Citation Evidence Report

EB-1A Petition — Original Contributions of Major Significance

8 CFR § 204.5(h)(3)(v) · Criterion 5

Torben G. Andersen

Professor of Finance, Kellogg School, Northwestern University

Google Scholar profile

Generated 2026-05-21 by CiteMap. This report organises Google Scholar citation data into the structure USCIS adjudicators apply to Criterion 5 (original contributions of major significance). It is a drafting aid for the petitioner's counsel — not legal advice, and not a guarantee of any outcome. All figures must be verified, and citation counts re-snapshotted as of the petition filing date, before use in a filing.

A. Overview & Filtering Statement

10	13	2	66
Citing papers mapped	Citation edges	Home papers mapped	h-index (GS)

Filtering statement — methodology & limits

Citation **independence** is classified per citing paper by comparing the citing paper's authors to this scholar. *Self* citations are those where the scholar is an author of the citing work; *co-author* citations are by the scholar's known collaborators; *same-institution* citations are by authors affiliated with the scholar's institution(s); all remaining classified citations are *independent*. Per AAO practice, only independent citations are treated as probative of influence beyond the scholar's own circle.

Known limitations — counsel must verify. (1) Collaborator identification draws on the co-author list published on the Google Scholar profile; a collaborator not listed there may be missed, so the independent share below should be read as an **upper bound**. (2) Citation counts are a crawl-time snapshot; eligibility is judged as of the petition filing date and post-filing citations carry no weight — re-snapshot before filing. (3) Citations that could not be classified (no author data) are excluded from the percentages and reported separately.

B. Citation Independence

The AAO credits citations only where they show influence **beyond the scholar's own circle**. Self-citations and co-author citations are expressly discounted; the independent share below is the load-bearing figure.

90.0% independent of 10 classified citing papers

Citation type	Count
Independent	9
Self-citation	1
Co-author	0
Same-institution	0

0 citing papers could not be classified (no author data) and are excluded from the percentages above.

C. Significant Contributions & Their Citation Evidence

Each contribution below is presented as the AAO expects: a specific claim, followed by the **independent** citation evidence for the paper(s) that carry it. Citation counts are stated **per article**, never as a body-of-work total — the AAO holds aggregate totals to be a final-merits signal, not Criterion-5 evidence.

Where the data allows, a paper also shows its **field-normalised** standing — how its citation count ranks against Semantic Scholar papers in the same field and publication year. The comparison field is named explicitly; counsel should confirm it is the appropriate one, as the AAO scrutinises a petitioner's choice of comparison field.

Contribution 1

Claim — Contribution 1

The researcher established the empirical validity of standard volatility models and advanced forecasting methodologies through seminal work that addressed skepticism and integrated realized volatility measures.

The researcher's contribution centers on validating and refining volatility forecasting models, anchored by the 1998 paper 'Answering the Skeptics: Yes, Standard Volatility Models Do Provide Accurate Forecasts.' This core work directly challenges prevailing doubts about the predictive power of standard models, asserting their accuracy in a high-impact venue. The titles suggest a decisive intervention in a debate regarding model reliability, positioning the researcher as a key figure in defending and clarifying the utility of established econometric tools.

Originality in this line of work appears to stem from addressing a specific methodological skepticism. By explicitly 'answering the skeptics,' the researcher likely provided robust empirical evidence or theoretical justification that standard models were previously thought to lack. The subsequent 2003 paper, 'Modeling and forecasting realized volatility,' indicates an evolution from defending standard models to incorporating newer data types, such as realized volatility. This progression suggests the researcher not only validated existing frameworks but also expanded them to accommodate more precise high-frequency data, bridging the gap between traditional forecasting and emerging measurement techniques.

The significance of this research is evidenced by substantial citation counts, with the core paper accumulating 4800 citations and the follow-up work reaching 5417 citations. These figures indicate that the work has become a foundational reference in the field. Furthermore, the high degree of citation independence, with 90% of classified citations originating from independent researchers, underscores the broad acceptance and external validation of these contributions. This widespread adoption by the broader academic community confirms that the researcher's work has materially influenced the direction of volatility modeling and forecasting research.

INDEPENDENT CITATIONS FOR THIS CONTRIBUTION: 12 · **1 flagged influential by Semantic Scholar**

CORE PAPER

Answering the Skeptics: Yes, Standard Volatility Models Do Provide Accurate Forecasts

1998 · International Economic Review · 4,800 citations (GS)

Field-normalised: 3,477 Semantic Scholar citations place it in the top 1% of Economics papers from 1998 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Forecasting Volatility in Financial Markets: A Review (2003)	Manchester University, University of California, San Diego	United Kingdom, United States	—
2	The Cross-Section of Volatility and Expected Returns (2006)	Columbia University, Cornell University, Rice University	United States	—
3	Forecasting the volatility of stock price index: A hybrid model integrating LSTM with multiple GARCH-type models (2018)	Yonsei University	South Korea	**Influential**

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

FOLLOW-UP WORK

Modeling and forecasting realized volatility

2003 · 5,417 citations (GS)

Field-normalised: 3,735 Semantic Scholar citations place it in the top 1% of Economics papers from 2003 indexed by Semantic Scholar, by citation count.

No.	Citing paper	Citing institution(s)	Country	S2
1	Multivariate GARCH models: a survey (2006)	ESSEC Business School, Université Catholique de Louvain	Belgium	—
2	Forecasting Volatility in Financial Markets: A Review (2003)	Manchester University, University of California, San Diego	United Kingdom, United States	—
3	The impact of the Russian-Ukrainian war on global financial markets (2023)	Lancaster University, Queen Mary University of London, SOAS University of London	United Kingdom	—
4	COVID-19 and the United States financial markets' volatility (2021)	Politehnica University of Timisoara	Romania	—
5	On the Network Topology of Variance Decompositions: Measuring the Connectedness of Financial Firms (2014)	Koç University, University of Pennsylvania	Turkey, United States	—
6	The Cross-Section of Volatility and Expected Returns (2006)	Columbia University, Cornell University, Rice University	United States	—
7	U.S. Monetary Policy and the Global Financial Cycle (2020)	—	—	—
8	Time Series Analysis by State Space Methods (2001)	London School of Economics and Political Science, Vrije Universiteit Amsterdam	Netherlands, United Kingdom	—
9	Forecasting the volatility of stock price index: A hybrid model integrating LSTM with multiple GARCH-type models (2018)	Yonsei University	South Korea	—

Independent citing papers only; self- and co-author citations excluded. The **S2** column flags citations Semantic Scholar identifies as *influential* — ones that substantively build on the work (S2's isInfluential signal, Valenzuela et al. 2015) — the "built on / relied upon" pattern the AAO credits. Counsel should quote the citing text for the strongest of these.

D. Citing-Institution Prestige & Geography

Top citing institutions

Institution	Country	World ranking	Citing papers
University of Pennsylvania	United States	SCImago #52 · THE 14 · QS 15	2
University of California, San Diego	United States	SCImago #120 · THE 47 · QS 66	1
Cornell University	United States	SCImago #61 · THE =18 · QS 16	1
London School of Economics and Political Science	United Kingdom	SCImago #1403 · THE 52 · QS 56	1
Rice University	United States	SCImago #818 · THE =103 · QS =119	1
Columbia University	United States	SCImago #65 · THE 20 · QS =38	1
Queen Mary University of London	United Kingdom	SCImago #416 · THE =134 · QS =110	1
Northwestern University	United States	THE 30 · QS =42	1

Institution	Country	World ranking	Citing papers
Koç University	Turkey	SCImago #2501 · THE 301–350 · QS 323	1
Duke University	United States	SCImago #115 · THE 28 · QS 62	1
ESSEC Business School	France	—	1
Lancaster University	United Kingdom	SCImago #1408 · THE =184 · QS 157	1
Université Catholique de Louvain	Belgium	THE =184 · QS =191	1
University of Westminster	United Kingdom	SCImago #3984 · THE 801–1000 · QS 801-850	1
University of Kent	United Kingdom	SCImago #1661 · THE 401–500 · QS =397	1

Geographic distribution of citing authors

Country	Citing papers
United States	4
United Kingdom	3
Romania	1
Belgium	1
Turkey	1
South Korea	1
Netherlands	1

Citing-institution prestige and the spread of citing countries speak to recognition **beyond the scholar's own institution and circle** — the dispersion the AAO looks for. World rankings (SCImago / THE / QS) are context, not a stand-alone criterion: the AAO does not treat a citing institution's rank as probative on its own.

E. Citation Growth Over Time

Distinct citing papers by publication year. Sustained or rising citation activity supports continuing relevance; note that only citations **as of the filing date** are weighed by USCIS.

F. AAO Precedent Considerations

Pre-filing self-check (AAO denial patterns)

The AAO non-precedent decisions reject citation evidence on a small set of recurring grounds. Confirm the petition addresses each before filing:

- ☐ Self-citations are disclosed and netted out — a Google Scholar total alone is faulted (§1.1).

- ☐ Evidence is per individual article, not a body-of-work aggregate total (§1.2).
- ☐ The petition articulates why the citations show major significance — numbers never stand alone (§1.5).
- ☐ For the strongest papers, citation content shows the work was built on / relied upon, not just listed (§1.6, §2.2).
- ☐ Co-author / collaborator citations are identified and not counted as independent (§1.7).
- ☐ Recognition is shown beyond the scholar's own institution and circle (§1.8).
- ☐ Every citation figure is snapshotted as of the filing date; post-filing citations are excluded (§1.9).
- ☐ Journal impact factor / downloads are not relied on as proxies for article significance (§1.10, §1.12).
- ☐ For large-collaboration papers, the scholar's specific role is documented (§1.13).
- ☐ Aggregate totals / h-index / field-relative rates are placed in a clearly-labelled final-merits section, per Kazarian (§3, §6.1.7).

G. Citation Evidence Index

Cross-reference of each contribution to the regulatory criterion it supports. Counsel should map these to the petition's exhibit numbers.

Contribution	Core paper	Indep. cites	Supports
Contribution 1	Answering the Skeptics: Yes, Standard Volatility Models Do Provide Accurate Forecasts	12	8 CFR 204.5(h)(3)(v) — Criterion 5