Network Topologies of Intermediaries in the Offshore World

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Abstract

Intermediaries form the crucial links enabling tax haven use, contributing significantly to global tax avoidance and inequality. While analyses often focus on demand-side factors, this thesis challenges such perspectives by asserting the critical importance of the supply-side network structure and intermediary agency for understanding and regulating offshore finance. Extending the network analysis of Chang et al. (2023) and drawing on Harrington's (2016) micro-sociological evidence, I analyze International Consortium of Investigative Journalists (ICIJ) leak data. Although ICIJ data has limitations for estimating the overall scale of avoidance, it permits robust generalization about intermediary roles within these complex networks. A novel agentic method is employed, enriching ICIJ data by incorporating publicly available online information about intermediaries' professional roles and affiliations.

This thesis presents four key propositions: 1) The overall network exhibits structural vulnerabilities concentrated around central intermediaries. 2) Intermediaries often display cultural or national specificity, catering to distinct clienteles. 3) Different intermediary types occupy distinct network positions and vary in systemic importance, measurable via network centrality. 4) Network structures are dynamic, adapting in response to regulation and financial innovation. This analysis provides critical insights into the architecture and potential regulatory chokepoints within tax haven networks, viewed through the lens of intermediary action.

Introduction & Motivation

1.1 Introduction

The central claim advanced throughout this thesis concerns the critical relevance of examining supply-side dynamics within the offshore financial system. Specifically, it argues that the role of intermediaries – the professional enablers and facilitators of offshore activity – is an incredibly relevant factor. The function and influence of the supply side – encompassing the specialized intermediaries and the specific services offered by various jurisdictions that actively enable and shape offshore activity – remains comparatively under-explored from an empirical standpoint. Building upon recent scholarship that increasingly highlights these supply dynamics (e.g., Laffitte 2024; Alstadsæter et al. 2019), this thesis seeks to extend and generalize insights from qualitative work, such as Harrington's (2016) study of wealth managers, through a quantitative analysis drawing upon the extensive data revealed by the ICIJ leaks.

Primary literature this is building on (contextualising interest in the topic):

- Interest spurred on this by an interest in optimal taxation regimes esp. Saez (2002), and the work of Zucman & Saez (2019) on the optimal taxation of wealth.
- Overall approach from neoclassical public finance and economics. Lectures from Zucman's overviews of tax evasion and avoidance in the modern economic literature has been the primary source. https://gabriel-zucman.eu/publicecon/
- Niche within Political Sociology through Brooke Harrington (2016)'s book and the method's employed in her ethnography of wealth managers. Likewise the tentative work in Chang et al. (2023a and 2023b) on network structure. However, for the latter, they concentrate more on demand-strategies rather than the more interesting supply-side strategies that are the focus of thisthesis.

1.2 Tax Avoidance at the Top of the Income Distribution

While considerable progress has arguably been made in curbing outright tax evasion, tax avoidance remains a substantial challenge, a point emphasized by commentators such as Stiglitz (cited in Alstadsæter et al., 2024). It introduces several clear inefficiencies into the economic system, including the generation of a distinct class and socially unoptimal rents accruing to the intermediaries who facilitate such schemes, the potential for poor allocation of resources as investment decisions are distorted by spurious incentives, and, beyond these economic inefficiencies, a range of normative concerns regarding fairness and the integrity of the tax system that inevitably accompany widespread tax avoidance.

A literature that has grown very prominent in the past two decades or so in A crucial distinction often highlighted is between income and wealth inequality. Income inequality can be somewhat ephemeral in nature; high-earners in one year may retire or experience income fluctuations in the next. Wealth, in contrast, tends to be more permanent, potentially distorting social outcomes over non-transient periods in a more meaningful way. Inordinate wealth accumulation (e.g. Harrington, 2016) has distorted social mobility (as explored in the work of Chetty) and been a key driver of overall inequality trends (e.g. Piketty's main body of work).

With that said, from a (narrow and purely economic) point of view, whether tax avoidance quantifying is actually bad is unclear, so the normative desirability of it at aggregate is still in question. The precise behavioral effects of tax evasion and avoidance on incentives – such as the incentives to work, save, or invest – is not as clear as, for example, studying the effects of tax incentives on MNCs (where it seems generally negative, e.g. Puerto Rico tax credit study from Serrato, 2018; also Garrett & Serrato, 2019). A key complicating factor is the role of expectations; an individual's behavior is likely highly dependent on their expectation of being able to successfully evade or avoid taxes in the future.

1.3 Limitations of Traditional Demand-Side Models

Traditionally, tax evasion and avoidance has been studied from the demand-side. The seminal Allingham-Sandmo (1972) good at explaining tax evasion decisions of the vast majority of the income distribution (Alstadsæter et al. 2019) performs poorly at the top of the distribution (ibid.) the Allingham-Sandmo (1972) model, provides a powerful and often empirically supported framework for understanding tax evasion decisions for the majority of taxpayers. This standard model typically portrays evasion as a individual and rational gamble, where individuals weigh the expected benefits of non-compliance against the probability of detection and the severity of potential penalties (see also Yitzaki & Slemrod). However, under standard assumptions about risk aversion and the structure of penalties and audit probabilities, the model often predicts that wealthier individuals, facing potentially higher stakes and scrutiny, should be less inclined to evade taxes. Yet, empirical evidence, particularly from studies leveraging leaked data (e.g., Alstadsæter et al. 2019), suggests the opposite: offshore tax evasion appears highly concentrated among the ultra-wealthy. The comparative statics do not hold here.

Furthermore, traditional methods for empirically studying tax compliance, such as random audit studies (e.g., Kleven et al. 2011), also face limitations in capturing the full picture of high-end evasion. As highlighted by Alstadsæter et al. (2019), while random audits are invaluable for understanding compliance behavior regarding income streams typically subject to third-party reporting or easily verifiable through standard audits, they often fail to detect the sophisticated, cross-border evasion strategies frequently utilized by the wealthiest segment. Complex offshore structures, shell corporations, and opaque trust arrangements often fall outside the scope of conventional audit procedures, rendering this form of evasion largely invisible to standard demand-side enforcement tools.

This points towards a dynamic of a game of cat and mouse. Demand-side enforcement mechanisms, predicated on detecting and penalizing individual non-compliance, struggle to keep pace with the evolving and increasingly complex strategies developed to obscure wealth and income, often with the assistance of specialized intermediaries. Consequently, relying solely on demand-side models and traditional enforcement metrics provides an incomplete, and potentially misleading, understanding of the phenomenon, especially concerning the significant evasion occurring at the top of the distribution. This underscores the necessity of incorporating supply-side factors and network structures to actually understand these mechanisms enabling tax avoidance at the top of the income distribution.

1.4 The Supply-side: Intermediaries as Gatekeepers

To fully grasp the dynamics of offshore tax evasion and avoidance, it is crucial to clarify what constitutes the "supply-side" (used more-so metaphorically than stringently) in this context. Here, the supply-side refers specifically to the ecosystem of professional intermediaries – such as law firms, banks, trust companies, and specialized advisors – as well as the jurisdictions that provide the legal and regulatory frameworks enabling offshore financial activities. The central argument advanced in this thesis, building on insights from models like Alstadsæter et al. (2019) and qualitative work such as Harrington (2016), is that this supply-side dimension is far more relevant to scrutinize than often acknowledged, potentially offering more effective avenues for understanding and potentially curbing offshore practices compared to a sole focus on demand-side factors.

A primary reason for emphasizing the supply side relates to the concept of elasticity. It is argued here that the elasticity of supply of intermediaries is considerably higher, and therefore potentially more responsive to policy interventions, compared to the elasticity of demand from clients seeking offshore services. Several factors underpin this view:

First, the incentives structuring the behavior of intermediaries are arguably much more sensitive to changes in the regulatory or reputational environment. For these professionals and firms, the provision of offshore services is not merely an option but often a core component of their business model and career trajectory. Their professional existence and profitability are directly dependent on their continued ability to offer these specific services effectively and discreetly. Consequently, factors that threaten this ability – such as increased regulatory scrutiny, heightened enforcement risk, or significant reputational damage – can have a pronounced impact on their willingness and capacity to supply these services. In contrast, the demand for tax minimization or evasion among potential clients, driven by factors like high tax rates or a desire for secrecy, can be seen as a relatively persistent force. While demand might fluctuate, the fundamental desire among some wealthy individuals and corporations to reduce tax burdens is likely to remain, making demand potentially less elastic to targeted interventions than the specialized supply of enabling services.

Second, the micro-sociological account provided by Harrington (2016) offers compelling reasons why intermediaries are so central. Her ethnographic work illuminates the deeply personal, trust-based relationships that often form between wealth managers and their elite clients. These relationships, built over time and predicated on discretion and expertise, are difficult to replace. Clients rely heavily on their chosen intermediaries not just for technical execution but also for navigating the complexities and risks of the offshore world. The non-substitutable nature of these trust-based relationships means that disrupting the intermediary side can significantly impact clients' access to and ability to maintain offshore structures, further highlighting the critical role of the supply-side actors.

Third, the structure of the market itself points towards the strategic importance of intermediaries. There often exists a many-to-one relationship between clients and intermediaries; that is, a relatively small number of specialized intermediary firms or key professionals service a large number of clients seeking offshore solutions. This concentration means that the intermediary sector represents a point of leverage. Regulatory actions or enforcement efforts focused on these key intermediary players could potentially have a cascading effect, impacting a wide network of clients far more efficiently than attempting to identify and pursue each individual client separately. This structural feature makes the intermediary supply-side particularly vulnerable, and thus relevant, from a regulatory perspective.

1.5 Research Gap: Understanding the *Network Structure* to Inform Intermediary Regulation

Considerable research, particularly micro-sociological accounts like Harrington's (2016) ethnography, provides rich insights into the dyadic relationships, motivations, and practices of individual wealth managers and their clients. Ethnography, as a methodology, certainly offers a powerful means of accessing and understanding micro-level dynamics that can illuminate macro-level phenomena or "megatrends,"; of "entering in" an otherwise abstract metanarrative (cf. Neely, 2021; Also Chung 2018(check up; misremeber?)) However, generalizing from these detailed qualitative studies to broader systemic patterns has not really been done.

A nascent thread of literature has begun to explore these structural aspects, often spurred by the availability of large-scale leaked data. Work such as Chang et al. (2023), alongside policy-oriented research emerging from bodies like the EU following disclosures such as the Panama Papers (e.g., research from 2017), represents initial steps in this direction. However, this line of inquiry remains limited thus far, often focusing on specific subsets of countries or actors. The analysis of the network structures inherent in the offshore world is still in a highly exploratory phase. Consequently, the potential held within detailed micro-data sources, such as the ICIJ leaks which map connections between entities, officers, and intermediaries on a vast scale, remains largely underexplored in terms of systematic structural analysis.

The work by Chang et al. (2023) on "Secrecy Strategies" provides a pertinent example. While their primary focus was on analyzing the demand strategies employed by global elites, their findings crucially demonstrate that these strategies are shaped by, and interact with, the supply landscape – the available intermediaries, jurisdictions, and the institutional context of the elites' home countries. Their research, therefore, implicitly highlights the importance of the supply structure by showing how it influences demand patterns, effectively linking the two sides of the market through observable strategic choices.

This points towards the specific research gap addressed herein: the need for a more systematic understanding of the network structure of the supply-side itself. While we have compelling accounts of individual intermediary roles and incentives, a comprehensive picture of how these intermediaries connect to each other, to different types of clients, across various jurisdictions, and through specific service offerings – essentially, the topology of the intermediary network – is lacking. Understanding this structure is potentially crucial for designing more effective regulation targeting these key players.

Therefore, the goal within this thesis is to contribute to bridging this gap, primarily through synthesis and systematization. Drawing upon the existing literature, including the rich ethnographic accounts, the aim here is not necessarily to conduct a novel quantitative network analysis but rather to attempt to codify some of the more loosely defined observations about intermediaries and their roles. By viewing these observations through the conceptual lens of network structures and positions, the objective is to formulate more general propositions regarding intermediary behavior, influence, and potential vulnerabilities within the broader offshore system.

1.6 RQ: What role do offshore intermediaries play in networks of high-end tax avoidance?

1.7 Roadmap of the Thesis.

Having gone through what motivates the pursuit of this question and situate this thesis, will proceed to the bulk of the paper. First, outline the key concepts and theories I will draw on, then moving on to outline the key propositions this paper will seek to set forth about the role of intermediaries. Then, a brief section will cover the data sources.

Theory

2.1 A Note on Philosophy of Science and Methodological Approach

In line with perspectives advocating for methodological pluralism and the use of qualitative insights for broader theory development (e.g., George & Bennett, 2005), this thesis leverages Harrington's findings for concept formation and hypothesis generation - effectively using her work as a theory-building step. Her work helps define the "intermediary" phenomenon and suggests the importance of factors like trust and expertise, which likely underpin the network structures we observe. This thesis then seeks to assess the generalizability and structural manifestations of these insights across a large dataset, moving from micro-level understanding to macro/meso-level patterns. The objective, therefore, explicitly shifts from *verstehen* to identifying and analyzing recurrent structural patterns within the network as revealed by the ICIJ Offshore Leaks Database *and assuming we can generalise these structures* (more on that later under the methods section).

2.2 Conceptual foundations

This section outlines the necessary conceptual foundations that precede the concrete propositions asserted later in the thesis. These concepts presented here as being analytically requisite for the propositions developed in the subsequent section (2.2).

2.2.1 Global Wealth Chains and the Role of Intermediaries

To understand the significance of the intermediaries central to this thesis – the professional advisors, lawyers, accountants, and wealth managers operating within the offshore financial system – it is helpful to adopt an analytical framework that explicitly centers their role. The overall motivation for focusing on these actors stems from the "Global Wealth Chains" (GWC) approach.

As articulated by Seabrooke & Wigan (2014), this approach offers a distinct perspective compared to analyses focused on global value chains. They argue that: "While actors in value chains share an interest in transparency and coordination, those in wealth chains thrive on rendering movements through the chain opaque. Wealth chains hide, obscure and relocate wealth to the extent that they break loose from the location of value creation and heighten inequality." Adopting this GWC lens necessitates an explicit focus on the intermediaries and professionals. These are the actors who develop and deploy the sophisticated financial and legal innovations required to sustain and manage the complex structures used to hold individual wealth offshore, often obscuring its origins and ownership.

Further elaborating on the socio-legal dynamics underpinning these chains, Seabrooke & Wigan (2022) emphasize the significance of socially constructed legal meaning. They write: "What is significant here is accepted legal assertions,. This happens within interpretative communities, where agreements on legal affordances are secured." The intermediaries operate within these communities, shaping and interpreting the boundaries of legal possibility. Seabrooke & Wigan (2022) also connect this to broader social valuations, noting that "An important element is that within such communities wealth confers honor, where the accrual and transfer of wealth without productive effort is held in high esteem (Veblen, 1899)."

Borrowing from the typology proposed in Seabrooke & Wigan (2022), the networks involving the intermediaries examined in this thesis align closely with their definition of "relational wealth chains." These are characterized as follows: "Relational wealth chains involve the exchange of complex tacit information, requiring high levels of explicit coordination. Strong trust relationships managed by prestige and status interactions make switching costs high." This description of relational wealth chains, emphasizing tacit knowledge, trust, coordination, and high switching costs due to the personal nature of the relationships, is highly with the ethnographic work of Harrington (2016) and how she outlines the structure and dynamics of the networks between wealth managers and their elite clients. This connection is also drawn by Seabrooke & Wigan (2022) themselves, who cite Harrington (2015) alongside related work by Beaverstock & Hall (2016) and de Carvalho & Seabrooke (2016) as evidence supporting the characteristics of relational wealth chains.

Furthermore, a developing body of literature situated within this GWC approach is examining how these professionals actively shape and navigate existing regulatory landscapes (e.g., Christen, 2021; Christensen & Seabrooke). This underscores the analytical purchase of the GWC framework for understanding the pivotal role of intermediaries not just as passive facilitators, but as active agents within the offshore system.

2.2.2 Weaponised Interdependence

The goal here is to outline the theoretical basis for viewing intermediaries not just as facilitators, but as potential points of leverage or vulnerability within the offshore system, thereby informing regulatory strategies.

A lens for such an analysis is provided by the concept of "weaponised interdependence," as developed by Farrell & Newman (2019). Their core argument posits that globalization, far from simply flattening the world or diminishing state power, has often created highly specific network topographies. These global networks—whether in finance, technology, or supply chains—are frequently characterized by asymmetric structures. Power, in this view, does not dissipate but rather concentrates at key hubs or 'chokepoints' within these networks. States or actors who control these chokepoints gain significant leverage over others who depend on access to the network, potentially allowing them to 'weaponize' this interdependence for strategic gain.

This logic of weaponised interdependence has been applied directly to the domain of global tax policy by Christensen (2024). He argues that states have often failed to fully harness the potential regulatory power they could wield by strategically targeting chokepoints within the networks facilitating tax avoidance and evasion. Among the key institutions Christensen (2024) identifies as potential chokepoints relevant to global tax policy are precisely the expert intermediaries – the lawyers, accountants, wealth managers, and corporate service providers – who are central to this thesis. Their specialized knowledge and gatekeeping function position them as critical nodes whose disruption could have widespread effects.

This perspective aligns with and provides a theoretical underpinning for findings across various studies highlighting the importance and potential vulnerability of the intermediary supply-side. Research emphasizing the role of intermediaries (e.g., Harrington 2016; Alstadsæter et al. 2019) implicitly points to their structural significance. For instance, Harrington's (2016) focus on trust-based relationships suggests that disrupting these specific intermediary nodes can create significant friction. Alstadsæter et al.'s (2019) supply-side explanation for high-end evasion similarly underscores the crucial role of these facilitators. More explicitly, recent work analyzing the network structures revealed by leaks, such as Chang et al. (2023), demonstrates the analytical purchase of focusing on these networks. While their specific study examined network structures to understand the effectiveness of sanction regimes against oligarchs, the underlying approach – analyzing network vulnerabilities by focusing on intermediary connections – is directly applicable to the broader question of regulating the offshore system for tax purposes.

All in all, understanding the network structure, particularly the role of intermediaries as potential chokepoints, reinforces the idea that the current state of offshore finance and associated tax evasion is, as Saez & Zucman (2019) argue in a related context, a continued choice shaped by policy and enforcement priorities, rather than an immutable fact of nature.

2.2.3 Network Theory as a Lens for Understanding Illicit networks

To further contextualize the approach taken in this thesis, it is useful to briefly elaborate on how network studies have previously been employed to explore the structure and dynamics of analogous social and economic systems. The application of network analysis provides powerful tools for understanding complex relational patterns, information flows, and vulnerabilities within various types of networks, including those operating in clandestine or illicit domains.

The foundational work in social network analysis, such as Granovetter's (1973) seminal paper on the "strength of weak ties," laid the groundwork for understanding how network structures facilitate crucial processes like information diffusion and resource access. While initially focused on phenomena like job searching, these core insights into how different types of ties (strong vs. weak) and different network positions (e.g., bridges) shape outcomes have proven broadly applicable. Understanding the topology of connections is essential for identifying critical links, potential weaknesses, and influential actors within any network system. This foundational understanding extends to the analysis of illicit networks, where mapping relationships can reveal operational structures and vulnerabilities.

One of the prominent examples demonstrating the application of network analysis to understand illicit operations is the work of Morselli (2009). By examining specific cases, such as the CAVIAR network involved in cross-border drug smuggling, Morselli illustrates how network science concepts (like centrality measures, brokerage roles, and structural holes) can be used to dissect the organizational structure of criminal enterprises. Such analyses move beyond individual actors to understand the relational patterns that enable the illicit activity, potentially identifying key players or structural weaknesses that could be targeted for disruption.

More directly relevant to the subject matter and data source of this thesis, recent studies have begun applying network analysis to the large-scale datasets released by the ICIJ. Chang et al. (2023), for instance, utilized network methodologies on ICIJ data to specifically examine the effectiveness of sanction regimes against oligarchs, analyzing how their embeddedness within offshore networks influenced outcomes. Similarly, related work by the same authors ("Complex Systems of Secrecy," Chang et al. 2023) employed network perspectives to explore patterns related to the types of offshore instruments demanded by elites, linking structural features to strategic choices. These studies exemplify how network analysis can yield substantive insights from the complex relational data contained within the ICIJ leaks, demonstrating its utility for exploring the offshore financial system.

The general principles and analytical techniques drawn upon in such studies are well-established within the broader field of network science, with standard references like Newman's (2010/2018) textbook providing comprehensive overviews of the underlying theory and methodologies. While this thesis may focus more on synthesis and proposition-building informed by network concepts rather than complex quantitative modeling, drawing upon this established body of work provides a robust conceptual and methodological grounding for analyzing the structure and significance of intermediary networks in offshore finance.

2.2.4 A Typology of Intermediaries and Their Role

To proceed with an analysis centered on the supply-side, it is essential to clarify conceptually what exactly is meant by an "intermediary" within the context of offshore finance. These actors play diverse roles in facilitating the creation, maintenance, and utilization of offshore structures. While specific studies, such as Harrington (2016), provide deep insights into the practices of particular intermediary types like wealth managers, a broader classification is useful for systematic analysis.

For this purpose, this thesis builds upon the typology developed in a 2017 EU report examining the role of advisors and intermediaries as revealed in the Panama Papers. This framework, grounded in empirical observation of a major leak, categorizes intermediaries based on their primary area of expertise and function within the offshore ecosystem. Adopting this typology serves a dual purpose: it provides conceptual clarity for the subsequent discussion and offers a practical schema for efforts to classify the varied intermediary actors identified within the ICIJ dataset, thereby enriching the data for structural analysis.

Based on the EU (2017) framework, we can distinguish the following core types of intermediaries:

- **Tax Experts:** These intermediaries focus primarily on the tax implications of offshore structures. Their core function involves advising clients on tax planning strategies to minimize liabilities (potentially crossing into evasion) and ensuring compliance through the preparation of necessary tax documentation across relevant jurisdictions. This group can include accountants, auditors, and specialized tax advisors, whose advice may vary in aggressiveness.

- **Legal Experts:** This category encompasses professionals providing expertise on the legal design, establishment, and enforcement of offshore structures. Key activities include structuring entities to navigate or exploit laws in multiple jurisdictions, handling incorporation (often via licensed entities), drafting legal documents, arranging nominee services, and providing formal legal opinions or representation. This group includes regulated lawyers, who often have exclusive rights for certain actions like court representation, and potentially notaries involved in document formalization.

- **Administrators:** The primary role of administrators is the ongoing operational maintenance and financial record-keeping of offshore entities. This includes preparing financial accounts, potentially handling tax returns (overlapping with Tax Experts), managing day-to-day administrative tasks, and sometimes auditing accounts (though auditors require independence). Accountants often fall into this category, focusing on financial recording and reporting.

- **Investment Advisors:** Distinct from those setting up the structure, investment advisors focus on managing the assets held within the offshore entity. Their core function is to develop strategies for wealth preservation or growth using the financial instruments (or other assets like property, art, etc.) owned by the offshore structure. Their role is centered on asset management rather than the legal or tax architecture itself.

This typology provides a decent conceptual grounding for analyzing the distinct roles and potential influence of different supply-side actors within the offshore financial network.

2.2.5 Secrecy Strategies: Financial Instruments and Legal Innovations

Goal: Understanding the different financial instruments they use and how they can be innovated on, and used for different purposes. (Mainly Lafitte, 2024; Chang et al. 2023)
(TBD)

2.3 Propositions

Proposition 1: Offshore Intermediary Networks Exhibit Scale-Free Centrality and Targeted Vulnerability.

- **Core Idea:** The network connecting clients to the intermediaries who facilitate offshore structures is characterized by a high degree of centrality, where a few "hub" intermediaries serve a disproportionate number of clients, making the overall network susceptible to targeted disruption aimed at these key players.

- **Contribution:** While Chang et al. (2023) identified scale-free properties in specific contexts (e.g., sanctioned oligarchs), this proposition aims to *systematically quantify* these structural properties across the broader Offshore Leaks Database, explicitly link intermediary centrality to network vulnerability, and test if specific intermediary *types* dominate these central positions.

- **Sub-propositions:**
  - **1a. Power-Law Distribution of Intermediary Connectivity:** The distribution of the number of clients served per intermediary will follow a power law, indicating the presence of highly connected "hub" intermediaries. *Contribution:* Confirms and quantifies the scale-free nature specifically for the *intermediary* nodes across the comprehensive ICIJ dataset.
  - **1b. Hub Intermediary Dominance and Network Fragility:** The overall connectivity and integrity of the client-intermediary network are disproportionately dependent on a small number of high-degree intermediary hubs. Simulated or observed removal of these top intermediaries (ranked by centrality metrics) will lead to significantly greater network fragmentation compared to random node removal.
  - **1c. Functional Specialization of Hub Intermediaries:** Certain *types* of intermediaries (as defined in 2.1.2 - e.g., Legal Experts, Administrators) will be significantly over-represented among the high-centrality network hubs, suggesting that specific functions are critical bottlenecks in the offshore facilitation process.

Proposition 2: Intermediary Network Structures and Vulnerabilities Vary Systematically with Client Home Country Governance.

- **Core Idea:** The way clients connect to intermediaries, the resulting network structure, and the vulnerability of key intermediaries are not uniform globally but are shaped by the political and institutional environment (rule of law, regime type, corruption) of the clients' home countries.

- **Contribution:** Extends Chang et al.'s work on secrecy *strategies* by systematically examining how client home country governance shapes the *measurable network structure* centered on intermediaries (e.g., intermediary centrality distributions, clustering, specialization) and the *differential vulnerability* of these intermediary networks, using comprehensive governance indicators (WJP, VDEM) across the full dataset.

- **Sub-propositions:**
  - **2a. Governance-Dependent Intermediary Network Topologies:** Key intermediary-centric network metrics (e.g., parameters of the intermediary degree distribution, average intermediary clustering coefficient, network density around intermediaries) will differ significantly and predictably based on the governance indicators (WJP Rule of Law, V-Dem Regime Type, TI CPI) of the client cohorts' home countries. *Contribution:* Quantifies the link between macro-level governance and the micro-level structure of intermediary networks.

- **2b. Contextual Variation in Intermediary Hub Fragility:** The "super-fragility" observed by Chang et al. (2023) will manifest as heightened network fragmentation upon removal of top *intermediary hubs* specifically for client cohorts from countries with weaker rule of law or more autocratic regimes, potentially reflecting concentrated trust patterns or higher reliance on specific "gatekeepers" in such contexts. *Contribution:* Tests the fragility hypothesis specifically on intermediary hubs and links it systematically to governance indicators.
- **2c. Intermediary Specialization Based on Client Governance Profile:** Intermediaries will exhibit measurable specialization, tending to serve clusters of clients predominantly from countries with similar governance profiles (e.g., intermediaries specializing in clients from high-corruption countries vs. those specializing in clients from strong rule-of-law countries). *Contribution:* Moves beyond geographic specialization to test for intermediary specialization based on the *political-institutional* context of their clientele.

Proposition 3: The Functional Roles and Network Positions of Intermediary Types Vary with Client Governance Context.

- **Core Idea:** The *types* of intermediaries (Legal, Tax, Admin, Investment) that are most prominent, central, or interconnected within the network depend on the governance context of their clients, reflecting varying demands for specific forms of expertise (e.g., legal protection vs. sophisticated tax planning vs. basic administration). **Contribution:** This proposition quantitatively tests the relationship between client governance context and the *functional composition* of the intermediary network. It moves beyond simply identifying types to analyze their *relative prominence, centrality, and interplay* within the network structure as shaped by client origin.

- **Sub-propositions:**
  - **3a. Governance-Driven Prominence of Intermediary Functions:** The relative share of network activity (e.g., number of connections, aggregate centrality) accounted for by different intermediary *types* (Legal, Tax, Admin, Investment) will vary significantly and predictably based on the governance indicators of the client cohorts' home countries. *Contribution:* Quantifies how client context shapes the demand for specific intermediary functions within the network.
  - **3b. Contextual Determination of Critical Intermediary Hub Types:** The *type* of intermediary most likely to occupy a high-centrality hub position (as identified in Prop 1c) will differ based on client home country governance. For instance, Legal Experts may be more central hubs for clients from weak rule-of-law states, while Tax Experts may be hubs for clients from high-tax/strong-enforcement states.

Contribution: Integrates network structure (hub status) with intermediary function (type) and client context (governance).

- **3c. Varying Intermediary Ecosystems by Client Context:** The patterns of co-occurrence or collaboration *between different types* of intermediaries serving the same client will vary based on the client's home country governance. For example, clients from complex regulatory environments might exhibit denser connections involving multiple specialist intermediary types. *Contribution:* Explores how governance shapes the functional ecosystem and potential division of labor among different intermediary types.

Proposition 4: Intermediary Network Dynamics are Driven by Supply-Side Factors and Regulatory Shocks.

- **Core Idea:** Changes in the offshore landscape, such as the introduction of new legal vehicles by tax havens or major international regulatory initiatives (like CRS), significantly impact the structure and activity within the intermediary network, influencing which intermediaries are active, their centrality, and how they connect to clients. **Contribution:** While prior work studied the *impact* of these factors, this proposition specifically analyzes their effect on the *intermediary network structure*. It aims to quantify how supply-side changes reshape intermediary activity, centrality, specialization, and overall network topology, potentially using event-study or difference-in-differences approaches applied to network metrics over time.

- **Sub-propositions:**

  - **4a. Intermediary Response to Legal Innovation:** Following Laffitte (2024), the introduction of significant new legal vehicles in offshore jurisdictions will be associated with measurable changes in the activity levels, client base composition, or network centrality of *intermediaries* specializing in or operating from those jurisdictions. *Contribution:* Links macro-level legal changes (Laffitte) to observable shifts in micro-level intermediary network roles.
  - **4b. Regulatory Shocks Reshape Intermediary Network Topology:** Major regulatory shocks, particularly the phased implementation of the Common Reporting Standard (CRS), will lead to detectable shifts in the intermediary network structure, such as changes in overall network density, shifts in the centrality ranking of intermediaries, potential exit of certain intermediary types, or altered geographic patterns of intermediary-client links. *Contribution:* Applies event analysis logic (O'Donovan et al.) to track the evolution of the *intermediary network itself* in response to major regulatory interventions (Christensen, Alstadsæter).
  - **4c. Heterogeneous Intermediary Reactions to Supply Shocks:** The impact of legal innovations (4a) and regulatory shocks (4b) on intermediaries and

their network position will vary significantly depending on the *type* of intermediary (e.g., Tax Experts vs. Administrators might react differently to CRS) and the *governance context* of the clients they primarily serve (linking back to Prop 2 & 3). *Contribution:* Examines differential effects, recognizing that intermediaries are not a monolithic group and serve diverse clienteles facing different pressures.

Data and Methodology

This section details the data sources and methodological approaches employed in this thesis. It begins by describing the primary data source, the ICIJ Offshore Leaks Database, outlining its structure, content, strengths, and limitations. Subsequently, it discusses the external datasets used to provide contextual information. Finally, it introduces a novel methodology utilizing agentic AI to enrich the classification of intermediaries within the icij dataset.

3.1 The ICIJ Offshore Leaks Database

The empirical core of this thesis rests upon the International Consortium of Investigative Journalists (ICIJ) Offshore Leaks Database. This resource serves as the primary data source, acting as a valuable, albeit imperfect, "proxy" for the opaque universe of offshore finance (cf. EU, 2017). The general idea underpinning its use here is that while any direct numerical estimates derived solely from the leaks (e.g., total wealth hidden) will surely be biased due to the data's inherent incompleteness, the qualitative nature of the interactions captured within the data – the patterns of relationships between clients, intermediaries, and jurisdictions – appears more reliable for understanding the structure and dynamics of the offshore system.

The use of the ICIJ Offshore Leaks Database for this type of research is increasingly established. For example, Alstadsæter et al. (2019), Londoño-Vélez & Ávila-Mahecha (2021), and Chang et al. (2023a; 2023b).

3.2 External Data Sources

To contextualize the patterns observed within the ICIJ data, several external data sources are employed.

A key resource is the Historical Tax Havens Database (HTHD) developed by Laffitte (2024). This dataset documents the historical evolution of "offshore legal architecture," tracking the adoption of specific legal technologies (e.g., banking secrecy, IBCs) across tax havens over time. This dataset will be utilized to explore whether specific patterns observed in the ICIJ data – such as the prevalence of certain offshore instruments or shifts in intermediary activity – align temporally with the historical innovations documented in the HTHD.

The World Justice Project (WJP) Rule of Law Index provides comprehensive country-level metrics on governance. Its specific use is to investigate potential correlations between the home country's rule of law environment and the patterns of specialization or network positioning observed among the intermediaries serving clients from that country.

VDEM (Varieties of Democracy) Regime Type Data will be used exactly analogously.

Data from the World Inequality Database (WID), specifically metrics on wealth inequality at the country level, will also be incorporated. This serves primarily to see if we can confirm some of the comparative statics Alstadsæter and Zucman derive, trying to verify whether there's anything to their supply-side model.

3.3 Using Agentic AI to Scrape Data on Intermediaries.

A significant challenge in utilizing the ICIJ data for the purposes of this thesis is that intermediaries are often classified generically within the database. To analyze the specific roles and potential influence of different types of intermediaries, as outlined in the typology adapted from the EU (2017) paper (see Section 2.1.4), a more granular classification is required. To achieve this classification at scale, an approach employing agentic AI is utilized.

The core idea is to use an AI agent loop to automate the process of gathering information about and classifying the intermediaries listed in the ICIJ data. The basic workflow is illustrated in Figure 3.1.

In brief, the process involves an AI agent orchestrating online searches for each intermediary identified in the ICIJ data. It begins with generic searches, reads and interprets the initial results, and then formulates more specific search queries based on the information discovered or identified as lacking. This iterative process involves up to three search queries per intermediary, scouring the top 15 most relevant web results identified through query-result embedding similarity using the Tavily Search API (though the tool is relatively generic and it specifically is not very important). This effectively replaces the time-consuming need for manual searching of the intermediaries.

Based on the information gathered, the AI agent then classifies the intermediary according to the EU (2017) typology (Tax Expert, Legal Expert, Administrator, Investment Advisor), adding a few additional relevant fields (e.g., specific job title). Crucially, the agent also provides a confidence score for its classification judgment, allowing for filtering or weighting in subsequent analyses.

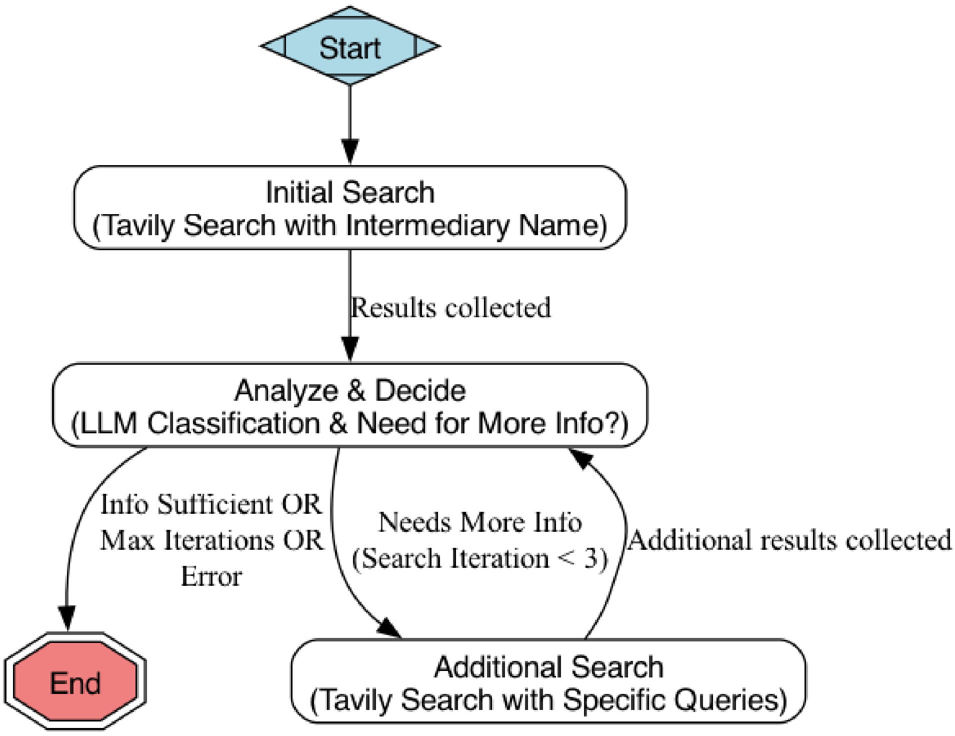

Figure 3.1: Agent Setup for Intermediary Classification

There are a few obvious limitations associated with this approach that warrant discussion:

Temporal Misalignment: A primary concern is that all online searches are conducted based on information available today, whereas the ICIJ data pertains to activities that may have occurred years or even decades prior. This introduces two potential issues: 1. The process might be biased towards identifying intermediaries who are still active or have a significant online presence currently. 2. It implicitly assumes that the role an intermediary plays today (as reflected online) is equivalent to the role they played at the time relevant to the ICIJ data.

Addressing the Limitations: While these issues are real, they are not prohibitive for their use in this thesis. 1. Regarding the first point (bias towards current intermediaries), this primarily impacts the coverage or statistical power of the classification – we may only be able to confidently classify a subset (e.g., 50%) of all intermediaries. This is acceptable, provided the unclassifiable intermediaries are not systematically different in ways that correlate with the research questions. The issue becomes problematic only if there is a systematic bias in identifiability across types (e.g., if it is inherently much harder to find information online about legal experts compared to tax experts due to differing needs for discretion or public visibility). 2. Regarding the second point (role stability), the assumption that roles remain consistent is arguably less problematic. Given the highly specialized nature of functions like tax advisory, legal structuring, administration, and investment management within the offshore context, and the considerable barriers to entry (qualifications, reputation, networks) for each, frequent switching between these core roles by individuals or firms seems relatively unlikely.

In my view, it is the only pragmatically feasible method to do this given the constraints of this thesis.

(Note: LLMs have also been used to polish the text of this thesis.)

Empirical Analysis

Ordering it just as in the theory-section by the differnet propositions asserted, and testing each.

4.1 Proposition I

4.2 Proposition II

4.3 Proposition III

4.4 Proposition IV

Discussion

Conclusion

Appendix