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Master In Business Administration (MBA)

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**Forensic Accounting in U.S. Shifting Tax Landscape: The
Impacts of Tax Reforms and Ascending Cryptocurrency on
Fraud Detection and Investigation**

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Patras, Greece, May 2026

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Abstract

This thesis explores the evolving role of forensic accounting within the United States' shifting tax and regulatory landscape, with an emphasis on changes in fraud incentives, compliance conformance and investigative approaches due to the latest tax reforms and the growth of crypto-assets. The research covers the joint effects that the tax reforms, healthcare subsidy surveillance, and digital asset regulation have on fraud investigation and identification. The study makes use of the existing theory on forensic accounting, fraud behavior models and latest blockchain investigation techniques, to examine how regulatory revisions affect the financial reporting and behavior of corporates.

First, the thesis runs through the theoretical foundations of forensic accounting and the way it has evolved from conventional auditing support to becoming a multidisciplinary and proactive practice capable of handling intricate financial misconduct. Considerable emphasis is put on how taxing reforms modify incentives in the fraud triangle as well as how state financing structures and healthcare programs present unique opportunities for financial data misreporting and subsidy abuse.

Thereafter, the study reviews legislative developments like the Tax Cuts and Jobs Act and subsequent revisions, along with enhanced regulation of digital assets by authorities such as the Internal Revenue Service and the U.S. Securities and Exchange Commission. These developments initiate new reporting prerequisites, alter conduct incentives, and broaden the evidentiary context by integrating blockchain data, requiring the merging of conventional forensic accounting and crypto-forensics tools.

In terms of methodology, the study explores both traditional forensic methods and techniques as well as blockchain analytics, underlining their interdependence and limitations. The findings indicate that efficient fraud investigation is increasingly depending on interdisciplinary cooperation, technological expertise and the capacity to align evidence from the blockchain with data stored outside of it. On the whole, the study's conclusion is that, in order to maintain efficiency within fast-changing economic and technological settings, forensic accounting must grow into hybrid investigative approaches that encompass legislative interpretation, financial and digital evidence analysis.

Keywords: forensic accounting, financial investigation, healthcare fraud, fraud detection, regulatory compliance, tax reform, tax policy, cryptocurrency, digital assets, blockchain analytics

Εγκληματολογική Λογιστική στο Μεταβαλλόμενο Φορολογικό Τοπίο των Η.Π.Α.: Οι Επιπτώσεις των Φορολογικών Μεταρρυθμίσεων και του Ανερχόμενου Κρυπτονόμισμα για τον Εντοπισμό και Διερεύνηση της Απάτης

Ροντίκα Ιλίου

Περίληψη

Η παρούσα διπλωματική εργασία διερευνά τον εξελισσόμενο ρόλο της εγκληματολογικής λογιστικής στο μεταβαλλόμενο φορολογικό και ρυθμιστικό τοπίο των Ηνωμένων Πολιτειών, με έμφαση στις αλλαγές στα κίνητρα απάτης, στη συμμόρφωση και στις διερευνητικές προσεγγίσεις λόγω των τελευταίων φορολογικών μεταρρυθμίσεων και της ανάπτυξης των κρυπτογραφικών περιουσιακών στοιχείων. Η έρευνα καλύπτει τις συνδυασμένες επιδράσεις που έχουν οι φορολογικές μεταρρυθμίσεις, η επιτήρηση των επιδοτήσεων υγειονομικής περίθαλψης και η ρύθμιση των ψηφιακών περιουσιακών στοιχείων στην έρευνα και τον εντοπισμό απάτης. Η μελέτη χρησιμοποιεί την υπάρχουσα θεωρία σχετικά με την εγκληματολογική λογιστική, τα μοντέλα συμπεριφοράς απάτης και τις τελευταίες τεχνικές έρευνας blockchain, για να εξετάσει πώς οι ρυθμιστικές αναθεωρήσεις επηρεάζουν τη χρηματοοικονομική αναφορά και τη συμπεριφορά των εταιρειών.

Πρώτον, η διατριβή διατρέχει τα θεωρητικά θεμέλια της εγκληματολογικής λογιστικής και τον τρόπο με τον οποίο έχει εξελιχθεί από τη συμβατική ελεγκτική υποστήριξη σε μια διεπιστημονική και προορατική πρακτική ικανή να χειρίζεται περίπλοκα οικονομικά παραπτώματα. Δίνεται σημαντική έμφαση στον τρόπο με τον οποίο οι φορολογικές μεταρρυθμίσεις τροποποιούν τα κίνητρα στο τρίγωνο της απάτης, καθώς και στον τρόπο με τον οποίο οι κρατικές δομές χρηματοδότησης και τα προγράμματα υγειονομικής περίθαλψης παρουσιάζουν μοναδικές ευκαιρίες για εσφαλμένες αναφορές οικονομικών δεδομένων και κατάχρηση επιδοτήσεων.

Στη συνέχεια, η μελέτη εξετάζει τις νομοθετικές εξελίξεις όπως ο νόμος για τις φορολογικές περικοπές και τις θέσεις εργασίας και τις επακόλουθες αναθεωρήσεις, μαζί με βελτιωμένη ρύθμιση των ψηφιακών περιουσιακών στοιχείων από αρχές όπως η Υπηρεσία Εσωτερικών Εσόδων και η Επιτροπή Κεφαλαιαγοράς των ΗΠΑ. Αυτές οι εξελίξεις εισάγουν νέες προϋποθέσεις αναφοράς, μεταβάλλουν τα κίνητρα συμπεριφοράς και διευρύνουν το πλαίσιο των αποδεικτικών στοιχείων ενσωματώνοντας δεδομένα blockchain, απαιτώντας τη συγχώνευση εργαλείων συμβατικής εγκληματολογικής λογιστικής και κρυπτοεγκληματολογίας

Όσον αφορά τη μεθοδολογία, η μελέτη διερευνά τόσο τις μεθόδους και τεχνικές της παραδοσιακής εγκληματολογικής λογιστικής όσο και την ανάλυση blockchain, υπογραμμίζοντας την αλληλεξάρτηση και τους περιορισμούς τους. Τα ευρήματα δείχνουν ότι η αποτελεσματική διερεύνηση απάτης εξαρτάται όλο και περισσότερο από τη διεπιστημονική συνεργασία, την τεχνολογική τεχνογνωσία και την ικανότητα ευθυγράμμισης των στοιχείων από το blockchain με δεδομένα που είναι αποθηκευμένα εκτός αυτού. Συνολικά, το συμπέρασμα της μελέτης είναι ότι, προκειμένου να διατηρηθεί η αποτελεσματικότητα σε ταχέως μεταβαλλόμενα οικονομικά και τεχνολογικά περιβάλλοντα, η εγκληματολογική λογιστική πρέπει να εξελιχθεί σε υβριδικές ερευνητικές προσεγγίσεις που να περιλαμβάνουν νομοθετική ερμηνεία, χρηματοοικονομική και ψηφιακή ανάλυση αποδεικτικών στοιχείων.

Λέξεις-κλειδιά: εγκληματολογική λογιστική, χρηματοοικονομική έρευνα, απάτη στον τομέα της υγειονομικής περίθαλψης, ανίχνευση απάτης, κανονιστική συμμόρφωση, φορολογική μεταρρύθμιση, φορολογική πολιτική, κρυπτονομίσματα, ψηφιακά περιουσιακά στοιχεία, ανάλυση blockchain

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List of Abbreviations & Acronyms

Affordable Care Act (ACA)
American Institute of Certified Public Accountants (AICPA)
Anti-Money Laundering (AML)
Advanced Premium Tax Credit (APTC)
Big Beautiful Bill Act (BBB)
Base Erosion and Anti-Abuse Tax (BEAT)
Controlled Foreign Corporation (CFC)
Centers for Medicare & Medicaid Services (CMS)
Decentralized Finance (DeFi)
Foreign-Derived Deduction Eligible Income (FDDEI)
Foreign-Derived Intangible Income (FDII)
Financial Action Task Force (FATF)
Financial Crimes Enforcement Network (FinCEN)
Government Accountability Office (GAO)
Global Intangible Low-Taxed Income (GILTI)
Health Savings Account (HSA)
Internal Revenue Service (IRS)
Know Your Customer (KYC)
Mutual Legal Assistance Treaty (MLAT)
Non-Fungible Token (NFT)
Qualified Business Income (QBI)
Qualified Business Asset Investment (QBAI)
Securities and Exchange Commission (SEC)
Specified Service Trade or Business (SSTB)
Tax Cuts and Jobs Act (TCJA)
Value Added Tax (VAT)

1. Introduction

The modern financial environment is structured by rapid and ongoing changes in regulations, increasing demand for transparency and accountability, technological innovation and growing complexity in organizational structures. These dynamics highlight a key premise of this thesis: within this framework, forensic accounting has evolved from a function destined to offer support in post-facto fraud investigations and legal disputes, into a proactive, investigative and multidisciplinary field, combining accounting expertise, technological competence, analytical reasoning and legal awareness. This transformation has been intensified by the increasing interaction between **taxation and healthcare reforms, healthcare programs**, and rising **digital financial technologies**. Adapting corporates discover new vulnerabilities and opportunities for financial misrepresentation and misconduct, challenging both the investigators and policy makers, whose approaches must incorporate financial analysis, data analytics and digital forensics.

Latest taxation and healthcare reforms have modified corporate incentives and reporting behavior, and international taxation structures and strategies, with implications for internal controls, compliance pressure and fraud risk. Although created for taxation simplification and investment stimulation, these reforms have in addition launched new behavioral responses and reporting complexities that may stimulate artful data manipulation and aggressive financial reporting.

Simultaneously, the funding of healthcare programs is characterized by significant subsidy flows, multilayered and complex reimbursement mechanisms and oversight. Concerns over improper claims and use of federal subsidies require forensic accounting to manage both isolated fraud incidents and systemic risks deriving from organizational transformation and policy design.

Concurrently, further layers of complexity are added because of the surge of cryptocurrencies and financial systems based on blockchain technology. Technological innovation reshapes the way financial misconduct is executed and concealed. The established decentralized forms of value-transfer test the traditional methods and strategies used in audit and enforcement. Notions as know before such as traceability, ownership or

jurisdiction are challenged while at the same time digital assets offer new types of evidence that is both transparent and yet technically demanding.

To manage these changes, regulatory agencies such as the Internal Revenue Service (IRS), Financial Crimes Enforcement Network (FinCEN) and the U.S. Securities and Exchange Commission (SEC) have extended their supervision mechanisms, imposing stricter reporting obligations for greater visibility of crypto transfers. The concurrence of conventional accounting systems and decentralized technologies raise the expectancy that forensic accountants should bridge traditional financial analysis with compliance evaluation and digital-asset tracing through reconciliation of on and off chain data, interpretation of changeable valuation contexts and establishment of standard admissibility and reliability of digital evidence.

The purpose of this thesis is to study how latest regulatory reforms (in tax and healthcare) and the rise of digital assets impact on fraud detection and investigative procedures used in forensic accounting. The study examines the rapport between policy-determined incentives and fraudulent activity, assesses vulnerabilities in the healthcare subsidy programs and analyzes how traditional forensic methodologies can include blockchain analytics. By connecting these areas, the research aims to bridge the gap in the current literature, which seldom handles tax fraud, healthcare abuses and crypto investigations independently as distinct domains rather than interrelated components of a cohesive whole investigative landscape, where transactions go across both traditional and digital systems. Next, the study makes the case that policy evolution generates both expected and unexpected results. On the one hand, policies meant to increase transparency or ease tax compliance may also provide chances for concealment and miscategorization. On the other hand, while developments in digital reporting can reveal inconsistencies, they can also obstruct the investigators' work through technical and methodological obstacles. These interactions must be well understood in order to create investigative models capable to conform to the new financial environment and keep the robustness of evidence. Methodologically, the research implements a theoretical and analytical approach based on literature review, policy evaluation, and comparative method. It assesses existing forensic accounting theories and rising forensic practices used in blockchain, in order to evaluate their complementarities and constraints. Special focus is given to the evolution of investigative techniques as financial evidence becomes spread throughout distinct institutional and technological systems. The chapter of methodology discusses the

investigative tools used across these domains, and the following chapters estimate their practical effects on organizational compliance and fraud detection. Through this unified structure, the thesis intends to provide a consistent analytical framework that describes how, in order to remain effective, forensic accounting evolves and adapts to financial systems that become more and more interconnected, regulatory reform-shaped and technologically-driven.

This dissertation is organized as follows, with each chapter contributing gradually to the study of how forensic accounting practice is reshaped by tax reforms and digital assets:

Chapter 2 introduces the literature review on forensic accounting and digital assets. It presents this field's scope and historical evolution, theoretical fraud schemes, healthcare fraud frameworks, and the rise of cryptocurrency and digital forensics, while recognizing important research gaps on the integration of conventional and digital investigative approaches.

Chapter 3 explores the regulatory context, with focus on significant tax reforms, developments in healthcare policy, and the shaping of the regulation regarding digital assets. It underlines the increasing interaction between these policies and their influence on fraud incentives and compliance risks.

Chapter 4 presents the thesis' methodological framework. It assesses in parallel the traditional forensic accounting tools and blockchain analytics and crypto-forensics, accentuating evidentiary standards, strengths and constraints in methodology, and the necessity for multidisciplinary investigative practices.

Chapter 5 analyzes the effects of latest tax reforms on forensic accounting practice, as well as modifications in fraud incentives, enforcement gaps and forensic opportunity, litigation growth, and the increasing advisory role of forensic accountants within institutions.

Chapter 6 concentrates on healthcare fraud under current legislative reforms, identifying weaknesses in enrollment procedures, subsidies claims and billing practices, and digital payment ecosystems. It examines how techniques used in forensic accounting can increase the programs' integrity, and detect and prevent improper payments within the healthcare sector.

Chapter 7 includes real-world cross-sector case studies connecting taxation, healthcare and digital assets settings, in order to show how regulatory boundaries are trespassed by

fraud schemes and how forensic accounting must embrace integrated investigative strategies to address effectively.

Chapter 8 presents the conclusions and recommendations for future research.

The thesis concludes by consolidating findings from all the chapters, highlighting the necessity for hybrid forensic structures that merge financial expertise, legal interpretation, and technological competence so as to attend to changing fraud risks.

2. Literature Review on Forensic Accounting and Digital Assets

2.1 Foundations of Traditional Forensic Accounting (Definitions, Scope, Frameworks, and Evolution)

2.1.1 Early Origins and Conceptual Emergence

Silverstone et al. (2012) refer to the use of expert financial testimony in 1554 to determine factual evidence in commercial litigations.

In the article “Forensic Accounting: Its Place in Today’s Economy” comprised in the “Journal of Accountancy” of June 1946, Maurice Peloubet mentioned: “during the war both the public accountant and the industrial accountant have been and for a long time after the war will be engaged in the practice of forensic accounting” .

Thus he has framed the notion “forensic accounting” as the work the accountant makes to determine “justification and proof” in facts, rather than just regular control and cost reduction, in order to appear as an expert witness for contractual or legal reasons before a government agency/a court of law.

2.1.2 Formal Definitions and Expanding Legal Needs

In 1999 KPMG defines forensic accounting “as assistance in disputes which are likely to involve litigation, arbitration, expert determination, mediation or an enquiry by an appropriate regulatory authority, and investigations of suspected fraud, irregularity or impropriety which could potentially lead to civil, criminal or disciplinary proceedings”.

In the U.S. lawsuit society, the concept became more prominent as the complexity of financial transactions in legal disputes has led to increasing need of specialized accountants to assist courts of law. The concept of “forensic accounting” has won its place in the

academic and professional lexicon due to the scandals of prominent businesses (Enron, WorldCom) in the 20th and 21st centuries. They have raised the question of the limitations of traditional auditing to identify intentional manipulation and deceit, features that needed a form of accounting more investigative and litigation-focused.

So, forensic accounting foundations materialized by integrating accounting, auditing, investigative practice and legal inquiry and analysis making it a well-defined specialty designed to reveal and communicate evidence of financial misconduct and addresses it through prevention or correction. Going beyond auditing, it involves investigation, prevention and litigation support. Singleton considers that it involves the examination of financial reports and at the same time of non-financial evidences to determine the presence and nature of fraud.

2.1.3 Core Functions and Methodological Foundations

Silverstone et al. (2012) refer to the definition from the “Forensic Accounting” of Hopwood et al. (W.S. Hopwood, J.J. Leiner, and G.R. Young, Forensic Accounting. (New York: McGraw-Hill Irwin, 2008), 3, 5.) of forensic accounting as “the application of investigative and analytical skills for the purpose of resolving financial issues in a manner that meets standards required by courts of law”. This definition points up the two basic dimensions: the evidentiary objective and the methodological thoroughness awaited from practitioners.

2.1.4 Communication, Interpretation, and Stakeholder Expectations

In a similar way Ozili (2015) accentuates on the communicative and analytical features of forensic accounting seen as proceeding to understand, identify, detect and finally convey fraud patterns to shareholders so as to help with investigations.

Rechtman (2020) states that through translating the claims and vagueness into verifiable truth, forensic accounting bridges the gap between stakeholders’ perceived image and actually revealed evidence.

According to both viewpoints, forensic accounting goes beyond the basic financial auditing by spotting patterns of deceit and misuse tendencies due to weak internal controls and to a vulnerable business information system, by recreating complex transactions and finally by explaining in front of audiences that aren’t experts and to legal competencies the financial misbehavior.

Also, Alshurafat et al. (2021) add on that this profession through its services ensures the financial systems' continuity and integrity restoration thus supporting businesses and government agencies during economic crises.

Crain et al. in chapter 1 consider litigation services for legal disputes and investigative services as the two main pillars of forensic practice.

2.1.5 Scope and Professional Domains

According to Silverstone et al. (2012), forensic accounting has its scope touching more domains such as business and damages valuation, fraud detection and especially tax fraud, and corporate investigations, computer forensics and litigation support.. To this list, Rechtman adds securities fraud and insolvency.

So, forensic accounting is an expanding multifaceted profession using a variety of methodologies applied to different contexts. In cases of fraud investigations forensic accountants discover and rebuild financial records to reveal misappropriation, manipulation or embezzlement. Furthermore, this scope has widened due to modern digitalized business activities that have led to computer forensic analysis in which specialists are trying to do a similar job but with electronic data instead. As for the litigation support, forensic accountants are of service to legal teams through expert testimony or advice with regards to financial damages disputes.

2.1.6 Required Skills and Cross-Disciplinary Foundations

Crain et al. have emphasized on its hybrid character and classified the skills and knowledge a forensic accountant should possess such as: internal controls knowledge of accounting, auditing and risk analysis, communication, investigative, psychology, criminology, legal understanding and problem solving, and furthermore digital forensics, accounting information systems and information technology.

It is increasingly incorporating elements from criminology to improve the interpretive capacity aside of accounting logic. Theories like general strain theory or routine activity theory presented by Flasher and Lamboy-Ruiz can provide a better understanding of existing fraud in healthcare environments.

This multi-disciplinary aspect was highlighted by Alshurafat et al. (2021) pointing out that forensic accountants work across an entire institutional network: financial organizations,

insurance companies, and government or law enforcement agencies. Thus their effectiveness is determined both by their expert knowledge and by their abilities of collaborating with these investigative/legal frameworks.

2.1.7 Principles Guiding Forensic Accounting

Forensic accounting's framework has been formed through the concurrence of three fundamental principles: accountability, evidence and objectivity, stressing the significance of evidential sufficiency and legal admissibility, setting it apart from traditional auditing that's mainly focusing on the business compliance with the accounting standards.

Ozili (2015) notes that the norms of evidence need to include both accounting and investigative skills suggesting that whatever findings must stand up to legal scrutiny. This evidential framework aims at creating verifiable factual narratives as a result of a process in which the specialist gathers and analyzes documents, makes interviews and reconstructs transactions.

Forensic accountants, according to Silverstone et al. (2012), must remain impartial at all times, as this will determine their credibility as expert witnesses in disputes. Clear and objective communication is essential for forensic reports serve as foundation for regulatory or legal decisions. To this list, Rechtman adds securities fraud and insolvency.

2.1.8 Fraud Models Shaping Forensic Practice

Also, of big influence on the framework of traditional forensic accounting are the theoretical models of fraud misconduct. Forensic methodologies have been shaped by behavioral models urging the practitioners to consider transactional evidence but also to go further and take into account the psychological and organizational conditions leading to misbehavior. Thus, the criminologist Donald Cressey in 1953, based on his research into embezzlement outlined the fraud triangle comprised of three elements: pressure, opportunity and rationalization. Later on, it has been embedded in auditing standards like SAS 99 and has incorporated other dimensions like capability and motivation turning to a fraud diamond and later a fraud polygon and this analysis got extended through the MICE theory (money, ideology, coercion, ego).

Alshurafat et al. (2021) states that these frameworks should be integrated in the forensic accounting education to shape professionals competent to analyze financial evidence in

relation to human behavior. Thus, forensic accounting rise above the mere mechanical interpretation of financial reports and numbers and turns into an interpretive field grounded in context.

2.1.9 Evolution: Foundational Stage to Institutionalization

Forensic accounting has evolved in time passing through three major phases. Its foundational phase has unfolded in the 20th century when accountants started providing necessary assistance in legal disputes before the courts of law. Their support was considered as auditing services and not as a newly emerging profession.

The following stage, the institutionalization phase, has got underway in the early 2000s following great financial scandals of public companies such as Enron and WorldCom triggered tax and legal reforms in the U.S. like the Sarbanes Oxley Act (that reinforced the management's accountability for preventing fraud) that led to the demand for specialized investigative knowledge and skills. For these, according forensic accounting certifications made their appearance like the Certified in Financial Forensics (CFF) accreditation given by the American Institute of Certified Public Accountants (AICPA).

2.1.10 Professionalization and Future Directions

More certifications, academic programs and standards are built in the developing third stage of professionalization. They relate to the dual role-preventive and corrective- of forensic accounting described as a continuum by Silverstone et al. (2012). In order to prevent and proactively minimize the chances for fraud to happen, organizations strategically invest in new systems that are put in place to promote transparency, increase internal controls and reduce financial and reputational damages. Then again, once fraud detected, forensic accountants are trying to identify the financial information inconsistency/manipulation or corporate misconduct through investigations, in order to assist the litigation or the business upturn.

Thus, the need to continuously adapt to new corporate fraud types and to changes in regulations have matured the reactive forensic accounting into a proactive discipline. The availability of publicly accessible datasets, such as information on spending and healthcare data (Digital Accountability and Transparency Act, CMS), is changing the evidentiary resources improving monitoring. Beside traditional accounting and audit, its future

foundations will include, as Rechtman (2020) predicts interpersonal communication and behavioral abilities shrouded in skepticism and doubled by strong data skills.

2.2 Tax Reform and Fraud Incentives (Overview on TCJA & BBB)

2.2.1 Tax Reforms and Shifts in Fraud Incentives

With every tax reform performing changes to the resources distribution, Ozili (2015) notes a direct impact on the three pillars of the fraud triangle. Lack of strong internal controls or monitoring structures may give way to an adjustment of the corresponding incentives, pressures and opportunities of both individuals and businesses to record, manage, report or hide their income creating a favorable environment to fraud. This opportunistic and fraudulent behavior develops despite the initial objective of tax laws such as Tax Cuts and Jobs Act (TCJA) of 2017 and Big Beautiful Bill (BBB) of 2025 to boost economic growth and domestic investment, reshape fiscal policy, simplify the tax code and induce fairness through offering incentives for profits repatriation and tax rates reductions both for personal and corporate income.

2.2.2 TCJA: Lower Rates and New Openings for Manipulation

Corporate tax rate reduction from 35% to 21% and the exemption from U.S. taxation of some foreign incomes introduced by TCJA were quickly interpreted by organizations as opportunities to reclassify their domestic and foreign incomes, use accelerated depreciation method, and reorganize their operations and subsidiaries to make the best of the lower tax rates and timing differences. These practices might easily get out of the legal framework and turn a legitimate tax plan to misrepresentation or manipulation of financial reports. Therefore, it is very important for forensic accounting to investigate the ambiguous effect of these regulations' changes on compliance practices and fraudulent decision making of managers trying to reach the earnings targets or compensation tiers.

2.2.3 BBB: Increased Corporate Burdens and Elevated Pressures

The BBB followed the path of tax fairness and organization accountability by extending permanently the individual tax cuts set in 2017 and increasing the state and local tax deductions for individuals and the deduction rate from 20% to 23% for small businesses. Yet, for larger corporations it has raised tax rates and thresholds, especially for international structures.

2.2.4 Compensation Pressures and Managerial Responses

As Ozili (2015) interprets, all three components of the fraud triangle are surely influenced by tax reforms. He observes that fraudulent activity is greatly driven by managerial compensation pressures as they relate business performance evaluation to reported after-tax profits. On one hand, the corporate tax reduction in TCJA, although decreases the financial pressure, it continues and even grows to be perceived as an exploitative chance to shift incomes internationally or to inflate net profits for higher performance based bonuses without a corresponding increase in operational efficiency, especially when time

discrepancies between regulation changes and their implementation system. On the other hand, when BBB calls on companies to pay more taxes, and especially the publicly traded, their managers are more pressed to keep the after-tax profits at normally expected levels according to previous years, turning to concealing income and losses, manipulating earnings or misreporting the deductible expenses.

2.2.5 Detecting Misrepresentation and Monitoring Control Gaps

Silverstone et al. (2012) point up that forensic practitioners must identify these misrepresentations in the financial reports by detecting financial flows and comparing them to the actual operational activity of the organizations.

Also, the rationalization pillar changes as under TCJA the aggressive tax positions is only the right reaction to the competing tax policy of the government, and conversely, under BBB, the unjust and wearisome higher taxes should be corrected through a legitimate concealment. So, as Ozili noticed, changing regulatory framework doesn't ensure the disappearance of fraud but its adaptation to the new order.

2.2.6 Technical Complexity, Capability, and the Fraud Diamond

TCJA's provisions of international tax such as the Base Erosion and Anti-Abuse Tax (BEAT) and the deduction for Foreign Derived Intangible Income (FDII) proved to be very complex from technical point of view, and, as it turned out, only managers with advanced expertise in tax could understand and make the most of them, highlighting the "capability" factor in the fraud diamond. However, due to simplification in BBB, this technical engineering has given way to concealment and strategic timing modifying the relation risk-motivation. Nevertheless, for any of these acts it is the manager's capability to translate and put in practice the law that increases the fraud risk. So, forensic accountants in their investigations must strongly consider behavioral responses and psychology apart from compliance with tax law. Silverstone et al. (2012) state that forensic practitioners must detect the impact on control environment and compliance culture that the deductibility changes, depreciation provisions or global transfer rules have. For instance, the new opportunity of some assets' immediate expensing under the changing depreciation conditions of TCJA was grasped by several corporates that overstated these assets to increase their deductions.

2.2.7 Depreciation, Deductibility, and Valuation Risks

So, changes in taxes and expected cash flows lead to reshaping of both financial and valuation reporting. Rechtman (2020) observes that tax settings affect profoundly the fair assessments and the valuation services asking for "certified valuation distinctions" especially for intangible assets. Forensic accountants must check if valuation/discount rates adjustments are the natural outcome of market reactions or a fabrication for profit presenting and management just as well as they must attentively observe the deferred tax accounting of the business as liabilities can be concealed by timing discrepancies.

2.2.8 Regulatory Lag and Behavioral Exploitation

The regulatory lag is very important when considering incentives to fraud whenever changes in tax policies are to be made. Both Ozili (2015) and Alshurafat et al. (2021) note that invention and legislative intent leave practical enforcement way behind, which, in tax policy, is translated to a delayed adjustment of the investigative and legal systems to the new laws put into effect much earlier with overlooked behavioral consequences. As noticed, it was years later under the TCJA that IRS has got to release a guide to interpret the rules regarding the profit shifting and tax base reduction and Foreign-derived intangible income (FDII) for intangibles such as trademarks, patents and copyrights held in the U.S.

2.2.9 Analytics and the Shift Toward Proactive Forensic Work

In the meantime, in concordance with the theory of routine activity, many organizations exploited their informational edge and used the opportunities arisen from control gaps and insufficient safekeeping. The targeted simplification under the BBB with weak enforcement and oversight especially on small businesses might lead to new forms of tax avoidance or evasion. Also, forensic investigations using analytics technology such as visualization and management of databases on the implementation of TCJA have worked as a policy corrective factor for benchmarking and for detection of irregularities in tax returns and transfer pricing abuses, and have helped to better defining of the base erosion rules under BBB.

2.2.10 Compliance Culture and the Social Value of Forensic Accounting

So, forensic tax analysis has become more proactive than reactive to fraud risk. After TCJA, many corporates have turned to forensic specialists to build and apply corresponding monitoring systems destined to make sure of the legitimate character of the financial reports and benefits claimed. These practitioners will also be called upon under BBB to verify the integrity of international/cross-border data, since this reform spins around the global income. Alshurafat et al. (2021) note that through the developing of compliance culture within the organization for stronger fiscal sustainability the preventive aspect enhances the social value of forensic accounting.

The conclusion is that both tax reforms, TCJA and BBB, underline that changes in fiscal policy have direct impact on the perception of fairness and incentives reshaping the fraud risk and its detection. The link between the tax reform design and the behavioral reaction to it is analyzed by the forensic accounting in order to establish that the drive to competitiveness doesn't compromise the compliance integrity. Silverstone et al. (2012) characterize it as discerning substance over form-recognizing when tax policy gets manipulated.

Furthermore, Ozili (2015) and Alshurafat et al. (2021) expand on it by underlining that forensic accounting, rather than reacting, it should be preventing any fraud succumbed from changes in tax policy.

2.2.11 The Paradox of Reform and the Need for Forensic Oversight

Finally, both TCJA and BBB highlight the paradox of tax reforms: although their stated goal is to stimulate economic growth and simplify the tax environment, tax measures can at the same time make things more complex and provide fraud opportunities. These unexpected effects are analyzed and interpreted by forensic accountants in an attempt to maintain the credibility of the tax related financial reports throughout tax-reforms.

2.3 Healthcare Fraud and Subsidy Misuse (Fraud Schemes and Differences in Fraud Risk between Public and Private Sector Organizations)

Healthcare fraud and subsidy misuse are a recurring and complex problem that healthcare systems meet, whether public or private. Disproportionate information, big financial transaction flows and reimbursement procedures that are very complex provide a favorable environment for financial wrongdoing that affect public trust in the system and the fiscal transparency and integrity. The literature on forensic accounting reveals throughout time that healthcare fraud is more than mere individual deceitful behavior, it includes flaws in governance structure, failings to uphold ethical principles and standards within decision-making, and the expending use of technology.

The subchapter summarizes current views on healthcare fraud and subsidy exploitation, presents main fraud schemes, and differentiate the fraud risk in private versus public healthcare institutions. Finally, it underlines the decisive role of forensic accounting: preventive, detecting, and proving of misconducts and strengthening of organizations.

2.3.1 Nature and Scope of Healthcare Fraud

Healthcare fraud entails purposeful facts misrepresentation in order to achieve illicit benefits from healthcare or insurance programs. Silverstone et al. (2012) include healthcare fraud within the class of internal/occupational and management frauds. They analyze it as related to asset misappropriation, corruption or fraudulent statements that include major schemes such as billing manipulation or payroll fraud, collusive arrangements or fraudulent financial or medical reports: fictitious or ineligible beneficiaries, billing for services not provided or more expensive than the one performed, inflated service counts, manipulation of diagnostic codes and unauthorized payment claims. AICPA underlines how complex is the billing system in healthcare and how dependable it is on self-reported data leading to theft of medical supplies, bribery in public tenders and false financial reports for the manipulation of financial key performance indicators(KPIs) and of reimbursements.

Furthermore, fraud in U.S. healthcare includes the subsidies misuse in programs funded by government like Medicaid, Medicare and lastly in the Affordable Care Act (ACA). Alshurafat et al. (2021) emphasize that, although well-intentioned, the emergency funding initiatives during the pandemic period have resulted in increasing fraudulent claims. This was due to funds being paid out in haste without proper overall control showing that policy urgent implementation can involuntarily erode the internal control system and increase fraud risk.

The rapidity of fund delivery and the lack of control during emergency funding initiatives, like pandemic relief programs, have increased the number of fraudulent claims.

This problem has a significant size with estimations made by Flasher& Lamboy-Ruiz (2018) of healthcare fraud costing U.S. annually between \$68 billion and \$230 billion, which is from about 3% up to even 10% of the expenditure in healthcare.

As healthcare expenditures involve government reimbursement and private insurance, there are serious social repercussions: eroding trust in public organizations and private insurance providers, higher insurance premiums and the deviated use of limited resources from necessary legitimate medical care with misrepresented health policy outcomes.

Ozili (2015) considers that these frauds are generally committed by insiders with a detailed knowledge of the processes of billing and subsidy who justify their acts as necessary corrections to the inefficient bureaucratic system or to increase the reimbursement rates.

2.3.2 Theoretical Perspectives on Fraud Motivation

Healthcare fraud behavior has elements from classical fraud models. For instance, Ozili (2015) considers that it can be analyzed through the prism of the fraud triangle where providers, whose finances are pressed by low reimbursement rates, see opportunities in environments with weak oversight and eventually, after committing wrong-doing they simply justify their behavior as a fair restitution of an insufficient system.

This model is turned to fraud diamond by Wolfe&Hermanson (2004) through additional element of “capability”, referring to the strong and specific knowledge of the internal systems, without which fraud wouldn’t be committed by several people in spite of having the previous three elements. In the healthcare industry this facilitates physicians, managers or billing experts to take advantage of any gaps or lags in the procedures or maneuver at will the claims data. In the public organizations Ozili (2015) recognizes capability in administrative officials with thorough knowledge of the rule applied to obtain subsidies and can therefore manipulate data to make false claims. In the private sector, capability is facilitating financial managers who know very well the technical features of the reimbursement coding to adjust accounting entries without being detected.

Eventually, new components were added to the model by Nawawi&Salin (2018) like motivation and arrogance, features that explain why some top executives or policymakers abuse their power to hide fraud for their prestige or political reasons.

These models highlight that fraud in healthcare area is a human but also a systemic issue based on opportunity structures and company culture.

2.3.3 Common Fraud Schemes in Healthcare

The GAO report of 2016 highlights that we can encounter many fraud schemes in the healthcare sector and that in most cases analyzed it was noticed joined schemes. This report has categorized them into:

- Fraudulent billing schemes,

- Schemes that generally support other fraud schemes,
- Fraud schemes related to prescription drugs and
- Other schemes.

Table 5: Health Care Fraud Schemes by Category and Description, for Cases Reviewed

Category	Description
Fraudulent billing schemes	
Billing for services or supplies that were not provided	This scheme includes three subtypes: (1) services or supplies were provided along with fraudulent services or supplies; (2) services or supplies were never provided despite billing for those services or supplies; and (3) services or supplies were not provided and it is unknown whether other services or supplies were actually provided.
Billing for services that were not medically necessary	Billing for services or supplies provided that were not medically necessary or for services that were excessive (such as extending a hospital stay when not medically necessary).
Upcoding services to be paid at a higher rate than the services that were actually provided	Upcoding for services or supplies, including time-based upcoding (e.g., billing for 60 minutes instead of the 30 minutes actually provided) or service-based upcoding (e.g., billing for evaluation and management services when a lower level of service was provided).
Billing for services not prescribed or referred by a physician	Submitting a claim for services or supplies when a physician had not prescribed or completed a necessary referral.
Billing for services provided by an unqualified, uncertified, unlicensed, or ineligible provider	Submitting a claim for services provided by an uncertified, unqualified, unlicensed, or ineligible provider.
Unbundling of services to receive higher total payment when billed separately	Billing separately for services that should be in a bundled payment.
Billing for prescription drugs that were not provided to beneficiaries	Billing by a pharmacy for a prescription drug that a physician never prescribed or a beneficiary never received.
Billing for services provided to an individual not eligible to receive services or supplies	Submitting a claim for services or supplies provided to an individual (who is not a beneficiary) under a beneficiary's name.
Lying about eligibility to obtain benefits or services	Schemes that involve misrepresenting information to obtain services, lying on application for benefits, not reporting information that would affect benefit status, etc.
Billing for services as if they were provided by a physician but were actually provided by another provider	Schemes that involve billing for services as if they were provided by a physician in order to receive a higher payment when they were provided by another provider (such as a nurse practitioner or physician's assistant), who would have been paid at a lower rate.
Duplicate billing	Altering a small portion of a claim to submit it again for payment.
Double billing	Billing for a claim to more than one payer (such as Medicare and Medicaid for the same service).
Billing for services as if they were provided in higher-care setting	Billing for services as if they were provided in a higher level-of-care setting (such as an inpatient hospital) for higher payment even though service was provided in lower level-of-care setting (such as an outpatient facility).
Schemes that generally support other fraud schemes	
Falsifying a substantial portion of records in order to support fraudulent claims	Creating falsified medical records, invoices, orders, and prescriptions, etc., to support fraud scheme.
Receiving or paying kickbacks	Kickbacks—financial compensation for participating in the fraud scheme, such as receiving services in exchange for cash—to beneficiaries, providers, or other individuals.
Misusing a provider's identification information to bill fraudulently	Includes misusing another provider's identification, stealing a provider's identification, and using a retired or deceased provider's identification to bill fraudulently.
Misusing a beneficiary's identification information to bill fraudulently	Misusing a beneficiary's health information and identification, for example, to bill for services, including using identification of a deceased beneficiary.
Fraud schemes related to prescription drugs	
Fraudulently obtaining, distributing, or prescribing drugs containing controlled substances	Schemes involve drugs containing controlled substances and include stealing, writing fake prescriptions, distributing, and diluting. Additionally, these schemes include situations where those involved obtain large quantities of controlled substances to sell illegally and where a beneficiary or individual visits multiple providers to obtain prescriptions for controlled substances (more than are medically necessary).
Fraudulently obtaining, distributing, and misbranding prescription drugs	Schemes involve prescription drugs (not controlled substances) including wholesale issues, pricing issues, prescribing drugs, misbranding, and adulterating.
Marketing of prescription drugs for off-label or unapproved uses	Marketing drugs for off-label uses (i.e., uses not approved by the FDA); also known as false or misleading labeling or misbranded prescription drugs.
Inflating prescription drug prices	Misrepresenting the manufacturer's actual cost or the number of doses in a container.
Pharmacy shorting	Pharmacy manipulates the quantity or price of a prescription that was billed, such as filling a lower quantity than what was billed, charging the beneficiary the full price of the drug instead of only the copayment, and submitting a bill for a more expensive version of prescription than what was filled.

Other schemes	
Self-referral of certain health services by providers in violation of the Stark law	Self-referral of services or facilities in which the provider had a financial interest (often referred to as a Stark law violation).
Stealing of funds or products by employees	Schemes involve employees stealing, misappropriating, or embezzling bank funds, funds, and premium refunds, etc.
Inappropriately waiving copayments for services or supplies provided	Schemes include waiving copayments for services provided and providing free supplies.
Provider exclusions - lying on application about exclusion status, billing for services provided by or employing an excluded provider	Schemes involve providers that are excluded from participating in health care programs. Schemes include lying on applications, concealing exclusion status, and working with excluded providers.
Other health care fraud-related schemes	Schemes do not fall into other categories but are health care-related.

Source: GAO analysis of information from the Department of Health and Human Services and Department of Justice. | GAO-16-216

Table 1/2.3.3 Main Healthcare Fraud Schemes (Source: United States Government Accountability Office. (2016, January). *Health care fraud: Information on most common schemes and the likely effect of smart cards* (GAO-16-216). <https://www.gao.gov/assets/gao-16-216.pdf>)

The first category includes the most common health care fraud schemes such as billing for services or supplies:

- that were not provided, together or not with other supplied legitimate services
- that were not medically necessary
- intentionally at a higher rate than the appropriate (upcoding)
- as if they were provided by a physician (to get higher payment) or prescribed by them
- provided to/by ineligible individual/provider or lying about their eligibility
- unbundling of services to bypass package reduction

The second category of schemes that generally support other fraud schemes refers to fabricating records for illicit/duplicate claims, kickbacks to suppliers/providers or identity theft(ex. deceased patient or retired provider).

Fraud schemes related to prescription drugs are mostly regarding controlled substances and drugs that haven't been aproved by the FDA.

Finally, other schemes can be observed as: inflating costs,prescription drug prices or level of care, or violating Medicare/Medicaid policies.

Also, AICPA in chapter 10 refers to health insurance fraud such as collect premiums and default on coverage due to high salaries of senior managers, and sham programs.

2.3.4 Differences in Fraud Risk between Public and Private Healthcare Organizations

When comparing the public and private healthcare institutions, risk profile knows differences determined by the governance structure, incentive schemes and resource allocation.

The primary risks in the public area are arising because of political interference, inefficient bureaucratic system, weak enforcement, disorganized multiple-layered oversight and high complexity of the implemented policies. Because main programs like Medicaid and Medicare involve a great volume of transactions processed by many intermediaries it has led to tardy auditing and scattered accountability. As Crain et al. (2019) observe, these “control gaps” between voluminous documentation and delayed verification are taken advantage of by fraudsters developing fraud schemes such as mass false claims, inflating costs or shifting between governmental budgets, eligibility or subsidy abuse.

On the contrary, in the private sector, as Silverstone and Sheetz (2012) note, the most common factors leading to fraud are managerial collusion with suppliers/insurers and override of the system of internal control. Chasing targets related to corporate profits, performance indices or investor confidence, some top executives may misrepresent financial reports, expense accounts, invoices or liquidity issues and research grants. Imoniana et al. (2013) highlight the importance of maintaining investors, especially for big companies, which translates to reputational pressure that most often pushes for fraud covering rather than deterring.

Thus, although more visible and well known, fraud cases in public area are lagging prosecution while in the private sector they are frequently covered under complex accounting entries.

At last, resource allocation also help differentiate the two sectors. In the public sector, organizations don't usually have a specialized forensic workforce and so they have to rely on overall audits that are proved to be inefficient to detect complex fraud. The AICPA insists that in this sector forensic accountants must be more proactive and adapt the fraud examination standards to fragmented data systems. On the other hand, private companies can employ professionals in forensic audit and use data analytics to identify outliers or anomalies. Nonetheless, as Ozili (2015) draws attention, these advantages might be used for the opposite scope of concealing wrongdoing, especially when internal control override by superior managers. Also, Flasher & Lamboy-Ruiz (2018, p 29) underline that the fraud risk increases when there are great changes in the reimbursement systems and formulas such as movement toward value-based care or shifting from fee-for-service because the ambiguity created during this transition often weakens the oversight.

So, when comparing public to private sector we can see they are both vulnerable but in a different way, with common disadvantage of integration gap between financial control systems and transactional data. The paradox is that the first one is more dependable on the inefficiencies of the system and inadequate oversight, determined by big and complicated funding lines, distributed accountability and political influence, while the latter is exposed to managerial discretion, performance pressure and intentional manipulation for competitive advantage.

2.4 The Rise of Cryptocurrency and Digital Forensics

The advent of cryptocurrency has changed to a great extent the way that financial systems function and the methods used to track and investigate the digital transactions. As it became more popular, due to its main features: decentralization, cryptographic protection and yet

global accessibility, it has initiated both revolutionary challenges and opportunities for law enforcement, forensic science and practitioners. As a result, digital forensics has suffered transformation reshaping and initiating new analytical techniques and methods to pin down, interpret and safeguard evidence coming from the blockchain. (Furieux, 2018; Furieux 2023)

2.4.1 From Decentralised Finance to Forensic Complexity

Bitcoin was created in 2009 and financial history has greatly changed ever since. Its' appearance was motivated by the desire of eliminating state, banks or payment processors intermediaries, establishing thus a decentralized peer-to-peer means of exchange. This system's main technology called the blockchain ensures that the financial transactions are made with integrity directly peer-to-peer based on cryptographic consensus rather than institutional trust. (Nakamoto, 2008) The blockchain is actually a huge digital ledger which is strictly unchangeable, publicly transparent and available for access.

Each transaction and its trail of transfers are visible yet the participants' real identities are hidden under pseudonymous wallet addresses. This paradox-data openness and visibility without revealing identification or ownership- has brought innovation in the financial system but also challenges for forensic investigators. They understood that although blockchain ensures a strong audit trail, it also gives criminals the opportunity to conceal illegal funds within different addresses. So they had to change their methods and connect the technical and legal gaps that appeared between the data on the blockchain and the individuals transacting them. (Furieux, 2018)

Furthermore, to deal with the increasing complexity of the decentralized finance (DEFI) system due to alternative blockchains and tokens, decentralized exchanges and smart-contract platforms (like Ethereum) they had to enrich their knowledge and expertise of cryptography and decentralized computing including contract codes, token metadata and automated transfers.(Buterin, 2014)

2.4.2 The Early Encounters with Cryptocurrency Evidence

Apart from small online communities, underground markets like Silk Road (2011-2013) began using Bitcoin for illicit trade, showing that by excluding the traditional intermediaries, cryptocurrencies could cross jurisdictions instantly.(Europol, 2019).In these cases, forensic investigators realized that the evidence and financial flows involving cryptocurrency needed a different approach in order to be admissible. Comparing to traditional methods based on physical drives, recovering deleted data, analyzing network logs and centralized records, and IP traces, the new ones had to include tracking transactions and interpreting hexadecimal blockchain data, tracing wallets-stored private keys to gain access to on-chain funds. (Furieux, 2018)

Thus has been founded the new discipline of blockchain forensics and it developed thanks to transaction history reconstruction and address clustering methods to link related entities and infer potential ownership. (Meiklejohn et al., 2013)

Ever since, whenever investigating a suspect, when on his device(s) is detected cryptocurrency software or wallet data, investigators must use deeper forensic analysis of financial intelligence mixed with digital evidence. (Furneaux, 2023)

2.4.3 The Emergence of Blockchain Forensics

As cryptocurrency became more and more adopted, blockchain analysis developed as a branch of digital forensics specialized in cryptography, using data-science methods and investigative practice to track crypto assets and their flows in the distributed ledgers. Visualization tools like graph analytics were used by analysts to see whatever connections were between different addresses. Also, heuristic linking methods like change-address detection and transaction-pattern recognition allowed them to deduce and understand the user behavior (Chainalysis, 2022)

These visualization methods were also implemented on commercial platforms and in the scholarly investigation through automated visualization tools or tracking interfaces of blockchain transactions. Nevertheless, the interpretive accuracy and the quality of the evidence depended greatly on investigator competence and understanding of blockchain mechanics. (Furneaux, 2023)

Bitcoin was later followed by the appearance of Ethereum, then of Binance Smart Chain and privacy-enhanced assets. The device-centric investigation wasn't enough anymore. Blockchains and exchanges constituted complex transaction networks which led digital forensics to expand the investigation to network level.

2.4.4 Legal and Procedural Adaptations

As the blockchain hosted global transactions, investigators met jurisdictional challenges when trying to acquire records of the exchanges or to freeze the assets. This has raised questions regarding the legal and procedural dimension of the cryptocurrency forensics that had to adapt to the new environment.

Apart from jurisdiction issue, the practitioners have encountered the problem of legal admissibility of evidence. Courts of law have gradually began to accept blockchain data as such, as long as it was obtained and interpreted with the help of transparent and sound forensic methods and procedures and also of reproducible analysis (Interpol, 2022).

Since cryptocurrency crimes were spreading through exchanging in many countries altogether, the need to deal with them led to the collaboration of international agencies. Thus, digital forensics enlarged their scope beyond the individual investigation to encompass mutual legal assistance and cooperation internationally.

Also, the field of digital forensics has been restructured through implementation of new policies and regulations. For instance, the Financial Action Task Force (FATF, 2021) has launched a guide for the providers of Virtual Asset Service on Know-Your-Customer (KYC) and procedures of keeping the records. Also, the EU's Fifth Anti-Money Laundering Directive (EU Directive 2018/843) increased control to transactions of cryptocurrencies.

Implementing jointly KYC and Anti-Money Laundering requirements have resulted in traceable compliance data that investigators had access to through legal request, thus linking pseudonymous addresses with verified identifiable individuals (FATF, 2021).

Yet, the rapid growth of tools and technologies of privacy-enhancing such as privacy-focused currencies, mixers and coin-join protocols challenges practitioners by obscuring transaction trails (Furieux, 2023).

2.4.5 Integration with Broader Digital Investigations

Cryptocurrency forensics is concurring to digital investigations in cases of extortion, fraud, money laundering and ransomware.

For example, in cases of fraud and money-laundering, blockchain data is interpreted and analyzed together with bank records, logs of messages, and open-source intelligence to rebuild a narrative that links technical artefacts to individuals (Furieux, 2023). This has ensured standards were established with regards to the methods and techniques used so that crypto evidence documentation and preservation is secured through established chain-of-custody protocols.

In ransomware notes forensic analysts can identify and track the payment address then the funds flow movements through successive addresses on the blockchain and match whatever findings with malware telemetry (Europol, 2022). So, within the forensic process, traditional investigations based on files from computers and mobile phones blend with blockchain analysis and cryptographic evidence.

2.4.6 The Continuing Evolution

The continuous dynamic in the cryptocurrency ecosystem forces its forensic analysis to evolve as well and adjust accordingly. New forms of digital evidence appear such as decentralized finance systems (DeFi), tokenization mechanisms like non-fungible tokens (NFTs), and cross-chain bridges making a prerequisite that forensic practitioners continuously evolve professionally (Interpol, 2023)

To help with the adjustment, Europol and national cybercrime investigation units have created training and education programs focused on blockchain forensics and seizure protocols. They cooperated with analytic tools providers and exchanges to improve technical competence, especially with regards to tracing and freezing illicit assets, and better understanding of cryptocurrencies' impacts on both economic and social environments. (Europol, 2022)

2.4.7 Summary

The rise of cryptocurrency as intersected the traditional digital forensic based on device-centered practice has changed it to include decentralized and cryptographically-secured ecosystems. So, for every stage in this evolution new requisites of the applied techniques and procedures have been requested. And digital forensic has to adapt and evolve together with

the decentralized and cryptographic financial environment and, at the same time, it has to ensure evidence transparency and integrity.

As a reaction to the changes, digital forensics has improved its frameworks of investigations and evidence obtaining and processing, together with its used analytical tools, by including data from the blockchain and building international collaboration. Still, in spite of these, success is more dependable on the abilities that the investigators possess so as to understand the technology used, interpret information and find patterns and eventually find the proper evidence.

The blockchain technology that used to be seen as a conundrum to control and oversight can now align with justice and help providing solid transparent and immutable evidence.

2.5 Integrating Crypto Forensics and Blockchain Analytics with Traditional Forensic Accounting

Forensic accounting in the traditional form was meant to deal with an environment where conventional currencies operate under the direct control of central banks and transactions flows leave well-defined paper trails in the banking system. With the emergence and growth of cryptocurrencies spread on decentralized networks the financial investigation has changed so as to include this alternative as well. Consequently, nowadays we see investigations in which financial accounting joins forces with digital forensic analysis and blockchain analytics in a hybrid strategy to solve cases in a more accurate and robust way. (Hossain, 2023)

This subchapter studies the joint effort of these two branches of forensics, the opportunities provided by this and the challenges that need to be addressed through continuous transformation.

2.5.1 Conceptual Alignment Between Forensic Accounting and Blockchain Analysis

Forensic accounting has the main objective of identifying, detecting anomalies and understanding financial behavior related to financial transactions recorded on bank or financial statements, or on accounting ledgers. On the other side, the same objective is pursued by the blockchain analysis with the difference that the data used is drilled from different digital chains of transfers and has a different dual nature, transparent yet anonymous. Also, cases in both areas are investigated through tracking transaction flows, recognizing patterns and predictive trends, and finding the network of connected discrete data sources. (Oladejo & Jack, 2020)

For better outcome of the investigation, the database of proofs and evidence that the forensic accounting has built can be enriched by adding additional data obtained from the blockchain transactions, and vice versa, accounting entries and ledgers, any traditional or electronic correspondence and institutional records manage to connect pseudonymous crypto addresses and their transactional flows to individuals or businesses that can be identified in real terms. (Rezaee et al., 2024). In this merge, accounting forensic relate to the environment and the data interpretation, whilst the blockchain offers the structure of events.

2.5.2 Incorporating Blockchain Tracing into Forensic-Accounting Procedures

The incorporation of Blockchain tracing into the forensic accounting approach is set by the finding of digital assets on the devices-object of the investigation. During their inspection, analysts may come across information like wallet files or data, backup phrases or transaction credentials, which can only be examined through Blockchain tracing to recreate the whole history on the chain and through the different nodes, including the sequence of the trades, the correspondence on trading platforms and the application of mixing or layering techniques (Salisu et al., 2023).

In general, tracing spreads across the following steps, whether there is unauthorized asset movement, fraud or ransomware:

1. **Discovery of addresses and assets.** Most often this is due to identifying wallet artifacts on devices, traditional or electronic mail accounts or on financial documents. These artifacts might be: files of its application, bookmarks or URLs (web uniform resource locators), passwords, mnemonics code or seed phrases, transactions history, cookies and images.
2. **On-chain examination.** Investigators examine the moves the suspect made, pinpoint clusters of addresses related among them, identify the patterns and the transactions suspicious of concealment or fraud (Atlam et al.,2023)
3. **Cross referencing with the traditional records.** Internal accounting entries and ledgers, invoices, purchase orders, bank statements or correspondence are compared to blockchain activity of interest (Hossain, 2023)
4. **Attribution.** Whenever authorized exchanges, investigators can contact KYC teams or access their database to put a real name to the individual(s) or organization(s) performing the transaction(s)
5. **Rebuilding mixed fiat vs. crypto behavior.** Once practitioners have both the on-chain and the off-chain traces, they can combine them and re-establish the course and the purpose of financial actions

Thanks to this approach, investigators can manage blockchain data and include it as an important component of the larger system of proofs and evidence. This does exclude the traditional material proofs, it just strengthens the reconstruction by adding information that could, under other conditions, go unnoticed.

2.5.3 Benefits of Combining Both Disciplines

The results obtained in the investigation are more reliable and complete through the joint action of both forensic accounting and blockchain analysis.

First of all, their combination ensures full-spectrum tracing of financial actions as nowadays many schemes most often include subsequent transfers of funds from fiat currency to crypto

and vice versa, and therefore, using just one of these methods would not capture the whole picture. (Zarpala & Casino, 2020)

As for the reliability of the collected evidence, it is strengthened by the structure of the blockchain and its immutable records. As blocks are placed one on top of another it's almost impossible to change any transactions at the bottom. Actually it is generally considered that this would be impossible after 6 mined blocks or confirmations made. So, this unchangeable record in association with any accounting ones make a chain of evidence that is multifaceted and thus difficult to contest.

The use of both disciplines can also help fraud investigations with accurately identify each movement, every part involved, the loss and the purpose of the actions.

At last, this hybrid strategy can result in successful asset freeze, retrieval or repatriated, as long as the monies were exchanged on authorized service providers.

2.5.4 Challenges in Achieving Effective Integration

Although combining these two disciplines brings many benefits as seen before, it also encounters challenges.

One of the challenges met is that the evidence from the blockchain is difficult to be presented in conventional accounting formats. The accounting documentation is based on structured entries and ledgers, while blockchain data follows an unfiltered, technical format. (Putritama et al., 2024) Investigators must adjust and present the latter into the previous format, without losing the content.

Another challenge is due to the fact that the transaction origins and the financial reconstruction are more ambiguous because of obfuscation tools such as mixing services, privacy-focused networks, and cross-chain mechanisms. (Oladejo & Jack, 2020)

At investigator level, the challenge is the skill gap. While the forensic accountant has strong financial skills he might not be so expert in decentralized systems and vice versa, a specialized analyst in Blockchain might not possess or perform the logic the accounting has whenever interpreting the economic essence behind the transactions.

Other limitations refer to the legislative vagueness, as there are not clear guidelines on how the blockchain evidence can be stored, managed, interpreted and presented in front of courts of law. These are interested in the reproducibility and transparency of the proofs and may demand further explanations on why and how investigators used the analytic or statistic tools and techniques.

2.5.5 Emerging Best Practices and Institutional Adaptation

The risk of misinterpreting the technical information and/or financial context is reduced by constructing and using cross-disciplinary teams, both in private and in public sector, teams made of expert accountants, blockchain consultants, cyber and financial crime investigators.

Modern training programs provided by professional associations are more focused on closing the skills gap by incorporating to the forensic accounting modules others on digital asset such as crypto evidence processing, procedures and techniques in analyzing a recovered wallet and seize the funds, and transaction visualization methods. (Rezaee et al., 2024).

Another practice is focused on the accuracy of attribution, given by increased collaboration of different compliance departments like KYC and regulated exchanges that have records related to real identities in concordance with the anti-money –laundering regulations. (Hossain, 2023)

Eventually the practitioners follow strict standards throughout every stage of documentation recording everything in detail to make sure that the blockchain evidence will be in accordance with the accounting principles and will be approved in court.

2.5.6 Summary

The investigative modus operandi has evolved a lot through the combination of conventional forensic accounting and blockchain forensics. Although cryptocurrency has raised the complexity of the investigations, it has also provided solid and transparent records that can help a lot in the financial reconstruction.

By using these in addition to the accounting data, investigators can better understand the financial essence in both environments and track the funds both on traditional channels and on the decentralized network.

Thus, the investigative practice will continue to develop in accordance to the mix of these two areas, strengthen by proper training, unclouded legal frameworks and team work.

2.6 Gaps in the Literature and Conclusion

2.6.1 Gaps in the Literature

Although great progress has been made in forensic accounting research and especially in classic investigative structure, fraud specific to some industries like taxation or healthcare, and of course in Blockchain forensics, there still are some critical gaps.

Firstly, the academic writings and articles remain fragmented as current investigations into traditional fraud schemes don't usually include the ones into new technologies and digital assets. For instance, methodical evaluations of forensic accounting recommend the use of extensive skill sets that include digital forensics or big data, but they don't specify the link between them and domain-specific fraud risks. (Wijerathna & Perera, 2020)

Next, despite the fact that more studies appear on cryptocurrencies, digital assets and blockchain, they are not linking them to the methods and strategies used in forensic accounting, ignoring hybrid fraud schemes in reality. One of these studies is the one of Atlam et al. (2024) which highlights that there are thoroughly documented "legal and regulatory challenges" in blockchain forensics, yet there is a shortage of frameworks combining traditional audit trail with blockchain data.

Following, insufficient empirical work has been made with regards to how different sectors must adapt to avoid the fraud risk because of digital assets. For example in the healthcare industry, researches are mostly focused on subsidies misuse or billing manipulation, leaving on the outside the new fraud schemes enabled by crypto transactions, smart contracts and tokenization. Another paradigm is that in taxation fraud reviews more importance is given to incentives transformation due to new reforms rather than to the changes in opportunity and capability in the fraud polygon.

Another gap refers to the way that public institutions versus private organizations adjust their governance structures and internal control systems to use of digital assets. There is insufficient information on how organizations should adapt their systems of internal controls to the shifting forensic accounting due to inclusion of blockchain, cyber forensics or data analytics. (Haddad et al., 2024)

Furthermore, there are still issues with regards to the methodology implemented. Advanced methods and techniques are seldom associated to the practices of traditional forensic accounting auditing in a reliable way. Techniques like blockchain tracing through network analytics and anomaly or outliers detection through use of machine learning are mostly presented in the digital forensic literature. While machine learning can sustain digital forensics, the way that the findings should be interpreted and admitted as evidence query how practitioners can use these methods in concordance to the existing legal and evidentiary frameworks. Nayerifard et al. (2023)

At last, even now there is insufficient research on the level of competency and education that investigators should have. In general, it is considered that investigations request multi-disciplinary competence (Wijerathna & Perera, 2020), yet there is little practical assessment of how educational and professional programs have adjusted to the emergent digital assets, tax evasion, accounting or healthcare fraud. Although one single specialist couldn't cover all the interested domains, his job in the evolving fraud context would be easier if there would be straightforward specializations and teamwork models.

2.6.2 Conclusion

Overall, this chapter reviewed literature revealing that forensic accounting has certainly evolved from its foundational frameworks, through fraud analyses on different sectors, and to the introduction of the digital assets forensics. Traditional models continue to explain incentives and individual behavior, breakdowns of internal controls and how fraud schemes work. Still, the profession is encountering challenges of a fast changing environment where assets stop being visible to institutions, development of technology ease data manipulation in different sectors, digital tokens are used to create mixed fraud schemes, and governance structures of both public institutions and private organizations lag behind.

Therefore, forensic accounting must create integrative models that link the sector-specific fraud whether private or public to cryptocurrency and blockchain analytics. Development in methodology is also necessary to make digital forensic tools compliant with regulations and audibility requirements. It also needs more research on what modifications are made by organizations to adjust their risk models and internal controls systems in response to cross-sector and cross-jurisdictional asset transfers.

Forensic accounting can remain effective and relevant at a great level only if these gaps are filled in. Future studies should aim to merge methodological diligence, governance adaptation, digital asset tracking and deep understanding of sector specifics. As a result, forensic accountants, public and private institutions, professors and policy makers will be

better equipped to promote clear and accountable systems of (non)financial reporting while protecting integrity and adapting to growing fraud risks.

3. Regulatory Context – TCJA, BBB, Digital Assets and the Evolution of U.S. Tax and Healthcare Laws

3.1 Introduction

For the last years, the regulatory framework of U.S. has experienced a continuous and considerable transformation. In particular, for taxation and health-care sectors it has been influenced by significant laws trying to align to changes in the fiscal policy, corporate environment and public service mandates, all of these in the light of the accelerated technological development.

Two of these laws- the Tax Cuts and Jobs Act (TCJA) of 2017 and the One Big Beautiful Bill Act (BBB) of 2025 represent the correlation between taxing and health-care regulations and other aspects of market dynamics, compliance risks and costs, and government funding.

The TCJA introduced in 2017 aimed at remodeling corporate taxation, especially by reducing tax rates, instating rules to incentivize pass-through entities and by adding new features with regards to the international tax system.

At the same time, the emergence of cryptocurrencies has made obsolete many of the norms on conventional tax-reporting and so new laws were required to address this issue.

On the other hand, this year's BBB includes an extensive reconciliation package focused both on tax-relief measures and changes in the funding and eligibility of healthcare programs.

Together these main legal acts have great impact on organizations' strategic position: on their national and international business operations, taxation, complying and reporting responsibilities, integration in government programs and digital-assets use. The long-lasting impacts of these reforms will depend on future implemented laws, expiry clauses and administrative execution. Managers, tax-processors and policy consultants and analysts, find it difficult to make their way in the changing environment. They have to consider restructuring strategies, compliance with the laws and risk governance, and at the same time they have to be very careful with the administrative requirements of implementation and time frames of provisions.

In the next subchapters, we start with the presentation and detailed examination of TCJA: corporate taxation and financial misreporting, the pass-through deduction under Section 199A and international taxation provisions. Following is the BBB act highlighting its tax relief and healthcare-programme provisions, and the enforcement capacity.

3.2 The Tax Cuts and Jobs Act (TCJA 2017)

3.2.1 Corporate Taxation and Financial Misreporting

Since 1986 the introduction of TCJA in 2017 was meant to bring the most revolutionary changes in the U.S. federal tax framework. Trying to increase the American businesses' competitiveness, encourage investments and profits repatriation, the act decreased the rates and bases of income tax for both corporates (from 35% to 21% for tax years from 2018 and onwards) and individuals, revoked the corporate alternative minimum tax, remodeled the tax rule at international level and offered a deduction for pass-through incomes. (Tax Policy Center).

	Prior Law				Tax Cuts and Jobs Act			
	Taxable Income (\$)				Taxable Income (\$)*			
	Single Filers		Married Couples Filing Jointly		Single Filers		Married Couples Filing Jointly	
	Over	But not over	Over	But not over	Over	But not over	Over	But not over
Medical Expense Deduction	Out-of-pocket medical expenses in excess of 10% of AGI are deductible				Out-of-pocket medical expenses in excess of 7.5 percent of AGI are deductible in 2017 and 2018; Reverts to current law in 2019			
Overall Limit on Itemized Deductions	Itemized deduction phases out starting at AGI of \$266,700 (single), \$320,000 (joint); amounts indexed for inflation				Repealed; Sunsets after 2025			
Top Capital Gains Rate	23.8% (20% plus 3.8% Net Investment Income Tax)				Rate unchanged, but based on income levels rather than brackets. Change in determination of applicable capital gains rate sunsets after 2025			
Inflation index	Consumer Price Index (CPI)				Chain-weighted consumer price index (C-CPI)			
Estate Tax	Top rate of 40% on estates above \$5.6 million; \$11.2 million (couples); Indexed for inflation				Top rate of 40% on estates above \$11.2 million; \$22.4 million (couples); Indexed for inflation; Sunsets after 2025			
ACA Individual Mandate Penalty	Individuals without adequate health insurance coverage must pay a tax penalty or claim a coverage exemption				Penalty set to zero			
Income from Pass-Through Business	Taxed at ordinary income rates (maximum rate of 39.6%)				Provides 20% deduction (maximum rate of 29.6%); Deduction limited above \$157,500 (single), \$315,000 (joint) for personal service income and based on compensation paid or investment property; Sunsets after 2025			
Top Corporate Income Tax Rate	35%				21%			
Corporate Alternative Minimum Tax	Yes				Repealed			
New Investment Purchases	2018: 40% bonus depreciation for qualified property; 2019: 30% bonus depreciation for qualified property; 2020: 20% bonus depreciation for qualified property; Small business (Section 179) expensing up to \$500,000				100% bonus depreciation for qualified property; Phases down from 100% by 20% increments per year starting in 2023; Small business (Section 179) expensing up to \$1,000,000			
Business Interest Deduction	Fully deductible (generally)				Disallowed for net interest in excess of 30% of business income (excluding depreciation after 2022); Exemption for businesses with gross receipts of \$25 million or less			
Taxation of US Multinational Companies	Worldwide system with deferral and foreign tax credit				Modified territorial system with base erosion provisions; Anti-abuse tax on certain payments to foreign corporations; One-time tax on unrepatriated foreign earnings at 8% (15.5% for liquid assets)			

Source: H. R. 1—a Bill to Provide for Reconciliation Pursuant to Titles II and V of the Concurrent Resolution on the Budget for Fiscal Year 2018. A Provisions revert to current law in 2026. Inflation-indexed tax parameters are computed using chain-weighted consumer price index.

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Figure 1/3.2.1 Corporate Tax Rate Changes Introduced by the Tax Cuts and Jobs Act (TCJA) (Source: Gale W., Gelfond H., Krupkin A., Mazur M. & Toder E. (2018): *Effects of the Tax Cuts and Jobs Act: a preliminary analysis*. Retrieved from https://taxpolicycenter.org/sites/default/files/publication/155349/2018.06.08_tcja_summary_paper_final.pdf)

TCJA encouraged investing, and so, until 2026, it provides the possibility of fully depreciation of a new investment in the same year it is achieved (comparing to previous 50% provision), decreasing by 20% from 2023. It also tried to ease the economic burden of small corporates and doubled their investing expenditure ceiling (from \$500,000 to \$1,000,000) and eased some of the accounting rules. (Tax Policy Center).

On the other hand, the interest paid was no longer deductible in full as TCJA put a limit of 30% of the profits on net business interest deduction. Just the same, the net operating losses could be deducted up to 80% of the income before tax, and although carrybacks of 2 years got cancelled, carry forward was extended from 20 years to indefinite. (Tax Policy Center).

Besides lowering the tax rates, the TCJA has brought new measures intended to control profit shifting, misreporting and base erosion, such as: the Base Erosion and Anti-Abuse Tax (BEAT), the Global Intangible Low-Taxed Income (GILTI) tax regime and the Foreign-Derived Intangible Income (FDII) deduction. (Tax Policy Center). These more territorial-based initiatives made the economic environment of multinational companies more complex with constraints on transfer pricing, foreign-affiliate tax credits and cross-border profits.

However, this very environment raised concerns about financial misrepresentations, base erosion and tax-planning intensify. The smaller corporate tax rate may incentivize organizations to take advantage of loopholes between enacted and effective rates, relocate their profits abroad, or manipulating entries and earnings to show lower tax expenses.

Therefore, at corporate level, the TCJA called for stronger management of tax risk, audit readiness, updated system of internal controls and attention to both legislated and effective tax rate.

So, although this act was intending to ease the tax burden of individuals and organizations, it created opportunities for them to manipulate the data and make illicit gains, consequently increasing the significance of governance and disclosure.

While the TCJA's provisions targeted to improve competitiveness and revitalize capital formation, their impacts are called into question. Observational analyses show that the investment response was asymmetrical, with well-financed corporates continuing to obtain the greatest profits. This questions whether the measures favored the shareholders instead of the general business activity.

Simultaneously, corporates struggling to keep or increase earnings targets were stimulated to maximize deductions. This led to bigger gap between financial-reporting incentives and tax-reporting incentives, increasing the risk of misleading financial reporting.

Measures such as BEAT, GILTI, and FDII meant to deter profit shifting were not that successful, as they have eventually added on complexity and only changed the aggressive tax planning strategies rather than eliminating them.

So, TCJA requested more robust internal controls and increased audit attention for successful business administration. The changes in structure that TCJA has brought highlighted the need for corporates to handle tax planning more thoroughly.

3.2.2 Pass-Through Deduction (Section 199A)

An important element of the TCJA was Section 199A of the internal revenue code (IRC), a temporary (until end of 2025) deduction of 20% of the tax paid on so called "qualified

business income” (QBI) by pass-through organizations such as: sole-proprietors, limited liability company (LLC), partnerships or S-corporations. (Keightley M., 2024)

The goal was taxing the income of these entities’ owners at reduced effective marginal tax rates and bring them closer, from taxation view, to C-corporations that now paid 21% from 35%.

Despite that, the deduction can’t be considered as a direct investment subsidy as it doesn’t impose it. It might however stimulate investing as it brings reduced effective tax rates both for new investments and for past ones. Just the same, the deduction doesn’t act subsidy for employment or wage. (Keightley M., 2024)

Although these businesses don’t have to itemize in order to obtain this deduction, it is quite complicated to ascertain its amount and the qualified business income. The QBI is determined by the entity’s income, gains and losses, and deduction for every qualified business owned. It doesn’t incorporate capital gains and dividends, incomes from wages, and also income from interest or annuity outside the entity. If an individual owns more than one pass-through corporate, QBI has to be individually calculated and then combined in an overall QBI. (Keightley M., 2024)

So, this deduction had two limitations according to the core business, eliminated for specified service trades or businesses (SSTB) like law, accounting or medicine, and to wage and capital asset (WCA). For instance, in 2024 the deduction could be claimed by SSTB owner with taxable income less than the upper income limit. Same applies for non-SSTB taxpayers with taxable income more than \$383,900 for joint filers, or \$191,950 for other filers. As for the WCA limitations, all entities except SSTB can apply for the deduction as long as owner’s income is not more than “the greater of 50% of the owner's share of the business's W-2 wages or 25% of those wages plus 2.5% of the owner's share of the business's tangible capital assets placed in service in the past 10 years”. (Keightley M., 2024) Entities’ owners can contrast these to the 20% of their QBI and later they are entitled to deduct the smaller amount. (Tax Policy Center).

As a result, Section 199A made firms’ managers to reconsider critical elements such as the structure of business ownership, the income characterization, the timing of taxable income and the wage and capital asset configuration. (Tax Policy Center).

In the meantime, attention should be paid to the fact that many of the measures regarding the pass-through entities, and especially QBI, will expire beginning with 2025 and till 2028, and this will have a great impact on them, as they will return to the previous tax regime based on individual income tax rates. (Thomson Reuters, 2024). Without any guarantee of its continuous, firms should plan exit strategies or even fallback entity restructuring, reporting and classification.

The deduction was intended to provide equal opportunity for both pass-throughs and C-corporations. Yet, obtaining it depended on wage and capital-asset tests, creating structural distortions in business formation and compensation strategies.

Practice showed that while trying to fit the criteria for the deduction, many corporates have reclassified their incomes, segmented business lines or changed ownership structures. These practices have eroded the intended neutrality of the tax system. Moreover, the temporary character of the deduction limits its long-term incentive value and contributes to persistent fiscal unpredictability.

3.2.3 International Taxation Provisions

The TCJA has also made adjustments of the U.S. international tax regime and financial flows. Before TCJA, multinational companies had to pay taxes for foreign-source profits no matter where they were achieved, of course after considering foreign taxes. These due taxes were accrued yet deferred by subsidiaries until the parent firms could access the income. (Gale et al. 2018)

According to the types of income of the multinationals, there are different taxing measures as presented in the table below:

TABLE 1

Taxation of Foreign-Source Income of US Multinationals



Type	2018–2025	2026 and after
Normal returns (10% of depreciable basis of tangible capital)	No US corporate income tax	No US corporate income tax
GILTI (intangible profits, defined as profits in excess of 10% of tangible capital)	10.5% US tax rate with credit for 80% of foreign income taxes paid, up to a foreign income tax rate of 13.125%	13.125% US tax rate with credit for 80% of foreign income taxes paid, up to a foreign income tax rate of 16.406%
Subpart F income (passive and certain easily shift-able income)	21% US tax rate with credit for 100% of foreign income taxes, up to the US tax rate	21% US tax rate with credit for 100% of foreign income taxes, up to the U.S. tax rate

Table 2/3.2.3 Taxation Provisions of Foreign-Source Income of U.S. Multinationals
(Source: TAX POLICY CENTER, *How does the current US system of international taxation work?* <https://taxpolicycenter.org/briefing-book/how-does-current-us-system-international-taxation-work>)

Thus, yearly normal returns of up to 10%, known as Global Intangible Low Tax Income (GILTI), are free of U.S. corporate income tax. If income is more than 10%, it is taxed at 10.5% (half of the rate for domestic income) until 2025 and 13.125% from 2026, allowing a credit for 80% of the taxes paid for the foreign profits until a tax rate of 13.125% by 2025 and 16.406% after 2026. (Tax Policy Center).

This GILTI reserve-also called qualified business asset investment (QBAI)-guarantees that GILTI aims at incomes of Controlled Foreign Corporations (CFCs) that have very mobile and profitable intangible assets. (Bipartisan Policy Center)

Although multinationals can sum all GILTI incomes and losses from all subsidiaries to use a global taxing basis, but if overall losses or credits aren't used they can't be transferred to past or future financial years. (Bipartisan Policy Center)

On the other hand, IRC subpart F (rules before TCJA of taxing foreign profits on passive income from investments) incomes from passive assets use C-corporate tax rate of 21% and a 100% credit of foreign income taxes, but no more than the US tax rates. (Tax Policy Center).

In sum, GILTI was the most famous TCJA anti-abuse measure meant to discourage profit shifting through transfer pricing by imposing a minimum tax rate on the profits of U.S. based multinationals.

While GILTI has a retributational character against corporates that invest in intangible assets abroad, TCJA has introduced another special tax rate, actually a deduction, on foreign-derived intangible income (FDII) trying to incentivize exporting companies to bring back or keep their intangible assets in the United States ensuring its economy growth by creating jobs and developing new technologies. These companies would increase their income due to reduced taxation, as, instead of paying the 21% corporate tax rate they would have to pay 13.125% in 2025 and 16.406% later on. (Gale et al. 2018)

Besides the taxation on foreign-source income, TCJA focused on inbound investments, creating a new minimum tax of 10.5% called the Base Erosion and Anti-Abuse Tax (BEAT) on the companies' taxable income including all of the otherwise deductible payments (that could have been added back to the tax-base), COGS excepted, made to foreign affiliates. (Gale et al. 2018)

Unlike GILTI or FDII, the BEAT affects headquartered corporates in the U.S. and others located abroad but doing business in the U.S. that have both an average yearly turnover of at least \$500 million for the past three fiscal years and payments to foreign affiliates and subsidiaries of more than 3% of all of their deductions. (Bipartisan Policy Center)

In sum, TCJA aimed to implement a territorial taxing system, rather than worldwide, that would make sure that incomes related to profit shifting from the U.S. to other countries, will be taxed. GILTI and FDII tackle the shifting profits method of transferring assets between related firms such as declaring asset expenses in the United States (that would be deductible here) and its corresponding incomes at a foreign affiliate or subsidiary in a lower-tax country. The BEAT deals with the debt method of profit shifting mostly through interest payments to a foreign affiliate/subsidiary in a lower-tax country made from the U.S. (Bipartisan Policy Center)

GILTI, FDII and BEAT were implemented as protections against erosion, but they have concurrent areas and compliance difficulties which affect disproportionately the multinationals based on intangible assets.

GILTI has been condemned for imposing tax for routine returns from foreign assets and for permitting limited foreign-tax-credit use, creating advantage for foreign entities over U.S. multinationals.

Alike worries are expressed with regards to FDII. Although intended to retain intangible assets domestically, it actually incentivizes structural choices instead of authentic increases in innovation or productivity.

Lastly, although BEAT focused on limiting base erosion through deductible payments, its implementation is different across industries, with more affected corporates in capital-intensive industries because of cross-border cost structures.

All in all, regardless of the fact that TCJA targeted the reduction of profit shifting, its architecture raised additional compliance issues and concerns about how well-aligned it is with the evolution of global taxation.

3.3 The Big Beautiful Bill (BBB 2025)

3.3.1 Tax Relief Provisions

Following TCJA, the One Big Beautiful Bill Act (BBB), ratified as public law 119-21 on July 4 2025. Its goal is to improve and extend many of the provisions set by TCJA with tax-relief character, reenact favorable tax treatment of some business measures, while making more significant changes of international tax rules and trying to disincentivize clean energy business tax. (RSM, 2025)

Some of these provisions refer to income tax, credits and deductions such as adjustments to inflation, special deduction for seniors, and tax exemption on tips, overtime and car loan interest. Measures for businesses consider the transition relief for 2025, “de minimis” rules for 3rd party network transactions, retention credit for employees during Covid period and at last of expiring credits for clean energy vehicles or homes. (IRS)

Most significant areas of concern for the BBB and the associated measures are the following:

- **Business interest:** makes permanent TCJA’s rule on interest deduction limit calculated for corporates based on their EBITDA.
- **Capital expenditures and investments:** permanentizes the TCJA’s 100% bonus depreciation of qualified assets(now including manufacturing buildings) in the same year of their acquisition and use
- **Employer-provided meals:** establishes corporates-exceptions to the TCJA disallowance measure of deductions of some meals expenses provided on premises
- **Moving expenses:** eliminates permanently the income exclusion and deduction
- **Innovation and R&D:** puts into a permanent form the rule regarding the immediate amortization of domestic research costs with the possibility to increase the rates for the costs from 2022 to 2024
- **Pass-through deduction:** also becomes permanent (20 % QBI) and even increases the upper income limits (RSM,2025)

Also, the BBB has made several important changes in the international tax framework.

Some changes concern the three prominent mechanisms of TCJA in international taxation:

- ❖ Global intangible low-taxed income (GILTI) changed into “net CFC (controlled foreign corporation) tested income” (NCTI):

- ◆ The qualified business asset investment (QBAI) is not taken into consideration anymore and so the income and losses of CFCs are considered as domestic shareholder's taxable income and taxed as such
- ◆ Permanently reduces the IRC section 250 GILTI deduction from 50% to 40%, thus increasing the tax rate from 10.5% to 12.6%
- ❖ Foreign-derived intangible income (FDII), termed as "foreign-derived deduction eligible income" (FDDEI)
 - ◆ QBAI elimination as well to penalize multinationals keeping tangible assets abroad and incentivize the domestic companies that holding them in the U.S.
 - ◆ FDII deduction (Section 250) reduced permanently from 37% to 33.34%
- ❖ The base erosion and anti-abuse tax (BEAT) remained similar with small changes
 - ◆ The TCJA rate will remain constant at 10.5%
 - ◆ R&D credits can still be used to calculate the BEAT rate
 - ◆ Keeps the current threshold of 3% for the base erosion

(Janiczek et al., 2025)

Other modifications refer to areas such as:

❖ **Foreign tax credits (FTCs):**

- Section 960 deemed paid credits have grown to 90% from previous 80%
- Limiting foreign-source income to up to 50% of the earnings from selling overseas through foreign branches of inventory produced in the U.S.
- 10% of foreign taxes concerning distributions of previously taxed income (PTEP) obtained from section 951A are exempt from FTC.

❖ **Downward attribution:**

- A foreigner is interdicted to use it in order to obtain U.S. shareholder and/or CFC status
- According to subpart F and GILTI, the CFC of "foreign controlled U.S. shareholders" is taxed based on downward attribution from a common foreign parent.

❖ **Pro rata share inclusion rules:**

- The allocation of pro rata subpart F profit is depending on the real stock ownership from the period that CFC's earnings were made

(RSM, 2025)

The BBB changes and extends important provisions of the previous TCJA, but its goals (reducing tax burdens, controlling fiscal costs, and updating international tax rules) at times conflict.

Institutionalizing bonus depreciation and the 20% QBI deduction enhances incentives for business continuity and investment, while at the same time reduces the tax base in a period when federal healthcare spending is withstanding constant strain.

The minimum-tax framework is improved by the BBB's changes to GILTI and FDII, but issues regarding strategic behavior remain. Losing the QBAI component makes computations easier, but it may punish companies with valid international tangible-asset arrangements.

The BBB doesn't manage to balance competitiveness with revenue protection, it just brings adjustments to this relation.

3.3.2 Healthcare Program Provisions

The BBB's healthcare provisions are considered the most significant changes to healthcare programs since 2010 when the Affordable Care Act (ACA) was enacted. These reforms are mainly intended to reduce expenditures, yet, in a lower degree, to extend funding, with most of the measures focused on the Medicaid program, while others are related to Medicare, ACA itself and Health Savings Accounts (HSA).

King & Spalding (2025) further analyze these changes for each area as follows:

1. Medicaid

❖ Enrollment and Program Integrity

- eligibility-simplification measures intended to make easier the enrollment of individuals in Medicaid, Medicare Savings Programs (MSPs) or Children's Health Insurance Program (CHIP) are paused until 2034. They include: expedited renewals, expanded self-attestation, refined data matching and facilitated collaboration CHIP-Medicaid.
- more severe checks to reduce duplicate enrollment in two states, verification in the Death Master File for both enrollee and provider and remove if found.
- from now on, besides payments made for ineligible individuals and/or overpayments made for eligible individuals, erroneous payments will also be considered if eligibility is not properly documented

❖ Eligibility Tightening

- all Medicaid enrollees' eligibility redeterminations will remain at yearly basis except for the ones for ACA Medicaid expansion adults which will be made twice a year
- the home-equity limit of the applicants will not be more than \$1 million
- excluded from Medicaid coverage from now on of previously eligible populations such as refugees, asylees, DACA recipients, and abused spouses and children.
- Reduces the Federal Medical Assistance Percentage (FMAP) payments for emergency care made to immigrants qualified for Medicaid program for other reasons than their immigration status

❖ Cost Controls

- stops until 2034 the federal enforcement of nursing-home staffing requirements and of rollout of staffing mandates
- shrinks the 3 months retroactive coverage (from the day that the applicant would have been eligible) to 1 month for ACA Medicaid expansion group and to 2 months for all other Medicaid applicants and for CHIP coverage for child health or pregnancy-related services
- blocks "direct spending" Medicaid funds from going to "prohibited entities" providers for one year

- shrinks the time window when non-expansion states may claim the enhanced FMAP incentive
- compels state-directed payments and provider fees so as states wouldn't rely so much on present mechanisms that are shifting costs to the federal government
- new limits on demonstration projects on budget neutrality as a statutory requirement for new or renewed 1115 waivers
- ❖ **Accountability Requirements**
 - introduces a new mandatory requirement (for Medicaid coverage) of an 80-hour monthly "community-engagement" for most adults beneficiaries before enrollment
 - authorize states to impose charges, deductions or cost sharing on adults with a family income higher than the federal poverty level, limited at 5% of it (on a case-by-case basis). Yet no premiums imposition is allowed.
 - allows broader HCBS waivers, with safeguards ensuring costs don't surpass institutional care averages and with reporting obligations to track performance

2. Medicare

- ❖ **Medicare coverage eligibility:**
 - Coverage applies only for individuals that are U.S. citizens/nationals, green card holders, Cuban-Haitian entrants, and people residing under the Compacts of Free Association.
- ❖ **Temporary payment increase under the Medicare Physician Fee Schedule(PFS):**
 - The conversion factor used to determine payment rates to physicians and other clinicians for specific services will no longer be 0 % as for the past 5 years and will take an increment of 2.5% for the year 2026 and only
- ❖ **Exclusion for orphan drugs under the Drug Price Negotiation Program:**
 - will also apply to "orphan drugs," that are used for one or more rare disease(s)/condition(s) and for which the only approved indications are for one or more rare diseases/conditions

3. ACA/Health Tax

- ❖ **ACA premium tax credit eligibility:**
 - changes to Section 71301 from "lawfully present" aliens to "lawful permanent" residents thus leaving out many legal immigrants
 - is eliminated for lawfully present immigrants without Medicaid coverage with less than 5 years from obtaining the "qualified" immigration status and an income below 100% of the federal poverty level.
- ❖ **Verification of eligibility for premium tax credit:**
 - Exchanges are required to verify individuals' eligibility annually before enrolling them in any plan or providing them premium tax credits and/or cost

sharing reductions. They must collect and check information such as: household income, the number of persons in the family, status as an eligible alien, place of residence, status/eligibility for health coverage and any other relevant data.

- Exchanges can use already possessed or directly collect this information and/or they can even turn to reliable third-party sources

❖ **Special enrollment periods(SEP):**

- SEP were actually exceptions, when individuals could have been enrolled apart from the Open Enrollment Period due to qualifying life events such as marriage or birth of a child. This doesn't change.
- What changes is the elimination of pandemic SEP enrollment based on income between 100-150% of the federal poverty level.

❖ **Recapture of excess payment of Advanced Premium Tax Credits(APTCs)**

- The government can recover up to the whole amount of the overpayments, with some exceptions
- Enrolled individuals will have to pay back any excess no matter their income, especially when purposely underestimating it

❖ **Introduction of Rural Health Transformation Program(RHTP)**

4. HAS

- **Telehealth & Other Remote Services provided before the deductible:** the CARES Act (Coronavirus Aid, Relief, and Economic Security Act) gets permanently extended allowing HDHP, a high deductible insurance health plan, to cover telehealth and other remote services before the deductible is met. (KFF 2025)
- **Marketplace Bronze & Catastrophic Plans Treated as High Deductible Health Plans (HDHP):** these plans can still be paired with an HSA (KFF 2025)

After the enactment of the ACA, the BBB has brought the most significant changes in healthcare. While the ACA increased patient coverage through subsidies and directives, the BBB stresses eligibility tightening and cost control. This repositioning reveal growing concerns about the long-term fiscal sustainability of Medicaid and Medicare.

Aiming to build up the integrity of the program and to limit improper payments, some measures were implemented such as: reduced period of retroactive coverage, tighter documentation rules, more restricted immigrant eligibility, and halted simplification initiatives. Yet, these provisions may burden even more the state's operations and actually bring procedural impediments to the lawful beneficiaries, with de facto reducing program growth rather than expanding it. Also, the contested requirement of community-engagement imposed may raise questions on how practical and fair it is.

In general, the BBB is strongly focused on increasing oversight and reducing federal exposure, which in long term will evolve according to the administrative capacity and state-level implementation.

3.4 The Evolving Regulation of Digital Assets

3.4.1 IRS Oversight and Guidance

In the U.S., for capital gains tax reasons, digital assets aren't regarded as currency, but as property that is kept on electronic storage, and just like any other property it could be purchased, owned, transferred, traded or sold. The Internal Revenue Service (IRS) describes them as "any digital representation of value recorded on a cryptographically secured, distributed ledger (blockchain) or similar technology". The IRS also gives examples such as convertible virtual currencies and cryptocurrencies, stablecoins or non-fungible tokens (NFTs) (IRS, <https://www.irs.gov/filing/digital-assets>)

From 2019 the Schedule 1 has introduced on the forms of Federal Income Tax Returns a direct question related to digital assets that everyone has to answer: "At any time during the tax year, did you: (a) receive (as a reward, award or payment for property or services); or (b) sell, exchange, or otherwise dispose of a digital asset (or a financial interest in a digital asset)?" (IRS, <https://www.irs.gov/filing/digital-assets>)

For the past years, the IRS has increased a lot its surveillance of digital-asset transactions. On common ground with the Treasury, final regulations came out to mandate brokers report any exchange/sale transactions made for customers. From January First 2025, the gross proceeds of these transactions must be disclosed on Form 1099-DA.

For sales effected on or after January 1, 2026, brokers will have to provide additional information such as: if the digital asset sold, exchanged, or otherwise disposed of is a covered security or if it is a noncovered security, otherwise they are subject to penalties. They also have to provide the nine alphanumeric characters of the digital token identifier issued by the Digital Token Identifier Foundation (DTIF), the full name of the digital asset for which the amounts are being reported, the number of digital asset units transacted, dates of transactions, cost and gains or losses. (IRS, <https://www.irs.gov/instructions/i1099da>)

Under Notice 2024-56, brokers that make "good faith" efforts to comply with final regulations for sales made during 2025 but don't file on time are not penalized. Also, reporting a customer's cost basis in a digital asset will be required for certain sales occurring from January 1, 2026. This limits to transactions of digital assets that were purchased, held until sale, and then sold by the customer within the same custodial broker. (Ernst & Young, 2024)

Besides the reports forwarded by the brokers, taxpayers must also trace cost basis across their wallets, identify transaction origins, and reconcile differences between their own records and broker-provided.

The new regulation on digital assets has turned the permissive environment into a more focused on reporting according to IRS's standards and classification of digital assets. Even though these rules are imposed for better transparency, they point up how structurally challenging it is to apply conventional tax principles to decentralized transactions.

The 2025 transition relief utterly recognizes that the industry is not fully prepared. The fact that brokers are requested to fill standardized forms such as Form 1099-DA will reveal more easily any differences from taxpayers, raising audit susceptibility.

Rather than establishing customized tax treatment, the IRS perspective indicates the intent to standardize digital-asset reporting, still more changes in legislation need to be made to cover unsolved issues such as hard forks, valuation timing and staking rewarding.

3.4.2 FinCEN and SEC Oversight

The US Treasury Department's Financial Crimes Enforcement Network (FinCEN) is a main player to oversight anti-money-laundering (AML). Its proposed rule issued on October 19, 2023 demands domestic financial organizations and other intermediaries controlled by the Bank Secrecy Act (BSA) to monitor and report transactions involving cryptocurrency mixing services and mixers considered as "primary money-laundering concerns" under the Patriot Act(Section 311).

According to this rule, the Treasury names the virtual currency a "convertible virtual currency," (CVC), CVC mixing as "the facilitation of CVC transactions in a manner that obfuscates the source, destination, or amount involved in one or more transactions, regardless of the type of protocol or service used." and a CVC mixer as "any person, group, service, code, tool or function that facilitates CVC mixing,"

CVC mixing has a wide range of methods: initiating single-use wallets, adding cryptocurrencies from multiple sources, allowing delays or programmatic code within or between transactions to hide connections between participants, trading different types of cryptocurrencies and braking big transactions into multiple smaller.

To restrict this, FinCEN requires financial institutions to inform them within 30 calendar days on detected suspicious transactions and provide certain information such as: CVC amount, type, mixer, wallet addresses involved, transaction hash, date, IP and time stamps, and other data such as: customer's full name, date of birth, address, email, phone number and IRS/foreign tax ID number. (Stier&Hall,DLA Piper,2023)

Beyond the IRS, another federal agency with a significant role in digital-asset regulation is the Securities and Exchange Commission (SEC), committed to regulate, guide and document digital assets. In January 2025, SEC has introduced its new Crypto Task Force (CTF) meant to help the Commission design a regulatory framework and clarify its application to blockchain registration (for both crypto assets and market intermediaries), protocols and disclosure in order to protect investors in the market of cryptocurrencies and from cyber-related threats. (SEC, 2025)

As presented by Carlton Fields (2025), the commission is analyzing many issues on crypto assets and how present laws should be changed in order to avoid confusion or unnecessary burdens. The main goal is to find a clear method that's "predictable, legally precise and economically rational" to evaluate when a crypto asset should be viewed as a security or what changes should be made on blockchain technology functions or liquid staking tokens.

Also, another goal is to separate digital transactions and types of cryptocurrencies that are in the commission's authority from the ones that aren't. To improve costs and ensure viability, the commission is considering feasible revisions to disclosure rules on crypto assets offerings, together with tailored exemptions.

Another issue to address is the introduction of a temporary safe harbor to permit early-stage blockchain network development without activating securities treatment, as well as efforts to establish standards for decentralization and limits for ownership, control and disclosures.

SEC is also taking into consideration the creation of a dedicated registration framework for platforms exchanging securities crypto assets and their interaction with other platforms of non-security crypto assets. The agency also considers what information from the crypto market would ensure an effective monitoring and how best execution tasks should be applied.

There are also custody issues examined about storage, valuation and activities risks of data processed by brokers, investment advisers and funds. More attention is given to lending markets, settlement practices, tokenization, and if a controlled testing environment could help agencies setting policies and industry better understand the effects of new technologies. (Carlton Fields, 2025)

Besides the Crypto Task Force, SEC has the Cyber and Emerging Technologies Unit which makes investigations on fraud, data manipulation or misconducts on crypto markets.

Through these transformations, the commission is trying to apply a more guided regulation rather than an aggressive enforcement paired with litigations.

An important step toward treating anonymizing technologies as fundamental AML risks is FinCEN's proposed regulations on privacy-enhancing and tools like cryptocurrency mixers that obfuscate transaction trails and may be used in cross-border illicit finance.

A shift from enforcement-driven policy to more structured compliance is sustained by the formation of the SEC's Crypto Task Force, yet digital assets cannot be subjected to the current securities theory in a mechanical manner. However, the agency's reach is limited by the lack of legislation reform. The proposed temporary protection for early-stage networks is very significant, as it reflects an effort to reconcile innovation incentives with investor protection.

The combined activities of the IRS, FinCEN, and SEC show a federal strategy that is progressively based on documentation, monitoring, and definitional unambiguity, yet there is still a lack of uniformity among agencies.

3.5 Intersection of Tax Reform, Healthcare Policy, and Crypto Regulation

The intersection of recent tax reforms, changes in healthcare programs, and crypto regulation reveals a regulatory environment with once distinctly regarded policy areas now influencing one another in different concrete ways. The joint impacts of the TCJA, the BBB

and of the increasing control of digital assets show how tax capacity, concerns on public financing, and developing financial technologies interchange. Each of these factors bring their own needs and pressures, but still manage to refurbish the fiscal space disposable for federal spending and determine the expectations on organizations and individuals compliance with the law.

Tax reforms like the TCJA or the BBB have direct effect on fiscal revenues and tools used to fund the healthcare programs such as Medicaid, Medicare or ACA. When regulations impose extension of main deductions and rate reductions like the ones in the BBB, there is an increase in revenue uncertainty putting pressure on the policy makers to reassess the structure of federal health insurance and its rules of eligibility.

In parallel, tightening crypto control and reporting may shift how corresponding taxable revenue is collected and remitted by making things more transparent. For instance, the introduction of the brokers' mandatory 1099-DA reporting provide more realized gains on crypto holdings that tax authorities may redistribute to ease some of the fiscal pressure and to improve healthcare sector. Furthermore, the tax reforms through deductions may encourage more institutions invest in crypto increasing their volume of digital-asset holdings. Federal agencies like the FinCEN and the SEC help achieve the stability of markets through proper and adapting rules and corresponding enforcement and they also affect the public funding and consequently of healthcare programs financing.

At the same time, healthcare organizations have an increased contact with digital assets through payments made to them by their patients, investment portfolios, or partnerships with technology firms. Consequently, they must manage both conventional compliance obligations meant to preserve the integrity of programs like Medicaid, Medicare or ACA, and reporting on digital assets transactions in accordance with the guidance of the IRS. On the other side, crypto-market volatility will influence these organizations' financial stability. The rules of presenting gains and losses in their tax reports are important for achieving the compliance but, at the same time for obtaining accurate financial statements. Any differences between tax reporting and financial reporting raise the audit risk.

The intersection of these 3 frameworks raise attention on interconnected risks:

- ✚ **Crypto tax-evasion** : according to the TCJA and BBB observations, some of the individuals that misrepresent income may hide revenues in crypto
- ✚ **Healthcare fraud**: Improperly obtained subsidies from the ACA program or HSA funds can be concealed through investments in crypto investments, making it difficult to detect them.
- ✚ **Corporate compliance**: Multinationals may escape GILTI/BEAT rules by routing their revenues through blockchain-enabled transfer mechanisms.

Thus, changes in one of these areas had impact on another. Regulators, managers and forensic accountant must therefore include innovating digital methods into traditional frameworks, mixing their opportunities and tax relief with the necessity to ensure responsible funding of public programs and consistent rule application.

It is no coincidence that regulations pertaining to digital assets, healthcare, and taxes are coming together. Federal budgetary restrictions define every policy area and have an impact on the government's capability to finance public projects and programs. Tax-relief initiatives reduce the base; healthcare reforms attempt to control rising costs; digital-asset supervision targets preventing revenue leakage. This interaction creates reactions in circle: tighter crypto reporting may enlarge taxable gains, which may partially offset revenue lost through expanded deductions; healthcare eligibility restrictions reflect fiscal pressure boosted by earlier tax cuts.

For corporates, this interrelation produces layered compliance risks. Particularly multinational corporations must simultaneously manage GILTI exposure, healthcare-program compliance if they participate in federal reimbursement systems, and digital-asset reporting if they manage crypto payments. Deficiency in one area can expose vulnerabilities in another, therefore the regulatory context now requires integrated compliance strategies rather than discreet tax, healthcare, and digital-asset functions.

3.6 Implications for Forensic Accounting

The permanently evolving regulations of tax reforms, healthcare programs and of digital assets find the forensic accountants working in an environment affected by emerging risks.

The increasing complexity of the reporting obligations, paired with new rules on digital assets, aggravate the organizations' efforts to comply with the law. Therefore, forensic accountants must be able to investigate transactions made in both traditional financial and blockchain environment, and verify if tax fillings and financial reports are in compliance with the rules and regulations in vigor.

A first implication for forensic accountants is set by the introduction of the mandatory granular reporting of all brokers through the form 1099-DA which will give the IRS detailed information on their crypto transactions. This will most probably surface differences between taxpayer own records and reported data that will activate investigations. In order to deal with this, forensic accountants must be able to trace and reconcile cost-basis, individual with broker reported data, holding periods, and transaction flows.

A second implication is that practitioners must improve their analytical methods and skills and add others in blockchain analytics such as digital-asset valuation practices, tracing fund flows, blockchain explorers, wallet addresses analysis and linking, machine-learning models and identifying suspicious activity patterns that might relate to money-laundering or tax-evasion.

Besides the investigational role, organizations will turn to forensic accountants to redesign internal preventative controls to face enforcement requirements. Institutions in the healthcare industry, especially the ones holding crypto, are required to ensure programs integrity before and while receiving federal funding, otherwise reimbursements are halted until their conformation. So, in this changing environment, forensic practitioners are not only acting as investigators but also as risk-managers closing the gap between tax laws, regulatory policies and technical blockchain expertise.

Moreover, forensic accountants have an advisory role on the newly mobilized assets because of tax deductions or rate reductions, as they have to make sure these funds won't be misused or diverted elsewhere.

Another implication on the forensic accounting is given by the unique nature of digital-asset markets' volatility. Swift changes in prices of cryptocurrencies have strong impact on the business valuation, gain or loss recognition and on impairment assessments. Forensic accountants must act with extreme care while documenting these effects, especially when financial reporting and tax filing have discrete measurement rules. Any mismatching might be interpreted as intentional misstatement in spite of being the result of faulty processes and not of purported misconduct.

In sum, forensic accountants at present have more responsibilities as a consequence of regulatory modifications related to recent tax reforms, healthcare policy and digital asset control. These modifications need a combination of financial reporting field, technological expertise and proper knowledge on the recently implemented laws. Thus, preserving compliance and diminishing organizational risks in this system requires careful assessment and sustained skill development.

Having these developments in mind, forensic accountants have increased responsibility. As said before, the brokers' Form 1099-DA will reveal previously undetectable disparities, necessitating practitioners to integrate traditional tracing with blockchain-based analytics. Digital asset volatility creates timing discrepancies between financial and tax reporting and makes valuation more difficult.

Stricter eligibility and reporting requirements raise the probability of violation of the program-integrity in the healthcare industry, particularly for entities that hold digital assets or take cryptocurrency payments. Forensic investigation will increasingly involve evaluating if funds released through tax incentives were spent appropriately or misdirected through opaque digital channels.

More generally, these changes in legislation require forensic accountants to proceed not only as investigators but also as advisors in internal-control configuration and risk governance. How effective they will be will depend on their ability to integrate tax expertise, technological literacy and regulatory interpretation. Therefore, in a system where regulatory boundaries change continuously, the profession must constantly change to remain relevant.

4. Methodology – Forensic Accounting and Crypto-Forensics Tools

Introduction

Forensic accounting is a methodical field of study. It is more or less efficient depending on the capacity to choose the right investigative tools, to trace activity and reconstruct transactions, and substantiate evidence admissible in court of law. This chapter aims at describing the methodological approach of forensic accounting across three areas of interest of this thesis: tax fraud, healthcare subsidy abuse/misapplication and crypto financial crime.

4.1 Traditional Forensic Accounting Methods

4.1.1 Financial Ratio and Trend Analysis

Financial analysis used by forensic accountants include three foundational techniques that are ratio analysis, trending and horizontal and vertical analysis. These tools combined can supply investigations with significant data on the financial statements or accounting reports besides their simple analysis. (Silverstone et al., 2012)

As studies show, careful interpretation of financial ratios is not used to obtain direct proofs of accounting fraud, but it can reveal symptoms of fraudulent behavior and areas of high risk.

The study of Schilit and Perler on the biggest accounting scandals in the past decades highlight that managers trying to hide fraud in their businesses most often use cash flow items or income manipulation. (Schilit and Perler, 2010)

Ratio analysis is a powerful instrument in fraud examination and forensic accounting that includes the calculation and comparison of important financial metrics such as liquidity, profitability, efficiency and capital structure ratios to discover anomalies/ patterns that may indicate misrepresentation or manipulation of financial statements like: sudden changes up or down in ratios, inconsistent trends with the historical ones and with the industry standards, cross-verification of related ratios and finally benchmarking to sector averages. (Accounting Exams Mastery)

For best results, ratio analysis must be combined with considerations on the organization, its management and competition, as well as the market and industry it develops its activity. Business ratios under observation must take into consideration the same ratios of previous periods of time, of competitors in the same sector and the benchmark of the industry. (Silverstone et al., 2012)

The most important ratios are shown in the Box 13.2 provided by Crain et al. (AICPA, 2015) below:

Box 13.2

Examples of Common Ratios Used to Detect Financial Statement Misstatement

Name	Formula	Notes ¹
Liquidity Ratios		
Current	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	Downward trend could indicate financial difficulties.
Quick	$\frac{(\text{Cash} + \text{Cash Equivalents} + \text{Net Receivables})}{\text{Current Liabilities}}$	Conservative measure of liquidity; desirable position is a ratio greater than 1:1.
Inventory to Working Capital	$\frac{\text{Inventory}}{(\text{Current Assets} - \text{Current Liabilities})}$	A high ratio can indicate operating problems.
Current Assets Turnover	$\frac{\text{Net Revenues}}{\text{Current Assets}}$	A high ratio indicates an efficient use of working capital and better liquidity.
Inventory to Current Liabilities	$\frac{\text{Inventory}}{\text{Current Liabilities}}$	Extent to which company relies on inventory to meet its current obligations.
Profitability Ratios		
Gross Profit Margin (Percentage)	$\frac{(\text{Net Revenues} - \text{Cost of Goods Sold})}{\text{Net Revenues}}$	Can provide indications of side agreements; issues with inventory counts and pricing.
Operating Profit Percentage	$\frac{\text{Operating Profit}^2}{\text{Net Revenues}}$	Can indicate misstatements of revenue and expenses.
Net Income Before Taxes Percentage	$\frac{(\text{Net Income Before Taxes} + \text{Extraordinary Items})}{\text{Net Revenues}}$	A more consistent measure than Operating Profit Percentage because it removes the effect of taxes.
Net Income After Taxes Percentage	$\frac{\text{Net Income After Taxes}}{\text{Net Revenues}}$	An indication of profitability.
Return on Assets	$\frac{\text{Net Income After Taxes}}{\text{Total Assets}}$	Extent to which assets are used to increase equity.
Return on Equity	$\frac{\text{Net Income After Taxes}}{\text{Stockholder's Equity}^2}$	A measure of how effective stockholders' equity is used to produce income.

Box 13.2

Examples of Common Ratios Used to Detect Financial Statement Misstatement (continued)

Name	Formula	Notes ¹
Efficiency Ratios		
Accounts Receivable Turnover	$\frac{\text{Sales on Credit}}{\text{Average Accounts Receivable}}$	A decreasing ratio can indicate loose credit policies or poor collection efforts.
Accounts Receivable Collection	$\frac{(360 \text{ or } 365)}{\text{Accounts Receivable Turnover}}$	Increasing ratio means a company is taking longer to collect its receivables.
Inventory Percentage	$\frac{\text{Inventory}}{\text{Total Assets}}$	Extent to which inventory, relative to other assets, is relied upon to produce income.
Inventory Turnover	$\frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$	An indication of whether too much or too little inventory is owned.
Days in Inventory	$\frac{(360 \text{ or } 365)}{\text{Inventory Turnover}}$	The lower the number of days, the more efficient the company is at managing its inventory.
Assets Turnover	$\frac{\text{Net Revenues}}{\text{Total Assets}}$	Generally, a higher ratio indicates financial effectiveness.
Property, Plant, and Equipment (Fixed Assets) Percentage	$\frac{\text{Property, Plant, and Equipment}}{\text{Total Assets}}$	Extent to which the company relies on fixed assets to produce income.
Accounts Payable Turnover	$\frac{[(\text{Cost of Goods Sold} - \text{Beginning Inventory}) + \text{Ending Inventory}]}{\text{Average Accounts Payable}}$	Usually, an increasing ratio is better than a decreasing ratio because it means that the company is paying of suppliers at a faster rate.
Accounts Payable Days Outstanding	$\frac{(360 \text{ or } 365)}{\text{Accounts Payable Turnover}}$	Same as the Accounts Payable Turnover ratio, except this ratio is expressed in terms of days.
Net Revenues to Working Capital Turnover	$\frac{\text{Net Revenues}}{\text{Working Capital}}$	A high ratio is better because the company is generating more sales relative to the assets it uses to generate the sales.

Box 13.2 Examples of Common Ratios Used to Detect Financial Statement Misstatement (continued)		
Name	Formula	Notes ¹
Net Fixed Assets to Stockholders' Equity	$\frac{\text{Net Fixed Assets}}{\text{Stockholders' Equity}^2}$	A ratio of more than 1 means that stockholders' equity is using debt to finance a portion of its fixed assets; if less than 1, stockholders' equity is financing not only the fixed assets but also a part of the working capital.
Capital Structure Ratios		
Debt to Equity	$\frac{\text{Total Liabilities}}{\text{Stockholders' Equity}^2}$	A relative measure of debt to stockholders' equity.
Current Debt to Equity	$\frac{\text{Current Liabilities}}{\text{Stockholders' Equity}^2}$	A high ratio is generally not considered desirable since it requires the imminent expenditure of assets to meet the current obligations.
Operating Funds to Current Portion of Noncurrent Debt	$\frac{(\text{Net Income After Taxes} + \text{Noncash Expenses})}{\text{Current Portion of Noncurrent Debt}}$	An indication of the company's ability to meet its current obligations.
Times Interest Earned	$\frac{\text{Net Income Before Taxes}}{\text{Interest}}$	An indication of how well currently-earned income can contribute to the satisfaction of debt service.
Noncurrent Debt to Equity	$\frac{\text{Noncurrent Debt}}{\text{Stockholders' Equity}^2}$	A relative measure of noncurrent debt to stockholders' equity.
Source: Adapted from AICPA FVS Practice Aid 06-3, <i>Analyzing Financial Ratios</i> ¹ Interpretation of these ratios should be made within the context of the industry in which the company for which the analysis is being undertaken operates. ² Operating profit is net income less discontinued operations and extraordinary items. ³ Use average stockholders' equity if equity transactions that are material and unusual have occurred.		

Figure 2/4.1.1 Financial Ratios (Source: Box 13.2 Crain et al. *Essentials of forensic accounting*, American Institute of Certified Public Accountants (AICPA) Historical Collection, 2015)

Trending implies that data for more periods (months, quarters, years) is being used and that the outcomes and balances are compared between periods within main elements such as vendor payments, receivables-by business unit/AR clerk, inventory, costs, sales, revenues or cash flows. It's certain that the most often trending analysis is done the easier it is for the detection of fraud with the month-to-month trending the most efficient tool. (Silverstone et al., 2012)

Although financial ratios and trend analysis are very efficient in fraud detection, they are not precised when fraudster organizations hide their activity behind manipulated data that align with the industry standards. (Adejumo& Ogburie, 2025) Yet, the evidence these methods provide are enough to start and help greatly the forensic investigation.

4.1.2 Red-Flag Testing

Red-flag testing is a proactive method used in forensic accounting that recognizes indicators of potential financial statement misconduct or fraud. While their presence should be further investigated, their absence doesn't exclude fraud existence. Also, the presence of one red flag doesn't automatically mean that fraud is at play, more signs combined have to be taken into consideration.

These red flags usually indicate unusual transactions, differences in financial reports and statements or internal control deficiencies. The Statement on Auditing Standards (SAS) 99 draws attention to inexplicable income growth, round-number or compound transactions, and unforeseen changes in related-party dealings (Sharma & Rani, IJFMR, 2025).

Other indicators are: transactions just below the limits, excessive deduction close to cut-off thresholds, round-dollar billing or duplicate claims for subsidies.

Red flags on possible asset fraud include unexpected reductions in the company's bank deposits, important deviations of reported cash and cash equivalent accounts from confirmations sent by banks, the frequency of rounding-accounts, uncommon growth of expenses of the goods sold or incidence of extraordinary expenses, or unfounded of the financial ratios.(Munteanu et al., MDPI, 2023)

Simultaneously, the red-flag technique goes with the trending and ratios analysis as discrepancies in those areas point out red flags.

In sum, red-flag testing is a helpful method for the forensic accountants allowing them to focus their investigation on significant data for best results.

Below find a categorization and corresponding examples of red flags (Crain et al. AICPA, 2015):

Box 13.1

Common Red Flags and Examples

Red Flags	Examples
Company Characteristics	
Complex organizational structure	Numerous related affiliated companies that appear to serve no useful function
Weak corporate governance structure	Inattentive audit committee; board heavily composed of inside or grey directors
Weak internal control processes	Lack of supervision; inadequate separation of duties, particularly between physical possession of assets and recordkeeping
Unusually complex transactions with third parties	Transactions that appear to be round-trip sales
Frequent change of auditors	Auditor changes that occur more frequently than usual for companies in the industry
History of questionable reporting	Misstatements that have resulted in restatements of financial statements
Highly optimistic operating results broadcast to public	Voluntary management forecasts that contain overly optimistic financial results
Management and Personnel	
Aggressive management style	Strong pressure for quick results without corresponding controls; managers who have domineering personalities
Unusually high management dependence on operating performance	Management whose primary means of support is the company for which it works
Inadequate personnel practices and environment	Poor hiring and training practices
Accounting Anomalies	
Unusual accounting practices	Use of accounting principles or methods that are not commonly accepted by the industry in which the company operates
Higher than usual frequency of financial statement restatements	Regulatory agencies require the company to restate its financial statements more often than commonly required for companies in the industry
Unusual transactions recorded at year-end	Transactions that result in a significant increase in revenues
Misrecorded or unrecorded transactions	Significant transactions that, if recorded properly, would negatively affect income
Operating Anomalies	
Frequent transfers among entity bank accounts	Kiting schemes
Unusual transactions that appear in the records	Transactions that are not consistent with the operations of the entity
Unusual transfers to offshore banks	Transfers to offshore banks that do not appear to have a substantive business purpose
Frequent or unusual related-party transactions	Related-party transactions that do not appear to have a substantive business purpose

Box 13.1 Common Red Flags and Examples (continued)	
Red Flags	Examples
Financial Condition and Operating Environment	
Weak (or weakening) financial condition	Earnings losses; failure to meet market expectations; worsening of debt to equity ratios
Worsening company operations	Abnormal declines in customer demand for company's products or services
Worsening (or bleak) industry environment and conditions	Recession or depression affecting the company's industry; downward trend of demand for company's products and services
Sudden Improvement in Operating Performance	
Improved financial position and results of operations at year-end, especially if not consistent with similar entities in the industry	Sudden increase in net assets or net income, or both
Unusual events	Inordinate need to borrow money, impending divorce, or sale of business

Figure 3/4.1.2 Red-Flags (Source: Box 13.1 Crain et al. *Essentials of forensic accounting*, American Institute of Certified Public Accountants (AICPA) Historical Collection, 2015)

4.1.3 Document Examination and Audit Trail Reconstruction

Document examination and audit trail reconstruction are significant practices used in forensic accounting to uncover financial fraud.

Document examination sets the foundation of fraud investigation and it involves analyzing large source documents (up to 500 items) generated by the financial crime cases such as: invoices, receipts, transfers, checks, contracts or statements. The goal is to assess their value as proofs of foul play that depends on strict preservation, internal consistency and authenticity, and traceability. (Silverstone et al.,2012)

The suitable handling of documentation starts with its collection. Forensic accountants must ensure that the seized evidence will be wrapped up with care, secured and unaltered otherwise it might not be acceptable in court of law.

When stored and during processing, the evidence must not be tampered. There are three legally acceptable methods to ensure this: by making photocopies (although the best evidence rule demands the “best evidence” meaning the original), by secured packaging with identifying data on the outside of the package or by using self-stick labels on the items for their recognition. (Silverstone et al.,2012)

Besides proper storage and preservation, practitioners analyze the collected documents in the context of the business processes, looking for internal consistency and connection across transactions.

Every business transaction suffers different processes recorded in records, journals, and ledgers along the accounting cycles, and leaves a trail that can be traced, called audit trail. It

is formed collectively by items of evidence such as: sales invoices, bank deposits and/or cash receipts in association with other proofs that connect and support them and actions like approvals. These approvals together with the transaction details and amounts are very important in the investigation, as they are self-authenticating and can terminate the audit if substantial evidence provided.(Singleton T.& Singleton A., 2010)

The audit trail help investigators create a timeline and understand if the legally collected information was later on transported as required, was altered or even disappeared. In cases of tax-evasion practitioners reconcile organization's declared income with invoices or bank records. In healthcare investigators compare patient eligibility information with billing claims.

The audit trail reconstruction in accordance with this timeline confirm the match between real and documented business activity and identifies anomalies, breaks or missing connections triggering fraud scheme alert.

Therefore, document examination and audit trail reconstruction come together to make sure that investigation conclusion is based on reliable, relevant, efficient and admissible evidence that supports the case and can lead to internal disciplinary measures or withstand cross-examination in court.

4.1.4 Litigation Support and Expert Testimony

Every lawyer tries to avoid going on trial and settle the case, but when this is not possible, going to court would require the assistance of forensic accountants for litigation support and as expert testimony explaining compounded financial data into comprehensible information that aligns with professional standards and can withstand cross-examination.

These standards are defined under the Federal Rules of Evidence adopted by the U.S. Congress in 1975 such as:

- Rule 702-testimony by experts:" If the court determines that recognized scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise".
- Rule 703-bases of opinion testimony by experts
- Rule 704-opinion on ultimate issue
- Rule 705-disclosure of facts or data underlying expert opinion
- Rule 706-court-appointed expert and
- Rule 707-use of learned treatises for impeachment

Of these rules, Rule 702 was modified in 2000 to include Daubert challenges by making trial judges responsible for accepting relevant and reliable data and thus ruling out testimonies coming from unqualified and/or unreliable expert witnesses. Furthermore, courts must evaluate if admissible experts used proper, rigorous, transparent and replicable analytical methods, otherwise exclude their testimony as well.

To exert his role, besides conducting the investigation, the expert is required different actions on his part such as: case assessment, documentation identification, appraisal of the scope of work, preparation of report and financial analysis, negotiations with the counterparty, assistance to lawyer and expert evidence in the court room. (Singleton T & Singleton A., 2010)

In order to succeed this, besides the technical competence, the expert has to testify in a clear, neutral, coherently communicative and professional manner. Financial crime cases are greatly conditioned by documentary evidence that experts have to explain how it was collected, stored and analyzed and lead to his assumptions and conclusions. For this, he must carefully prepare before the trial, review the documents and his conclusion based on them, and finally rehearse for the examination-“putting the evidence before the jury”. (Silverstone et al., 2012)

In conclusion, litigation support and expert testimony set forensic accounting discipline go beyond its investigative function and provide a communicative one linking financial analysis with the judicial system.

4.2 Data Analytics and Technology in Forensic Accounting

Fighting against financial fraud, investigators have to expand their traditional approach in order to meet large volumes of data, compounded chains of financial transactions and evolving fraud schemes. For this, they are called to master critical new skills, tools and techniques related to advanced data analytics and enabling digital technologies.

Thus now forensic accountants can use data analytics tools and reveal fraud employing methods of diagnostic, predictive, and prescriptive nature rather than be satisfied with mere descriptive analysis of transaction logs. A recent study shows that comparing to cases in which only traditional audit methods were employed, financial misconduct could be identified earlier when using analytics methods such as: anomaly detection, machine-learning models and network-analysis techniques. (Gkegkas, Kydros & Pazarskis, 2025)

Furthermore, another research highlights that the use of big-data in forensic accounting provides better insight into the organizational risk and produces more proactive fraud identification. Anti-fraud strategies are being refurbished due to big data affordances that are its volume, velocity and variety. (Gabielli et al., 2024)

Besides data analytics, there is a broad variety of technologies used in forensic accounting: data mining, real-time monitoring, automated audit-trail systems, artificial intelligence (AI) and computer-assisted audit tools (CAATs).

Another study stresses that conventional forensic accounting can fight more efficiently digital skimming and other cyber-enabled frauds by using enhanced technology-based internal-control systems such as digital logs, encryption and AI detection. (Idris et al., 2025)

Using data analytics and technology in forensic accounting is very beneficial. For instance, it makes easier the handling of large sets of data and reveals trends and patterns, as well as anomalies or outliers that could otherwise escape traditional processing. Data mining allows

identifying connections between different entities and clusters of unexpected transactions. (Kapo et al., 2024)

A second benefit is the increase of the fraud-detection speed due to real-time monitoring, allowing a better loss management. Also, automated tasks and/or predictive models reduce broad audits to focused areas giving investigators more time for information interpretation, complex judgement and strategy.

In parallel with the benefits there are also challenges and limitations such as high costs of investments in technology and analogue staff training, data quality problems or issues on how the AI systems are interpreted and algorithmic bias, and concerns on data privacy. There are still limitations on operational application, models updating and organizational readiness. (Gkegkas, Kydros & Pazarskis, 2025)

Although traditional methods continue to be very valuable, the complexity and scale of current fraud risk determine that forensic accounting practice transform and adapt to the integration of analytics and technology, and sustain the role of the practitioner who becomes more proactive rather than retroactive. The advantages of higher detection speed, broader scope and predictive character oppose the disadvantages regarding model integrity, data management and organizational capacity.

4.3 Blockchain Analysis and Cryptocurrency Forensics

Blockchain analysis comes to complement traditional forensic accounting and provide transparent but at the same time technically complex records of transactions. Their immutable character ensure reliable histories of value exchanges that help investigators detect financial misbehavior or fraud, identify the involved users and track their activity and cash flows. In the following subunits important crypto-elements used in forensic practice are presented: wallet identification and clustering, transaction tracing, exchange and off-ramp analysis, and the stablecoins and decentralized finance (DeFi).

4.3.1 Wallet Identification and Clustering

Wallet identification is the basis of blockchain forensics. During investigating the recovered or seized devices, forensic accountants examine the application artefacts (files) on them, contextual clues and user habits, in order to isolate platform credentials, on-chain addresses or exchange-linked accounts that can later infer suspect's ownership and activity.

Recovered data on mnemonic seed phrases, concealed credentials or wallet metadata point out the subject of interest's ownership of the address. Thus, device-level analysis is very important and often more reliably than on-chain patterns alone.

As practice has shown that individual user seldom controls more than one wallet, the grouping and association of these multiple addresses with him is determined through use of clustering method. This method is based on heuristics or behavioral patterns such as address reuse, patterned activity in closely resembling time periods or multi-input transactions (Lischke & Fabian, 2016).

These heuristics alone can't prove wallet property and they have to be accompanied by other corroborated evidence: files, traces of browser use or email correspondence.

Also, these blockchain heuristics are combined with other methods like graph-based clustering and unsupervised learning that focus on transactions rather than addresses. They recognize similarities in behavior at a broader scale by grouping transactions into clusters, with most of transactions belonging to the common user type, while others refer to transactions of online exchanges and lending services, mining activities and a smaller group suspect of fraud. (Vlahavas, Karasavvas & Vakali, 2023)

It is recommended to act with care while applying these techniques since misclassification of clusters may appear especially due to use of privacy-enhancing tools.

4.3.2 Transaction Tracing

Transaction tracing reconstructs the path followed by stolen or suspicious crypto assets between main or intermediary addresses across the blockchain. To achieve this, analysts use graph models that depict blockchain as a network of nodes (users, wallet addresses or miners) and edges (transactions/transfers) that are intertwined.

These models support recreating the linear or branching path, with attention to layering behavior like fast transfers to many addresses, peel-chains recurrent movements (fund-splitting into many wallets) or interaction with intermediary services/mixers. (Wu et al., 2022).

This method is applied to examine network configuration and rank its paths, parallel tracking of multiple transaction paths due to peel chains, to identify loops and vulnerabilities, and to track fund flows for patterns detection (of unexpected movement).

Machine learning algorithms can process large volumes of data and support classification of anomalous patterns. The most common in accounting fraud detection are discriminant analysis and logistic regression used as benchmark framework especially in small samples, decision trees and random forests for managing mixed data and for non-linear patterns, neural networks for large sets of data, support vector machines for indicators of complex financial datasets and anomaly-detection methods by isolating irregular volumes, or unexpected data interactions or behavior changes (Jofre & Gerlach, 2006)

So, transaction tracing is more than just tracking numerical flows, it aims at reconstructing clear value paths and detecting accounting fraud by analyzing how funds are transacted, swapped, split, or laundered. It will be successful when investigators remain judgmental, base their conclusions on strong documents and check behavioral explanations. It is significant to identify wallet addresses, recognize laundering techniques and identify off-ramps where intervention is possible and so will help in investigations and/or in further court trials.

4.3.3 Exchange and Off-Ramp Analysis

Exchanges are bridging pseudonymous blockchain activity with real-world identity. Of these, regulated exchanges use forensic tools such as KYC implementation and anti-money laundering controls to comply with regulations. This way, they are sources of critical data on wallet deposit/withdrawal addresses that can later on be requested through legal processes for on-going investigations.

Wallet screening and transaction monitoring help obstruct access of illicit funds to regulated exchanges by detecting users of high risk, by reporting suspicious actions, by monitoring for micro withdrawals and structuring transactions-intentional division of large payments into smaller ones just below reporting thresholds and flagging them. (Chainalysis, 2022)

While regulated exchanges follow legal procedures (KYC/AML rules) and respond immediately to forensic accountants' requests of tracing transactions, freezing assets or subpoenas, other exchanges such as offshore or unregulated are delaying or even obstructing investigations. (SomaXBT, n.d.)

Off-ramping analysis is centered on the conversion of stolen and later obfuscated crypto assets into fiat currency or stable coins. This outcome is less achieved on centralized exchanges (CEX) because of compliance controls and the process generally develops onto decentralized platforms, peer-to-peer (P2P) platforms or over-the-counter (OTC) brokers with minimal oversight. These entities allow high liquidity, don't demand verified identities, provide access through burner identities- purchased KYC' id accounts, and their transactions are seldom made off-platform with restricted digital footprints.

In sum, exchange and off-ramp analysis are critical as they link the individual on-chain behavior with real-world identification and accountability. (SomaXBT, n.d.)

4.3.4 Stablecoins and DeFi

Stablecoins and decentralized finance (DeFi) make blockchain forensics more powerful and sophisticated.

Stablecoins are instruments that preserve value and allow transfers to be made very fast with reduced exposure to price fluctuations. Because of that, although their use was for legitimate purposes, they have facilitated in parallel laundering and off-ramping, with fraudsters swapping volatile illicit tokens for stablecoins or liquid blue-chip tokens. (SomaXBT, n.d.)

On the other hand, decentralized finance (DeFi) ensure peer-to-peer financial transactions without traditional intermediaries (banks). This financial system uses smart contracts to automate operations and gives individuals control of their assets allowing to lend, borrow or trade them through the DeFi application. Yet, although DeFi increased transparency in its protocols, their complexity makes tracing harder as there's no clarified counterparty identification, so it has also facilitated illegal activity. For instance, DeFi support flash loans-the ability to borrow big amounts without collateral in one transaction, and when these are attacked, smart contract behavior is manipulated, funds are being drained, price manipulation or liquidity depletion misbalance market and users lose their trust in protocols.

In this context, analysis is efficient if both users' financial behavior and technical mechanisms are well understood.

4.4 Integration of Traditional and Crypto-Forensic Methods

Nowadays, financial investigations need to integrate methods and techniques from both traditional forensic accounting and crypto forensic.

Forensic accounting in its traditional form is centered on recognizing fraudulent entries, verifying receipts and invoices, reconciling general and other ledgers, and interpreting individual and/or organizational behavior.

On the other hand, crypto forensics offer clear view of crypto-assets addresses and flows, and the possibility of transaction tracing across the blockchain.

Integrating both crypto and traditional forensic methods in the audit can help investigators use the KYC data to identify wallet addresses that they can cluster and connect to off-chain accounting documentation and records such as electronic correspondence, bank statements or transactions' logs that can finally ensure attribution-user identification in real world. ((Atlam, Ekuri, Azad, & Lallie, 2024).

This combination empower investigators sustain their audit simultaneously on both environments and in both directions as fraudsters try to use any mean to convert their illegal funds from fiat to cryptocurrency and the other way around.

For this to work out, digital experts, forensic accountants and KYC teams must be trained and cooperate to achieve a high level of intelligence exchange.

4.5 Standards and Evidentiary Considerations

The scientific conclusions of both traditional and crypto forensic investigations must respect regulated evidentiary standards. In both environments investigators have to carefully collect data, document, interpret and later on bring it in legal or regulatory contexts before courts of law or policy makers. These require that the evidence and its analysis are consistent and transparent, used methods are scientifically valid and trustworthy, the process is replicable and in the end the expert is able to clearly present it and its results.

So, the preservation of the chain of custody is a critical principle, making proper and constant documentation and tracking of physical evidence at any point a must. As already known, documentation in traditional forensic accounting, based on entries, logs and reports, has been regulated throughout the years with generally set policies, standards, protocols and principles. As for crypto forensic, it is just as important to secure the integrity, validity and verifiability of evidence as it passes throughout distinct stages (collection, transfer or storage) and hierarchical levels in order to ensure its admissibility. (Patil et al., 2024) The difference is that, while conventional evidence can be damaged or altered partially/totally, cryptographic hashes, timestamps and consensus mechanisms are making blockchain records immutable and tamper-proofed after validation. (Lawcenta Team, 2024). Despite

this advantage, there are challenges in interpreting and presenting the digital findings before courts due to the technical nature of the blockchain systems.

Besides evidence presentation, courts require investigators explain the reasoning behind their assumptions and conclusions. This analytical transparency is achieved in traditional forensic accounting through reconciling financial reports with bank records and identifying discrepancies between them that are further linked to individuals, transactions or documents. (Smith, Heitger & Crumbley, 2019) On the other hand, for blockchain forensic analysis investigators use more complex technical methods that must ensure data accuracy and integrity: visualization of transaction graph interpretation, clustering methods and attribution logic. Considering that numerous techniques used in crypto analysis are based on probability models, crypto investigators must be careful when inferring otherwise their conclusions can become unreliable or overstated.

The used methods are required by the courts of law to be agreed upon by the professional communities. In traditional forensic accounting, among many there are three established professional groups auditing for fraud: “the American Institute of Certified Public Accountants (AICPA), the Information Systems Audit and Control Association (ISACA), and the Institute of Internal Auditors (IIA)”. These groups provide guidance on how accounting principles and standards must be ensured while using methods such as document verification, ratio analysis and red-flag testing, transaction tracing and reconstruction. (Singleton et al., 2006) As crypto forensics is still developing the accepted methodology, the professional communities are mostly firms such as: Chainalysis, Elliptic, TRM Labs, Blockchain Intelligence Group (BIG), Coinfirm and others.

Furthermore, the applied methods are depending on the used tools. In traditional forensic accounting automated and mostly data analytics tools have great impact on the outcome of the investigation. Conversely, in crypto forensics the utilized tools are still evolving and quite opaque raising questions on their accuracy.

Besides the accuracy, accessibility and comprehension of the presented evidence are important aspects. Traditional practitioners are sustained by exhibitory evidence, explanatory text and financial statements and reports. The findings although they could be correct, if they are not understood by the courts they can be dismissed. This goes to a higher level when talking about digital evidence. Investigators must translate it and make it clearer and simpler for the courts environment and strongly consider things like privacy enhancing technologies, data ownership, smart-contract logic and access control. (Lawcenta Team, 2024)

Also, courts of law require that the presented evidence is relevant, directly supporting the investigation, and reliable, that is justified and consistent. While these requirements are met by the traditional forensic accountants through thorough document verification, reconciliations and logical thinking, it might be asked of the crypto forensic practitioners to corroborate their digital evidence with traditional off-chain documentation.

In conclusion, in forensic investigations the standards request that evidence is clear, reproducible, relevant and reliable. While traditional forensic accounting has structured strong framework for achieving these standards, crypto forensics bring new technologies

and forms of evidence that often must be backed by conventional methods and off-line proofs.

4.6 Strengths and Limitations of the Methodology

There are several strengths and limitations of the combined methodology of traditional forensic accounting and crypto forensics.

On first thought, the immutable and timestamped, anonymous yet publicly auditable and decentralized character of the blockchain data makes the techniques used in traditional forensic accounting ineffective for processing digital evidence and tracking illegal activities. On the other hand, these exact features ensure real-time transaction verification, auditing, tracing, reconstruction and linking to other illicit addresses or activities, and evidence credibility and reliability before legislators and courts of law. (Atlam et al., 2024).

Another strength is that in digital and much more in the crypto environment the methodology is able to scale and have a comprehensive coverage. Using traditional accounting analysis, data analytics, statistical and inferential methods, and clusters and heuristics in blockchain analysis, investigators can process large volumes of data and detect fraud. Yet, with the exponential development of crypto, this data along with the required computational power and storage size grow correspondingly, hence it's challenging the capacity to process and analyze it.

Also, during the examination phase, the investigators can cross-check the findings and reconcile traditional accounting reports with blockchain data. The downside of this is that on-chain attribution often depends on external data that is often difficult to obtain, as different jurisdictions may have distinct or even opposing laws and regulations on digital evidence and crypto crimes. Although there are international Mutual Legal Assistance Treaties (MLATs), obtaining important information for the investigation (KYC data, device artifacts) or seizing assets is not guaranteed. (Digital Finance News, 2025).

Furthermore, traditional forensic accounting has well set frameworks, principles and standards, with many organizations providing proper training and guiding in audit and fraud detection. On the other hand, specialized expertise is required on blockchain because of its high technical complexity and this has to consider the permanently evolving at high rate environment of cryptocurrency.

Another significant element in both environments is the use of privacy-enhancing tools. In traditional forensic accounting they are used to impede manipulation or uncontrolled exposure of sensitive financial data while still providing investigators controlled entry, yet often delayed by the obligation of using formal channels and obtaining formal permission. Conversely, in crypto forensics attribution and ownership trails can be masked through use of privacy-enhancing tools such as: stealth address, zero-knowledge proof (ZKP), mixers or privacy coins limiting the effectiveness of clustering analysis and behavioral heuristics. (Wang et al., 2022)

In addition, in the former settings, these tools are dictated by compliance requirements and corporate governance norms, while in the latter environment they are stemming from the

blockchain's architecture itself and are meant to purposely prevent transaction traceability and address linkability.

5. Impacts of TCJA and BBB on Forensic Accounting Practice

5.1 Impacts of the Tax Cuts and Jobs Act (2017)

5.1.1 Corporate Fraud Incentives

The voted changes in the TCJA (on depreciation rules, net operating losses and deductions), meant to restructure the taxation of individuals and businesses in order to promote economic growth, reinforce domestic investments, simplify compliance and decrease poverty. The most significant measure was the impressive reduction of the corporate income tax rate from a progressive 35% to a fixed rate of 21% for all. This change targeted the stimulation of U.S. investments and competitiveness at the global level. (The White House, 2025)

This smaller tax rate has reduced the tax burden of the corporates that felt no longer the need to report undersized incomes or reallocate them illegally to pay less taxes. Yet, this reduction has changed the corporate reporting environment with new manipulation and fraud incentives that must be considered carefully by forensic accountants.

So, rather than tax evasion, some corporates, trying to boost their performance bonuses and keep their investors' interest, manipulated the management-defined performance measures that are not directly tied to tax reporting. Furthermore, once reduced, the tax pressure influenced greatly the tax evasion schemes relative to other forms of financial misrepresentation and decreased the level of the illegal pay-off for taking the analogue risk. So there is a shift from tax-based schemes to financial report-centric schemes.

To tackle this, forensic accountants must rethink how to assess risk and besides the previous models based on tax evasion, they should consider new ones evolving around management pressure and incentives to make off-balance-sheet transactions and/or misreport operational performance and profitability indicators such as: efficiency metrics (A/R and inventory turnover), profitability metrics (gross/net earnings margins managed aggressively) and liquidity ratios (current/quick ratio).

In the report of the effects of TCJA attention is called to the fact that the changes in corporate taxation incentivize in short term increasing GDP while on long term, as the economy approaches full employment, they have fading impact, with modest growth of 0.3% to 0.7% . This is because besides a numb domestic saving, TCJA decreases public saving and most of the additional investments are funded by capital sources from abroad, with CBO forecasting that by 2028 71% of the additional income will be determined by foreign investors. (Gale et al., 2018)

These changes in the corporate context are very important for forensic accounting because short-term boosted financial performance can put more pressure on the managers to consolidate early wins. The problem appears when these early increases based on tax relief plummet, that's when companies that promised overachievements or that developed too aggressively may turn to different strategies trying to conceal the situation. So, it may be that instead of eliminating misconduct incentives, the TCJA may just transfer them in the future.

When it comes to the transformation of international tax code, the tax-exemption that the TCJA offers to dividends that domestic firms get from at least 10% owned companies abroad. Thus appeared incentives of the former corporates to reposition their capital, assets, investments and reported profits and transfer them in other countries with more favorable tax policies and bring deductions into the U.S. So the TCJA has tried to deal with these incentives through different provisions such as the 10.5% minimum tax of Global Intangible Low-Taxed Income (GILTI), a deduction for foreign-derived intangible income (FDII) and a new base erosion and anti-abuse tax (BEAT).

The downside of these changes was that they made more complex and challenging the compliance context of the U.S. multinationals, thus enhancing the risk of aggressive reporting on the fringes, especially of qualified business asset investment (QBAI) calculations or intangible income allocations based on managers' judgement. Comparing to the abolished repatriation tax, this compliance pressure is burdening more the companies investing in intangible assets, which are motivated to misclassify their assets, to hide cross-border income flows or to misrepresent the tested income of a controlled foreign corporation (CFC) used to calculate the new tax on Global Intangible Low-Taxed Income (the "GILTI tax"). (Dharmapala, 2023)

In short, the TCJA-reduced corporate tax didn't manage to eradicate fraud risk in general but diminished classical incentives and schemes for tax-evasion and opened new possibilities for incomes smoothing, category-based manipulation, and transfer-pricing distortions.

5.1.2 Pass-Through Deduction (Section 199A)

Section 199A allowed individuals, estates and trusts owners of pass-through businesses (subchapter S corporations, sole proprietorships, partnerships and limited liability company (LLC)) to obtain a deduction of up to 20% of their qualified business income (QBI) from ordinary income that will be taxed. Contrary to two-tiered taxed corporate profits- as an entity and as owner or shareholder for profits distributed as dividends or capital gains- taxation is applied only at owner level for pass-through entities. (CRS Report R46402, 2020)

This provision has to be taken into consideration in combination with other reductions to the individual income tax base as well as limits changes of inflation indexing and itemized deductions. It has actually reduced a great deal (by 25%) the effective tax rate (ETR- typically lower than the statutory rate) for the pass-through businesses from the before TCJA highest statutory rate of 37% to 29.6%. (CRS Report R46650, 2021).

The eligibility for this deduction is depending on the pass-through entities' nature, adjusted gross income (AGI) /qualified business income (QBI), the corresponding owner's W-2

wages for his share of the entity and last 10 years' summed costs of the purchased and used for business qualified assets. (CRS Report R46402, 2020)

Thus, these determinants are important for forensic accounting and it must consider them, this provision and its effects.

First and foremost, the compounded calculation of QBI and its' components (income, deduction, gain and loss) has been exploited through misrepresentation, misclassification and aggressive tax reporting: overstating of QBI, misrepresenting of the net interest that is not deductible without limits anymore, misclassification as QBI of incomes that don't actually qualify, trying to take advantage of the wage and property-based thresholds and obtain a higher deducted amount through their adjustment.

Also, because of the QBI exclusions, deduction-disqualified businesses offering specified personal services (legal and consulting, medical practices and professional athletes) may try to reconfigure their operations and adopt the structure of a pass-through entity. (TAX POLICY CENTER, 2018)

For instance, in the concluding regulations (TD 9847), the IRS mentioned that there are 2 cases in which facilities offering medical services are eligible for deduction for income-producing activities that weren't considered health care services. One instance was of elder care facilities whose income came only from the living facilities provided to their senior citizens, while medical services were supplied by contracted outside organizations. The second case was of a surgery center charging patients having surgical procedures just for facility costs while no health care professionals were hired. (CRS Report R46402, 2020)

Furthermore, multinationals with a structure of a pass-through or mixed entity may try to reclassify cross-border flows and make some incomes appear as domestic QBI. So, if they can benefit from the geographic classification, they may manipulate their residency, asset or operational location. (Dharmapala, 2023)

Another effect of the Section 199A is the increased complexity of the compliance. As said before, it is quite difficult to calculate AGI or QBI, to estimate the relation between W-2 wages and the owned property or even evaluate the consequences of this deduction's temporary nature (up to 2025). This can easily lead to opportunities for misreporting and misclassification, and investigators must pay attention to abrupt adoption of pass-through structure, decrease of W-2 wages or adjustments of the past 10 years assets.

With regards to the temporality of the deduction, it was supposed to expire after 2025 but the new BBB signed in the same year has kept Section 199A and even made the deduction permanent. The thing is that by then, taxpayers thought that it will be temporary, and that put pressure on them and increased the risk of fraud. Thus, they may push income recognition into the qualifying years, overstate their current profitability or try to conceal the declining performance.

In sum, Section 199A has changed the fraud risk context and besides traditional tax evasion added new elements such as: structural, income streaming or classification-based manipulation further intensified by the perceived temporary nature of the deduction.

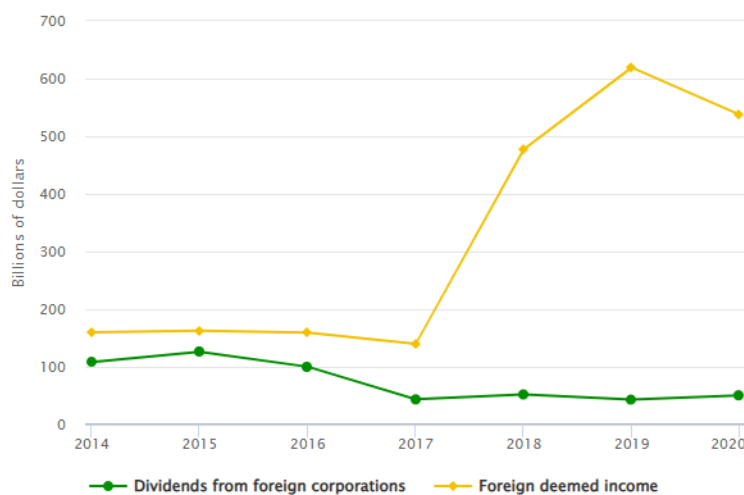
5.1.3 International Tax Provisions

Besides tax-code changes for domestic corporates, the TCJA (through GILTI, FDII, and BEAT) has also modified it at international level repositioning the U.S. worldwide tax system into a more territorial, compelling multinationals proceed less to profit shifting, deferrals and corporate inversions. (The White House, 2025)

Yet, studies show that instead of unburdening firms and influencing their cross-border behavior through the substitution of pre-TCJA repatriation tax with the one-time transition tax (GILTI), this switch has replaced previous deferrals with instantaneous minimum taxation, making the worldwide regime act under the mask of a territorial one. (Dharmapala, 2023)

Under the TCJA, different treatment is applied to repatriated foreign profits and to foreign-derived income. Unlike prior period, most repatriated foreign profits as dividends to the U.S. parent from its affiliates aren't taxed anymore (Participation exemption system). Also, Section 965 applies a one-time tax on past foreign earnings that remained and piled up abroad. In spite of these provisions meant to improve the tax framework, studies show that right after the TCJA passed, the total amount of reported foreign income of U.S. multinationals has known a tremendous upsurge (more than \$300 billion, an increase of about 340%) and repatriated dividend payments have halved, compared to pre-TCJA period as represented in figure 3. (Penn Wharton Budget Model, 2023)

Figure 3. Foreign Affiliate Income Reported by US Corporations



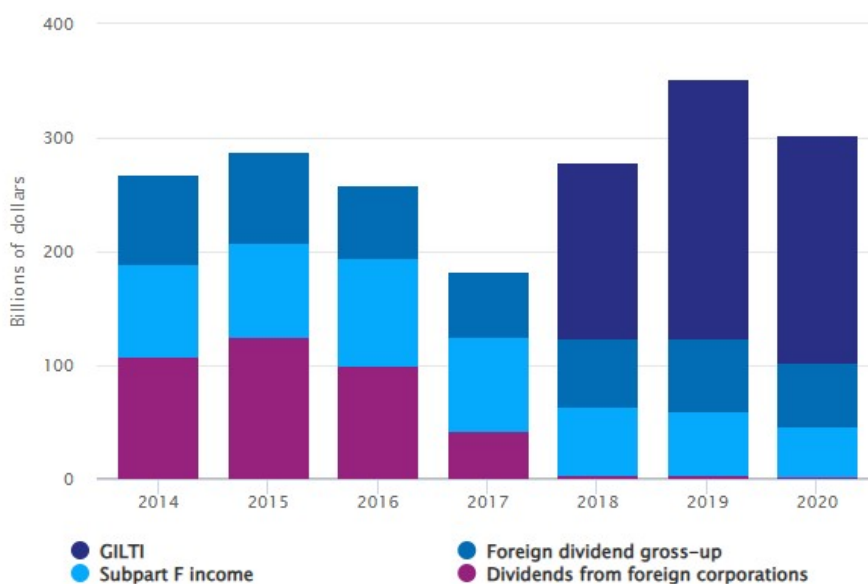
Note: Foreign deemed income excludes inclusions related to the Section 965 transition tax.

Source: PWBm estimates based on IRS *Statistics of Income* data from Form 1120 Schedule C, Form 8993, Form 965, and Form 1118.

Figure 4/5.1.3 Foreign Affiliate Income Reported by U.S. Corporates (Source: Penn Wharton Budget Model, “Did Tax Cuts and Jobs Act of 2017 Increase Revenue on US Corporations’ Foreign Income?” October 12, 2023, <https://budgetmodel.wharton.upenn.edu/issues/2023/10/12/did-tcja-increase-revenue-on-us-corporation-foreign-income>)

Nevertheless, this significant spike of the declared foreign income of U.S. multinationals didn't trigger the proportional increase of the taxable foreign income, and that was due firstly to the fact that these corporates could deduct from it up to 50% according to GILTI provision and secondly because most of the repatriated profits as dividends that used to be taxed for 35% aren't subject to tax anymore. Also, if considering the types of income forming the foreign income, the biggest part of it that was due to dividends gave way to the GILTI component as seen in figure 4 (Penn Wharton Budget Model, 2023)

Figure 4. Components of Taxable Income from Foreign Affiliates



Note: Estimates of foreign dividend gross-up exclude effects related to the Section 965 transition tax.

Source: PWBM estimates based on IRS *Statistics of Income* data from Form 1120 Schedule C, Form 8993, Form 965, and Form 1118.

Figure 5/5.1.3 Components of Taxable Income from Foreign Affiliates (Source: Penn Wharton Budget Model, “Did Tax Cuts and Jobs Act of 2017 Increase Revenue on US Corporations’ Foreign Income?” October 12, 2023, <https://budgetmodel.wharton.upenn.edu/issues/2023/10/12/did-tcja-increase-revenue-on-us-corporation-foreign-income>)

These international tax provisions have changed the fraud risk context introducing new patterns of behavior.

First, these provisions increase the complexity level of the international tax –accounting due to complexity in income classification and cross-border transactions, more foreign subsidiaries, and rules for foreign tax credits and foreign income. So, this complexity may offer opportunities for multinationals to misclassify income or manipulate tested income through internal cost allocations, implement aggressive transfer-pricing to shift profits to jurisdictions with more favorable lower tax-policy, to miscalculate tangible asset bases, to conceal their liabilities abroad and/or to overstate or shift deductions.

Second, both GILTI rule and the intended switch from worldwide to a territorial tax regime have generated other kinds of abuses such as underreporting of foreign profits, or even concealment of intangible-asset firms or of partly/totally controlled foreign corporations offshore.

Third, Dharmapala's study describe other patterns with implications on forensic accounting:

- U.S. multinationals have decreased foreign acquisitions, and may be incentivized to redistribute their intangible income because of increased minimum taxes
- Investments in routine foreign tangible assets grow because of GILTI and so corporates may overvalue them or change their classification to pay a smaller tax-amount due to GILTI
- Multinationals continue to move their income to lower-tax countries through schemes of transfer-pricing manipulation, hybrid-entity misclassification, and strategic relocation of intangible assets.
- Multinationals' managers received more pressure because markets forecasted an increase of taxes for activity abroad under the TCJA, so they may resort to strategies of aggressive reporting
- As the predicted increase of domestic investment and consequently of wages under TCJA didn't occur, managers were in a tight spot because in order to keep the investors' interest they may try to present an embellished good progress through the misstatement of financial reports. (Dharmapala, 2023)

In conclusion, the international tax provisions under the TCJA changed the size and structure of the multinational tax liabilities, but also made the international system more demanding and complex, actually providing more opportunities to conceal incomes, to misclassify assets more consequential, to shift profits abroad more subtle, and to manipulate cross-border transactions in a more complex way.

5.2 Impacts of the Big Beautiful Bill (2025)

The Big Beautiful Bill made important modification of the tax code, health sector and regulatory policy. Its implications on forensic accounting practice are presented in the following subunits: amended incentives and reporting requirements due to extension of individual provisions, healthcare subsidy reforms and HAS expansion, as well as automated oversight and AI.

5.2.1 Extension of Individual Provisions

The BBB came to prevent a great tax increase due to expiring provisions from the previous TCJA by December 2025. Thus, the lower tax rates, many individual tax provisions and deductions under TCJA became permanent and even improved under BBB. Also, the new act introduced new deductions on tip, overtime and auto loans, for seniors over 65 (\$6,000 if their incomes are less than \$75,000 a year), the increase by 4 times of the state and local tax (SALT) deduction cap from the previous \$10,000 to \$40,000 from 2025 and for 5 years of the already paid income, property or sales taxes. Furthermore, it includes other important measures for businesses like the one that allows them full amortization of the cost of

equipment, research and development (R&D) and for new factories. (Freking & Mascaro, 2025).

These changes have deep impact on forensic accounting, and practitioners

First, the fact that previous provisions have been increased and expanded at higher level may reduce the frequency of simple income underreporting. Yet, by transforming temporary measures into permanent ones, although decreases adjustments in tax positions for short-term gains, at the same time provides new possibilities for misuse and aggressive tax planning: manipulating overtime, tip or income classification, claiming too much of the deductions/penalty relief, or misreporting eligible income components.

New measures are introduced like excise tax of 1% on remittance transfers (between different countries) when the sender provides cash, a money order, a cashier's check, or other similar physical instrument. Also, the excise tax for excess compensation paid to top five highest compensated employees gets extended to any employee of some tax-exempt organizations. Another change is the increased limit on the federal tax deduction for state and local taxes (SALT deduction cap). These modifications may trigger schemes of concealment behavior of the taxpayers. (CongressGov, 2025)

So, the permanent tax cuts and focused temporary incentives reshape the civil and tax fraud environment, as they release the pressure of tax evasion but they may incentivize taxpayers to misstate their incomes or dependents to fit in the adjusted classes of refundable credits. (Freking & Mascaro, 2025).

Second, the burden of proper documentation and verification will grow. Investigators must update red-flag matrices, adjust their documentation templates and models of anomaly detection for better considerations of the expanded deduction and credit categories and for modelling taxpayer behavior under altered marginal rates.

Finally, there are so many and complex provisions that increase the risk of involuntary misstating or misclassification, making it more difficult to identify honest error from intended fraud.

5.2.2 Healthcare Subsidy Reforms

Besides tax and investment reorientation, the BBB reshapes the health sector with substantial reforms to Medicaid, eligibility for premium tax-credit and Marketplace activity, influencing forensic accounting related to healthcare costs, expenses or payments, overpayments and eligibility misuse. The bill alters the incidence and mode of wrongful payments and conflicts between payers and providers by imposing co-pays, tightening eligibility requirements, and shifting costs to states. (Kaiser Family Foundation, 2025)

When auditing providers, investigators should anticipate first a rise of complex eligibility conflicts where patients' enrollment information and declared income must be validated across their tax returns, employer files or state enrollment systems. Second, practitioners should expect an increase of cases where measures referring to cost sharing were applied retroactively or incorrectly (CBO, 2025).

This act's improvements and expansions impose that investigations include tax data and health plan information, more solid chain-of-custody practices for electronic enrollment records, and attentive examination of the differences in law enforcement among states. (Kaiser Family Foundation, 2025)

In terms of methods used, modifications must be made to sampling designs for extrapolation of overpayments in order to consider the new eligibility criteria set on different levels as well as for temporal discontinuities brought by gradual implementation of reforms. (CBO, 2025).

The bill includes the Rural Health Transformation Program intended to improve healthcare in rural area and especially for underserved communities. Special substantial federal-funding is directed toward these areas to support state-led proposals and spending plans. (The White House, 2025)

The flow of these public funds through different entities, from the federal departments to the local providers, increase the chances for misreporting, misallocation or misuse of funds, and documentation errors. This is important to examine from a forensic accounting perspective, particularly in the states with different oversight mechanisms. Investigators' work will increase as they need to track fund disbursements, to request and reconcile actual expenditures with the state plans and local provider accounting, and finally test the compliance with federal program conditions. To achieve transparency and accountability for rural health investments, it is necessary to implement strict chain-of-custody procedures for funds and documentation and careful monitoring of discrepancies between authorized and realized spending.

5.2.3 HSA Expansion

The BBB significantly broadens eligibility for health-savings accounts (HSAs) and redefines qualifying high-deductible health plans which further on will include many of the previously ineligible bronze and catastrophic marketplace plans. This allows a greater part of the population to hold and contribute to HSAs and leads to the growth of the HSA transaction volume and complexity. It is estimated that almost 7.25 million previously ineligible individuals will have access to HSAs, and after considering the expansions of catastrophic and bronze eligibility the number raises to approximately 10 million (The White House, 2025)

These new enrollees will join the already increasing population from 38% in 2015 to 50% in 2024 that had access to an HSA, according to BLS:

Chart 1. Availability of high deductible health plans for private industry workers participating in medical care plans by select industries

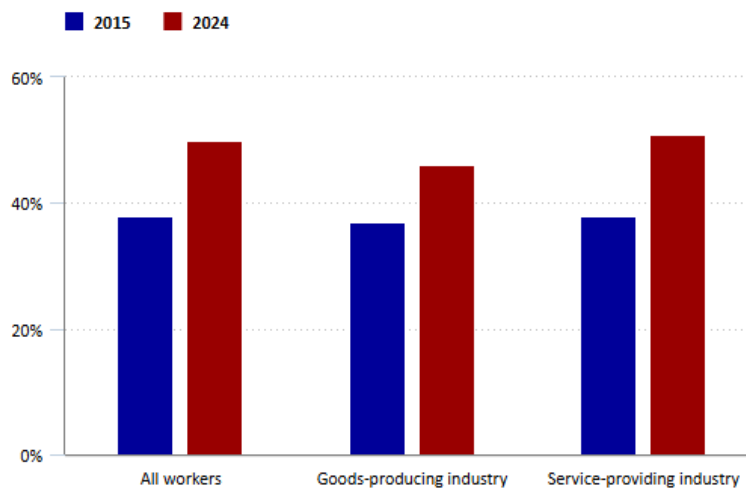


Figure 6/5.2.3 HSA Expansion (Source: U.S. Bureau of Labor Statistics <https://www.bls.gov/ebs/factsheets/high-deductible-health-plans-and-health-savings-accounts.htm>)

For forensic accounting practice, the implications are notable. Investigators will encounter more HSA-linked accounts and must develop protocols to reconcile HSA deposits and distributions with plan eligibility and medical-expense substantiation. To integrate these protocols into standard financial audits or fraud investigations, they should more frequently solicit HSA statements, related medical expenditure proofs and insurance-plan documentation to check if the claims are legitimate.

The extended eligibility makes more difficult tracing the funds in the HSA transactions, increases exposure to improper withdrawals without qualifying expenses, misallocations, timing mismatches, misaligned classification of expenses or unsubstantiated distributions. (Kaiser Family Foundation, 2025)

Hence, forensic protocols must be reformed to encompass health-savings accounts in the templates used for collecting data, to require comprehensive medical documentation, and to corroborate HSA distributions with genuine health expenditure and refurbished insurance-plan eligibility.

5.2.4 AI and Automated Oversight

Before enactment, the BBB removed a proposed moratorium banning for 10 years the state and local artificial intelligence (AI) regulation. Nevertheless, the new law contains important provisions for AI sector and technology corporates: important federal funds, grants, tax incentives and assistance from federal agencies for firms from U.S.-based AI infrastructure and AI research (R&D). Yet, this funding comes with restrictions: supply chain integrity prerequisites and “prohibited foreign entities” influence in these AI projects. Also, the act puts under severe scrutiny the technology licensing, intellectual property,

contractual rights and royalty agreements, to ensure that prohibited foreign entities don't have access to them. (Ropes & Gray, 2025)

These provisions encounter serious compliance and operational challenges and particularly from the multinationals. Federal agencies are authorized to investigate, audit and penalize corporates (up to global operations) for not being compliant or properly certified.

Thus, AI systems become both a potential source of evidentiary risk and an important tool for investigating, consequently putting forensic accounting at a crossroads. From one point of view, linkage-analysis tools and techniques, automated anomaly detection, and natural language processing (NLPs) of invoice details such as charge explanation, service description, transaction details, account history, or activity log, improve the ability to identify complex fraud across big datasets. Conversely, speaking of the evidential risk, use of complex or obscure models must be substituted by transparent model documentation, error-rate disclosures and validation reports in order to be admissible and reliable in litigation. (Ropes & Gray, 2025)

Another important aspect is that some companies have already purchased algorithms, programs or data services from foreign entities that are now prohibited. For this, forensic accountants must check and incorporate the origin and licensing in the IT forensics scopes. (Ropes & Gray, 2025)

Furthermore, the expanded tax incentives, extended eligibility for HSAs accounts, and the funding program for the rural healthcare create a more complex and interconnected fiscal environment. And so, forensic accountants must consider more necessary and valuable the use of automated oversight tools (anomaly detection, data analytics, cross-system linkage).

Nonetheless, use of automated tools doesn't rule out investigative responsibilities. Practitioners must make sure that the models they implement are correctly documented, validated and supported by traditional audit techniques. So, the changes of the BBB will favor growth and efficiency if forensic practice will apply hybrid investigative methods: merging automated data analysis with severe manual validation, inter-system reconciliation, and enhanced documentation protocols.

Forensic accountants must upgrade data analytics and machine learning libraries, to extend data collection across different areas (tax, banking, or healthcare), and apply rigorous verification procedures for automated tools. Whether increased requirements for eligibility or expansionary fiscal policy (new deductions, subsidy regulations or HAS), practitioners must foresee both new types of misconducts and new bona fide challenges. Vigilant skepticism on automated results and mindfulness to origin, chain of custody and statutory refinement will influence the character of the findings, whether they will be reproducible, robust, persuasive and admissible in litigations.

5.3 Enforcement Gaps and Forensic Opportunity

5.3.1 Declining IRS Audit Coverage

Between tax years 2010 and 2019, the IRS has audited ever less individual income tax returns for all types of incomes, with audit rate dropping from 0.9% to 0.25% because of less funding, reduced staffing and the increasing time demands of complex cases. Audit rates plummeted mostly for tax returns related to incomes of more than \$200,000, yet the IRS has processed them at upper rates than for the ones of lower incomes. Still, from 2010 to 2021 most of the additional taxes suggested by the IRS referred to incomes under \$200,000:

Audit Rates by Total Positive Income, Tax Year 2019

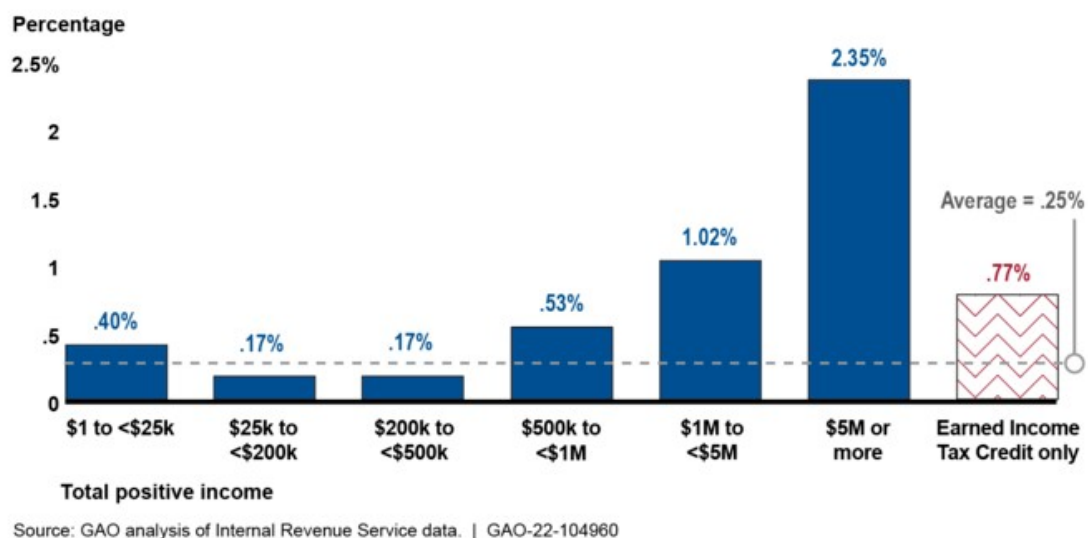


Figure 7/5.3.1 Declining IRS Audit Coverage (Source: GAO, 2022, *Tax Compliance: Trends of IRS Audit Rates and Results for Individual Taxpayers by Income* Retrieved from <https://www.gao.gov/products/gao-22-104960>)

From 2010 to 2022, IRS's appropriations have been cut by 24% while IRS employment decreased by almost 30%. Consequently, there were delays in upgrading the IRS's technology (as almost 5% of the IRS's IT staff had left), while agency's workload has increased putting more pressure. Different factors influenced the IRS's activity. Increasing taxpayer population led to processing more returns, deposits and refunds, while keeping compliance. Also, the IRS's role in administering social programs has increased, increasing its activity related to family benefits, earned income /child/child and dependent care tax credit, tax subsidies for higher education and premium subsidies under the ACA. (Tax Policy Center, Updated January 2024)

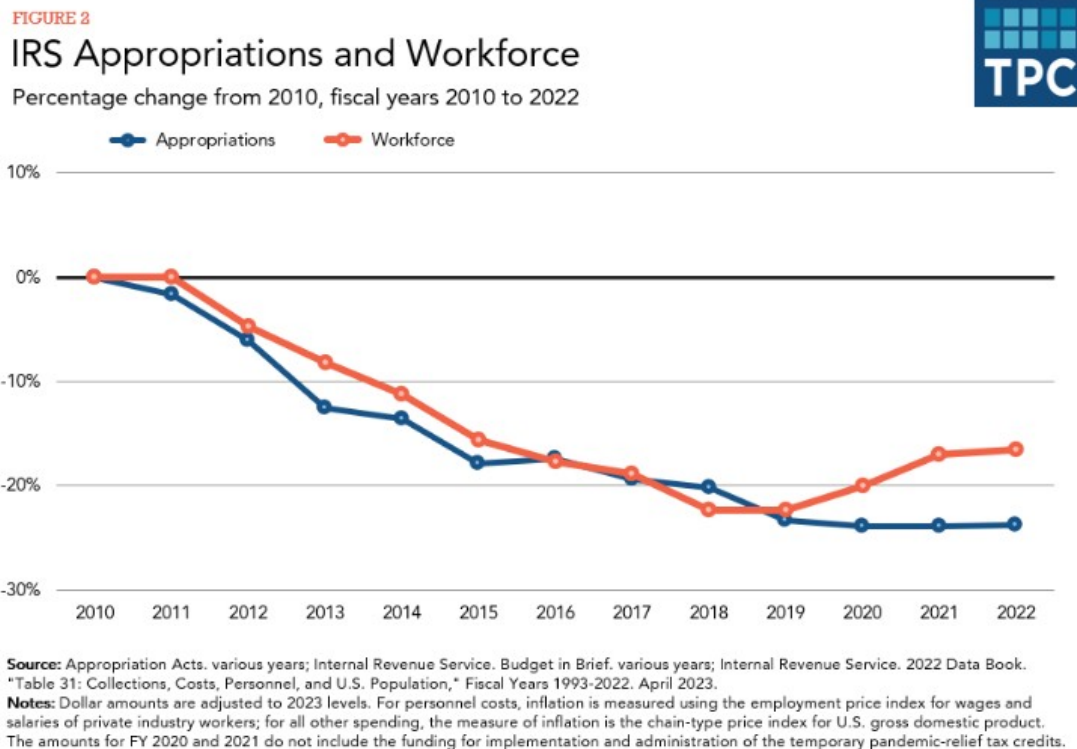


Figure 8/5.3.1 IRS Appropriations and Workforce (Source: Tax Policy Center *How have cuts to the IRS's appropriations affected its ability to administer the federal tax system?* Updated January 2024 Retrieved from <https://taxpolicycenter.org/briefing-book/how-have-cuts-irss-appropriations-affected-its-ability-administer-federal-tax-system>)

In the current Trump administration, the Office of Personnel Management requested budget constraints and the reduction of personnel costs. The IRS records show that 25,386 employees left the organization due to different applied strategies such as deferred resignation programs (DRP), Voluntary Early Retirement Authority (VERA), Voluntary Separation Incentive Payment (VSIP) and another 294 employees because of Reduction in Force (RIF) actions. These employees were 25% of the total workforce of the IRS.

As a result, the IRS's workforce estimated in 2025 at 103,000 employees has reduced by approximately 25%, especially revenue agents (by 26%) and tax examiners (27%) needed for complex corporate examinations, with direct influence on forensic accounting practice. (TIGTA, 2025)

Figure 2: Separation Totals



Source: TIGTA analysis of IRS Human Capital Office data (May 2025) and TIMIS data.

Figure 9/5.3.1 IRS Workforce Separation Totals (Source: “Snapshot Report: IRS Workforce Reductions as of May 2025” Report Number: 2025-IE-R027 July 18, 2025 TREASURY INSPECTOR GENERAL FOR TAX ADMINISTRATION <https://www.tigta.gov/sites/default/files/reports/2025-08/2025ier027fr.pdf>)

The combination of decreasing IRS capacity and increasing taxpayer needs reduces the probability of audit and penalty and this influences greatly the decisions corporates make when reporting. As a result, the reduced audit coverage translates into both risk and demand for forensic accountants. On one hand, it can lead to increased noncompliance, risk, and complex financial arrangements and fraud schemes, increasing the number and sophistication of cases that need specialized analysis. On the other hand, as more issues are not detected through routine audits makes corporates turn to forensic expertise for support, uncovering anomalies that the shrunken IRS workforce may miss.

5.3.2 Complexity as a Fraud Driver

The complexity of the tax law is an important factor that give rise to fraud risk and misrepresentation. In its evolution, more provisions, exceptions and emergent digital asset rules are added through different acts like the TCJA and the BBB, making it more challenging for forensic accountants to identify tax avoidance methods from legitimate complexity.

These complex rules increase the interpretative risk for both taxpayers and compliance professionals who may unintentionally misapply provisions, while willful abuse and tax avoidance may easier be hidden within voluminous documentation.

Studies have recorded how information asymmetry between these two classes confuses enforcement strategies and when correlated to low audit rates can stimulate taxpayers' avoidance behaviors through 'tax planning' and 'tax shelters.' In order to apply these tax avoidance methods, many individuals and corporates request the assistance of law and accounting firms driving the demand for forensic accounting expertise. Practitioners must be

skilled at discovering complex schemes and strategies such as multi-entity allocations, digital-currency reporting, and international income classifications, identifying patterns inconsistent with economic substance, clarifying transactional purpose and compliance status. (Carbonara et al., 2024)

5.3.3 Litigation Growth

In parallel with changes in enforcement, tax-related litigation has increased both in volume and complexity. As IRS examinations narrow in scope but rise in technical challenge, more cases present in courts of law. Particularly complex problems in areas like digital assets and carried interests such as transfer pricing, pass-through entity allocations, eligibility for deductions or credits, and digital asset income characterization depend on the interpretation of the law. And where the law is ambiguous, taxpayers may be more inclined embrace a militant approach and defend it through litigation rather than settle administratively.

This growth in tax litigation demand highlights the expanding role of forensic accounting from compliance support to evidentiary and expert testimony functions—a trend documented in studies on the intersection of tax and forensic practice. This increase of litigation enhances the need for practitioners who can operate at the intersection of financial analysis and legal standards, and can eventually transform complex financial data into defensible expert opinions and strong evidence. Thus, their work assists adjudicators to conclude whether tax positions reflect permissible reasonable interpretations or constitute deliberate manipulation, and policy makers to broader tax compliance norms. Thus, litigation growth doesn't just reflect enforcement strain; it actively refurbishes the demand profile and professional responsibilities of forensic accountants within the tax system. (DiGabriele et al., 2023)

6. Health Care Fraud under the One Big Beautiful Bill in ACA Enrollment, Health Subsidies, and Digital Payment Systems

6.1 ACA Subsidy Fraud under the One Big Beautiful Bill

6.1.1 Nature of ACA Enrollment Fraud and Broker Misconduct

The Affordable Care Act (ACA) instituted a federally-facilitated marketplace where individuals from low and moderate income households can afford to procure qualified health plans with eligibility for advance premium tax credits and cost-sharing reductions. But in spite of that, administrative agencies such as Government Accountability Office (GAO) have noticed that in practice the program's integrity was compromised through enrollment fraud or misrepresentation and manipulation of the eligibility criteria.

Improper enrollment/ government payments of federal subsidies are considered as fraud provided that when applying, individuals or intermediaries “knowingly and willfully”

provide false information on their income or identity, and/or deceitful/misrepresented facts on subsidy applications to obtain benefits that they wouldn't under normal circumstances. In this case there is civil penalty for the applicant and "any person," including an agent or a broker for up to \$250,000 and criminal liability. Furthermore, if anyone receives information from an applicant must keep it confidential otherwise will meet civil penalty as well. (Pestaina et al., 2025)

Nevertheless, inadequate identity and income verification procedures have been exploited and many unsuitable enrollments passed undetected. An undercover investigation for the plan years 2024 and 2025 of GAO points out how exposed to fraud the ACA exchanges are. GAO fabricated 20 identities based on invalid Social Security Numbers (SSNs) and submitted 24 fictitious applications. 23 applications were enrolled for subsidized coverage (approval rate of 95.8%) without the exchanges request additional or even any documentation at all. Furthermore, 18 of these fraudulent enrollments remained in the subsidy period as of September 2025, continuing the improper payments. In the end, GAO estimated that almost one third of the paid APTCs was not supported by reconciliation-federal tax return and 58,000 SSNs or more receiving subsidies matched records of deceased individuals. (GAO as cited by Paragon Health Institute, 2025)

Until now, the allegations of enrollment fraud didn't focus on consumers but on agents/ (web) brokers and other supporting parties who changed their behavior due to financial incentives for personal gain. In order to increase the received commissions from insurers for the enrollments made, agents and brokers have fraudulently enrolled vulnerable individuals in ACA plans for which they weren't eligible in the first place. They mostly used one of the scenarios: unauthorized enrollment (enrolling individuals without their explicit consent), coaching applicants to misstate information to maximize subsidies or unauthorized switching (changing an enrollee's plan without their knowledge). One way to achieve these illicit enrollments was through a complicated scheme: marketing agencies created social media ads that deceptively offered free cash rewards. By clicking the add, consumers were prompted to another page asking for specific data to cash the money. This data was then sold to brokers that eventually made the fraudulent enrollment or plan switch. (Pestaina et al., 2025)

Table 6.1.1 Documented forms of ACA agent and broker misconduct

Misconduct Type	Description	Program Impact
Income manipulation	Artificially lowering reported income	Excess subsidy allocation
Unauthorized enrollment	Enrollment without consumer's consent	Loss of autonomy for consumer
Identity misuse	Use of stolen/third-party identifiers	Fraudulent eligibility
Commission maximization schemes	High volume fraudulent enrollments	Increased federal outlays
Unauthorized plan switching	Mid-year changes for gains from commission	Coverage disruption

Note: These practices have been identified through CMS enforcement actions and federal prosecutions targeting ACA intermediaries (Paragon Health Institute, 2025; KFF, 2025)

Table 3/6.1.1 Documented Forms of ACA Agent and Broker Misconduct (Source: Paragon Health Institute. (2025, December). *GAO's investigation into the lack of ACA exchange integrity*. Retrieved from https://paragoninstitute.org/wp-content/uploads/2025/12/GAO_fraud_one_pager_RELEASE_V1.pdf)

Such unauthorized actions-where subsidies are based on inaccurate or fraudulent applications- have serious consequences: on one side, wasteful federal expenditure, and on the other, unanticipated tax consequences for taxpayers (tax liabilities) and beneficiaries alike (who may receive healthcare coverage they did not select or meet inconsistent access to care).

Table 6.1.1.2 Risk exposure in ACA enrollment process

Stage of enrollment	Primary Vulnerability	Fraud Opportunity
Income attestation	Reliance on self-reported data	Subsidy inflation
Identity verification	Limited real-time SSN validation	Fictitious applicants
Broker access controls	Weak consent authentication	Unauthorized actions
Post enrollment monitoring	Delayed audits	Prolonged improper payments

Table 4/6.1.1 Risk Exposure in ACA Enrollment Process (Source: Paragon Health Institute. (2025, December). *GAO's investigation into the lack of ACA exchange integrity*. Retrieved from https://paragoninstitute.org/wp-content/uploads/2025/12/GAO_fraud_one_pager_RELEASE_V1.pdf)

All things considered, broker misbehavior and ACA enrollment fraud are complex issues stemming from verification weaknesses, incentive schemes and intermediary activities. For the successful reduction of the problem are necessary some measures such as: consolidating eligibility verification, increasing agent supervision, and coordinating financial motivation with objectives of achieving program integrity and consumer protection. In the absence of these measures, subsidies initially meant to expand access may be misdirected into fraudulent claims, sabotaging both fiscal responsibility and fair access to reasonably priced insurance.

6.1.2 BBB Marketplace Integrity Provisions

The Big Beautiful Bill (BBB) establishes reforms on marketplace integrity, changing policy from wide enrollment expansion in the ACA program to tighter eligibility enforcement and subsidy accountability. These measures aim to reinstate oversight, limit improper flow of federal funds, ensure coverage only for those who are truly eligible, and clash abuses and fraud of previous years due to eroded verification systems. They will be implemented through legislative amendments in the BBB and regulatory actions by the Centers for Medicare & Medicaid Services (CMS) by issue in 2025 of “Patient Protection and Affordable Care Act; Marketplace Integrity and Affordability Final Rule”.

A significant measure is the **enhanced verification of eligibility before subsidy awards**. The previous practice of enrolling and subsidizing individuals based on self-declared income and attempting to recapture funds afterward with the IRS income reconciliation didn’t prove efficient. Thus, the individual’s medical coverage starts after tighter **pre-enrollment income and eligibility verification** is applied. The goal of this change is to limit fraudulent enrollments exploiting the weakened verification process and improve the risk pool. (CMS, Jun 20, 2025).

Another issue addressed through these measures is the **passive eligibility assumptions and the consequent automatic reenrollment**. Before, already enrolled individuals would have been reenrolled based on prior supplied information on the original application. Although it was meant to ease bureaucracy it created opportunity for fraudulent subsidy because of lack of new verification. Now, the BBB puts an end to automatic reenrollment for individuals receiving premium tax credits by demanding enrollees to submit updated information and affirmatively confirm eligibility, and annual re-verification of tax credit eligibility. Also, it eliminates **provisional eligibility** for premium tax credits until its determination and adds **additional income verification processes** requesting proof of household income for reported incomes between 100-400% of the Federal Poverty Level. This way, subsidies will be in line with current income and household situation, reducing improper or deliberate misreporting that could otherwise continue under passive enrollments. (AHA, 2025).

Also, the BBB removes **auto-renewal from a bronze to a silver plan** if the Marketplace enrollee is eligible for cost-sharing reductions. This measure is in the best interest of the consumer, as it involves his better information on the existing plans, respecting his choice, and decreasing the probability of unexpected tax liabilities without his knowledge. (CMS, Jun 20, 2025)

Other integrity measures are related to the **annual and special enrollment periods**. On one hand, the BBB limits the annual open enrollment period (OEP) from Nov. 1-Jan. 15 to Nov. 1-Dec. 15 for all markets and excludes the possibility of extension beyond it. On the other hand, the act eliminates the monthly low income based special enrollment period and state-based marketplaces' special enrollment periods (SEP). These actions tried to reduce consumer confusion and the number of individuals enrolled improperly outside the standard open enrollment periods, and encourage continuous coverage. (AHA, 2025).

Another provision of the BBB eliminates the **caps on repayment for excess premium tax credits received**. Previously, if after reconciliation of the tax revenue, enrollees received excess subsidization due to income misestimating, they would only pay back the excessed subsidy up to a certain threshold, based on income and excess amount. With the BBB change, enrollees in this situation must reconcile the amount of tax credit they received with the amount they are determined to be eligible for at the time they file their taxes the next year. (Ortaliza et al., KFF, 2025) As a result, individuals will have increased financial accountability and so they will be less incentivized to report smaller income for subsidy maximization, and so improves the management of federal funds.

Besides the eligibility for subsidy, the rules for improving program integrity place standards for agents, brokers or web-brokers on the Marketplace. The Marketplace Integrity and Affordability Rule allows CMS to assess them and enforce actions against the ones that don't comply with applicable HHS rules and the terms of their Marketplace Agreements. Higher standards of conduct and documentation will increase their accountability for compliance, while at the same time will protect consumers from intermediaries' misconduct. (CMS, Jun 20, 2025)

These integrity measures may unintentionally obstruct access and impose procedural impediments on eligible individuals, possibly rise the uninsured rate and entangle coverage continuity. (Ortaliza et al., KFF, 2025) Still, they come to shift ACA marketplace policy to a framework based on validation, accountability, and fiscal discipline in order to prevent healthcare fraud and subsidy misuse.

6.2 Medicaid and Medicare Fraud

6.2.1 Duplicate Enrollment

Duplicate enrollment appears when an individual is registered as a beneficiary in more than one government health insurance program (Medicaid, ACA or Children's Health Insurance Program (CHIP)) or multiple instances of the same program. Instances of duplicative enrollment complicate effective coordination of benefits and oversight implementation. They increase the risk of altering programs' integrity and the fact that federal funds can be assigned many times to subsidize the same individual leads to the waste of this funding, erroneous claims adjudication, redundant coverage and improper or inflated payments.

The analysis the Centers for Medicare & Medicaid Services (CMS) made on the enrollment data of 2024 has revealed that 2.8 million Americans every month were enrolled either in Medicaid or CHIP in different states(1.2 million), or concurrently in any of these and a subsidized ACA exchange plan(1.6 million). These instances aren't automatically supposed

to be fraudulent, as they can appear when individuals are moving from one state to another and systems haven't updated the enrollment data or couldn't synchronize real-time eligibility information across programs and jurisdictions. Still, the CMS evaluates that solving this problem will save up to \$14 billion annually, reducing the fiscal impact. (CMS, 2025)

CMS will work with states to reduce duplicate enrollment through three strategies:

- CMS will give states a list of individuals enrolled in two or more Medicaid Programs and will ask them to reinitiate eligibility check.
- CMS offers a 30-days window to individuals enrolled in Medicaid or CHIP + a subsidized Federally-facilitated Exchange (FFE) Plan. In this time window they must take specific actions to eliminate duplicate enrollment, otherwise the FFE will end their subsidy.
- CMS will supply Subsidized State-based Exchange (SBE) a list of individuals enrolled in Medicaid/CHIP + a SBE Plan. According to this list, SBE must identify if duplication involved and recheck their eligibility

(CMS, 2025)

Duplicate enrollment is a diachronic problem. Ever since 2009, states were asked to apply interstate matching via the Public Assistance Reporting Information System (PARIS) to detect if individuals were enrolled in Medicaid programs in more than two states. Just the same, according to federal rules, ACA Exchanges are requested to make periodic data matching (PDM) or use an integrated eligibility system with Medicaid to check that Exchange consumers are not enrolled in Medicaid or CHIP programs. Nevertheless, these activities (especially the PDM in the ACA program) were paused during the COVID-19 pandemic and disenrolling beneficiaries from Medicaid was interdicted by law. They resumed at the beginning of 2023, and the report the CMS made in 2024 for data from 2023 revealed many gaps in detection and overlapping coverage, and proposed corrective actions and enhancing these data-matching protocols. (CMS Fraud Division, 2025)

The operational roots of the duplicative enrollment are determined by state audits. For instance, a state audit for New York found weaknesses of the eligibility processing system in NY State of Health (NYSOH) and the Department's Medicaid claims processing and payment system (eMedNY). As a result, beneficiaries had duplicative enrollment in Medicaid and New York's Essential Plan (EP), with consequent improper payments. There were identified 4,784 overlapping enrollment periods in Medicaid and EP for 4,422 beneficiaries with same SSN and a mix of their last/first name and/or DOB. Another 651 cases were detected for 603 enrollees whose SSNs weren't registered in one or in both health programs. The conclusions were that these duplicate enrollments were due to both concurrent program participation, and administrative fragmentation and inadequate data integration across state platforms. The best way to identify the program that made the erroneous payments is through case reviews, strengthen controls and reconciliations between the programs. (Office of the New York State Comptroller, 2022).

Overall, BBB provisions and CMS actions focus on strengthening enrollment controls and eligibility verification, real-time data synchronization, renewing periodic data matching processes and asking state participation in improved match protocols. Their goal is to prevent wasteful duplicative enrollment before payments occur, to improve eligibility

reliability, and ensure the integrity of federal health funding and public confidence in Medicaid and ACA programs.

6.2.2 Forensic Accounting and Audit Approaches to Detecting Duplicate Enrollment

Forensic accounting has an important part in detecting and rectifying cases of duplicate enrollment in the healthcare programs. In contrast to standard evaluations of individual's eligibility, forensic methods work on big administrative datasets and focus on pattern recognition, anomaly detection and cross-system reconciliation.

One of these methods is **beneficiary data matching across programs** employing distinctive identifiers such as individual's Social Security Number (SSN), name and surname, date of birth (DOB) and address. Forensic accountants work on identifying one-to-many and/or many-to-one relationships. For instance, in its report, GAO identified as a match any individual record in a program/state that besides the same SSN also involves the DOB in another program/state. This use of 2 key identifiers aimed to reduce the risk of getting false positives and to increase the probability that the records correspond to the same individual. This method uncovers structural flaws in state eligibility systems, such as unreliable practices of assigning identifiers to enrollees or even fragmented databases. (GAO, 2025)

Another method is aiming to evaluate the financial consequences of duplicate enrollment and is called **capitation payment reconciliation**. Whether the individual uses or not the healthcare services and/or claims benefits, states pay every month premiums for each enrollee, thus any duplicate enrollment would involve direct fiscal losses. By reconciling enrollment databases against benefits/capitation payments databases, practitioners can identify concomitant payments or APTC benefits issued for the same beneficiary across multiple states or programs. This method reveals eligibility problems or inappropriate payments. (GAO, 2025)

Also, the method of **temporal overlap analysis** is important and it focuses on identifying overlapping coverage periods by analyzing and comparing the beginning and ending dates of an individual's enrollment in different programs. This method is used to assess the duration of improper coverage and to properly compute the corresponding overpayments. Because of pandemic continuous enrollment condition, GAO has taken into consideration a 3-month buffer for moving individuals between states that appear enrolled in both for a while because of system delay in their processing. (GAO, 2025)

It is very important the distinction that forensic analysis can make between duplicate enrollments due to administrative error and others involving intentional fraud. While the first are caused of data lags or delay in disenrollment, the latter are actually persistent overlaps connected to active claims submission or subsidy utilization. This distinction is critical for enforcement as in one case corrective recovery is necessary, while in the other case civil or criminal proceedings may be triggered.

Furthermore, as mentioned before, strong protocols have been implemented such as the Public Assistance Reporting Information System (PARIS) and periodic data matching (PDM). These **data-matching systems** facilitate effective identification of Medicaid duplicate enrollment in multiple states. The pause of PDM in correlation with the continuous enrollment condition through the COVID pandemic have led to diminished detection capacity, showing that weakened forensic controls increase the risk of fraud. (CMS, 2025)

In conclusion, duplicate enrollment represents both a technical problem and a financial integrity challenge. The methods used by forensic accounting are necessary tools for

reducing redundant coverage, recovering improper/excessive payments, and strengthening the overall integrity of public health insurance systems.

6.2.3 Billing and Claims Fraud

Billing and claims fraud represent a widespread form of misconduct in healthcare programs that illicitly draw federal funds and weaken confidence in public insurance systems. Most common fraudulent schemes in Medicare/Medicaid concern filing of false/inflated claims to secure reimbursement for services that were never provided, were not necessary, were inaccurately coded to increase payment or had inflated costs.

Phantom billing is one important category of billing fraud. This scheme involves submitted claims for services/supplies not delivered to beneficiaries, enabling providers/third parties to obtain government funds without associated cost of providing legitimate care. In the report, CMS spot cases of claims made by durable medical equipment suppliers for items that patients neither requested nor received, usually using stolen beneficiary information to hide the fraud (CMS, 2025).

Another scheme is **upcoding**, where rendered services are assigned HCPCS billing codes for higher-paying services and that are not documented by the physician in the patient's medical record. Upcoding lead to overpayments and few fraudulent codes are detected as random audits cover only about 2% of one year claims in Medicare and Medicaid. Furthermore, upcoding is sometimes accompanied by combinations of services that artificially raise total payment. (GreeneLLP, 2025).

Another scheme is **unbundling**, where providers intentionally bill single bundled services (for example Complete Blood Count ("CBC") testing) individually for each procedure. (GreeneLLP, 2025).

In addition, false claims in many cases are caused by **fraudulent diagnoses and medically unnecessary and often never provided treatments and services**, including home health care, psychotherapy, physical and occupational therapy, prescription drugs and durable medical equipment, prosthetics, Orthotics, and Supplies (DMEPOS). CMS identified \$1.9 billion (21.4%) in improper payments related to DMEPOS items. For instance, suppliers billed for continuous glucose monitors (CGMs) they didn't ever supply to patients, while many times were oblivious about this. Other times, kickbacks were paid to suppliers for billing medically unnecessary CGMs to patients not suffering of diabetes. Also, in 2024 surgical dressings had an improper payment rate of 57.6% determined by different causes (CMS, 2025):

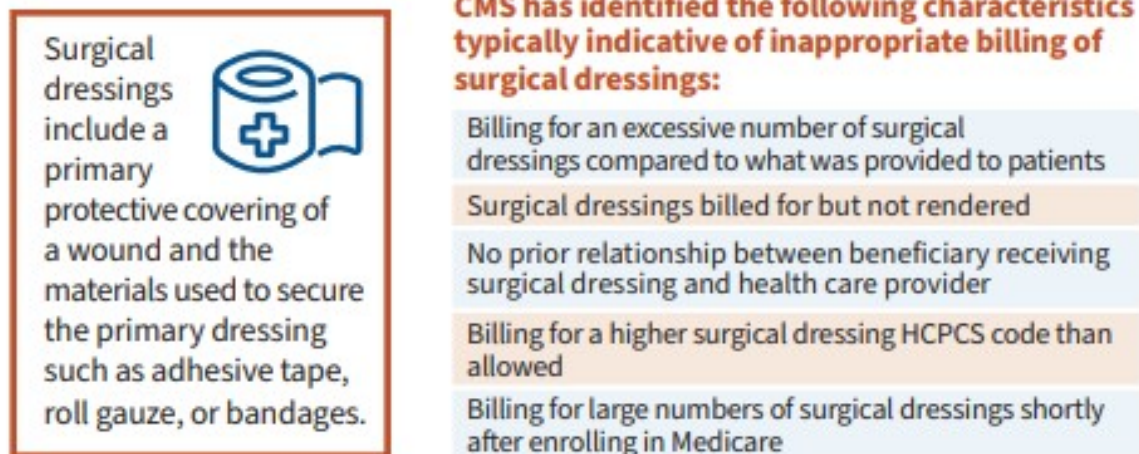


Figure 10/6.2.3 CMS Billing Fraud Hot Spot (Source: CMS. (2025) *CMS FRAUD HOT SPOT* CMS.GOV/FRAUD-DMEPOS Suppliers Retrieved from <https://www.cms.gov/files/document/hot-spot-dmepos-suppliers.pdf>)

Another example relates to Medicare hospice utilization (“holistic program of palliative care for terminally ill patients and support for their families”). CMS tries to reduce fraudulent behavior such as long lengths of stay, co-located hospices, and high rates of beneficiaries discharged alive.

Medicare hospice utilization has increased in recent years. In Fiscal Year 2024, Medicare payments for hospice reached over \$27 billion, with approximately 1.8 million Medicare beneficiaries receiving hospice care. CMS has taken significant action to address likely fraudulent behavior occurring in Medicare-enrolled hospices, including extended hospital stays, co-located hospices, and high rates of beneficiaries released alive. (CMS Hospice, 2025)

Examples of fraud schemes are found in cases:

- related to the Medicare prescription drug benefit program known as Part D
- where Medicare beneficiaries and patient recruiters received bribes or cash kickbacks in return for providing beneficiary information to providers who later on used it to fraudulently bill for medically unnecessary/never performed Medicare services
- of kickbacks to recruiters from providers to bring in patients who were then submitted to unnecessary treatments or services with the goal of generating billable claims
- of drug diversion, and fraud involving complex medications and hospice care
- intravenous prescription drug administrations and physical therapy that were never provided or were unnecessary
- of bribery, false and fraudulent claims for home health services and disability benefits
- of patient medical records routinely fabricated and altered to support false and fraudulent claims to Medicare

- of bribes and kickbacks of state officials to alter applications and requirements for obtaining license and eventually to propose the approval of unqualified mental-health providers
- of bribing doctors for prescriptions of expensive durable medical equipment and pain creams that weren't medically necessary

(U.S. DOJ, 2025)

Besides medical services, hospital are being reimbursed for other costs like capital expenses for machinery or new buildings. This fee-for-service reimbursement model is illicitly exploited through **inflated cost reporting**. This includes practices such as: providers forge the costs and statistics related to patient care, the number of services provided, and claim payments for services not related to patient care or given to non-Medicare patients. Also, besides providers, some physicians are financially incentivized to inflate costs and provide more care than would best suit a patient's interests, particularly escalating when insurance pays the greatest part of the costs. (GreeneLLP, 2025)

Under the False Claims Act, billing fraud is punishable by law, with sanctions such as fines, mandatory restitutions, or even time in prison. Yet, billing fraud must be carefully dissociated from improper billing caused by systemic difficulties.

In conclusion, billing and claims fraud in Medicare and Medicaid have multiple negative consequences: drain public funds, put patients in danger, misrepresent service use patterns, and charge real beneficiaries downstream. To decrease the frequency and impact of these fraudulent practices, enforcement operations must be accompanied by strengthening audit capabilities, improving coding compliance systems, and utilizing advanced analytics.

6.2.4 WISeR (Wasteful and Inappropriate Service Reduction) Model in Medicare

The Wasteful and Inappropriate Service Reduction (WISeR) Model represents a new CMS's Innovation Center model in Medicare program integrity that introduces technology-enabled utilization management in Original Medicare targeting a specific set of items and services that have been the cause of waste, abuse and fraud. Moreover, the model focuses on diminishing patient-harmful inessential, inappropriate and invasive procedures. Finally, it aims at enhancing the efficiency, speed and accuracy of the process of prior authorization.

WISeR starts in January 2026 in 6 states and for the next 6 performance years will combine human clinical review with advanced tools such as artificial intelligence (AI) and machine learning (ML). (CMS, 2025a; CMS, 2025b).

Thus, participating health insurers experienced in utilization management will undergo expedited evaluations of particularly susceptible to inappropriate use procedures and services such as: knee arthroscopy for osteoarthritis, electrical nerve stimulator implants, and skin and tissue substitute applications. Throughout the years, these services varied greatly in utilization without a corresponding evidence supporting broad clinical benefit. (CMS, 2025a)

While the technology tools will help faster reviewing documentation and claims data, the experienced clinicians are the ones to make the medical reviews and take the final decisions on the services' coverage determinations. This hybrid approach is meant to decrease costs and losses through increased efficiency but simultaneously providing clinical judgment and provisions against inappropriate denial of care. (CMS, 2025a; CMS, 2025b).

Participating providers can submit prior authorization requests to model participants directly or through Medicare Administrative Contractors. Performance is evaluated based on quality and process outcomes, including beneficiary and provider experience, timeliness of determinations, and accuracy in relation to coverage criteria. (CMS, 2025b).

These model participants will receive financial rewards (a part of the reduction in savings) according to how efficiently they used their technologies and reduced expenses on medically unnecessary/non-covered services. Yet, if they don't follow the Medicare rules they may be penalized or terminated. This way, they will be motivated to provide accurate reviews while not delaying or denying necessary care. (CMS, 2025c).

Practical examination of WISeR will concentrate on many aspects such as limitation of clinically unsupported service usage, deceleration of expenses' growing trend for the specific set of services, and effects both on the behavior of providers and on improved results for beneficiaries. If WISeR manages to reduce waste of services and yet keep their same quality, it will trigger policy changes by incorporating technology in the management of their use in fee-for-service Medicare. On the other side, the model may need redesigning if negative consequences appear such as care delays or increased administrative costs. Anyway, WISeR is an important model that apply advanced analytics and structured authorization in the environment of public healthcare insurance to protect the integrity of the program and make it more efficient. (CMS, 2025a)

6.3 Health Savings Accounts and CHOICE Accounts

6.3.1 Expansion under the One Big Beautiful Bill

The HSAs are tax-advantaged instruments that offer eligible individuals the possibility to save funds on a pre-tax basis predestinated for qualified medical expenses. The tax advantages are that these contributions are deductible, tax-free investment earnings, and tax-free withdrawals for qualifying expenditures with direct impacts on taxpayers' exposure and federal costs. (KFF, 2025).

Before 2025, only individuals registered in a qualifying high-deductible health plan (HDHP) were eligible for an HSA. There were additional limitations with regard to the plan design and co-coverage and exclusion of Medicare beneficiaries. However, the introduced reforms in the 2025 reconciliation bill have expanded the eligibility and the access of individuals to

Health Savings Accounts (HSAs) by widening qualified expenses and by slackening requested contribution limits.

The IRS presents three important areas where changes are made and access to HSAs is expanded from January 1, 2026:

- **Telehealth and Remote Care Services:** their coverage becomes permanent before the deductible is met for the high-deductible health plan (HDHP) at the same time continuing to possess an HSA
- **Bronze and Catastrophic Plans Treated as HDHPs:** lifting the exclusion from HSAs of these plans' enrollees no matter if the plans were obtained through an ACA Exchange or not thus disregarding the traditional HDHP deductible thresholds
- **Direct Primary Care (DPC) Service Arrangements:** enrollees in DPC service plans may open an HSA and make tax-free contributions and eventually use the HAS savings to cover the periodic DPC fees

(IRS, 2025)

Besides the expansions on the HSAs, the BBB has made changes of the CHOICE accounts. Former individual coverage health reimbursement arrangements (ICHRA), now called CHOICE arrangements are employer-funded and reimburse employees for medical care costs for the period when they have individual health coverage in the individual market or Medicare. Also, must be met nondiscrimination, substantiation, and notice requirements. (Gillihan et al., 2025).

Under the BBB, the new class of consumer-directed health accounts through the codification and broadening of CHOICE arrangements go with traditional HSAs and offer employers flexibility in structuring contributions and reimbursements.

The modification of the health benefit environment through the incorporation of CHOICE accounts targets the increase of employer involvement to support the individual market coverage besides the group plans. Thus, employees can use both the independently purchased coverage and the reimbursed amount to his HRA received from the employer. Additionally, the BBB gives in derogation the employees the possibility to utilize salary reduction contributions under cafeteria plans and acquire individual health insurance coverage through CHOICE agreements, increasing flexibility and facilitating cost-sharing efficiency. (Gillihan et al., 2025).

As part of the remodeling HSA policy by reconciling eligibility with modern coverage choices, the Bronze and Catastrophic plans linked to HSAs have become more widespread in the individual market and of lower premiums that attract more customers. It is estimated that almost 7 million newly eligible consumers will be able to open an HSA and contribute with tax-free amounts for short-term medical expenses and with long-term savings used when retired. (HSA Bank, 2025)

However, the bill's expansion of HSAs has received critics as this will serve high-income households able to fund these accounts leaving exactly the ones with the greatest financial need on the outside. This questions how fair, efficient and useful this expansion is. The US

Treasury estimated that in 2014 almost 60% of the HSA tax benefit belonged to households with income more than \$100,000 per year. And while these individuals don't have any difficulties to pay for out-of-pocket medical costs, they leave these accounts to grow tax-free using them as investments, with about \$147 billion in total assets from 39 million accounts in 2024. On the other hand, lower-income households cannot contribute toward their annual limits and can't afford to leave their contributions intact for long-term since they have to use them as they are deposited, turning HSAs accounts into flexible savings accounts for them. (Patel & Levitis, Tax Policy Center, 2025)

From a policy standpoint, these two expansions of HSAs and CHOICE indicate a shift toward enrollees' control and employer enabling to fund employees' health care. The measures aim to reduce overall federal spending and waste and to enhance individual health spending autonomy. Yet, the increased number of account types with overlapping tax benefits and reimbursement rules requires careful tracing to prevent abuse and guarantee compliance with eligibility conditions and nondiscrimination standards, making oversight more difficult and potentially creating new integrity issues.

6.3.2 Common Fraud Schemes

The bill's expansions on the HSAs and CHOICE accounts provide opportunities for abuse and fraud when oversight and control mechanisms are weak. Common fraud schemes related to HSAs encompass unauthorized access and transactions, account takeover, identity theft, misclassification of qualified expenses, double reimbursement, duplicate claims, improper claims, nondiscrimination violations, employer misfunding and tax reporting errors. The risk of fraud increases as more individuals are eligible for coverage and their health accounts have increasing amounts in time. Furthermore, CHOICE accounts can be susceptible for fraud because of their dependence on employer contributions, reimbursement documentation and on the coordination of the individual market coverage.

Both HSAs and CHOICE accounts encounter **unauthorized access and transactions** and **account takeover** as the most widespread type of abuse. The fact that these accounts increase in scale and value may attract fraudsters trying to gain the owners' credentials through different cyberattacks like phishing or data breaches. Once they get access to the healthcare accounts, they can open new accounts, withdraw funds by making transfers to external accounts, or by submitting false reimbursement claims for disguised qualified medical expenses, damaging individuals' credit histories. Although HSA fraud is limited, an increase has been noticed of service costs associated with fraud prevention and detection. For instance, these costs rose in 2025 from \$8 million in Q3 to \$17 million in Q4 for the top provider of health savings accounts-HealthEquity causing them to miss fiscal Q4 earnings forecasts. This highlights how difficult it is to manage and mitigate these risks, especially where documentation standards are easy-going, automated validation is insufficient and weak, and account portals are vulnerable to cyberattacks. (Graham Jed, 2025)

HSA integrity can further be influenced by **identity theft**. Considering that HSAs contain sensitive/personally identifiable (names, SSNs, account balances) and financial information of the beneficiary, if this data fall into the hands of malicious individuals it can help those to open fraudulent HSA accounts or divert benefits from existing ones. For instance, a big HSA data breach has touched 4.3 million Americans, pointing out how important it is for the HSA

providers' systems to be embedded with adequate cybersecurity infrastructure. (Eddy Nathan, 2024)

Another prevalent scheme is **misclassification of qualified expenses**. Account holders or fraudsters taking over their accounts may try to use HAS distributions or CHOICE arrangement reimbursements to obtain items or services that aren't eligible. Since tax-free withdrawals can be made from the HSAs only for qualified medical expenses, abuse can take the form of receipts falsification or documentation overstating with regards to the medical expenses that incur. This abuse can account for losses in tax revenue and once detected by audits can draw penalties or fines. Just the same, since decisions of reimbursements in the case of CHOICE arrangements are based only on the documented expenses, if the prerequisites of documentation are weak or inconsistent it can result in improper reimbursement.

In its attempt to prevent this kind of fraud, the IRS releases alerts to inform taxpayers and health spending plan administrators. For example, in one of these alerts the IRS clearly states that using personal expenses for non-medical, general health, wellness or nutrition (for ex. food for weight loss) as qualified medical expenses is not accepted and will not be deductible or reimbursed from health flexible spending arrangements (FSAs), health savings accounts (HSAs), health reimbursement arrangements (HRAs) or medical savings accounts (MSAs). Also, the IRS cautions against corporations **misrepresenting eligibility of such expenses** and that notes from doctors based merely on self-reported health information are not proper documentation. (IRS, 2024)

Other schemes are **double reimbursement** or **duplicate claims (double-dipping)**. In these schemes an individual could try to get reimbursement for the same service, treatment or item both from an HAS and a CHOICE account. To identify the reasons for duplicate claims and detect fraud related to them, it is necessary the alignment and reconciliation of employers, overseers and tax-filing systems: (Jensen Lydia, Bestmedicalbilling, n.d.)



Figure 11/6.3.2 Reasons for Duplicate Claims (Source: Jensen Lydia, Bestmedicalbilling, n.d. *How to Fix Duplicate Medical Billing Claims to Avoid Revenue Loss?* Retrieved from <https://bestmedicalbilling.com/blogs/duplicate-claims-in-medical-billing/>)

Every year when filing their annual tax, individuals have to declare HAS contributions and distributions. Until then, some individuals may by mistake or intentionally continue his contributions to an HSA account although he's no longer eligible for different reasons such as enrolling to Medicare program for example. This can result in **improper claims** which can be difficult to detect without robust audit.

Another issue appears related to the funding employers do to their employees' CHOICE accounts. As said before, CHOICE arrangements are subject to nondiscrimination rules meant to block favoring highly compensated workforce members. In this context, abuse takes the form of **nondiscrimination violations** or **employer misfunding**, when employers, intentionally or not, make provisions that benefit some classes of employees (executives, managers or other high-paid employees) more than others such as: lower contributions, more benefits, higher reimbursements, shortened wait or favorable restrictions on age, experience or salary. (Malovrh Samantha, 2025) Noncompliance with the CHOICE arrangement rules has consequences on the structure and amounts of taxes that both employer and employees have to pay, raising questions on the integrity and fairness of the program's implementation.

Speaking of taxes, another problem is **tax reporting errors**, because as said before every year when filing their tax returns and other IRS forms, individuals must state the situation of their HSAs and CHOICE accounts: eligibility status, contributions, claims and reimbursements. Incorrect reports-mistakenly or deliberate-can result in illegitimate tax benefits, penalties and compounded audit trails. On the other hand it has to be considered the probability that employers and custodians may not possess modern integrated systems to

check consistency across several account types and tax documents creating conditions for the manipulation of this vulnerability.

In a nutshell, the BBB tries to improve the healthcare insurance environment through expanded use of CHOICE accounts next to traditional HSAs. The widening eligibility increase fraud risks. In this context, protecting account integrity and securing proper use of tax-favored savings will be critical to preserving both consumer trust and federal revenue interests. The effective monitoring of the reforms of HSA and CHOICE accounts implies enhanced documentation standards, cross-platform reconciliation, enhanced oversight mechanisms, including cybersecurity controls, transaction monitoring, and periodic compliance audits.

7. Cross-Sector Case Studies

7.1 Tax Reform Fraud Cases under TCJA and BBB

7.1.1 Section 199A Pass-Through Abuse

Section 199A has triggered different behavioral responses mostly related to income characterization and business structure. Taxpayers may be incentivized disregard thresholds and limitations, and change the status of employee and capital gains (wage income) into independent contractor and business earnings or misclassify specified service trades or businesses (SSTBs). This structural manipulation aims at obtaining QBI qualified for the deduction thus increasing it artificially without any analogue economic activity.

These compliance-undermining actions draw enforcement attention and may end with IRS audit adjustments or penalties on examination. Although there are not many notorious fraud prosecutions related exclusively to Section 199A, the data provided by the IRS show that the deduction claims increased greatly from 18.7 million in 2018 to 25.7 million in 2022, with total amount of claims in that period growing from \$150.0 billion to \$216.1 billion. This rise has driven IRS' attention especially for taxpayers with incomes above thresholds subject to capital and wage limits. (Congress.gov, 2024)

Decisions taken by courts regarding tax cases for Section 199A abuse help shaping the enforcement context. An example is the case of *Savage vs. Commissioner* and *Torres vs. Commissioner* in 2025(165 T.C. No. 5). In this case, shareholders of three S corporations made improper claims of the deduction. These taxpayers tried to include all the paid W-2 wages into the calculation of the QBI deductions, although two of their companies were marijuana businesses and so subject to Code 280E. This IRC Section doesn't allow any deduction or credit for expenses during the taxable year of trades/businesses working with controlled substances, with the exception of costs of goods sold. The IRS argued that under section 199A (b)(4)(B) and (c)(1) and (c)(3)(A)(ii), for businesses falling into the sphere of IRC Section 280E, the 199A deduction must take into its calculation only the "properly

allocable" wages, that is, deductible to QBI(net amount of "qualified" items-allowed in computing taxable income) after the 280E, thus being reduced. (TaxNews, 2025)

The Tax Court agreed to the IRS decision as stated in the conclusion: "Because nondeductible wages are not part of the defined term "qualified items of income, gain, deduction, and loss," they cannot be included in the defined term "qualified business income" for purposes of section 199A(c)(1)" (KPMG, 2025). Consequently, the final rule reduced the QBI deductions of the petitioners-taxpayers, sending the message that artificial inflation of the deduction base through improper income/wage treatment will face enforcement adjustments and judicial overruling.

This case is very important for enforcement of Section 199A because it is documented for the first time the IRS challenge and the tax-court's adjudication and it regards a significant Section 199A-abuse (improper qualification of incomes/wages to increase the QBI deduction). Furthermore, the full-court's decision (17 judges) creates precedent on statutory definitions construction.

This verdict complements previous anti-abuse guidance and rules offered by the IRS and Treasury, including Section 199A provisions meant to prevent artificial deduction claims. Although Section 199A brings great tax relief to pass-through entities and there are few official criminal cases related to it, its structural tight limits and doubtful definitions create an environment where compliance risk is increased through aggressive or erroneous deduction positioning by both taxpayers and preparers.

7.1.2 Deduction Threshold Manipulation

Under extensive tax legislations such as TCJA or BBB, the structural complexity of deduction provisions and thresholds has offered opportunities for abusive tax avoidance arrangements characterized by the IRS and DOJ as fraud concealed in tax planning.

A documented IRS enforcement action against promoter of **micro-captive insurance program** is the case of Bruce Molnar, cofounder and majority owner of Alta Holdings. Exploiting his position as an officer of Alta, during 2005-2012 he sold a program to his company's clients that enabled them to treat contracts as insurance and establish new companies as captive insurance firms. The Tax Court judged that the premiums that the captive insurance company Syzygyv received were part of their income and that Alta's program was not insurance for federal tax purposes and Section 831(b) captives rules were bent to generate abusive tax shelters and disproportionate deductible expenses. (IRS, 2025)

Abusive deduction manipulation is also represented in the case of **syndicated conservation easement tax scheme** of CPA Jack Fisher, attorney James Sinnott and five more CPAs. They designed, promoted and sold illicit tax shelters (based on inflated charitable contribution tax deductions) to rich taxpayers that came to over \$1.3 billion on the promise that the latter will earn 4.5 times the amount paid. Also, they used these deductions on their own personal income tax returns to lower the owed taxes on the millions they illegally obtained. The client's money were invested in land through their property holding companies which later at short time would donate the land or a conservation easement over it. Then they used inflated appraisals of the land of even more than 10 times higher than the

purchasing price in order to get to the inflated fair market value of the donations. Furthermore, they directed their clients to backdate related documents and records and so they did as well. In the end, their clients could improperly reduce their federal income tax liabilities and claim fraudulent and inflated tax deductions. (DOJ, 2024)

Another case of deduction thresholds manipulation (through synthetic losses) is represented in the case of Jenkins & Gilchrist attorneys and co-conspirators. They planned, promoted and implemented **abusive tax shelters** (like "Short Sales," "Short Options Strategy" (SOS), "Swaps," and "HOMER") for their wealthy clients to produce bogus and inflated tax losses to offset taxable income, thus decreasing or even removing taxes owed to the IRS. In order to mislead the IRS on the nature and purpose of the tax shelters, and to attract more clients, the defendants falsely documented their reasons to enter them. The **false opinion letters** provided to the clients to be presented in case of audit, made it difficult for the IRS to determine the tax liabilities or penalties if applicable. (DOJ, 2009)

Another example of fraudulent scheme is the one of Holtz Group' tax preparers who fabricated data on the company's clients' income tax returns to help them evade taxes and secure claims of more tax refunds from the IRS. These data contained: itemized deductions, business expense deductions, capital losses (bad debt deductions) and other losses and expenses because of casualty, theft, rental real estate businesses and unreimbursed partnership, from sales of business property or capital assets. Also, by inflating clients' income or by choosing "head of household" filing status for persons not eligible they targeted to falsely enroll them for refundable Earned Income Tax Credits. Furthermore, the defendants advised clients to establish business entities through the Holtz Group for extra fees of course, and then use them to claim deductions for unpaid partnership expenses. (DOJ, 2025)

A similar case is the one where a Bronx tax preparer Rafael Alvarez a/k/a "the Magician" filed fictitious federal tax returns of tens of thousands for the clients of his company (ATAX) to help them evade taxes and illicitly obtain refunds. Some of the core elements of fraud were related to:

- Schedule A itemized deductions (medical and job-related expenses, charitable contributions)
- Schedule C business expenses
- Schedule D capital losses
- Schedule E fraudulent inclusion for clients never owning a rental property, intentionally record a reduced income, and making up or exaggerating expenses such as repair and maintenance, cleaning, utilities and supplies, or costs for solar electric, solar water and geothermal heat pump property in order to obtain residential energy credits
- Other expenses such as moving, transportation and storage (Form 3903) or tuition fees (Form 8917)
- The election of the head of household and non-qualifying relatives

(U.S. SOUTHERN DISTRICT COURT OF NEW YORK, 2024)

Most likely, the BBB will encounter similar pressure.

7.2 Healthcare Fraud Examples

7.2.1 ACA and Medicare Advantage Broker Misconduct

Documented cases show that insurance brokers have exploited their role as intermediaries guiding consumers on the ACA marketplace and made fraudulent enrollments, misrepresented their information and manipulated subsidies for their own gain.

As mentioned by the U.S. Department of Justice one recent and noteworthy example of ACA enrollment fraud scheme is the case of Cory Lloyd, president of an insurance brokerage firm and Steven Strong, CEO of a marketing company. According to court evidence, they forwarded applications that were false and fraudulent to obtain full subsidies for individuals that weren't eligible because of not fulfilling minimum income requirements. The targeted individuals belonged to vulnerable population of none or low income, homeless, unemployed or suffering from mental health conditions or drug addiction.

Strong's company had "street marketers" that were reaching their targets and were applying manipulation and misleading techniques such as: offering bribes to enroll, coaching them to outsmart the application questions, to provide false identity and income information, addresses and SSNs to maximize subsidy eligibility, and, eventually were trying to obstruct any federal audit.

As claimed by the prosecution, an insurance company paid commissions and other amounts to Lloyd's company for enrollments, and the latter, at their turn, rewarded Strong's corporate for consumer referrals. And the financial consequences resulted were at least \$161,900,000 in federal subsidies and tens of millions in improper commissions for the two companies. On the other hand, the consumers that were found ineligible came across discontinued medical care coverage.

The FBI, IRS Criminal Investigation (IRS-CI) unit and Health and Human Services Office of Inspector General (HHS-OIG) are investigating the case. If the jury finds them guilty, they will face maximum penalties for conspiracy to commit wire fraud and wire fraud, conspiracy to defraud the United States and money laundering. (U.S. Department of Justice, 2025)

The scope of misconduct expands beyond legal actions against individuals. On May 1st 2025, the U.S. Department of Justice made a complaint under the FCA (False Claims Act) against three greatest health insurers- Aetna Inc., Elevance Health Inc. and Humana Inc.-and three insurance brokers- eHealth, Inc., GoHealth, Inc. and SelectQuote Inc. First defendants were accused of discriminatory practices and of paying illicit kickbacks of millions of dollars to the latter for specific Medicare Advantage enrollments.

According to the Medicare Advantage (MA) Program (Medicare Part C), individuals assisted by insurance brokers can tailor the plan most suitable for them. Instead of keeping a neutral position, brokers in this case were influenced by the insurers paying kickbacks to manipulate customers into choosing the plans that secured bigger compensation disregarding suitability to beneficiaries' needs.

Furthermore, Aetna and Humana colluded with the brokers and threatened them with holding back the kickbacks to compel them discourage enrollments of disabled individuals (perceived as less profitable) and direct them away from the two insurers' plans.

These two cases present different forms of broker misconduct related to ACA enrollments (sheer fraud, coercive and manipulating marketing and misrepresentation). These examples help policymakers to refurbish ACA enforcement, find systemic risks and secure verification processes. They provide empirical understanding of how intermediaries may maneuver intricate yet vulnerable subsidy rules and mechanisms for their own gain and in the detriment of enrollees and federal programs and funds.

7.2.2 Hospital Billing Fraud

In the U.S., hospital billing fraud is one of the most prevalent and costly types of healthcare fraud and most often reveals systemic manipulation of reimbursement mechanisms and regulations. Illicit practices-such as upcoding, billing for services that are medically unnecessary, unbundling and claims for unrendered services-not only harm patients but also cause large-scale financial losses for the federal healthcare programs and market distortion.

One of the largest hospital billing fraud was registered in 2016 and it implicated a large hospital chain, Tenet Healthcare Corporation, and two of its subsidiaries based in Atlanta that owned and managed acute-care hospitals in that area. Together they conspired and applied a scheme to defraud the U.S. by obstructing the lawful government functions of Health and Human Services (HHS) and by violating the Anti-Kickback Statute (AKS). According to their fraud scheme, the company paid **healthcare kickbacks and bribes to pre-natal clinics in exchange for** over 20,000 Medicaid **patients-referrals** to the Tenet hospitals. The clinics' operators exploited their positions of trust and wrongfully convinced undocumented Hispanic expectant women that the costs of childbirth and the care of the newborn are covered by Medicaid only if labor and child delivery are registered at one of the Tenet hospitals. Thus, they disregarded patients' right to choose the receiving care, directing them to Tenet hospitals (although other hospitals were closer to their homes) and put them and their newborn babies at both health and safety risk. On the other hand, these inflated admissions enabled Tenet corporate to obtain Medicaid and Medicare reimbursements of more than \$145 million. In 2016 the company agreed to plead guilty and pay \$513 million to resolve the criminal and civil allegations, as well as to increasing their compliance and ethics program, internal controls and cooperating with an independent compliance monitor in the future. (U.S. Department of Justice, 2016)

Another type of hospital billing fraud refers to **systematic upcoding and false diagnosis reporting** as presented in the Sutter Health case in 2022. This health care services provider has knowingly submitted inaccurate data (unsupported diagnosis codes) on the health status of patients-enrollees in Medicare Advantage Plans under its care. The goal was to inflate the risk scores, and by extension the capitated payments received by Sutter Health from the Centers for Medicare and Medicaid Services. Even though this case was framed under the False Claims Act, it has also shown how hospitals can adopt fraudulent billing practices that exploit the diagnosis coding system without taking corrective actions of its detected flaws, thus converting administrative discretion into a strategy of maximization of organization's revenues. The company has reached a settlement to pay \$90 million and get into a 5-year

Corporate Integrity Agreement (CIA) with the Department of Health and Human Services, Office of Inspector General (HHS-OIG). (U.S. Department of Justice, 2021, Updated 2025)

A third form of hospital billing fraud is represented as **unnecessary inpatient admissions** in the case of United States versus Halifax Hospital Medical Center and Halifax Staffing Inc. (Halifax) in Florida. According to the allegations, this hospital system deliberately violated the False Claims Act and the Physician Self-Referral Law (Stark Law). In the contracts with six oncologists, the doctors were offered a bonus that wrongfully comprised the value of their written prescription drugs and tests. Thus the physicians disregarded patient needs and driven by financial gain classified outpatient care services as inpatient, and even misclassified admissions to qualify for higher inpatient reimbursement rates. Also, three neurosurgeons were paid by Halifax for their services more than the fair market value. Halifax billed for all of these to Medicare program undermining its integrity. In the end, the company agreed to pay \$85 million to resolve the allegations and to get into a Corporate Integrity Agreement and to appoint a legal reviewer and an additional compliance expert. (U.S. Department of Justice, 2014, Updated 2025)

These cases highlight that billing fraud appears when supervision lags behind billing intricacy and some hospitals take advantage of complex formulas for reimbursement and documentation requirements to raise their claims volume and consequently their payment amounts.

7.2.3 Ransomware in Healthcare

Ransomware attacks are a significant security and fraud threat to the healthcare sector targeting confidential patient data, vital clinical systems and strict operational timelines, disrupting patient care and causing huge financial costs and losses.

As a response to the FBI's campaign against them in late 2023, the Russian BlackCat/ALPHV/Noborus ransomware group targeted, accessed through stolen credentials and compromised Change Healthcare, a subsidiary of UnitedHealth Group facilitating annually 15 billion health care transactions such as insurance eligibility verification and authorization, drug prescriptions, claims transmittals and payment (ex. between pharmacies and insurers). Once they detected the attack, Change Healthcare took offline the targeted system and switched to manual processes to ensure confining the spread of the ransomware while continuing their business operations. As a result, approximately 190 million affected patients couldn't leverage their insurance coverage for drug prescriptions, while frozen payments caused cashflow problems for pharmacies and for health care providers. A 2024 AHA survey on 1000 hospitals revealed that every hospital in the country was affected: 74% of them declared direct consequences on their patient care, 94% suffered financially, 33% estimated great losses in revenue and 60% of them needed up to 3 months to recover. UnitedHealth has chosen to pay the ransom of \$22 million in bitcoin (350 bitcoins) and estimated that total costs due to this cyberattack were of about \$1.5 billion. (American Hospital Association, 2025)(Jaikaran, Congress.gov, 2024)

In January 2025, the IT systems of Frederick Health Hospital have suffered a ransom attack which resulted in about 934,326 patients' data breach. Although the hackers got access to patients' personal and medical information, the electronic medical record system remained

untouched. Forced to proactively get offline most critical systems, the company encountered a lot of issues due to the disruption of her operations. The hospital was declared under a “mini disaster” status, thus it couldn’t temporarily receive any patients and the emergency department was halted, leading to ambulances being diverted to closer hospitals, delaying patient care and disrupting the emergency medical services in the vicinity. The fact that no ransomware group has declared to be behind the attack and that the hospital remained open imply that it has paid the ransom to its attackers. (Tshedimoso Makhene, 2025) (Steve Alder, 2025)

The third-largest healthcare data breach in 2025 was the case of the kidney dialysis service provider DaVita Inc. in April 12 that suffered an attack from the Interlock ransomware group. These hackers obtained access to the company’s network and partly encrypted its files, extracting patient information of almost \$2.7 million individuals from the dialysis laboratory SQL database. The 20+ TB of stolen data included different types of information such as demographic (name, address, SSN), clinical (health condition and treatments, lab tests and results) and even tax (identification numbers, images of written checks). Although DaVita’s operations were for a while disrupted, the company managed to incessantly provide critical care. The attack resulted in costs of almost \$13.5 million for remediation, cybersecurity specialists’ support, system restoration and increased costs of patient care. (Steve Alder, The HIPAA Journal, 2025)

In practice, ransomware in the healthcare sector has struck both care providers and supporting health IT infrastructure. It started as opportunistic attacks but then it evolved to organized criminal strategies taking advantage of systemic weaknesses, critical services and patient data value.

7.2.4 Ongoing Fraud Schemes Cases

7.2.4.1 The EIDBI Autism Services Fraud in Minnesota

The Early Intensive Developmental and Behavioral Intervention (“EIDBI”) is a state-funded healthcare program developed in Minnesota that provides medical services/treatments including Applied Behavior Analysis (ABA) therapy (intended to improve communication and social skills) to minors with autism spectrum disorder (ASD) and associated conditions. EIDBI services must be rendered under the supervision of qualified professionals (QSPs) following an approved individual treatment plan (ITP) and a comprehensive multi-disciplinary evaluation (CMDE). Despite these and other eligibility conditions, the program has been abused by some providers to fraudulently increase their profits. (U.S. Department of Justice, 2025a)

Asha Farhan Hassan established Smart Therapy LLC in November 2019 that deceitfully advertised itself as a provider agency for EIDBI services. What this company actually did was to employ untrained and unqualified young relatives as “behavioral technicians” for autism, enlisted children from the Somali community into Smart Therapy by using inflated or illicit autism diagnostics provided by some QSPs. They also offered monthly kickbacks of \$300 to \$1,500 (depending on the DHS authorization amount) to the children’s parents, money that was later on covered from the fraudulent claims forwarded to Medicaid. These claims amounted to millions of dollars and were artificially inflated, with false signature/approval of providers or QSPs without their knowledge, and for services not

entirely rendered or at all, up to the maximum number of hours allowed by Medicaid. Through this scheme, Hassan has managed to obtain approximately \$14 million in EIDBI reimbursements. (U.S. Department of Justice, 2025a)

The prevalence of the EIDBI fraud is later on demonstrated by the prosecution in the December 18, 2025 indictment of Abdinajib Hassan Yussuf and partners who employed the same fraud scheme through their company Star Autism Center LLC resulting in more than \$6 million fraudulent reimbursements. (U.S. Department of Justice, 2025b)

These cases underline the vulnerability of the EIDBI benefit and the need for stronger compliance frameworks, increased billing monitoring and stricter qualification standards of the providers.

7.2.4.2 The Housing Stabilization Services (HSS) Fraud in Minnesota's Medicaid Program

The Housing Stabilization Services (HSS) is a Medicaid covered experimental program that was initially implemented in Minnesota in July 2020 to assist in finding and keeping stable housing for vulnerable populations such as: disabled people, elders, and persons with disorders like mental health or drug addiction. The reimbursable services provided through this program were housing counseling, transition and sustaining assistance, and moving expenditures. The cost of this program was modestly estimated by the DHS at around \$2.6 million yearly yet it has skyrocketed to \$104 million in 2024 and \$61 million in the first semester of 2025. This evolution was the proof that the program's low entry-barriers and least documentation prerequisites for reimbursements set it as a target for fraud. (U.S. Department of Justice, September 2025)

Three of the HHS providers that defrauded the system were Brilliant Minds Services LLC, Foundation First Services LLC and Faladcare Inc. They fabricated and inflated reimbursement claims using the data of eligible individuals obtained from addiction treatment facilities or shelters. Other defendants, the owners of Leo Human Services LLC and Liberty Plus LLC, instructed their employees to overstate billing hours without any fear of verification (used by the corporates to claim reimbursements) and to make service notes usable by the company in case of audit. (U.S. Department of Justice, September 2025)

Other charges were brought against Anthony Waddell Jefferson and Lester Brown who exploited the eligibility process and registered LLCs in Minnesota acting as HHS providers although they lived in Pennsylvania. They enlisted beneficiaries from different Section 8 housing institutions or shelters. They didn't generally keep any client notes and when asked they fabricated them and used imaginary employees names for their approval. (U.S. Department of Justice, December 2025)

Owner of another company called SafeLodgings, Inc. has taken it to a different level and created double billing by claiming services towards multiple beneficiaries at the same time interval, which was forbidden by the HHS rules. (U.S. Department of Justice, December 2025)

In the light of rising evidence of fraud, the Department of Human Services (DHS) of Minnesota recommended to the CMS the termination of the program and in a later stage its redesign and reinstate. (Department of Human Services, 2025)

7.2.4.3 Integrated community supports (ICS) Fraud in Minnesota's Medicaid

The Integrated community supports (ICS) benefit is yet another Medicaid program launched in 2021 in Minnesota. It was conceived to assist individuals on a disability waiver in having a more independent life in their own house and within their community, rather than living in institutionalized settings (group homes, assisted living). The services for community participation, health, safety and wellness, adaptive skills training, and household management are available up to 24 hours a day and are personalized for every individual. The unfortunate with this program was that, just like the previous two-EDIBI and HSS-has been targeted by some providers for fraud, spiking total reimbursements paid by Medicaid to over \$400 million from its beginning until the end of 2025. (U.S. Department of Justice, December 2025)

An example of ICS fraud is the case of Ultimate Home Health Services in Minnesota that in only one year (June 2024-August 2025) has claimed reimbursements for 13 clients amounting to more than \$1.1 million. The company falsely billed for ICS services not provided as claimed. For example, the provider billed for falsely declared daily support to an individual for almost 447 days, or for 12 hours/day services for another person including before and after his time of death, or for another beneficiary whose mother disputed the actual number of hours of support with Activities of Daily Living (ADLs). (U.S. Department of Justice, December 2025)

Besides the investigation against this company, in September 2025 the Minnesota DHS deferred payments to more than 28 ICS providers suspected of fraud, while state auditors reviewing their documentation and compliance. (Fitzgerald, Fox 9, 2025)

7.2.4.4 Feeding Our Future and Federal Child Nutrition Program Fraud

The Federal Child Nutrition Program (FCNP) was administered by the U.S. Department of Agriculture (USDA) and configured to supply nutritious meals to children from low-income families in school programs. Throughout the COVID-19 pandemic, in order to expand the program, the USDA set aside some of the core prerequisites, including for-profit restaurants into the program and extended meals delivery to other children as well. Unfortunately, this openness gave way to opportunities for fraud, with one of the biggest fraud schemes involving the nonprofit company Feeding Our Future, a sponsor in the program that managed to receive and disburse about \$300 million from 2019 to 2021. (IRS Criminal Investigation, March 2025)

The employees at Feeding our Future engaged individuals and organizations to open meal sites in Minnesota according to the FCNP program, later used by the sponsor-company to submit fraudulent claims (based on forged documentation on the meal counts and children identifiers) for federal reimbursements to the Minnesota Department of Education. Furthermore, this company established many shell companies and sites that requested donations (without receipt records) and exaggerated on the number of meals served or they never delivered them at all. Also, besides the \$18 million in administrative fees received, the employees of Feeding Our Future demanded and received bribes and kickbacks renamed as “consulting fees” from other sponsored companies. (IRS Criminal Investigation, March 2025)

Until the end of 2025 there have been released indictments for 78 charged individuals and meal site operators. For instance, Abdirashid Bixi Dool enrolled two non-profits (Bilaal Mosque Inc. and Multicultural Resource Center Inc.) in the FCNP under Feeding Our

Future's sponsorship. These companies managed to receive reimbursements of \$1.1 million for fabricated and greatly exaggerated meal-documentation. (Reddekopp, KSTP, 2025).

Another central figure, Abdiaziz Shafii Farah, co-owner of Empire Cuisine & Market, was charged in 2025 to 28 years in prison and ordered to pay a restitution of \$48 million. His company fraudulently received more than \$47 million in FCNP funds by claiming to serve 18 million meals to children at more than 30 food distribution sites. (IRS Criminal Investigation, August 2025)

Waivers for participation criteria easement and the reliance on self-reported meal information and minimal instant oversight created opportunity for fraud. Therefore, enhancing verification procedures, using data analytics and strong sponsor supervision are crucial to ensure efficiency and safeguarding of the FCNP program.

8. Discussion and Conclusion

Summary and Conclusions

The thesis inquired into the evolution of forensic accounting within a shifting economic landscape increasingly contoured by regulatory reform, technological innovation and cross-sector interconnection. Emphasizing on taxing reforms, healthcare policy changes, and the rise of digital assets in the U.S., the dissertation examined the combined influence that structural healthcare policy modifications and decentralized financial systems had on fraud incentives, enforcement mechanisms and investigative methodologies. The fundamental premise developed throughout the study is that the discipline of forensic accounting is going through a structural evolution-from mainly retrospective fraud investigation toward a field that's both proactive and integrated that combines prevention, regulatory compliance, governance support and digital financial analysis.

Summary of the Study

The theoretical underpinning of the thesis established that historically the field of forensic accounting arose as an expansion of accounting, auditing and litigation support, designed to help with financial investigations and legal disputes. Over the years, the field embedded risk-assessment approaches, behavioral fraud theories, and cross-fields investigative methods. Conventional investigative tools-evidentiary documentation, transaction reconstruction, financial ratio analysis, and internal control testing-continue to be essential. Nonetheless, the bibliographical review showed that modern fraud schemes are more spread across regulatory and technological borders, generating a gap between traditional accounting methodologies and the specificity of blockchain analytics and other digital financial systems. Many researchers treat separately tax fraud, healthcare subsidy abuse and crypto-related misrepresentation, although there are increasing proofs that these areas practically intersect and relate to one another.

The regulatory review showed that significant tax reforms, in particular the Tax Cuts and Jobs Act (TCJA) and following legislative amendments, don't only modify compliance obligations and strategies, but also alter fraud incentives, corporate/managerial reporting behavior and investigative methods used in case of financial misconduct, and so indirectly affecting fraud risk. Although meant to promote economic growth, simplify tax compliance and discourage profit shifting, these legislative measures were so complex and ambiguous in parts (GILTI, FDII, BEAT) that gave way to interpretation and new incentives and opportunities for financial manipulation, strategic misclassification and concealment, and aggressive reporting. Thus, the borders between legal tax planning and fraudulent behavior turn fuzzy and that increases the need for forensic accountants with expanded responsibilities able to identify financial substance and compliance conformance intent.

Furthermore, the study examined financing structures and subsidy programs implemented in the healthcare sector, and identified systemic vulnerabilities to fraud in different processes such as eligibility verification and enrollment fraud, duplicate coverage claims, billing manipulation, improper payments or subsidy misuse. These weaknesses in administrative controls are determined by the reliance on self-reported data, the scale of the federal subsidies and the fragmented or multilayered character of the oversight systems. The analysis illustrated that healthcare fraud is a systemic problem rather than just a technological one, and it requires incentive architecture, financing methods and governance structures. Therefore, forensic accounting techniques are critical in validating eligibility claims, reconstructing financial flows, identifying anomalies in big datasets and reinforcing accountability mechanisms across both public and private healthcare systems. It is important that healthcare fraud wasn't regarded as a discreet phenomenon but as fragment of a larger compliance ecosystem determined by taxing policy, public funding allocation and compliance enforcement capacity.

Another significant dimension of the dissertation is the investigation of digital assets and transfers within blockchain as a new border for forensic accounting. Decentralized financial platforms and cryptocurrencies have introduced an environment where, paradoxically, transaction data is both transparent and anonymous-permanently recorded, publicly available and yet of unidentifiable ownership. This duality raise the complexity of investigations and requires forensic accountants to use a combination of conventional accounting-evidence and emerging blockchain analysis. To manage digital-assets transactions and increase transparency, many regulatory agencies (such as the IRS or SEC) have refurbished reporting frameworks, based on increasing reporting obligations and supervision. Still, these requirements are difficult to enforce as challenges arise related to evidence and methodology-jurisdictional fragmentation, valuation fluctuation and technical difficulty in analyzing blockchain data. So, the thesis argued that, to keep the investigative rigor and effectiveness, forensic practitioners must adopt skills in digital-asset data valuation, tracing, and interpretation, thus combining blockchain analytics with conventional financial evidence.

Methodologically, the study compared tools used both in traditional forensic accounting and in blockchain forensic. Traditional approach-through financial ratio analysis, red-flag testing, transaction reconstruction and litigation assistance-remains critical providing contextualized interpretation, documentary verification, and legal consistency. On the other hand, data analytics and blockchain analysis can identify large-scale patterns in the

distributed networks and offer traceability. The conclusion is that none of these two approaches can independently address modern fraud schemes. Therefore, the study recommends the integration of both methods into a hybrid analytical framework that encompasses financial proficiency, legislation interpretation and digital investigative capability. Besides the technological skills, this methodological integration also requires strong discernment of how the evidence is clear, reliable, reproducible and admissible in courts.

The practical and representative cases from the next chapter illustrated how fraud progressively operates in various sectors, and how contemporary fraud schemes often take advantage of interactions between healthcare subsidies, tax incentives and digital payment-systems. Healthcare subsidies may be targeted for financial diversion, tax incentives may by implication influence reporting behavior, and digital payment-systems may be utilized to conceal or transfer illicit funds. These cross-sector interrelations challenge conventional regulatory borders, and policymakers and investigators acting within segmented institutional structures. The study has reinforced the need for integrated investigative approaches and concluded that forensic accounting must adapt and develop toward cross-sector analytical models designed to identify systemic risk and not just discreet irregularities.

Key Conclusions

The research gives shape to several main conclusions:

To begin with, legal reform acts as both a compliance mechanism and a behavioral incentive. Fiscal legislation and healthcare subsidizing policies remodel economic incentives such that may inadvertently increase fraud risk. What comes to simplify in one area may create complexity elsewhere. Hence, forensic accounting must interpret regulatory measures besides the technical terms and with respect to the generated behavioral responses.

Second, the progress of technology has significantly changed evidentiary structures. Although records on transactions in blockchains are immutable, they are difficult to interpret and be linked to real-world players. Specialized expertise and constant skill development of forensic practitioners is needed, while increased cooperation with legal professionals and data analysts.

Third, how effective the investigation will be depends more and more on integration. The differentiation traditional accounting evidence vs. digital forensic records is lessening. The reconciliation of traditional documentation (like invoices, tax returns or subsidy claims) with on-chain transaction data must be included in the fraud investigations. This inclusion calls for methodological standardization to guarantee in the end a reliable and legally admissible evidence.

Fourth, the regulatory philosophy has fundamentally changed, besides enforcement now emphasizing on proactive governance. Forensic accountants don't detect already occurred fraud, they work to prevent and advise against abuse and fraud. The increasing complexity of the regulatory settings make organizations turn to forensic experts' assistance to outline

their internal controls, to estimate fraud risk potential, and foresee vulnerabilities before misconduct appears.

Fifth, the systemic risk rises due to the financial interdependence across sectors. Fraud is not limited to one regulatory domain anymore. The intersection of tax law, healthcare subsidy-reimbursement systems and digital asset markets enables the exploitation of institutional weaknesses through complex fraud schemes. For this reason, forensic accounting must adopt a holistic rather than a segmented approach.

Practical Implications

The outcomes of this thesis have practical implications as follows:

For policymakers, it is critical that regulators oversighting these three areas: tax, healthcare and digital assets must be coordinated, to increase detection capacity and decrease fraud risk. Also, transparency can be consolidated through information sharing agreements and unified data reporting standards.

For institutions, internal control systems must include compliance assessment across departments and monitoring of digital assets as well. Implemented strategies for risk management should consider the probability that misbehavior in an area of operations may have impact on another.

For forensic accountants, it is essential that they keep going extending their education so as to include regulatory interpretation, data science and blockchain analytics. It might be necessary to update professional standards to properly include digital evidentiary techniques.

For academic organizations, graduates' curriculum should also encompass a combination of accounting theory, regulatory review and digital finance.

Limitations and Future Research

The thesis mainly analytical and conceptual as it is not based on empirical quantitative-testing, rather it relies on regulatory study and methodological comparison. To demonstrate how effective would be hybrid forensic models, further research should be based on cases or statistical analysis, or on comparative studies across jurisdictions for the relation between regulatory structures and fraud patterns. Furthermore, future research should normalize methodologies used in blockchain forensic and estimate their acceptance as evidence in courts of law.

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Author's Statement:

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