Steven R. Anderson, 'Time-Driven Activity Based Costing' (2004) Harvard Business Review Working Paper #04-045, 6 and 9 <www.hbs.edu/ris/Publication%20Files04-045_ d62528d4-7931-4ea1-a205-d9683c639d6e.pdf> accessed 31 January 2024.
77   Robert S. Kaplan and Steven R. Anderson, *Time-Driven Activity-Based Costing* (Harvard Business School Press 2007), 8.

activity.[78] Time drivers may take the form of continuous variables, discrete variables, or dummy (0-1) variables.[79]

38.   The total time for any given activity is calculated as the sum of the fixed base time and any incremental time added through the relevant time drivers. This structure reflects the fact that certain case characteristics trigger additional components in the time equation.[80] Appendix 1 provides an overview of the trustee's activities and their associated time equations. The model includes 18 time equations and 18 distinct time drivers.[81] In the equations, each time component of (an element of) an activity is represented by a lowercase letter (e.g., *f, g, h*), and, where applicable, is multiplied by the corresponding time driver. Dummy time drivers are denoted by a capital 'D', while continuous time drivers are denoted by a capital 'A'. Examples of *dummy* time drivers include whether the bankruptcy petition was filed by a third party (summons), whether a site visit was conducted, and whether the bankrupt was heard. Examples of *discrete* time drivers in the TDABC model include the number of petitions for various acts filed with the supervisory judge, the number of creditor claims, or the number of reports of verification of claims submitted.

39.   The exact time estimates were obtained through an online *survey* designed to register how much time trustees typically spend on each activity involved in bankruptcy proceedings. This survey was distributed[82] to all trustees in the

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78   Patricia Everaert, Werner Bruggeman, Gerrit Sarens, Steven R. Anderson and Yves Levant, 'Cost modeling in logistics using time-driven ABC' (2008) 3 IJPDLM 172, 176.

79   Patricia Everaert and Werner Bruggeman, 'Time-Driven Activity-Based Costing: Exploring the Underlying Model' [2017] Cost Management 16, 17.

80   Nathalie Demeere, Kristof Stouthuysen and Filip Roodhooft, 'Time-driven activity-based costing in an outpatient clinic environment: Development, relevance and managerial impact' (2009) 92 Health Policy 2-3, 299.

81   It is important to note that the inclusion of time drivers in the TDABC model's equations was contingent on data availability. For example, in the activity of publishing a judgment in the Belgian Official Gazette, the trustee may need to spend additional time correcting errors in the prepared text before publication. However, such corrections are not documented in the RegSol register, making it impossible to include this time driver in the model.

82   On 27 March 2023, completed between 7 March 2023 and 27 June 2023.

Antwerp[83], Ghent[84], and Leuven[85] district.[86, 87] In both the interviews (step 1) and the online survey, trustees were given the opportunity to elaborate on their role in bankruptcy proceedings, detail their activities, estimate the time required for each activity, and explain the factors influencing this time (i.e., time drivers).

40. The survey resulted in a *first quantitative dataset* on individual trustee-reported time allocation across various (sub-)activities. The number of respondents for each activity ranged from 86 (15% of those contacted[88]) to 61. For each (sub-)activity, the *median* time from the trustees' responses was calculated to establish a concrete time estimate – expressed in minutes – for each variable in the TDABC model. The median was chosen because it is less sensitive to outliers than the mean. Using median times also ensures that differences between trustees in terms of how much time they spend on the same activity are wiped out. In a few cases, it was necessary to deviate from the median due to incomplete or inconsistent responses.[89] The resulting time estimates are based on

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83 226 email addresses.

84 319 email addresses.

85 28 email addresses.

86 The list of trustees from the Dutch-speaking commercial court of Brussels was not included, as it does not provide email addresses. The survey itself was conducted entirely anonymously; trustees were not required to disclose their names or any other personally identifiable information.

87 The survey enabled trustees to indicate the amount of time they typically spend on each identified activity within an empty estate case. The initial time estimates, derived from interviews, served as a baseline, which trustees could adjust using a slider function—for example, to reflect time spent per file, claim, or creditor.

88 The list of trustees may not include all trustees who are currently active. Some email addresses appeared to be out of use, or belonged to trustees who had not handled bankruptcies for a considerable period.

89 In certain instances, interview data was used to supplement gaps in the survey responses. For example, the additional time required to compile the bankruptcy file when the petition is filed by a third party was not specifically addressed in the survey; thus, the time estimates reported during interviews were applied. Similarly, interview data informed the time allocation for preparing a nil VAT return. In addition, qualitative feedback from survey respondents underscored the importance of travel time for activities such as conducting the inventory – particularly when a site visit is involved – and attending the hearing to close the bankruptcy proceedings. To incorporate these time values into the TDABC model, a structured approach was followed. In 2023, a public source search was conducted to identify the 10 most recently published bankruptcies closed for lack of assets in each Dutch-speaking judicial district. For each case, the distance between the trustee's office and the registered office of the bankrupt or the competent commercial court was calculated using Google Maps. The median travel time across all 150 cases was then computed and included in the model.

self-reported data from practitioners, introducing a degree of subjectivity[90] and potential estimation errors.[91] However, in the absence of historical or administrative data on the time trustees spend on specific activities, this approach represents the most reliable and practicable method currently available for defining the time equations in the TDABC model.

41. For example, the time spent by the trustee on compiling the bankruptcy file is expressed as follows:

$$= f + g * Dsummons + h * Dsummons\ other\ than\ Public\ Prosecutor$$

42. In this equation, f represents the standard time applicable to all cases (median: 60 minutes). If the bankruptcy petition is filed by a third party, the dummy variable $Dsummons$ equals 1, adding g (30 minutes). If the petitioner is a third party other than the public prosecutor, $Dsummons\ other\ than\ Public\ Prosecutor$ is also set to 1, adding h (60 minutes).

43. Another example is the time equation for conducting the inventory of assets:

$$= i + j * Dsite\ visit + k * Dhearing$$

44. In this case, i represents the base time for drafting the inventory report of non-finding (median: 30 minutes). If the trustee conducts a site visit, $Dsite\_visit$ is set to 1, adding j (60 minutes). If the bankrupt is heard, $Dhearing$ equals 1, adding k (60 minutes).

3.1.3 Estimate of the total cost of the trustee

45. After identifying the resource group and its activities, the third step is to calculate the total annual cost of the trustee. This estimate reflects the typical expenses incurred by a trustee in the administration of bankruptcy cases and is divided into two primary components: general fixed costs and labour costs.

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90 Lorena Siguenza-Guzman, Alexandra Van den Abbeele, Joos Vandewalle, Henri Verhaaren and Dirk Cattrysse, 'Recent Evolutions in Costing Systems: A Literature Review of Time-Driven Activity-Based Costing' (2013) 58 Review of Business and Economic Literature 1, 54.

91 See also Oleg Dejnega, 'Method time driven activity based costing–literature review' [2011] Journal of Applied Economic Sciences 15, 8; Mohammad Namazi, 'Time-driven activity-based costing: Theory, applications and limitations' (2016) 9 Iranian Journal of Management Studies 3, 476; Rúben Silva Barros and Ana Maria Dias Simões da Costa Ferreira, 'Time-driven activity-based costing. Designing a model in a Portuguese production environment' (2017) 14 Qualitative Research in Accounting & Management (2017) 1, 6.

General fixed costs encompass the recurring expenses necessary to perform the trustee's duties, including office space, computers, telecommunication equipment, furniture, human resources, etc.[92] For instance, the cost of a secretary assisting the trustee is classified as an indirect labour cost, given that their work supports both bankruptcy-related and non-bankruptcy-related tasks.

46. The estimation of the two cost components was done in two steps. First, I used public sources to make an preliminary estimate of the largest cost categories faced by trustees. To verify and refine these estimates, I conducted a second online *survey*, targeting the same group of trustees who participated in the earlier time-spending survey.[93] This second survey asked trustees to report their total annual costs across nine predefined cost categories. The responses from 29 trustees formed the basis of a second quantitative dataset. For each category, the median value was calculated to reduce the influence of outliers. The resulting estimates are presented in the left-hand column of Table 2. Based on these medians, the annual overhead costs – representing the sum of all general support resources – amount to 73,172.10 EUR.

47. The second component is the *labour cost* associated with the trustee's work. Trustees are independent lawyers and do not receive a fixed monthly salary; they handle both bankruptcy and other types of cases. To estimate the labour cost of a trustee, I used an approximation method established in the Netherlands – developed by (Moret) Ernst & Young – for determining the trustee's hourly rate.[94] This calculation is shown in the right half of Table 2.

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92   See also Robert S. Kaplan and Steven R. Anderson, 'Time-Driven Activity Based Costing' (2004) Harvard Business Review Working Paper #04-045, 6 <www.hbs.edu/ris/Publication%20Files04-045_d62528d4-7931-4ea1-a205-d9683c639d6e.pdf> accessed 31 January 2024.

93   Sent on 26 February 2024, and completed between 26 February and 29 March 2024. Trustees were given the opportunity to adjust the estimated costs using a slider to indicate higher or lower amounts and to provide textual explanations for each cost component.

94   Mart Franken (Insolad), *Rapport Beloning Curatoren* (2008) 7 <www.static.basenet.nl/cms/105928/Publicaties/9789013061154_Rapport%20beloning%20curatoren_BW.pdf>. This method is based on the gross annual salary of a judge. In Belgium, a judge at the commercial court with 12 years of seniority earns a gross annual salary of 98,345.28 EUR. To calculate the gross annual labour cost, employer social security contributions – set at 24.92% – must be added, bringing the total to 122,852.92 EUR. Additionally, a 10% supplement for professional risk is included, resulting in a 'disguised' labour cost of 135,138.22 EUR. This figure is used as a proxy for estimating the labour cost of a trustee.

Table 2 Calculation of the total cost of the trustee and the capacity cost rate.

Overhead costs (annual)		Labour cost trustee (annual)	
	Median cost (EUR)		Amount (EUR)
1. Housing[95]	12,225.50	Gross annual remuneration of commercial court judge	98,345.28
2. Energy and housing maintenance[96]	5,000.00	+ Standard employer's social security contribution	+24,507.64
3. Office equipment and furniture[97]	1,467.00	= Gross annual remuneration of commercial court judge, including employer's contribution	= 122,852.92
4. Information and communication[98]	3,000.00		
5. Documentation and library[99]	5,248.00	Gross annual remuneration of commercial court judge, including 10% professional risk and employer's contribution	135,138.22
6. Professional use of car[100]	12,000.00		
7. Administrative assistant[101]	28,731.60		
8. Insurance and professional fees[102]	4,500.00		
9. Other and miscellaneous expenditure	1,000.00		
Total	**73,172.10**	**Total**	**135,138.22**
Total (EUR) **208,310.32**			
Total cost per minute (EUR) **2.38**			

48. Adding the total overhead costs and the total labour costs gives a total annual cost of 208,310.32 EUR for the trustee resource group.

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95 This includes the yearly rent or annual depreciation of the office building.
96 Includes water, electricity, gas, along with office maintenance and cleaning.
97 Includes annual depreciation and other expenses for fixed office equipment, such as furniture and desks. IT equipment and small office supplies are excluded from this category.
98 Includes annual depreciation and related expenses for computers, software, and other IT hardware (such as printers), as well as depreciation and costs for smartphones, internet, and (mobile) phone subscriptions.
99 Includes digital and physical subscriptions to legal databases, books, and periodicals, as well as training materials and small office supplies like paper, folders, and more.
100 Includes annual depreciation or leasing costs of a company car, along with maintenance and fuel.
101 This includes the gross salary of a (part-time) administrative employee, along with the employer's social security contribution (24.92%).
102 This covers insurance, membership dues, and bar association fees.

3.1.4 Estimate of the practical capacity of the trustee

49. The fourth step in developing the TDABC model involves calculating the theoretical capacity of the resource group and converting it into a practical capacity. The trustee's *theoretical capacity* is based on the total available working hours per year, which is estimated at 109,440.00 minutes (assuming 48 working weeks per year and 38 hours per week). However, not all of this time can be devoted to productive activities. *Practical capacity* reflects the portion of total working time that can realistically be used for effective, value-adding tasks. It excludes time spent on breaks, internal communication, administrative reading unrelated to casework, and other non-productive activities. In management accounting literature, practical capacity is often set at a conservative[103] estimate of 80% of the theoretical capacity.[104] This equates to 87,552.00 minutes per year. By factoring in this 20% reduction for non-productive time, practical capacity provides a more accurate representation of the time the trustee can devote to productive work.[105]

3.1.5 Calculation of the capacity cost rate

50. The fifth step in developing the TDABC model involves converting the trustee's total annual cost into a cost per minute, referred to as the *capacity cost rate*. This is done by dividing the total annual cost of the trustee resource group, 208,310.32 EUR, by the previously established practical capacity of 87,552 minutes per year. The resulting capacity cost rate is 2.38 EUR per minute, which corresponds to 142.80 EUR per hour. This rate represents the cost of one minute of productive trustee time and serves as the basis for assigning costs to individual bankruptcy activities. The underlying calculation is presented in the lower half of Table 2.

3.1.6 Calculation of the total cost of a bankruptcy file

51. Once the time equations have been modelled and the cost per unit of time determined, the TDABC model can, in principle, be applied to any empty estate

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103 Rúben Silva Barros and Ana Maria Dias Simões da Costa Ferreira, 'Time-driven activity-based costing. Designing a model in a Portuguese production environment' (2017) 14 Qualitative Research in Accounting & Management 1, 10.

104 Nathalie Demeere, Kristof Stouthuysen and Filip Roodhooft, 'Time-driven activity-based costing in an outpatient clinic environment: Development, relevance and managerial impact' (2009) 92 Health Policy 2-3, 300; Robert S. Kaplan and Steven R. Anderson, 'Time-Driven Activity Based Costing' (2004) Harvard Business Review Working Paper #04-045, 6 <www.hbs.edu/ris/Publication%20Files04-045_d62528d4-7931-4ea1-a205-d9683c639d6e.pdf> accessed 31 January 2024.

105 Ilhan Dalci, Veyis Tanis and Levent Kosan, 'Customer profitability analysis with time-driven activity-based costing: a case study in a hotel' (2010) 22 International Journal of Contemporary Hospitality Management 5, 611.

case. This application requires populating the time equations with the concrete case characteristics. However, Belgium currently lacks a publicly accessible, centralised database that systematically records the specific characteristics of all bankruptcy cases needed for this purpose. Yet, since April 1, 2017, all new bankruptcy files are required to be maintained in digital form within the Central Insolvency Register (*RegSol*).[106] For bankruptcies initiated on or after May 1, 2018, it is mandatory to upload all procedural documents and correspondence to the RegSol.[107] This digital platform centralises documents related to bankruptcy proceedings, including the bankruptcy judgment, required publications, inventory, claim filings, verification reports, and more.[108] RegSol also processes essential data, such as deadlines and the status of claims, making the administrative handling of bankruptcy cases largely automated.[109] While it is not explicitly structured for analytical use, the relevant time driver values can be manually extracted by reviewing all the individual documents stored in RegSol.

52.   In the final step of developing the TDABC model, I applied it to a manually collected sample of empty estate cases using RegSol Private. I collected an initial *sample* of 157 bankruptcy cases closed for lack of assets. For each case, I gathered all relevant parameters, including the time driver values necessary to compute the total cost using the TDABC model.[110] Because a formal closure

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106 Law of 1 December 2016 amending the Judicial Code and the Bankruptcy Law of 8 August 1997 to establish the Central Solvency Register, *BS* 11 January 2017; Royal Decree of 23 March 2017 on the operation of the Central Solvency Register, *BS* 27 March 2017, as amended by Royal Decree of 26 April 2018 amending the Royal Decree of 27 March 2017 on the operation of the Central Insolvency Register, *BS* 30 April 2018.

107 Jellen Rasquin, 'Beheer van het faillissement' in X., *Faillissement & Reorganisatie* (Wolters Kluwer Belgium, 2022), 7.C.8 – 1(9).

108 See art. XX.131 CEL.

109 The platform consists of two interfaces: RegSol Private, which is used by judges, supervisory judges, clerks, and trustees to perform their professional duties, and RegSol Public, which allows debtors or their legal representatives to file bankruptcy petitions, enables creditors to submit and monitor their claims, and provides access to case files for other authorised parties.

110 To compile the sample, I randomly selected at least ten bankruptcies of *legal entities* (excluding natural persons) that were closed for lack of assets from each Dutch-speaking judicial district and division. The distribution was as follows: Antwerp – Hasselt division (9 files); Antwerp – Mechelen division (10 files); Antwerp – Tongeren division (10 files); Antwerp – Turnhout division (9 files); Antwerp – Antwerp division (10 files); Ghent – Bruges division (10 files); Ghent – Dendermonde division (10 files); Ghent – Ypres division (8 files); Ghent – Kortrijk division (10 files); Ghent – Ostend division (10 files); Ghent – Oudenaarde division (10 files); Ghent – Veurne division (10 files); Ghent – Ghent division (10 files); Leuven (9 files); and Brussels (10 files). The sample was limited to Dutch-speaking commercial courts, as the time estimates for activities were derived exclusively from interviews with Dutch-speaking trustees. The random selection process involved consulting bankruptcy cases in the order in which they appeared in the register, sorted by reason for closure.

for lack of assets does not automatically imply that the trustee was compensated solely via the fixed fee, I further refined the dataset. Cases in which the net realised assets exceeded the (indexed) threshold of 1,000 EUR were excluded. The final dataset thus includes *145 confirmed empty estate cases*, in which the trustee was remunerated exclusively through the fixed fee. All cases were opened after 1 May 2018 and closed between 2 December 2019 and 31 October 2023.[111] For each of these cases, the individual workload cost was calculated using the TDABC model.

4 Results and discussion

4.1 Overall results

53. This section presents the results of applying the TDABC model to the sample of 145 empty estate cases and discusses their implications. For each case, the cost of every activity involved in the bankruptcy process was calculated using the previously defined time equations and capacity cost rate.[112]

54. Figure 2 shows the frequency distribution of the total cost for trustees for administering an empty estate case, across the sample. The histogram reveals a right-skewed distribution, reflecting substantial variation in case complexity and workload. The median cost is 1,620.78 EUR, corresponding to a median duration of 681.00 minutes (11.35 hours) to complete all required activities. The average cost is 1,700.49 EUR, with a standard deviation of 388.71 EUR, highlighting considerable dispersion in workload across cases. The cost ranges from a minimum of 1,041.25 EUR to a maximum of 3,174.92 EUR, with corresponding working times ranging from a minimum of 7.29 hours to a maximum

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111 Antwerp – Hasselt division; Antwerp – Mechelen division; Antwerp – Tongres division; Antwerp – Turnhout division; Antwerp – Antwerp division; Ghent – Bruges division; Ghent – Dendermonde division; Ghent – Ypres division; Ghent – Kortrijk division; Ghent – Ostend division; Ghent – Oudenaarde division; Ghent – Veurne division; Ghent – Ghent division; Leuven; Brussels.

112 At this stage of the analysis, each time driver in the time equations is assigned a concrete value based on the characteristics of the individual case. For example, in case number 00132889-96, the trustee did not submit any petitions for various acts, so the time driver 'APetitions' is set to 0, resulting in no cost for that activity. Conversely, the bankruptcy petition was filed by a third party other than the public prosecutor, which means the time drivers 'Dsummons' and 'Dsummons other than Public Prosecutor' are both assigned a value of 1. As a result, the activity of compiling the bankruptcy file generates a cost of 357.00 EUR. In the same manner, all other time drivers in the model are given specific values, yielding an individual cost for each activity. These are then aggregated to calculate the total cost of the empty estate case, which in this example amounts to 1,620.78 EUR. This process is systematically repeated for all cases included in the sample.

of 22.23 hours. Figure 2 shows that most cases fall within the cost range of 1,375.00 EUR to 1,500.00 EUR, with 25 cases (17.24% of the sample) in this interval. Despite the right-skewed distribution, these findings show that the actual cost of administering nearly all empty estate cases exceeds the fixed fee, a finding explored in further detail below. A simple comparison between the fixed fee of 1,276.29 EUR and the capacity cost rate of 142.80 EUR per hour shows that the first 8.93 hours of the trustee's work are covered by the fixed fee. Any time beyond remains uncompensated.
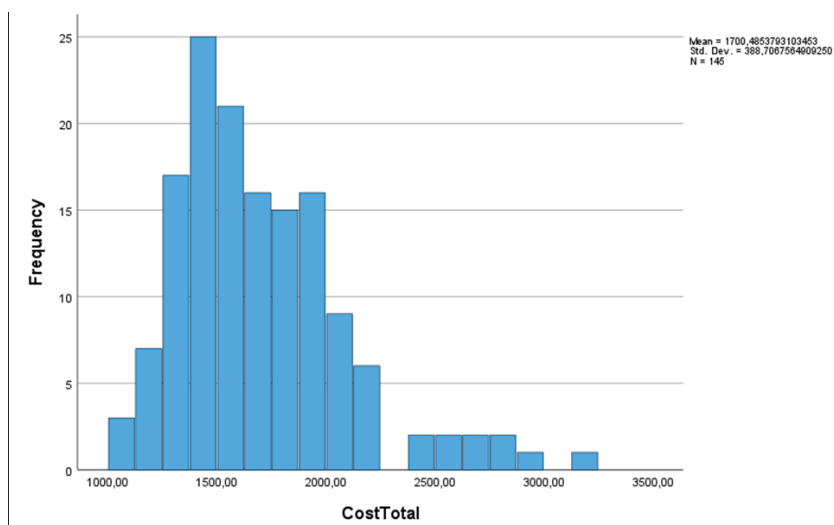

Figure 2   Histogram showing the costs of empty estate cases calculated using the TDABC model (N = 145; with an interval of 125 EUR).

55.   While absolute cost levels are relevant, this study primarily focuses on how those costs compare to the fixed fee of 1,276.29 EUR. To explore this relationship, I subtracted each case's TDABC-calculated cost from the fixed fee of 1,276.29 EUR. Figure 3 illustrates this difference between the fixed fee and the actual cost for each case. A negative value indicates a loss (deficit) for the trustee in administering that empty estate case, while a positive value reflects a surplus. This comparison provides insight into the extent to which a given case is *loss-making* for the trustee. For the median case in the sample, with a cost of 1,620.78 EUR, the trustee incurs a loss of 344.49 EUR. The average loss across all cases is 424.20 EUR. Additionally, it is noteworthy that nearly all cases result in a negative outcome. Specifically, Figure 3 shows that in 131 of the 145 cases (90.34%), the trustee's cost exceeds the fixed fee. The range

of these deficits varies from 1,898.63 EUR to 1.77 EUR. This finding indicates a mismatch between the fixed fee and the actual workload cost involved in empty estate administration. Conversely, in 14 cases (9.66%), the fixed fee is higher than the trustee's cost, resulting in a surplus ranging from 1.80 EUR to 235.04 EUR.
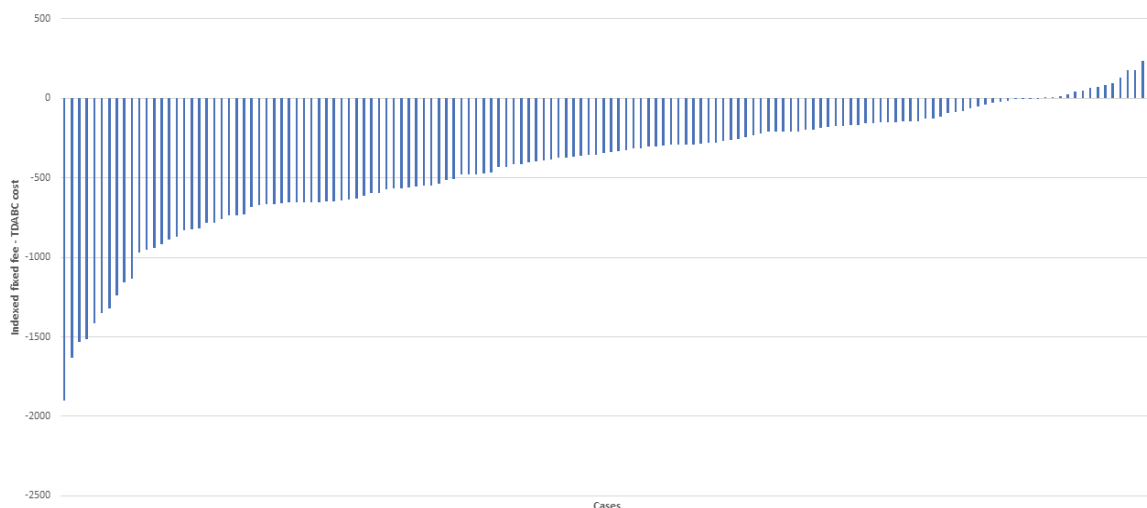

Figure 3   The distribution of bankruptcy cases according to the extent to which they are loss-making for the trustee (N = 145).

56. One of the key advantages of the TDABC model is that it provides detailed insights into which activities consume the most time and resources, and are therefore the main cost drivers.[113] By dividing the cost of each activity by the total cost for a given case, the *relative cost* of each activity can be calculated – as a percentage of the total cost of the average case. This helps to identify which activities consume the most time and resources for the trustee.[114] The left panel of Figure 4 presents the average share of each activity in the total cost. It shows that, on average, the most significant cost components are

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113 Nathalie Demeere, Kristof Stouthuysen and Filip Roodhooft, 'Time-driven activity-based costing in an outpatient clinic environment: Development, relevance and managerial impact' (2009) 92 Health Policy 2-3, 301.

114 See also Lorena Siguenza-Guzman, Andres Auquilla, Alexandra Van den Abbeele and Dirk Cattrysse, 'Using Time-Driven Activity-Based Costing to Identify Best Practices in Academic Libraries' [2016] The Journal of Academic Librarianship 42, 237.

conducting the inventory (15.77%), *verifying the claims* (15.50%), and *compiling the bankruptcy file* (14.83%). Together, these three activities account for 46.10% of the total cost of an empty estate case. In contrast, activities such as handing over social documents (0.09%), opening a bank account (0.53%), publishing the bankruptcy and closure judgment in the Belgian Official Gazette (0.73%), drafting petitions for various acts (0.83%), accepting the appointment (0.88%), and writing to customers (0.96%) contribute minimally to the overall cost, each accounting for less than 1% on average. This suggests that these activities require few resources or are infrequently needed in empty estate cases.

57. The average share of each activity in the total cost highlights which steps in the bankruptcy process most impact the trustee's workload cost. However, an activity may consist of several elements, as indicated by the time equations, which are not necessarily present in every empty estate case. The (duration of the) three key activities mentioned above are significantly influenced by time drivers. At the level of the individual cases, the relative proportion of the cost of each activity in the total cost can vary. If both the fixed and additional sub-tasks of an activity need to be performed, it will take more time, and therefore incur a higher cost, than when only the standard tasks are required. The right panel of Figure 4 decomposes the average cost share of these activities into their sub-task components (fixed time and time-driven additions) For the activity of conducting the inventory, the fixed time for the sub-task of preparing the report on the absence of assets contributes an average of 4.40% to the total cost. Additional time for a site visit and hearing the bankrupt contributes an average of 7.01% and 4.37%, respectively. For the activity of verifying claims, drafting verification reports accounts for an average of 4.49% of the total cost, accepting unsecured claims for 2.62%, accepting secured claims for 6.09%, and contesting claims for 2.30%. In the activity of compiling the bankruptcy file, standard checks (fixed time) average 8.79% of the total cost. The time drivers that account for additional checks due to a bankruptcy petition by a third party, or another third party than the public prosecutor, have an average share of 2.44% and 3.59%, respectively.

58. The fact that the duration of these three activities depends on the presence of time drivers means that their share of the total cost varies widely across individual empty estate cases. For conducting the inventory, the relative cost of the activity ranges from 2.75% to 31.77%; for verifying claims, it ranges from 4.17% to 30.88%; and for compiling the bankruptcy file, it varies from 4.50% to 29.59%. The significant share of these activities in the total cost is thus explained by the presence of additional elements (time drivers) involved.

Further investigation is needed to determine which time drivers are most significantly associated with large deficits.
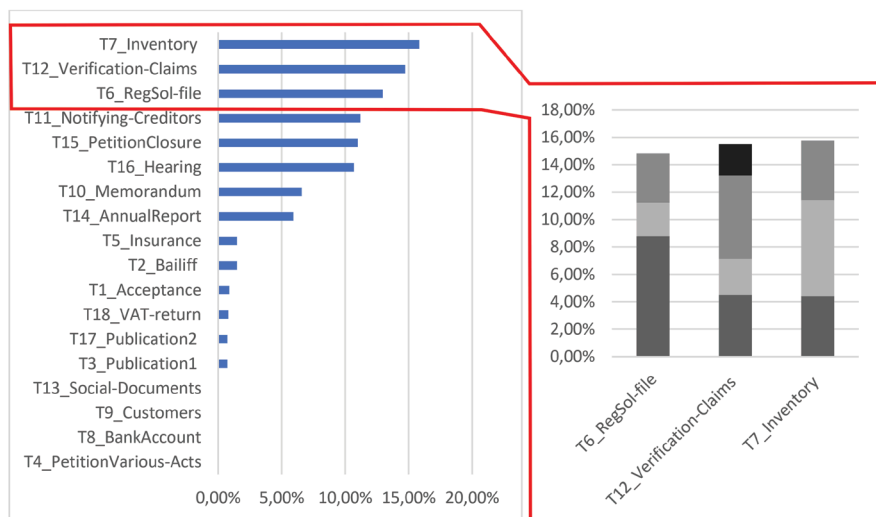

Figure 4   Average percentage of cost consumed per activity (left) and breakdown of the three most important activities on the level of the elements of the time equation (sub-tasks).

4.2   Comparison of 50 most and 50 least loss-making cases

59.   The analysis above reveals that there are only a few cases where the trustee's fixed fee exceeds the total cost of administering the case, whereas the majority of cases result in a loss for the trustee. Among the loss-making cases, some show significant deficits: 10 cases have a deficit of more than 1,000 EUR, ranging from 1,134.65 EUR to 1,898.63 EUR. By contrast, the surpluses are relatively modest, with only four cases yielding a surplus of over 100 EUR. Given the variation among individual cases, it is valuable to examine why certain empty estate cases result in much higher deficits for the trustee than others. To conduct this analysis, the sample of 145 cases is divided into two groups: the 50 most loss-making cases and the 50 least loss-making cases. This grouping allows for an analysis of whether there are patterns or common factors within each group. The remaining 45 cases are excluded from this analysis to allow for clearer comparisons between extremes.

60.   The *50 most loss-making cases* have an average loss of 846.24 EUR, with losses ranging from 1,898.63 EUR to 547.98 EUR. In contrast, the *50 least loss-making*

cases have an average loss of 63.94 EUR, with outcomes ranging from a loss of 211.21 EUR to a surplus of 235.04 EUR. Within this group, there are 14 cases where the fixed fee exceeds the total cost to the trustee, resulting in a surplus. These surpluses range from 1.80 EUR to 235.04 EUR. For the remaining 45 cases, the average loss is 355.54 EUR, with losses ranging from 534.89 EUR to 212.40 EUR. The difference between the average losses of these two groups is statistically significant (p = 0.001), suggesting that further analysis of case characteristics may yield insights into the causes of this disparity.

61.   This section presents the statistical analysis conducted to explore the differences between the 50 most and 50 least loss-making bankruptcy cases. Two types of statistical tests were used: the Chi-Square test for nominal (dichotomous) variables and the unpaired t-test for continuous variables. The purpose of these tests is to determine whether certain time drivers are significantly associated with higher deficits for trustees. This analysis focuses specifically on the three activities that consume the most time: conducting the inventory, verifying the claims, and compiling the bankruptcy file.

62.   The *Chi-Square test* assesses whether there is a significant relationship between the occurrence of a dummy variable and the classification of a case as one of the 50 most or 50 least loss-making. By comparing the frequency of each time driver's value between the two groups, the test identifies which time drivers influence the extent to which a bankruptcy is loss-making for the trustee. The strength of the relationship is measured using Cramer's V, which ranges from 0 (no correlation) to 1 (perfect correlation).

Table 3   Chi-Square test for nominal (dichotomous) variables.

	50 most loss-making cases	50 least loss-making cases	P value
Bankruptcy petition by a third party	70.00%	50.00%	0.041**
Bankruptcy petition by a third party other than Public Prosecutor	54.00%	34.00%	0.044**
Bankruptcy case with site visit	82.00%	54.00%	0. 003**
Bankruptcy case with hearing of bankrupt	60.00%	38.00%	0.028**

** Significant at 0.05 level

63. As shown in Table 3, several dummy time drivers differ significantly between the most and least loss-making cases. In particular, there are significant differences between the 50 most loss-making cases and the 50 least loss-making cases concerning whether the bankruptcy was petitioned by a third party, whether the petition was filed by a third party other than the public prosecutor, whether the trustee conducted a site visit, and whether the trustee held a hearing with the bankrupt. Firstly, 70% of the most loss-making cases were initiated by a third-party petition, compared to 50% of the least loss-making cases. This indicates that third-party petitions are more common in cases with higher losses. However, the Cramer's V value of 0.204 suggests a weak relationship. Secondly, 54% of the most loss-making cases were petitioned by a third party other than the public prosecutor, compared to 34% in the least loss-making cases. This suggests that bankruptcies filed by third parties other than the public prosecutor are linked to higher deficits for the trustee, though the correlation remains weak (Cramer's V = 0.201). Thirdly, in 82% of the most loss-making cases, the trustee conducted a site visit, compared to 54% in the least loss-making cases. This implies that site visits, often indicative of more complex cases, are a significant factor in higher trustee deficits, with a moderate correlation (Cramer's V = 0.300). Fourth, trustees heard the bankrupt in 60% of the most loss-making cases, compared to 38% in the least loss-making cases, suggesting that cases requiring hearings tend to result in higher deficits. The correlation is weak (Cramer's V = 0.220). These results suggest that more resource-intensive sub-tasks are more prevalent in high-deficit cases.

64. The *unpaired t-test* is used to assess differences in the means of continuous variables between the two groups (50 most loss-making vs. 50 least loss-making cases).

Table 4   Unpaired t-test for continuous variables

	50 most loss-making cases	50 least loss-making cases	P value
Average number of verification reports	2.50	2.18	0.033**
Average number of accepted unsecured claims	4.60	0.44	0.001**
Average number of accepted secured claims	5.18	1.72	0.001**
Average number of contested claims	1.74	0.74	0.039**

** Significant at 0.05 level

65. The results presented in Table 4 show significant differences between the two groups in several continuous variables, in particular in the number of creditors contacted, the number of verification reports filed, and the number of accepted unsecured claims, accepted secured claims, and contested claims, between the 50 most and 50 least loss-making cases. The average number of verification reports in the most loss-making cases was 2.50, compared to 2.18 in the least loss-making cases, indicating that a higher number of verification reports is associated with larger deficits. The average numbers of accepted unsecured claims, accepted secured claims, and contested claims were 4.60, 5.18, and 1.74, respectively, in the most loss-making cases, compared to 0.44, 1.72, and 0.74, respectively, in the least loss-making cases. This suggests that cases involving more unsecured claims, secured claims to be accepted and more claims to be contested contribute to higher deficits. The complexity and intensity of the claims management appears to be a key driver of the observed cost disparities.

4.3 Discussion and implications

66. The TDABC analysis reveals two central findings. First, when comparing the fixed fee with the actual cost of administering empty estate cases, the model shows that in the vast majority of cases in the sample (90.34%), the difference is negative, meaning the trustee incurs a deficit. This indicates that the fixed fee is generally insufficient to cover the trustee's workload cost. Second, the model identifies the activities that contribute most to the total administration cost. The activities of conducting the inventory, verifying claims, and compiling the bankruptcy file are the largest cost components on average, accounting for 46.10% of the total time and cost. It is crucial that the time spent on these activities – and consequently their cost – depends on the presence of time drivers, leading to significant variability across individual cases. Further analysis of these time drivers reveals that specific case characteristics – such as additional searches due to third-party bankruptcy petitions, site visits, hearings, more verification reports, and more claims – are significantly associated with higher deficits for trustees.

67. The deficits identified in this study can be described as *virtual salary deficits*, specific to the Belgian fixed fee funding model. These are 'virtual' in the sense that they do not reflect the difference between an estimated fee based on hours worked and the actual fee paid from the estate – as seen in, for example, the Dutch model – but rather the gap between the cost of the workload and the fixed fee. In cases where the cost exceeds the fixed fee, a portion of the trustee's work remains uncompensated. For the median case, this deficit amounts

to 344.49 EUR. This loss is relatively modest in and of itself, and this conclusion is further strengthened by the fact that it is typically offset through cross-subsidisation, whereby losses in empty estate cases are absorbed by overcompensation from 'richer' estates.[115] As long as future increases in trustee costs are met with corresponding indexation of the fixed fee, the state funding model arguably functions as a baseline guarantee – enabling trustees to perform basic tasks without incurring unsustainable losses.

68. However, not all bankruptcy cases demand the same level of effort or resources, so that the median figures mask a substantial variability. The cost of administering individual cases in the sample ranged from 1,041.25 EUR to 3,174.92 EUR, with virtual salary deficits ranging from a surplus of 235.04 EUR to a deficit of 1,898.63 EUR. The virtual salary deficits highlight a broader issue of trustees being undercompensated for their time and effort, especially in cases that require *more than just basic tasks*. A diligent trustee who handles empty estate cases thoroughly and professionally, in the public interest, typically incurs a loss when performing *all* the necessary activities in the bankruptcy process.[116] For example, in 105 out of 145 cases in the sample, the trustee conducted a site visit, with 101 of these resulting in a deficit. In 75 cases where the bankrupt was heard, 71 led to a loss. Similarly, in 76 of the 83 cases where the bankruptcy was petitioned by a third party, the trustee faced a loss. In 12 cases, a third-party petition (by a third party other than the public prosecutor), a site visit, and a hearing of the bankrupt all occurred, and every one of these cases resulted in a deficit for the trustee, ranging from 264.76 EUR to 1,633.26 EUR. Conversely, in the sample, there are 22 cases where the trustee neither conducted a site visit nor held a hearing with the bankrupt. Of these, 7 cases resulted in a surplus for the trustee. In such instances, the fixed fee may exceed the cost of the trustee's limited workload. This indicates that the fixed fee may suffice only when an absolute minimal workload is present.

69. Nonetheless activities like investigating third-party petitions, site visits, and hearings are crucial to detecting irregularities or fraud, and are therefore

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115 See Frederik De Leo and Dennis Cardinaels, 'Remuneratie curator. Het bureau voor rechtsbijstand is geen insolventieverzekeraar, maar wie dan wel?' [2017] NjW 367, 572. See also, for the Netherlands, Jessie Pool, Reinout Vriesendorp, Peter van der Zwan, Harold Koster, Wouter Elsenburg and Wassim Ourak, *De beloning van curatoren bij lege boedels* (2024) 11 <www.repository.wodc.nl/handle/20.500.12832/3432> accessed 24 April January 2025.

116 See also Joris J. De Smet, 'Over de zogenaamde onafhankelijkheid en onpartijdigheid van herstructurerings- en vereffeningsdeskundigen, problematische vergoedingsregels en Europese legistieke acrobatie', [2023] TIBR 2.

essential in the public interest. Even when trustees limit their efforts to these core administrative activities – without actually pursuing any liability claims – losses still appear to be the norm. These findings raise important concerns about the incentive structure embedded in the fixed fee model. If even a minimal expansion of effort into necessary investigative tasks consistently results in significantly higher virtual salary deficits, trustees may be discouraged from performing them. This could potentially create a perverse incentive: to spend as little time as possible and close empty estates cases (too) quickly, limiting investigations to (less than) the bare minimum, basing their activities on the expected profit.[117] Trustees' willingness to carry out additional investigations, conduct site visits, or hear the bankrupt depends on whether they are adequately compensated for that extra work.[118] Since the fixed fee remains unchanged regardless of the case's characteristics or the time invested, trustees have no financial motivation to engage into such resource-intensive work. The inadequacy of the fixed fee in covering the trustee's cost could thus potentially lead trustees to reduce their diligence in handling empty estate cases, especially considering that additional tasks are significantly associated with higher losses. This conflicts with the essential duty of trustees to check for fraud or irregularities. As noted in Dutch research, this creates a risk that fraudsters may escape the consequences of bankruptcy fraud.[119]

70.   The most resource-intensive activities identified in the model, such as compiling the bankruptcy file and conducting inventories, involve additional work that provides society with valuable information about the (causes of the) bankruptcy and any irregularities.[120] This, arguably, is where the true value of bankruptcy proceedings in empty estate cases lies: not in the distribution of non-existent assets to creditors, but in the trustee's public role as investigator and safeguard of unlawful business practices. In a Belgian context, it is therefore appropriate to acknowledge that bankruptcy proceedings do not merely serve to place the debtor's assets under the control of a trustee charged with administering and liquidating those assets and distributing the proceeds among creditors, but also entail a duty for the trustee to *investigate the causes*

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117 Gijs van Dijck, Reinout Vriesendorp, Délon Vielvoye and Nabila Rachid, 'Lege boedels: code rood of vals alarm? Een verkennende empirische studie naar Bredase ervaringen met lege boedels' [2008] Tvl 33.

118 Jessie Pool, *De rol van de curator bij de aankap van onregelmatigheden* (Meijers-reeks 2022) 85.

119 Jessie Pool, Reinout Vriesendorp, Peter van der Zwan, Harold Koster, Wouter Elsenburg and Wassim Ourak, *De beloning van curatoren bij lege boedels* (2024) 11 <www.repository.wodc.nl/handle/20.500.12832/3432> accessed 24 April January 2025.

120 See also Jessie Pool, *De rol van de curator bij de aankap van onregelmatigheden* (Meijers-reeks 2022).

of the bankruptcy. If lawmakers expect trustees to collect this information for creditors and society, this requires significant time and resources. It is unreasonable to expect trustees to bear the cost of their public duty when assets are insufficient. This calls for a reconsideration of the current fixed fee model.[121] Rather than framing policy reform as a binary choice between appointing a fully compensated trustee or no trustee appointment at all, this study suggests that *intermediate solutions* are possible within the existing system that recognise the broader role of bankruptcy proceedings. In particular, two complementary measures are to be considered.

71.   First, the issue of empty bankruptcy estates, particularly the virtual salary deficits, can be further addressed by critically assessing the activities and cost involved in bankruptcy administration. The TDABC model provides a valuable tool in this regard, as it clearly identifies the specific activities and time drivers that contribute most significantly to the total cost, thereby highlighting potential areas for efficiency gains. The minimal costs associated with certain activities suggest these areas are either well-optimised or use minimal resources, likely due to the high level of digitalisation and automation already present in the Belgian bankruptcy process through the RegSol register. On the contrary, the three most resource-intensive activities alone account for nearly half of the total cost, suggesting they are key areas where efforts to improve efficiency could lead to substantial cost savings. Although the Belgian bankruptcy procedure has already been highly digitised and standardised through the RegSol register, trustees could explore more efficient practices to manage their time and resources better. Further standardisation or even outsourcing of some time-consuming activities might yield benefits. Providing trustees with the most efficient work tools for *all* activities can help to ensure that legally required activities are carried out while preventing trustees from becoming 'overly efficient' in cases where profit is small or non-existent, potentially skipping or inadequately performing certain tasks.[122] However, it is important to note that the most cost-intensive activities, as conducting the inventory and compiling the bankruptcy file, are fundamental to bankruptcy proceedings and will always require thorough – manual – investigation, inherently consuming both time and resources. As such, the potential for further streamlining in these areas is likely limited, and any cost-saving efforts must

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121 Jessie Pool, 'Maatschappelijk verantwoord vereffenen: belangenpluralisme bij de maatschappelijke taakuitoefening van de curator' [2022] Tvl 20.

122 Gijs van Dijck, 'How to Fund Assetless Estates in Insolvency? Assessing European Funding Mechanisms' (2014) 11 ECFR 2, 136.

be carefully balanced against the need for diligent and high-quality execution. A more radical idea is to no longer require that these administrative tasks be carried out exclusively by a lawyer-trustee, as is currently mandatory, but instead to open up the role to a broader group of professionals with financial or accounting expertise.

72. Greater efficiency gains may instead be realised by narrowing the scope of activities in certain cases. For example, claim verification could be limited to bankruptcies concluded by liquidation, as there is no creditor distribution in empty estate cases.[123] Excluding this activity from the TDABC model would reduce the median cost to 1,387.54 EUR for 9.72 working hours (a 14.39% reduction) and reduce the median virtual salary deficit to 111.25 EUR (a 67.71% decrease). Under this scenario, 102 out of the 145 cases (70.34%) would result in a deficit for the trustee.

73. Second, given that trustees are often required to manage empty estate cases without adequate compensation, there is a need for legislative action to provide stronger incentives for trustees handling such cases. In the fixed fee system, trustee compensation does not depend on the characteristics of the empty estate or the time spent on it, so a comprehensive investigation into the bankruptcy is not in their interest.[124] The results of this study, particularly the identification of the most resource-intensive activities and significant time drivers, support the argument for a more flexible fee structure that reflects the complexity and resource demands of individual cases. A viable approach could be to lower the base fee while providing additional compensation based on the presence of specific time drivers. For example, additional compensation could be triggered by third-party petitions, site visits, hearings, or extensive verification requirements. Such a structure would ensure trustees are fairly compensated for more complex or time-intensive cases, while also supporting the broader goals of bankruptcy proceedings. This ultimately aligns trustee incentives with the public interest of bankruptcy proceedings. The source of funding for this – whether through government financing or, for example, via

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123 See also Deutscher Bundestag, 'Bericht der Bundesregierung zur Evaluation des Gesetzes zur weiteren Verkürzung des Restschuldbefreiungsverfahrens und zur Anpassung pandemiebedingter Vorschriften im Gesellschafts-, Genossenschafts-, Vereins- und Stiftungsrecht sowie im Miet- und Pachtrecht' (12 July 2024), 6 < www.dserver.bundestag.de/btd/20/122/2012250.pdf> accessed 16 October 2024.

124 Jessie Pool, *De rol van de curator bij de aankap van onregelmatigheden* (Meijers-reeks 2022), 3.

a general contribution obligation for businesses registered in the commercial register – is ultimately a policy decision.[125]

5   Conclusion

74.   An adequate trustee remuneration policy should ensure that trustees fulfil their duties in line with the legal purpose of bankruptcy proceedings, which is to liquidate the bankrupt estate and distribute the proceeds to the creditors.[126] Increasingly, however, it has been observed that bankruptcy estates are often insufficient to fully or even partially cover the trustee's fees. In legal systems where trustee fees are funded by the estate, trustees often face salary deficits when the estate is insufficient to meet the expected fee. This presents significant challenges, as insolvency practitioners cannot reasonably be expected to provide professional services without sufficient compensation.[127] In response, state funding models have been proposed or introduced as viable alternatives to insolvency estate funding models.

75.   In Belgium, a state funding mechanism for empty estates has been in place since 2018. The government guarantees trustees a fixed fee (1,276.29 EUR, adjusted for inflation). The rationale behind this fixed fee is to cover the standard tasks trustees are typically required to perform. This study aimed to examine how the fixed fee received by a Belgian trustee compares to the actual economic cost of their workload in administering an empty estate case. To that end, a new Time-Driven Activity-Based Costing (TDABC) model was developed based on literature reviews, interviews, and surveys, and applied to a sample of empty estate cases (n = 145). To the best of my knowledge, this is the first empirical analysis of the adequacy of the Belgian state funding model. The findings offer new insights into the debate on the empty estate problem.

76.   The principal finding of this study is that the fixed fee is generally insufficient to cover the trustee's workload cost in empty estate cases. Approximately 90% of cases in the sample result in a deficit for the trustee. From the trustee's

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125 Jessie Pool, Reinout Vriesendorp, Peter van der Zwan, Harold Koster, Wouter Elsenburg and Wassim Ourak, *De beloning van curatoren bij lege boedels* (2024) 19 <www.repository.wodc.nl/handle/20.500.12832/3432> accessed 24 April January 2025.

126 Thijs van Zanten, 'De olifant in het insolventierecht' [2022] Tvl 6; Jessie Pool, 'Rethinking the Goal of Bankruptcy Proceedings' [2023] ELR 2, 2.

127 Judith Dahlgreen et al., *Study on a New Approach to Business Failure and Insolvency: Comparative Legal Analysis of the Member States' Relevant Provisions and Practices* (2016) 215, <data.European.eu/doi/10.2838/8751> accessed 31 January 2024.

perspective, the state funding model is thus not a panacea for resolving salary deficits. The TDABC analysis of the Belgian system introduces the concept of *virtual salary deficits*, defined as the gap between the fixed fee and the actual cost of the trustee's workload. For the median case in the sample, the virtual salary deficit is relatively modest, amounting to 344.49 EUR for 11.35 hours of work. However, another important finding is that the median figure hides significant variability in the results across individual cases, with deficits ranging from 1,898.63 EUR to surpluses of 235.04 EUR.

77. The TDABC model identifies that conducting inventories, verifying claims, and compiling bankruptcy files are the most time- and cost-intensive activities, accounting for nearly half of the total time and cost. These activities are strongly influenced by time drivers, which reflect the characteristics of the case. Further analysis of the time drivers shows that specific characteristics, such as additional searches due to third-party bankruptcy petitions, site visits, hearings, a greater number of verification reports, and more claims, are significantly linked to higher deficits for trustees. In more complex cases involving additional tasks, the fixed fee is rarely sufficient to cover the cost. These results support the position of Belgian trustees that the fixed fee is too low for a diligent insolvency practitioner who is committed to professionally administering an empty estate in the public interest, particularly in cases requiring more extensive work.

78. These results highlight the limitations of a fixed fee structure in addressing the varying complexity and resource demands of bankruptcy cases. The inadequacy of the fixed fee in covering trustees' costs may create incentives to minimise time spent and close the bankruptcy quickly, limiting investigations to (less than) the bare minimum. At first glance, this does not appear to conflict with the formal legal objective of bankruptcy proceedings, which prioritises rapid liquidation. Trustees have traditionally not been assigned a specific societal task, other than administering the bankruptcy.[128] However, the activities identified in the TDABC model, such as compiling bankruptcy files and conducting inventories, highlight trustees' essential role in fulfilling broader societal and economic goals, particularly in addressing unlawful business practices.[129] This is especially important in cases where no assets are available

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128 Jessie Pool, 'Rethinking the Goal of Bankruptcy Proceedings' [2023] ELR 2.

129 Gillis Lindemans, 'Pleidooi voor zes innovaties in het insolventierecht' (*Corporate Finance Lab*, 12 April 2017) < www.corporatefinancelab.org/2017/04/12/pleidooi-voor-zes-innovaties-in-het-insolventie-recht/#_ftn25> accessed 18 October 2024.

for distribution. After all, it is these cases that are most susceptible to fraud or irregularities.[130] The trustee's duty to detect irregularities is in line with the broader development of increasingly taking societal interests into account.[131] This objective is currently inadequately reflected.

79.   The view, increasingly voiced by Belgian and international policymakers, that appointing trustees to empty estates is "too costly" due to the absence of creditor payouts in these cases, appears to reflect an overly narrow focus on creditor interests. As a result, some have proposed alternatives such as not opening bankruptcy proceedings in empty estate cases. However, this alternative approach risks undermining the broader societal objectives of bankruptcy law – particularly the role of trustees – and could simply shift the burden to other institutions, such as the courts. The findings of this study demonstrate that, from the government's perspective, the current state funding model with the fixed fee is actually proportionate to the trustee's workload. Empty estate cases often involve substantial administrative work, making the fixed fee a reasonable *quid pro quo* for the services rendered. Moreover, the *value for money* of the fixed fee extends beyond the payout that trustees have secured for the creditors, and also relates to the broader contributions of trustees' activities to the bankruptcy process. Investigating the causes of the bankruptcy and irregularities therefore deserves a full and explicit place within the objectives of bankruptcy proceedings.

80.   Despite its merits, the current fixed fee model remains inadequate as a comprehensive remuneration policy, as it risks undermining the trustee's duty in empty estate cases to investigate fraud and irregularities – tasks that require significant resources. This study offers a foundation for two complementary policy responses. First, the results can guide legislative efforts to streamline the trustee's duties and improve efficiency in administering empty estates.[132] In particular, workflows associated with the most resource-intensive activities, as identified by the TDABC model – representing nearly half of total costs – should be prioritised. One potential avenue for further research is

130   Jessie Pool, Reinout Vriesendorp, Peter van der Zwan, Harold Koster, Wouter Elsenburg and Wassim Ourak, *De beloning van curatoren bij lege boedels* (2024) 8 <www.repository.wodc.nl/handle/20.500.12832/3432> accessed 24 April January 2025.
131   Jessie Pool, Reinout Vriesendorp, Peter van der Zwan, Harold Koster, Wouter Elsenburg and Wassim Ourak, *De beloning van curatoren bij lege boedels* (2024) 39 <www.repository.wodc.nl/handle/20.500.12832/3432> accessed 24 April January 2025.
132   Marius Kraamwinkel, 'Efficiënte curator kost minder, maar wat doet hij met een lege boedel?' [2008] TvI 1.

the elimination of claim verification in empty estate cases, which could lead to substantial cost savings. Second, the study advocates for the development of a more flexible fee structure that aligns more closely with the complexity and resource requirements of individual empty estate cases. It suggests considering a remuneration model that includes a base fee, supplemented by additional compensation for cases with specific characteristics (time drivers), such as third-party petitions, site visits, and hearings. Future studies could further explore the viability of these alternative compensation models that offer trustees stronger incentives to manage empty estate cases in the public interest by ensuring that high standards of bankruptcy administration are maintained.

Appendix 1

Nr.	Category	Name	Time equation (in minutes)	Time equation (in words)	Parameter(s)
T1	Preparation	Acceptance	$=a$ With a = 6 min. (median)	6 min. per case	
T2	Preparation	Bailiff	$=b$ With b = 10 min.	10 min. per case	
T3	Preparation	Publication1	$=c$ With c = 5 min.	5 min. per case	
T4	Preparation	PetitionVarious-Acts	$=d * APetitions$ With d = 11 min.	11 min. per petition for various acts	*APetitions* With = x, number of petitions for various acts uploaded
T5	Preparation	Insurance	$=e$ With e = 10 min.	10 min. per case	
T6	Examination	RegSol-file	$= f + g * Dsummons + h * Dsummons$ *other than Public Prosecutor* With f = 60 min. With g = 30 min. With h = 60 min.	60 min. per case + 30 additional min. per for a bankruptcy petition filed by a third party + 60 additional min. for a bankruptcy petition filed by a third party other than Public Prosecutor	*Dsummons* With = 1, if bankruptcy petition filed by a third party *Dsummons other than Public Prosecutor* With = 1, if bankruptcy petition filed by a third party other than Public Prosecutor
T7	Examination	Inventory	$= i + j * Dsite\ visit + k * Dhearing$ With i = 30 min. With j = 30 min. + 39 min. With k = 60 min.	30 min. per case + 69 additional min. if the trustee makes a site visit + 60 additional min. if the bankrupt is heard	*Dsite visit* With = 1, if the trustee made a site visit *Dhearing* With = 1, if the bankrupt is heard
T8	Examination	BankAccount	$= l * Dbank\ account$ With l = 10 min.	10 min. if the trustee opened a bank account	*Dbank account* With = 1, if the trustee opened a bank account
T9	Examination	Customers	$= m * Acustomers$ With m = 19 min.	19 min. per customer written	*Acustomers* With = x, number of customers written
T10	Examination	Memorandum	$= n * Dmemorandum$ With n = 45 min.	45 min. per case	*Dmemorandum* With = 1, if memorandum is drafted

Nr.	Category	Name	Time equation (in minutes)	Time equation (in words)	Parameter(s)
T11	Examination	Notifying-Creditors	$= o * Acreditors$ With o = 15 min.	15 min. per creditor written	*Acreditors* With = x, number of creditors notified[133]
T12	Examination	Verification-Claims	$= p * Areports + q * Aaccepted\ unsecured\ cl$ With p = 13,50 min. With q = 10 min. With s = 15 min. With t = 12,5 min.	13,5 min. per report + 10 min. per accepted unsecured claim + 15 min. per accepted secured claim + 12,5 min. per contested claim	*Areports* With = x, number of reports *Aaccepted unsecured* With = x, number of unsecured accepted claims *Aaccepted secured claims* With = x, number of secured accepted claims *Acontested claims* With = x, number of contested claims
T13	Examination	Social-Documents	$= u * Demployees$ With u = 30 min.	30 min. if there are any employees	*Demployees* With = 1, if there are any employees
T14	Conclusion	AnnualReport	$= v * Aannual\ reports + w * Daccounts$ With v = 36 min. With w = 45 min.	36 min. per annual report + 45 min. if the trustee kept accounts	*Aannual reports* With = x, number of annual reports *Daccounts* With = 1, if the trustee kept accounts
T15	Conclusion	PetitionClosure	$= x + y$ With x = 45 min. With y = 30 min.	45 min. per case + 30 min. per case	
T16	Conclusion	Hearing	$= z * Dhearing$ With z = 60+28 min.	60 min. if trustee attended hearing	*Dhearing* With = 1, if trustee attended hearing
T17	Conclusion	Publication2	$= aa$ With aa = 5 min.	5 min. per case	
T18	Conclusion	VAT-return	$= bb + cc * Dno\ nil\ return$ With bb = 5 min. With cc = 25 min.	5 min. per case + 25 additional min. if no nil return	*Dno nil return* With = 1, if no nil return[134]

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133 The number of claims filed is used as a proxy for the number of creditors, as this is the only data available from RegSol.

134 The collection of assets was used as a proxy.