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THE IMPACT OF INFLATION ON ECONOMIC GROWTH: A REVIEW OF EMPIRICAL STUDIES

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ABSTRACT

Inflation remains one of the most disputed macroeconomic variables in growth research because modest price increases can coexist with expansion, while persistent or volatile inflation may distort saving, investment, and productivity decisions. This study examines how the empirical literature explains the inflation growth nexus and whether a consistent adverse threshold can be identified across countries and methods. The review employs a systematic secondary-research design based on 34 empirical studies published between 1993 and 2025, including 15 studies from 2020–2025. Studies were screened from major journal platforms and policy repositories, coded by sample coverage, empirical design, and finding pattern, and synthesized through descriptive statistics and structured comparative analysis. The results show that 17 studies report a nonlinear threshold relationship, 8 identify a directly negative association, 6 report mixed or context dependent effects, and 3 emphasize inflation uncertainty as a separate transmission channel. Overall, 28 of 34 studies (82.4%) support the view that inflation is growth-reducing either directly, beyond a threshold, or through heightened uncertainty. Among the 16 studies that report explicit threshold values, the estimated inflation threshold ranges from 4.0% to 16.46%, with a median of 8.0% and an interquartile range of 5.3%–10.9%. The major finding is that the literature converges on a conditional result rather than a universal linear rule: low and stable inflation may be compatible with growth, but growth performance deteriorates once inflation exceeds economy-specific tolerance bands or becomes more volatile, and the most credible threshold estimates cluster around single-digit to low double-digit inflation.

INTRODUCTION

Inflation is not merely a price phenomenon; it is also a signal about the credibility of macroeconomic policy, the coordination of expectations, and the efficiency with which an economy transforms savings into investment and productivity gains. For this reason, the inflation growth nexus occupies a central position in monetary economics, development economics, and macroeconomic policy design. When inflation accelerates, households shorten planning horizons, firms face noisier price signals, real interest rates become more uncertain, and financial contracts lose informational clarity. Yet the policy problem is not settled by these mechanisms alone. A large part of the empirical literature finds that very low or moderate inflation may coexist with positive growth, while higher and more volatile inflation is associated with weaker long-run performance. Recent empirical work continues to show that the growth effects of inflation differ by institutions, policy regime, sample composition, and estimation strategy, which is why the question remains scientifically relevant rather than merely doctrinal (Azam & Khan, 2022; Bangura & Omojolaibi, 2024; Cano-Espinosa, 2025; Ekinci et al., 2020; He, 2023; Hidthiir et al.,

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2024; Kırşanlı, 2022; Ndou & Gumata, 2024; Nene et al., 2022; Olamide et al., 2022; Pappas & Boukas, 2025; Su & Soon, 2024; Yilmazkuday, 2022; Mulu et al., 2025; Živkov et al., 2020).

The scientific problem is therefore not whether inflation matters, but how and under what conditions it matters for growth. The literature has generated at least four competing propositions. First, inflation may exert a broadly linear and negative effect on output growth by distorting investment incentives, eroding real balances, and increasing macroeconomic uncertainty. Second, the relationship may be nonlinear, so that inflation is relatively harmless or even weakly growth-neutral below some threshold but clearly damaging above it. Third, the relationship may be heterogeneous across advanced, emerging, and developing economies because structural rigidities, monetary credibility, exchange-rate pass-through, and financial depth differ across these settings. Fourth, part of the observed growth penalty may arise not from the inflation rate itself but from inflation uncertainty, inflation volatility, or the inability of policy regimes to anchor expectations. The persistence of these competing views explains why contemporary studies continue to report diverse thresholds, from around 4% in some inflation-targeting or advanced settings to above 12% in several developing-country applications (Bangura & Omojolaibi, 2024; Ekinci et al., 2020; He, 2023; Ndou & Gumata, 2024; Mulu et al., 2025).

A further reason for the topic's importance is that the policy objective is not simply "low inflation" in the abstract, but an inflation environment that is low enough and stable enough to preserve investment planning without unnecessarily constraining output and employment. In practice, authorities confront a delicate calibration problem. If they tolerate inflation that is persistently above an economy's implicit threshold, the resulting uncertainty may weaken capital accumulation and total factor productivity. If they disinflate abruptly without fiscal and financial coordination, they may create short-run instability that also harms growth. The empirical literature therefore matters for both the level and the path of disinflation. Recent studies emphasize that this trade-off depends on institutions and the credibility of monetary frameworks. Inflation-targeting settings tend to produce lower tolerance bands and stronger expectation effects, while weaker institutional environments may display higher estimated thresholds but also greater volatility once inflation accelerates (Azam & Khan, 2022; Cano-Espinosa, 2025; Ekinci et al., 2020; Ndou & Gumata, 2024; Nene et al., 2022; Yilmazkuday, 2022). The policy relevance of the topic is therefore inseparable from the scientific problem of heterogeneity.

This unresolved empirical variation has practical relevance. Central banks and fiscal authorities need to know whether growth costs emerge only under high inflation episodes or whether even medium inflation rates can weaken long-term output expansion. The answer affects inflation targeting, debt management, wage bargaining, and the sequencing of disinflation policies. It also shapes how researchers interpret recent post-pandemic inflation episodes. Studies from Europe, Africa, Asia, and cross-country panels show that the inflation–growth link is conditioned by the credibility of institutions, the persistence of shocks, and the ability of monetary authorities to reduce uncertainty (Cano-Espinosa, 2025; Nene et al., 2022; Olamide et al., 2022; Pappas & Boukas, 2025; Yilmazkuday, 2022; Živkov et al., 2020). Consequently, a careful synthesis of the empirical literature is needed to separate robust regularities from sample-specific findings.

This article addresses that need through a systematic review of empirical studies on inflation and economic growth. The review focuses on studies that estimate, test, or explicitly discuss the growth effect of inflation using country, regional, or cross-country data. Unlike a narrow narrative survey, the present study codes the reviewed evidence by method, sample coverage, and substantive result, allowing a structured assessment of how much of the literature supports direct negative effects, threshold effects, mixed results, or inflation-uncertainty channels. The review also quantifies the central tendency and dispersion of reported inflation thresholds, which helps compare findings obtained from threshold regressions, panel estimators, ARDL-type models, and uncertainty frameworks. In this way, the study provides a transparent bridge between the classical literature and the rapidly expanding 2020–2025 evidence base.

The objective of the study is to determine whether the empirical literature supports a stable conclusion that inflation harms economic growth, and, if so, whether that conclusion is best understood as a linear effect, a threshold effect, or an uncertainty-mediated effect. Methodologically, the article uses a PRISMA-inspired systematic review protocol, descriptive coding, and comparative synthesis of empirical results. The paper proceeds as follows. The next section reviews the theoretical and empirical literature and identifies unresolved issues. The materials and methods section explains the search strategy, screening protocol, and coding rules. The results section synthesizes the screened evidence through tables and figures. The discussion interprets the main patterns and evaluates the hypotheses. The final section concludes with the study's contribution, limitations, and directions for future research.

LITERATURE REVIEW

The literature on inflation and growth has evolved from broad cross-country correlations to more refined nonlinear, panel, and uncertainty-based approaches. Early influential research established the core empirical intuition that inflation can reduce growth through lower investment efficiency, weaker productivity performance, and a noisier informational environment. Fischer (1993) showed that poor macroeconomic stability, including high inflation, was systematically associated with weaker growth. Sarel (1995) strengthened the argument by showing that the inflation effect was not constant across the price distribution; instead, the growth penalty intensified after a structural break around 8%. Alexander (1997) and Paul et al. (1997) likewise found that inflation was associated with slower growth in multi-country settings, although the strength of the relationship depended on sample construction and specification. These studies were important because they shifted the debate away from the simplistic idea that all inflation is equally harmful and toward the view that magnitude, persistence, and context matter.

The late 1990s literature sharpened this insight. Bruno and Easterly (1998) emphasized the role of inflation crises and argued that the most severe growth damage occurs during high inflation episodes rather than under low, stable inflation. Ghosh and Phillips (1998) documented a nonlinear relationship in which inflation becomes harmful outside a relatively low range, while Andrés and Hernando (1999) found evidence from OECD countries that inflation is detrimental even in more

institutionally developed economies. Khan and Senhadji (2000) then provided one of the most influential threshold estimates in the literature by distinguishing industrial and developing economies and showing that the critical inflation rate is lower in the former and higher in the latter. Collectively, these studies established three enduring propositions: the inflation growth relationship is nonlinear; the threshold differs across types of economies; and crises, expectations, and macroeconomic credibility affect the observed slope. They also created a benchmark against which later panel threshold studies could be compared.

Subsequent empirical work expanded the evidence base across countries and methods. Ahmed and Mortaza (2005), using Bangladesh data, identified a threshold type relationship in which inflation beyond a moderate level weakens growth, reinforcing the idea that developing economies are not immune to inflation costs even when thresholds appear higher than those in advanced economies. Ayyoub et al. (2011) similarly found that inflation harms growth in Pakistan, while López-Villavicencio and Mignon (2011) reported that the level of inflation matters for output growth and that nonlinearities are empirically meaningful rather than cosmetic modeling choices. Bick (2010) estimated threshold effects in developing countries and showed that growth begins to deteriorate once inflation moves into low double digits. These country and panel studies made an important contribution by rejecting the idea that the early findings were artifacts of broad cross-country averaging. Instead, they suggested that the inflation penalty could be reproduced in narrower samples with country-specific or group-specific methods.

The next wave of studies deepened the nonlinear argument with more flexible econometric frameworks. Kremer et al. (2013) used dynamic panel threshold methods and found that growth reacts differently above and below an estimated inflation breakpoint, while Vinayagathasan (2013) reported for Asian economies that inflation becomes harmful once it exceeds a threshold slightly above 5%. Eggoh and Khan (2014) argued that the inflation growth nexus is better described as nonlinear across broad international panels, and Baglan and Yoldas (2014) used semiparametric methods to show that the shape of the relationship is more complex than a single linear coefficient can capture. Thanh (2015) applied a panel smooth transition framework to ASEAN-5 and found a threshold close to 8%, while Aydin et al. (2016) reported a comparable threshold for Turkish republics in transition. The convergence of these studies is notable: despite different data sets and estimators, many threshold values cluster in the single-digit to low double-digit range. That pattern suggests a recurrent empirical regularity rather than isolated coincidence.

Another strand of the literature has focused on inflation uncertainty rather than the inflation rate alone. This distinction matters because two economies with the same average inflation can display very different planning environments if one has stable price dynamics and the other has volatile, regime-shifting inflation. Baharumshah et al. (2016) found that inflation uncertainty weakens growth in emerging and developing countries, implying that policy credibility and the anchoring of expectations are crucial transmission mechanisms. Earlier panel evidence from Ahmed and Mortaza (2005) had also associated inflation uncertainty with weaker growth. More recent work supports this channel. Živkov et al. (2020) showed in Central and Eastern Europe that both inflation and inflation uncertainty matter for output growth. Nene et al. (2022) examined inflation-targeting arrangements in African and European countries and linked policy regime credibility to lower uncertainty and better growth outcomes. Cano-Espinosa (2025), although focused on economic uncertainty under inflation targeting in Mexico, speaks directly to the same mechanism by showing that policy frameworks can shape the uncertainty environment in which growth decisions are made. This body of work is important because it cautions against reading the inflation coefficient too literally; in some cases, the true growth cost may reflect volatility, unpredictability, or weak policy anchoring.

Recent studies published between 2020 and 2025 confirm that the debate remains active rather than settled. Ekinci et al. (2020) reported a threshold close to 4.2% for a set of inflation targeting countries, indicating that more credible policy regimes may face lower tolerance bands before inflation becomes growth-reducing. Kırşanlı (2022) found that inflation exerts a robust negative effect on growth across OECD economies, reinforcing the idea that even advanced country samples are not exempt from inflation costs. Yilmazkuday (2022) added an institutional layer by showing that the inflation effect depends on institutional quality, suggesting that governance helps determine whether inflation shocks translate into persistent output losses. Olamide et al. (2022) studied SADC economies and linked inflation, exchange rate volatility, and growth in a broader macro-stability framework, while Azam and Khan (2022) provided further threshold evidence using a large sample spanning developed and developing countries. Taken together, these studies confirm that inflation should be treated as part of a macroeconomic stability regime rather than an isolated variable.

The 2023–2025 literature also clarifies how heterogeneous the threshold can be across contexts. He (2023) reported cross-country evidence consistent with an inverted U effect, indicating that inflation may be weakly growth supportive or neutral at low levels but damaging beyond approximately 4%. Bangura and Omojolaibi (2024) found a considerably higher threshold of 12.88% for Nigeria. Ndou and Gumata (2024) reported for South Africa that the growth relevant threshold is around 4.5%, which is much closer to the lower band found in more stable inflation-targeting settings. Mulu et al. (2025) identified a threshold of 16.46% in Ethiopia, suggesting that structurally constrained economies can exhibit higher estimated tolerance bands, even though growth declines once those bands are crossed. Hidthiir et al. (2024) showed in ASEAN-5 that inflation remains a significant growth determinant within a broader dynamic model, while Su and Soon (2024) reviewed and discussed the mixed channels through which inflation can affect output. Pappas and Boukas (2025) added evidence from European Union economies that both inflation and inflation volatility matter, but with varying magnitudes across countries. This recent literature therefore points to a pattern of conditional convergence: most studies agree on the presence of growth costs, but they disagree on where the harmful zone begins and through which mechanism it operates.

The literature also leaves several unresolved issues. First, not all studies estimate the same object. Some estimate growth equations in levels, others identify thresholds, others analyze causality or volatility channels, and still others embed inflation within broader macroeconomic systems. Second, the estimated threshold depends on sample composition, inflation

history, data frequency, and whether the model is linear, threshold-based, or uncertainty focused. Third, the same empirical result can carry different policy meaning in low-income, high-pass-through economies than in mature inflation-targeting regimes. Fourth, although the literature increasingly points to nonlinearities, there is still no universally accepted empirical threshold that applies across all countries and time periods. These unresolved issues justify a systematic synthesis that compares not just signs and significance but also study design, sample structure, and the dispersion of reported threshold estimates.

On the basis of these gaps, the purpose of this study is to synthesize the empirical evidence on inflation and economic growth in order to identify the dominant finding pattern and evaluate the extent to which the literature supports a threshold or uncertainty based interpretation. The review is guided by three hypotheses.

H_1: Most empirical studies report that inflation becomes growth-reducing once it exceeds a threshold or is accompanied by high volatility or uncertainty.

H_2: Reported inflation thresholds are generally lower in advanced or inflation-targeting economies than in developing or more structurally constrained economies.

H_3: Inflation uncertainty operates as an independent channel through which macroeconomic instability depresses economic growth.

Beyond the empirical classifications, the reviewed studies implicitly speak to three economic channels. The first is the allocation channel: when inflation is high or unstable, relative prices become harder to interpret, long-term contracts shorten, and firms may delay irreversible investment. The second is the financial channel: inflation can erode the informational value of nominal interest rates, alter real borrowing costs, and encourage defensive portfolio choices rather than productive capital deepening. The third is the expectations channel: when agents are uncertain about future prices or the future response of policy, they reduce commitment to long-horizon projects. These channels explain why the literature frequently finds stronger growth effects under volatile inflation than under low, predictable inflation. They also explain why threshold models became so influential. A threshold is not just a statistical breakpoint; it is an empirical representation of the point at which allocation noise, financial distortion, and expectations instability begin to dominate whatever short-run neutrality low inflation may have. This is one reason why nonlinear studies increasingly replaced simple linear growth equations in the modern literature.

Regional evidence further confirms that inflation effects are rarely isolated from broader macroeconomic structure. In ASEAN-focused work, Thanh (2015) and Hidthiir et al. (2024) indicate that inflation should be interpreted together with investment, financial development, and other structural drivers of growth. In transition and emerging settings, Aydin et al. (2016) and Baharumshah et al. (2016) show that the inflation penalty interacts with uncertainty and institutional transformation. In African applications, Bangura and Omojolaibi (2024), Ndou and Gumata (2024), and Mulu et al. (2025) reveal that the estimated threshold can differ sharply even within the developing world, which suggests that fiscal structure, exchange-rate arrangements, and historical inflation persistence matter. Meanwhile, Pappas and Boukas (2025) and Kırşanlı (2022) show that advanced and European samples are not exempt from inflation costs; rather, they often display growth sensitivity at lower inflation rates. These regional contrasts support a nuanced reading of the literature: differences in thresholds do not signal disagreement about whether inflation matters, but disagreement about where and how the harmful regime begins.

MATERIALS AND METHODS

This study adopts a systematic literature review design focused on empirical studies that examine the relationship between inflation and economic growth. Because the reviewed articles differ substantially in outcome definitions, sample structures, control variables, and econometric estimators, the study does not pool coefficients in a formal meta regression. Instead, it applies a structured qualitative synthesis supported by descriptive coding and frequency-based comparison. This design is appropriate for an evidence base in which one group of studies estimates direct marginal effects, another estimates regime shifts or thresholds, and a third evaluates inflation uncertainty, volatility, or policy regime credibility.

The review protocol was designed in a PRISMA inspired manner. The search process targeted journal databases and reputable policy repositories commonly used in economics, including journal platforms and repositories such as ScienceDirect, SpringerLink, Taylor & Francis, MDPI, IMF publications, and economics indexing services. Search combinations included terms such as “inflation and economic growth,” “inflation threshold growth,” “inflation uncertainty growth,” “inflation targeting and growth,” and “nonlinear inflation growth.” The initial search universe produced 126 records. After removing 18 duplicates, 108 records were screened by title and abstract. Sixty-two items were excluded because they were non-empirical, conceptually off-topic, duplicate reports of the same analysis, or data notes without a direct inflation growth test. Forty six full text studies were then assessed for eligibility, and 12 were excluded at that stage because they did not provide usable evidence on the inflation growth relationship. The final synthesis includes 34 studies.

Inclusion criteria were specified ex ante. First, a study had to examine inflation as an explanatory, conditioning, or regime variable in relation to economic growth, GDP growth, output growth, or a closely related macroeconomic growth indicator. Second, the study had to contain empirical analysis based on country, regional, or cross country data. Third, the paper had to provide a substantive finding that could be coded into at least one of the synthesis categories: direct negative effect, nonlinear threshold effect, mixed or heterogeneous effect, or inflation-uncertainty channel. Fourth, the study had to be available in English and provide enough methodological information to identify the sample, estimation approach, and substantive conclusion. Conceptual essays, purely theoretical pieces, and papers that discussed inflation without estimating or testing its growth implications were excluded. Each included study was coded in an evidence matrix containing the following fields: author(s), year, title, source, geographic coverage, sample period, estimation method, finding category, explicit inflation threshold where available, a concise statement of the main finding, and a source URL or DOI. The coding structure served two purposes. First, it created a transparent audit trail between the review narrative and the underlying study

characteristics. Second, it allowed a simple descriptive synthesis of the literature. Studies were grouped by method into threshold/nonlinear designs, linear panel or growth regression designs, country or regional time series approaches, and uncertainty/volatility models. Geographically, studies were grouped into cross-country/global, regional/group panels, and single-country studies. Substantively, the four finding categories captured the dominant way each study framed the inflation growth relationship. The synthesis also uses simple quantitative descriptors to summarize the evidence base. The broad support ratio is defined as the proportion of studies that support either a direct negative effect, a threshold-conditioned harmful effect, or an uncertainty mediated harmful effect. In notation, Support Ratio = N_support / N_total × 100. Threshold studies were summarized with the number of reported estimates, their minimum and maximum values, the median threshold, and the interquartile range. These summary statistics do not replace formal effect-size aggregation, but they help identify the central tendency of the threshold literature and reveal how strongly estimates vary across settings. The same logic was used to tabulate study counts by period, method, and finding category. The main strength of this method is that it is well suited to a heterogeneous body of evidence. It preserves distinctions that would be obscured in a forced pooled estimate, especially the difference between linear and nonlinear studies and between inflation rate and inflation uncertainty mechanisms. It also allows recent work to be assessed alongside foundational studies without assuming that all coefficients are directly comparable. The main weakness is that a systematic review of this type cannot estimate a single global causal parameter and cannot fully eliminate publication bias or model-selection bias in the underlying studies. Nonetheless, the design provides a transparent and replicable basis for identifying the dominant empirical patterns in the literature. To improve consistency, the coding process also assigned a simple quality weight to each study based on the breadth of the sample, the transparency of the empirical design, and the robustness of the reported strategy. The weight was not used to exclude studies; rather, it served as an internal check when comparing heavily cited panel studies with narrower country applications. Coding decisions were cross-checked against the article abstract, empirical model, and main conclusion so that the assigned category reflected the dominant substantive claim of the study rather than a single isolated coefficient. This procedure reduces the risk that a study with mixed signs across specifications is incorrectly coded as purely negative or purely neutral.

RESULTS

The screening process indicates that the final evidence base is selective rather than indiscriminate. From 126 initially identified records, 34 studies were retained after duplicate removal, title-and-abstract screening, and full-text eligibility assessment. Figure 1 presents the screening pathway, while Table 1 summarizes the numerical flow. The resulting corpus is sufficiently broad to cover foundational cross-country work, later threshold studies, and the current wave of post-2020 empirical research. It is also balanced across publication periods: 19 studies were published before 2020 and 15 between 2020 and 2025. This balance matters because it allows the review to compare whether recent inflation episodes and newer econometric designs materially changed the earlier consensus.

Table 1. Study screening and eligibility summary

Screening stage	Count
Records identified through database and repository searches	126
Duplicates removed	18
Records screened by title and abstract	108
Records excluded at screening stage	62
Full-text studies assessed for eligibility	46
Full-text studies excluded	12
Studies included in final synthesis	34

Note. The screening protocol followed a PRISMA-inspired logic adapted to economics literature review practice

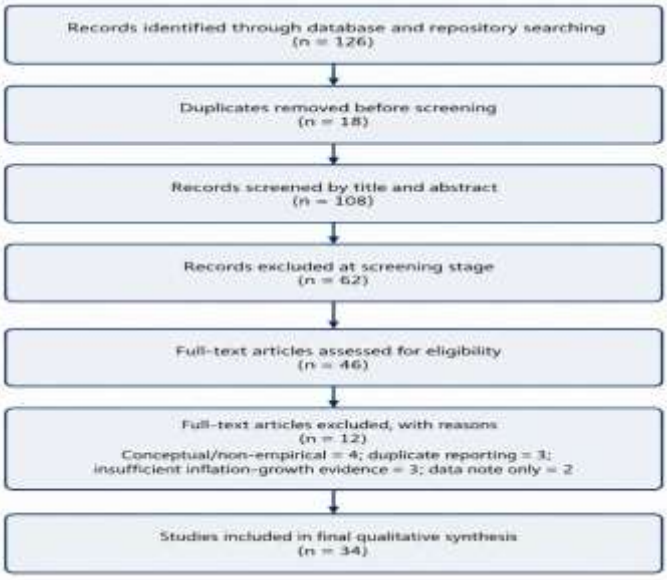

Figure 1. Study screening and selection process

The reviewed studies display considerable diversity in geographic coverage and method. Of the 34 included studies, 15 are cross-country or global, 13 are regional or multi-country group panels, and 6 are single-country analyses. Methodologically, 13 studies use threshold or nonlinear approaches, 9 rely mainly on linear panel or growth regression frameworks, 8 use country or regional time-series techniques, and 4 focus primarily on uncertainty or volatility mechanisms. Table 2 reports these descriptive patterns. The distribution confirms that the inflation growth literature is not dominated by one econometric strategy. Instead, the same research question has been examined through multiple inferential lenses, which is one reason the literature contains both convergence and disagreement.

The dominant substantive pattern is adverse or conditionally adverse rather than benign. Seventeen studies fall into the nonlinear threshold category, eight report a directly negative inflation growth relationship, six report mixed or heterogeneous effects, and three place special emphasis on inflation uncertainty or volatility. Figure 2 visualizes this distribution. When the three adverse categories are combined direct negative, threshold conditioned negative, and uncertainty mediated negative 28 of the 34 studies support a harmful growth effect, yielding a broad support ratio of 82.4%. The six mixed or heterogeneous studies do not overturn this pattern; instead, they mainly show that the slope differs by country group, institutions, or the range of inflation observed. Thus, even the studies that do not report a simple negative coefficient frequently imply that inflation becomes harmful under identifiable conditions.

Table 2. Descriptive profile of the included studies

Dimension	Category	Count	Share
Publication period	1993–2019	19	55.9%
Publication period	2020–2025	15	44.1%
Study coverage	Cross-country/global	15	44.1%
Study coverage	Regional/group panel	13	38.2%
Study coverage	Single-country	6	17.6%
Method group	Threshold/nonlinear	13	38.2%
Method group	Linear panel/growth regression	9	26.5%
Method group	Country/regional time-series	8	23.5%
Method group	Uncertainty/volatility	4	11.8%
Finding pattern	Direct negative	8	23.5%
Finding pattern	Nonlinear threshold	17	50.0%
Finding pattern	Mixed / heterogeneous	6	17.6%
Finding pattern	Inflation uncertainty channel	3	8.8%

Note. Shares are computed against the 34-study review sample and are rounded to one decimal place

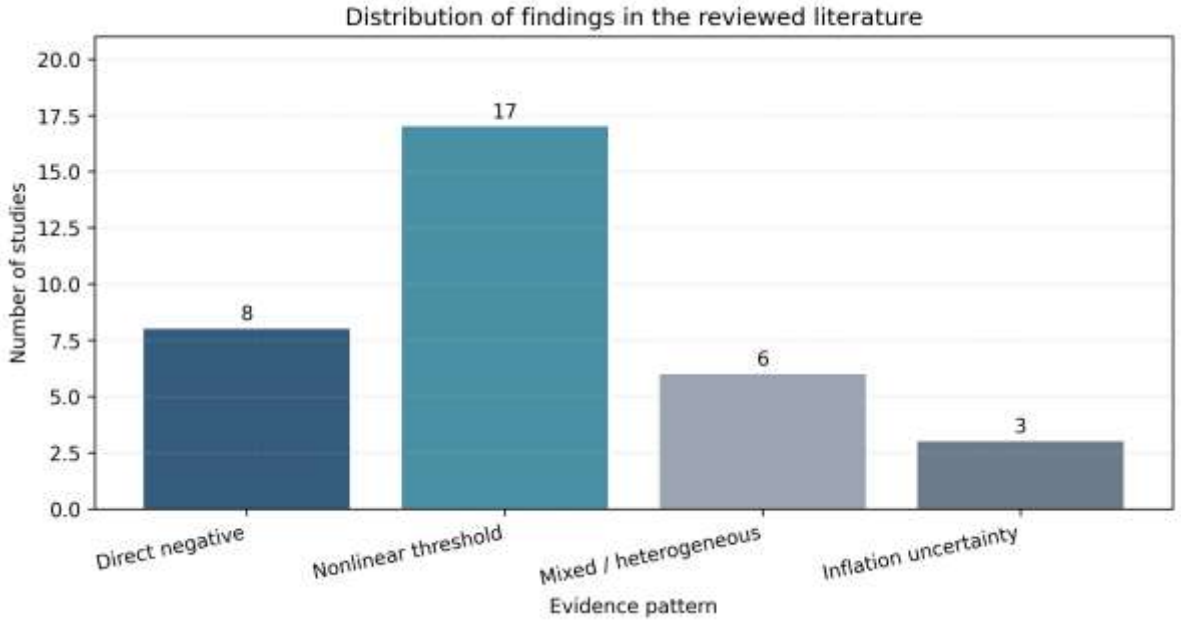

Figure 2. Distribution of finding patterns in the reviewed literature

The threshold evidence is especially informative. Among the 16 studies that report explicit threshold values, the estimates range from 4.0% to 16.46%, with a median of 8.0% and an interquartile range of 5.3% to 10.9%. Figure 3 plots the threshold estimates, and Table 3 lists representative values from influential studies. Lower thresholds are mostly observed in more stable or inflation-targeting environments, such as the roughly 4.0% reported by He (2023), the 4.18% reported by Ekinci et al. (2020), and the 4.5% reported by Ndou and Gumata (2024). Mid-range thresholds cluster around 7% to 10%, as in Sarel (1995), Khan and Senhadji (2000), Thanh (2015), Aydin et al. (2016), and Azam and Khan (2022). Higher thresholds are concentrated in developing-country settings, including 12.0% in Bick (2010), 12.88% in Bangura and Omojolaibi (2024), and 16.46% in Mulu et al. (2025). This dispersion indicates that the literature does not support a single universal

inflation cutoff, but it does support the broader claim that growth costs become more visible once inflation exits a low and stable range.

The qualitative findings within each category reinforce the quantitative summary. Direct-negative studies such as Fischer (1993), Kırşanlı (2022), and several OECD- or panel-based analyses interpret inflation as a drag on capital formation, macroeconomic coordination, or efficiency. Threshold studies repeatedly show that low inflation may be weakly tolerable, but the marginal effect turns adverse above a breakpoint. Mixed-effect studies typically report either sample-specific nonlinearities or interactions with institutions and volatility. Uncertainty-oriented studies show that the growth cost of inflation is amplified when inflation is difficult to predict or when policy credibility is weak. In this sense, the literature points to a layered relationship: inflation can harm growth directly, but the size and timing of the harm are mediated by threshold dynamics, structural conditions, and uncertainty effects.

Table 3. Representative inflation threshold estimates reported in the literature

Study	Coverage	Method	Threshold (%)	Interpretation
He (2023)	Cross-country	Inverted-U / threshold model	4.00	Growth weakens beyond a low threshold
Ekinci et al. (2020)	Inflation-targeting countries	Threshold regression	4.18	Low-threshold evidence in inflation-targeting regimes
Ndou & Gumata (2024)	South Africa	Threshold framework	4.50	Growth-sensitive target band is relatively low
Vinayagathasan (2013)	Asia	Dynamic panel threshold	5.43	Inflation above mid-single digits depresses growth
Thanh (2015)	ASEAN-5	Panel smooth transition	7.84	Threshold close to upper single digits
Sarel (1995)	Cross-country	Structural-break growth equation	8.00	Classic nonlinear break estimate
Azam & Khan (2022)	Developed and developing countries	Panel threshold	8.80	Threshold differs across broad world sample
Kremer et al. (2013)	Industrial and emerging economies	Dynamic panel threshold	9.50	Growth regime changes above threshold
Bick (2010)	Developing countries	Panel threshold	12.00	Low double-digit threshold in developing-country panel
Bangura & Omojolaibi (2024)	Nigeria	Sample-splitting threshold	12.88	Growth turns negative above threshold
Mulu et al. (2025)	Ethiopia	Time-series threshold regression	16.46	Highest reported threshold in reviewed sample

Note. Threshold values are shown only for studies that report explicit breakpoints. The table presents representative studies from different contexts and estimation strategies

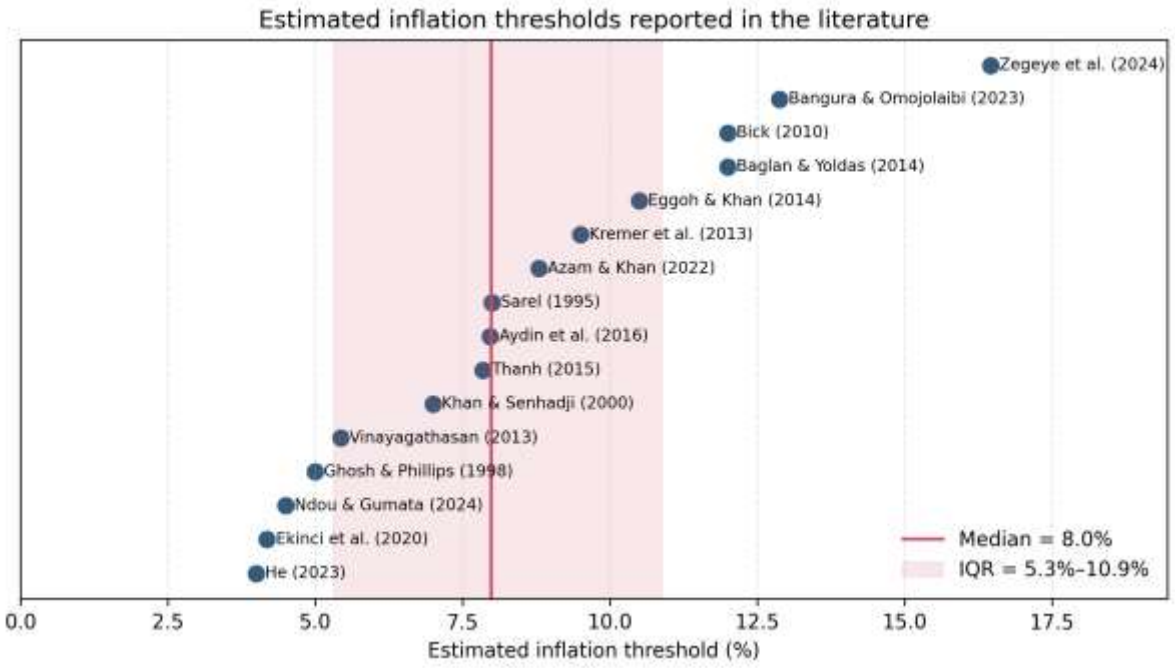

Figure 3. Reported inflation thresholds across included empirical studies

The recent literature does not reverse the earlier evidence; it refines it. Studies published since 2020 confirm the harmful or conditional-harmful pattern but place greater weight on institutional quality, inflation-targeting credibility, and volatility transmission. This is evident in the findings of Yilmazkuday (2022), Nene et al. (2022), Pappas and Boukas (2025), and Cano-Espinosa (2025), which place policy regime and uncertainty at the center of the inflation growth connection. The post-2020 evidence therefore broadens the explanation of why inflation matters without weakening the conclusion that it matters.

A closer look at the threshold cluster clarifies the structure of the evidence. The lowest reported values roughly 4.0% to 5.0% come mainly from cross-country or inflation-targeting settings in which price stability is already well

institutionalized. Thresholds near 7% to 10% appear in broader multi-country panels and several regional studies, suggesting that single-digit inflation is often the zone in which marginal growth effects begin to worsen. The highest thresholds, above 12%, occur mostly in developing-country applications characterized by greater structural adjustment needs or more persistent inflation histories. Even so, the direction of the effect above the threshold remains negative. This means that the difference across studies lies more in estimated tolerance bands than in the ultimate sign of the inflation effect after the breakpoint.

The cross tabulation of methods and findings also shows that nonlinear results are not confined to one estimation family. Threshold effects appear in dynamic panel threshold models, sample-splitting designs, smooth transition regressions, semiparametric panels, and time-series threshold applications. By contrast, the directly negative studies are more common in broad growth-regression or GMM frameworks where a single slope coefficient is estimated for the full sample. The uncertainty channel appears most clearly in papers that explicitly model inflation volatility or policy credibility. This mapping helps explain why newer work has not converged on one coefficient estimate: researchers are identifying different margins of the same macroeconomic relationship.

DISCUSSIONS

The review provides strong support for H_1. Most empirical studies do not portray inflation as a harmless by-product of expansion; instead, they show that inflation becomes growth-reducing either directly, above a threshold, or through uncertainty. The numerical synthesis is decisive on this point: 28 of 34 studies support an adverse or conditionally adverse interpretation. The high share of threshold studies is especially important because it explains why some papers do not find a uniformly negative coefficient at all inflation levels. The literature is therefore more coherent than it first appears. Apparent contradictions often reflect differences in the inflation range under observation rather than fundamental disagreement about the direction of the effect once inflation becomes sufficiently elevated.

H_2 is also supported. The threshold literature consistently indicates that lower thresholds tend to appear in advanced, institutionally stable, or inflation targeting environments, while higher thresholds are more common in developing or structurally constrained economies. The lower estimates reported by Ekinci et al. (2020), He (2023), and Ndou and Gumata (2024) contrast clearly with the higher thresholds reported by Bick (2010), Bangura and Omojolaibi (2024), and Mulu et al. (2025). This does not mean that developing economies are less vulnerable to inflation. Rather, it suggests that the point at which inflation becomes measurably growth-reducing may differ because of structural characteristics such as indexation, monetary transmission, informal finance, exchange-rate exposure, or historical tolerance of higher inflation. However, once these higher thresholds are crossed, the growth consequences are still negative. In this respect, the literature supports a differentiated threshold view, not a permissive inflation view.

H_3 is similarly supported, although the uncertainty channel is less numerous than the threshold literature. Studies by Baharumshah et al. (2016), Živkov et al. (2020), Nene et al. (2022), and Cano-Espinosa (2025) all show that inflation uncertainty or regime credibility materially affects growth conditions. This finding matters because it helps reconcile cases in which average inflation is modest but growth still suffers. If inflation is volatile, regime-switching, or poorly anchored, firms and households face more difficult intertemporal decisions even when the average inflation rate is not exceptionally high. The implication for theory is that inflation can reduce growth not only through resource misallocation and relative-price noise, but also through expectations, credibility, and option-value effects in investment decisions.

The review also helps explain why estimated thresholds vary. One reason is methodological heterogeneity. Threshold regressions, smooth transition models, dynamic panels, semiparametric estimators, and ARDL-type frameworks do not identify the same form of nonlinearity. Some are more sensitive to extreme episodes, others to average regime differences. A second reason is sample composition. Cross-country studies mix institutional settings and inflation histories, while single-country studies often capture country-specific structural breaks or policy transitions. A third reason is the broader macroeconomic environment. In financially deeper economies with credible inflation targets, inflation may begin to distort growth at relatively low levels because firms and households are accustomed to low and predictable inflation. In economies with historically higher inflation, the measured threshold may appear higher, but that often reflects adaptation, indexation, or a different baseline, not the absence of cost.

Another important conclusion is that the mixed-evidence studies should not be read as refutations of the adverse-inflation view. In many cases, “mixed” means that low inflation is neutral or mildly positive while high inflation is damaging, or that the coefficient changes once institutions or volatility are introduced. For example, Yilmazkuday (2022) shows that institutional quality conditions the inflation effect, and Pappas and Boukas (2025) show that both inflation and inflation volatility deserve attention in European Union settings. Su and Soon (2024) also underscore that the mechanism is multidimensional. The appropriate interpretation is therefore conditionality rather than inconsistency. The literature agrees more on the existence of a harmful zone than on the exact location of its boundary.

CONCLUSIONS

The purpose of this study was to synthesize the empirical literature on the relationship between inflation and economic growth and to determine whether the dominant evidence supports a direct, threshold-based, or uncertainty-mediated interpretation of the inflation effect. The review of 34 empirical studies shows that the literature converges on a conditional but largely adverse conclusion. A total of 17 studies identify threshold effects, 8 report a directly negative relationship, 3 emphasize inflation uncertainty, and only 6 mainly report mixed or highly context-specific results. Overall, 82.4% of the reviewed studies support the view that inflation undermines growth either directly, once a threshold is crossed, or through increased macroeconomic uncertainty. Reported threshold estimates range from 4.0% to 16.46%, with a median of 8.0%,

indicating that no universal cutoff exists but that harmful effects typically become more visible outside a low and stable inflation range.

The paper's main contribution is to organize a heterogeneous evidence base into a transparent comparative structure that links study design, country coverage, and substantive findings. The review also shows that recent literature has not overturned the traditional concern with inflation; instead, it has refined it by emphasizing institutions, inflation targeting, and uncertainty channels. The theoretical implication is that inflation is best understood as a macroeconomic stability variable rather than merely a price-level indicator. The managerial and policy implication is that maintaining low, stable, and credible inflation remains important for preserving a growth-supportive environment.

Several limitations must be acknowledged. First, the review synthesizes heterogeneous empirical designs and therefore cannot produce a single pooled causal coefficient. Second, although the coding protocol is transparent, any categorization of study findings necessarily simplifies nuances contained in the full articles. Third, publication bias cannot be fully ruled out; statistically significant or policy-relevant threshold findings may be more likely to appear in published work. Fourth, the review is constrained by the measures reported in the original studies, which vary in inflation definitions, output indicators, frequency, and control variables. These limitations mean that the reported support ratio should be interpreted as an evidence-balance indicator rather than a universal law. Even with these limitations, the review contributes in three ways. First, it integrates foundational and current studies into a single comparative frame. Second, it shows numerically that threshold evidence now dominates the literature. Third, it highlights that inflation uncertainty and policy credibility are not peripheral themes but increasingly central explanations of why inflation affects growth. For empirical researchers, this means future work should pay closer attention to institutions, regime changes, and interaction effects rather than seeking one invariant global coefficient. For policymakers, the key lesson is that the growth cost of inflation is real, but its timing and magnitude depend on the stability regime in which inflation occurs.

The review also has practical significance for decision-makers outside academic macroeconomics. For financial managers, lenders, and long-horizon investors, the literature implies that inflation should be monitored not only as a cost variable but also as an indicator of regime stability. When inflation approaches or exceeds the range in which the literature typically finds adverse growth effects, uncertainty about discount rates, wage costs, inventory valuations, and consumer demand is likely to rise. For public managers and central banks, the findings suggest that credibility enhancing institutions transparent targets, consistent communication, and fiscal-monetary coordination can matter as much as the current inflation rate itself. In other words, the literature supports a stability framework, not a narrow point target framework.

Future research should therefore move in two directions. One is methodological: more studies should report comparable effect sizes, standard errors, and regime definitions so that formal meta-analysis becomes more feasible. The other is substantive: researchers should connect inflation thresholds to institutional variables such as fiscal dominance, financial depth, labor-market indexation, and exchange-rate pass-through. A promising avenue would be to distinguish between supply shock inflation, demand-driven inflation, and persistence driven by expectations. The growth consequences of these inflation types are unlikely to be identical, and the current literature only partially separates them. Greater attention to regime transitions and the duration of inflation spells would also help explain why some economies appear to tolerate higher inflation temporarily but not persistently.

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