Does Inflation Affect Value Relevance? A Century-Long Analysis

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Abstract

Financial reports present assets, liabilities, and earnings on a nominal basis (unadjusted for inflation). Using a novel dataset of nearly a century of financial reports, this paper examines whether and how inflation affects the relation between accounting figures and stock market value, i.e., value relevance. On the one hand, inflation may decrease value relevance as historical cost accounting relies on historical transaction prices that become less relevant when inflation changes the price level. On the other hand, inflation may increase value relevance by increasing firms' cost of capital and thereby changing agents' focus towards nearer-term payoffs. Consistent with the latter hypothesis, we document a strong positive relation between value relevance and inflation. Cross-sectional tests suggest that this relation is stronger for firms that are more sensitive to cost of capital changes. Compared to the determinants of value relevance explored in prior literature, we find that inflation is of first-order importance.

JEL Classification: E31, G10, M40, M41
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1. Introduction

In June 2022, inflation reached a 40-year high of 9.1% in the United States and became the most pressing concern on the minds of Americans (Gallup Polls 2022) and CFOs (The CFO Survey, Q3 2022). The recent increase in inflation has heightened the debate on the effects of inflation on the relevance of accounting numbers. Since at least the 1920s, observers have argued that inflation decreases the relevance of accounting numbers as nominal amounts on firms' balance sheets and income statements understate current values (Paton 1922; Burton 1974; FASB 1984). While the debate regarding the effects of inflation on financial statements has a long history, prior empirical research examining changes in value relevance over time has not considered inflation as a driving factor (Francis and Schipper 1999; Ely and Waymire 1999; Collins et al. 1999; Lev and Zarowin 1999; Barth et al. 2022). In this paper, we intend to fill this void by examining whether changes in inflation explain variation in value relevance over the past century.

We examine historical cost accounting and cost of capital effects as two non-mutually-exclusive and counteracting channels through which inflation affects value relevance. With respect to the historical cost accounting channel, assets like property, plant, and equipment (PPE) are measured at historical cost and depreciated over their useful life. If inflation erodes the real value of dollar amounts stated on the balance sheet, this will lead to a divergence between historical cost book values and current market values, and the difference between accounting depreciation and the true economic devaluation of the asset will widen. Similarly, inventory sales measured at historical cost will provide a potentially misleading picture of performance as part of gross profit (revenue less inventory cost) represents real profit while part represents the effects of inflation.[1]

[1] The FASB (1979) provides the following inventory example to illustrate this concern: "[A]n enterprise may buy an item of inventory for $100 and sell it for $140. The transactions would contribute $40 to income determined on a historical cost/nominal dollar basis (i.e., under generally accepted accounting principles). However, the enterprise may

The inflation-induced divergence between economic reality and the historical cost measurement of inventory and PPE makes it more difficult for investors to use financial reports to assess the prospects of the firm. As a result, they rely less on accounting numbers for their trading decisions, which would lead to a negative association between inflation and value relevance (Lipe 1990; Imhoff and Lobo 1992). This reasoning is formalized in the FASB conceptual framework, which states "as rates of change in general purchasing power increase, financial statements expressed in nominal units of money become progressively less useful" (FASB 1984, para 71).

With respect to the cost of capital channel, firm value derives from cash flows discounted at the risk-appropriate cost of capital, where the cost of capital consists of the real cost of capital and inflation (Fisher 1930). Inflation increases firms' cost of capital which raises the proportion of firm value deriving from current earnings and capital, thereby increasing their relevance relative to that of earnings expected to realize in the more distant future (Ohlson 1995; Feltham and Ohlson 1995).

Our main tests examine whether value relevance varies systematically with inflation. One challenge of studying the effect of inflation on the relevance of accounting numbers is that the time series for which firm fundamental data are available to compute annual cross-sectional value relevance measures is rather short, limiting the amount of inflation variation studies based on traditional datasets, such as Compustat, could examine. We address this issue by analyzing a novel dataset of firm fundamentals from 1926 to 2021.[2] During our sample period, the primary periods of inflation are in the 1930s during the New Deal, in the 1940s following World War II, the Great

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need to replace the inventory at a cost of $115. The sale produces only $25 ($140 less $115), available for distribution without impairment of operating capability."

[2] An alternative to examining a long time series of data within a single country would be to examine a panel of data from multiple countries. However, as pointed out by Ali and Hwang (2000), value relevance varies with features of countries' institutional environments. Our focus on a single country allows us to hold the institutional environment constant.

Inflation of the 1970s, and, most recently, in the early 2020s following the COVID-19 pandemic. Inflation differs greatly between the pre-Compustat-initiation period, where we use hand-collected data, and the post-Compustat-initiation period. The pre-Compustat period features more variation in inflation (i.e., a greater standard deviation and range), the period with the highest inflation (following WW2), and the only deflationary period (during the Great Depression). In contrast, the post-Compustat-initiation period features more stable and generally declining inflation. The long time series mitigates the risk that the relations we document result from small sample bias and allows us to conduct supplemental analysis of both the pre- and post-Compustat-initiation periods.

Following Francis and Schipper (1999), we compute value relevance as the adjusted R-squared obtained from annual cross-sectional regressions of returns on earnings and changes in earnings. We focus on the value relevance of earnings because earnings is a key summary metric of importance to academics and the investment community that has been included in financial reports over our entire sample period (Dechow 1994; Bradshaw and Sloan 2002; Dechow et al. 2010). Our focus on earnings is also consistent with FASB-mandated inflation-related disclosures, which require the presenting of income statement items adjusting for the effects of inflation, but only require information on selected balance sheet items (PPE and inventory) (FASB 1979).

Our analysis documents a strong, positive association between annual cross-sectionally estimated earnings relevance and inflation. We show this association is robust to using PPI, CPI, and GDP deflator inflation as the inflation measure and significantly positive in both the pre- and post-Compustat-initiation periods. This suggests that our findings are not driven by a specific period, but instead persistent across different inflation regimes and business environments. We find a similar association when examining the value relevance of assets and liabilities, or when examining the combined value relevance of earnings and book value of equity. When controlling for other macroeconomic factors, we find Gross Domestic Product (GDP) and unemployment have no association with value relevance. This suggests that it is inflation, and not inflation's correlation with other macroeconomic conditions, that is driving this association. Inflation's effect on value relevance does not differ based on whether the inflation is demand- or supply-induced. In sum, the results indicate that inflation increases value relevance by making current-period earnings more relevant to investors (the cost of capital channel).

To provide context on the relative importance of inflation, we compare the association between value relevance and inflation to that of four other commonly explored factors in the value relevance literature: a general time trend, the percentage of loss-making firms, the percentage of technology firms, and the tenures of different standard setters (Francis and Schipper 1999; Ely and Waymire 1999; Collins et al. 1999; Lev and Zarowin 1999; Barth et al. 2022). To evaluate the relative importance of different factors, we use the Shapley value variance decomposition approach (Shapley 1953; Winter 2002; Sharapov et al. 2021) and find that inflation explains significantly more of value relevance's variation than any of these previously examined factors. This suggests that when seeking to explain variation in value relevance over time, inflation is of first-order importance.

Our main tests show a positive association between value relevance and inflation, consistent with the cost of capital channel having a greater effect than the historical cost accounting channel. However, it is possible that both channels are at play, with the cost of capital outweighing the historical cost accounting channel. To investigate this possibility, we conduct a series of cross-sectional tests to determine whether the results vary as the two channels predict. We begin by examining firms with a relatively large portion of assets measured at historical cost. Under the historical cost accounting channel, we would expect investors of such firms to struggle more to forecast the true economic cash flows during inflationary times, resulting in lower value relevance. We focus on both current assets (inventory) and non-current assets (PPE). We find little evidence that our main findings vary for firms with large amounts of PPE, but, consistent with the historical cost accounting channel, some evidence of a weaker association between value relevance and inflation for firms with high inventory. This finding suggests that inflation renders accounting numbers of firms with more inventory measured at historical cost, a set of firms for which practitioners and standard setters have expressed inflation-related accounting concerns, less useful (FASB 1979, FAS 33 Summary).

Next, we examine firms whose stock market valuation is more sensitive to changes in their cost of capital. Under the cost of capital channel, we would expect investors of such firms to assign relatively more weight to current relative to more distant payoffs in inflationary times, resulting in higher value relevance. We use implied equity duration and market-to-book ratios to measure sensitivity to cost of capital changes (Dechow et al. 2004). Consistent with the cost of capital channel, we find that the positive association between value relevance and inflation is pronounced for firms more sensitive to cost of capital changes.

Our study is subject to several limitations. First, our results should not be interpreted as evidence that inflation improves or deteriorates the quality of accounting standards. Similarly, our results do not provide evidence on whether alternative approaches to inflation accounting would make accounting information more useful to investors. To examine this, we would need counterfactual data reflecting alternative accounting approaches, which is unavailable for our full sample.[3] Instead, our results should be interpreted as evidence that inflation is an important

[3] Beaver and Ryan (1985) collect a sample of 1,137 non-financial firms that disclosed in inflation-adjusted earnings computed in accordance with FASB Statement 33 over the 1979 to 1982 period. They find that historical-cost earnings are more value relevant than inflation-adjusted earnings. An alternative approach to compute inflation-adjusted accounting numbers for our full sample would be to apply the methodology outlined in Konchitchki (2011). This

determinant of value relevance that researchers should control for when evaluating accounting standards or changes in value relevance. Second, our main tests rely on a time series of nearly a century of data, which is longer than any previous value-relevance study. Although we show that our results are robust across different inflation regimes and business environments and to controlling for aggregate real growth, unemployment, and uncertainty, we cannot fully rule out that an unspecified correlated omitted factor is driving our results.

With these limitations in mind, we contribute to three literatures. First, the value relevance literature has sought to understand if the relevance of accounting information has decreased over time, and if so, why.[4] Studies in this literature typically focus on the post-Compustat initiation period which limits the time series of data to around 50 years. One exception is Ely and Waymire (1999) who collect earnings, book value of equity, and return data for 100 randomly selected NYSE firms for the 1927 to 1993 period. They find only mixed evidence that value relevance varied systematically with the different standard-setting bodies that have been in charge of setting accounting standards in the United States since the Exchange Act of 1934. We contribute to the value relevance literature by collecting accounting data for the full set of NYSE firms for the 1926 to 2021 period to examine the effect of inflation on value relevance. Our results suggest that inflation is of first-order importance in explaining value relevance, which is a timely finding given the recent increase in inflation. One implication of our results is that authors should be cautious in attributing changes in value relevance to changes in standard setters or accounting standards when

approach corrects *aggregated* financial statement values for *aggregate-level* inflation effects. In contrast, the current-cost accounting and general purchasing power accounting approaches proposed by standard setters (see Section 2.2) correct *individual* asset values (i.e., before aggregation) for *asset-specific* inflation effects. Hence, we cannot use the Konchitchki (2011) approach to test whether value relevance would be less affected by inflation under different accounting approaches that standard setters have considered as alternatives to historical cost accounting.

[4] See Collins et al. (1997); Francis and Schipper (1999); Lev and Zarowin (1999); Ely and Waymire (1999); Brown et al. (1999); Core et al. (2003); Balachandran and Mohanram (2011); Srivastava (2014); and Barth et al. (2022).

the change coincides with a change in inflation, a factor that is outside the control of any accounting standard setter.

Second, we contribute to the research on the effects of inflation on various stakeholders' assessment of external and internal reporting figures. Prior research shows that investors, analysts, and managers do not always correctly correct for inflation when using accounting figures (see Chordia and Shivakumar (2005), Basu et al. (2010), Konchitchki (2011), and Binz et al. (2022a)). This research relies on various economic models to determine whether or not agents efficiently respond to inflation. In contrast, we seek to document whether and through which mechanisms inflation affects the relevance of accounting information. Our findings suggest financial statements become more, not less, relevant in the presence of high inflation, due to an increase in firms' cost of capital making current earnings and capital relatively more important in investors' assessment of firm value. We find little evidence that historical cost accounting makes financial statements less relevant when inflation is high. However, our tests do not imply that a historical cost measurement basis is superior to other methods that may account for changes in price levels and it is possible that inflation-related accounting changes may further increase value relevance.

Third, we contribute to the macro-to-micro literature.[5] This literature seeks to understand how aggregate-level variables affect firm-level outcomes. We show that inflation, a key macroeconomic variable, is associated with the relevance of accounting information through its effect on both firms' historical cost accounting figures and cost of capital. Perhaps surprisingly given prior commentators' focus on inflation's detrimental effect on the usefulness of historical cost figures, we find that the cost of capital outweighs the historical cost accounting channel, leading to a positive association between inflation and the relevance of accounting information.

[5] See, Ball et al. (2009); Rogers et al. (2009); Bonsall et al. (2013); Kim et al. (2016); Carabias (2018); Jackson et al. (2018); Bonsall et al. (2020); Binz (2022); Binz et al. (2022b); Binz et al. (2022c); and Holstead et al. (2022).

2. Background

2.1 Value Relevance Literature

Does accounting provide decision-useful information to investors, and if so, has the nature of the information provided to investors improved over time? These questions are at the heart of the value-relevance accounting literature and a recurring point of debate in financial reporting (Collins et al. 1997; Francis and Schipper 1999; Turner 2021). Prior research has generally documented a slight decrease or no change in value relevance over time, leading to concerns that accounting is not serving the needs of investors (Collins et al. 1997; Francis and Schipper 1999; Lev and Zarowin 1999; Ely and Waymire 1999; Srivastava 2014). These studies posit several reasons why the usefulness of accounting may decrease or increase over time. First, technological innovation and changes in the business environment may change the relevance of accounting (Lev and Zarowin 1999). As firms engage in new types of transactions for which the accounting system was not originally designed and the mix of firms in the economy shifts towards firms that engage in such transactions more frequently, the usefulness of the financial reporting system may decrease. A frequently given example of technological change is the increase in intangible assets (Lev and Zarowin 1999). Srivastava (2014) shows that cohorts of firms with more intangible assets have lower value relevance.

Second, the incidence of firms making losses has increased over time and prior research shows that earnings are less relevant for loss firms. If shareholders expect losses to persist, they will consider liquidating the firm and redeploying its resources to other firms that can use the resources more profitably. Thus, only firms with losses that shareholders expect to reverse will survive, rendering the losses of such firms less indicative of future performance and therefore less value relevant (Hayn 1995; Collins et al. 1999). Consistent with this reasoning, Joos and Plesko

(2005) and Barth et al. (2022) document lower value relevance for loss firms and attribute the decrease in value relevance over time, in part, to an increase in loss firms.

Third, the usefulness of the accounting system might vary with the competence of the standard setter designing it. Ely and Waymire (1999) test this conjecture by examining how value relevance varies with the tenures of four standard-setting bodies that have been in charge of setting accounting standards in the United States since the Securities Exchange Act of 1934 mandated financial reporting. Ely and Waymire (1999) find some evidence that value relevance was low during the 1960 to 1973 tenure of the Accounting Principles Board, but find no evidence that value relevance varies across the tenures of other standard setting bodies.

Finally, other research suggests that any potential decrease in earnings relevance may be offset by an increase in the relevance of other financial statements attributes. For example, Francis and Schipper (1999) find a decrease in the relevance of earnings, and an increase in the relevance of the balance sheet. Barth et al. (2022) expand the set of accounting variables, examining not only earnings and the book value of equity, but fourteen other financial statement variables, and show that there has been no decline in combined value relevance from 1962 to 2014.

The concern regarding a potential decline in value relevance permeates not only academia but also practice. Recently, former SEC Chief Accountant Lynn Turner (2021) has raised concerns that accounting standards have become increasingly irrelevant. Similar concerns have been voiced by practitioners and regulators for decades, with several former SEC chairs criticizing the financial reporting environment.[6]

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[6] In Congressional testimony after the accounting scandals of the early 2000s, Former SEC Chair Arthur Levitt raised concerns about FASB oversight and the ability of accounting practices to keep up with a changing business environment (Levitt 2002). Nearly a decade before Levitt's testimony, former SEC Chair Richard Breeden raised a similar concern, stating that the accounting standard process needs faster action and more relevant accounting principles. For more discussion on concerns about the relevance of accounting see Collins et al. (1997), Francis and Schipper (1999), Lev and Zarowin (1999), and Ely and Waymire (1999).

Despite longstanding interest in the value relevance of accounting numbers, to the best of our knowledge, the value relevance literature has not focused on how macroeconomic conditions, such as inflation, affect the relevance of accounting information. We seek to fill this void by examining the association between inflation and value relevance. We focus on inflation because, as discussed below, there is a long history of concern regarding inflation in accounting.

2.2. A History of Inflation Accounting

For as long as there have been standardized accounting principles in the United States, the scale of measurement in financial statements has been nominal units of money, unadjusted for changes in purchasing power over time (FASB 1984, para 71). For at least a century, accountants have recognized that inflation affects the relevance of financial statements by measuring assets, liabilities, and earnings at amounts that do not reflect current-period economic reality. In the early 1920s, William Paton, founder of the American Accounting Association and coauthor of the influential *An Introduction to Corporate Accounting Standards*, argued that inflation should be considered when preparing financial statements (Paton 1922; Narvaez 1991). Similar sentiments were expressed over time and all three of the accounting standard-setting bodies in United States history engaged in projects seeking to address inflation accounting. As noted by former SEC Chief Accountant John C. Burton, concerns about standard-setting projects to address inflation tended to arise when inflation was high. He stated:

> "Historically, it can be noted that the level of discussion and action about the accounting problems caused by inflation has not surprisingly been closely correlated to the rate of inflation currently existing. At low levels—perhaps under 3% per annum—financial statements based on an historical monetary unit of account have been felt to provide adequate information for most users […]. At the other extreme, when the rate of inflation reached dramatic levels—say over 25% per annum—financial statements based on historical monetary units could be generally agreed to have little value." (Burton 1974)

The FASB expressed similar views, noting in Concept Statement 5 that:

> "[t]he Board expects that nominal units of money will continue to be used to measure items recognized in financial statements. However, a change from present circumstances (for example, an increase in inflation to a level at which distortions became intolerable) might lead the Board to select another, more stable measurement scale." (FASB 1984)

The reliance on historical cost accounting, which results in balance sheet and income statement measures that are not adjusted for inflation, has been identified as one reason that financial statements may become less useful. For example, former SEC Chief Accountant Walter Schuetze criticized historical accounting as leading to a decline in the relevance of financial statements, providing the following example:

> "Why do I think we should jettison historical cost accounting and adopt mark-to-market […]? The reasons are simple and straightforward. The first reason is usefulness. One does not use historical cost numbers to make investment or lending decisions. No banker has ever made a collaterized loan to a customer based on the customer's historical cost of the collateral; the banker insists on knowing the market value of the collateral. No investor in any asset ever made an investment based on the seller's cost of the asset." Schuetze (1992)

Despite recurring concerns regarding inflation, accounting standard setters in the United States have never mandated a change to the primary financial statements to adjust for inflation.[7] As discussed in FASB Concept Statement 5, standard setters acknowledge that an ideal measurement scale would be stable over time, but standard setters have always perceived the simplicity benefit of a nominal measurement scale to outweigh its costs (FASB 1984, para 71). Thus, instead of adjusting the primary financial statements, standard setters have opted for additional disclosures to aid investors in understanding the effects of inflation while minimizing complexity. In 1947, 1948, and 1953, the CAP considered inflation-related accounting issues and recommended firms to provide disclosures explaining the need for earnings retention because of

[7] Prior to the Great Depression, there was no single standard setting body in the United States. Following the stock market crash of 1929, Congress passed the Securities Acts, created the Securities and Exchange Commission (SEC), and, in 1939, the Committee on Accounting Procedure (CAP) became the first accounting setting standard body in the United States. Criticism of the CAP led to its dissolution and the creation of the Accounting Principles Board (APB) in 1960 (Zeff 1972; Ely and Waymire 1999). The Wheat Study Group, appointed in 1971, recommended the creation of a full-time standard setting body. This lead to the dissolution of the APB and the creation of the FASB, who has been the standard setter in the United States since July 1, 1973 (Zeff 2005).

inflation (FASB 1979). In 1969, the APB issued APB Statement No 3, *Financial Statements Restated for General Price-Level Changes*, which recommended that historical cost financial statements be complemented by price-level information. Yet, few companies followed the APB recommendation (FASB 1979, para. 71).

After the establishment of the FASB in July 1973, one of the first projects added to its agenda was the accounting for changes in price levels (FASB 1979). In the course of its due process, the FASB issued a discussion memorandum, released multiple exposure drafts, held public hearings, conducted field tests with over 100 companies, and received over 700 comment letters. While the FASB conducted its due diligence, the SEC issued Accounting Standards Release (ASR) 190 which required large public entities to disclose replacement cost information about inventories, fixed assets, and the corresponding income statement effects (Flynn 1977). The FASB process concluded in 1979 with the issuance of SFAS No. 33, *Financial Reporting and Changing Prices*. For firms with over $125 million in inventory and property plant and equipment, or total assets over $1 billion, the standard required enhanced disclosures on the measurement of inventory, PPE, and income on a current cost basis. However, the standard made clear that it did not require any changes to the primary financial statements (FASB 1979, FAS 33 Summary).[8]

Historically, the proposed approaches to account for inflation fall into one of two buckets (Flynn 1977). The first is general purchasing power accounting (GPPA), which is based on the approach presented by the FASB in the 1970 exposure drafts. Under GPPA, balance sheet items are split into monetary (cash, receivables, payables, etc.) and nonmonetary items, with

[8] Prior research notes that LIFO inventory accounting results in a cost of sales number that is closer to current replacement cost, and thus an earnings number that is closer to economic earnings (Biddle and Martin 1985; Lev and Thiagarajan 1993). As discussed in the PwC Inventory Guide, LIFO has long been an accepted inventory accounting method under US GAAP, but there is no authoritative guidance on LIFO accounting (as discussed in SAB Topic 5.L), with most LIFO accounting practices derived from IRS regulations (PwC 2021). Thus, the use of LIFO accounting is predominately driven by tax concerns and not intended to mitigate distortions during periods of high inflation (Biddle 1980; Dopuch and Pincus 1988; Kang 1993; Hand 1993; Guenther and Trombley 1994).

nonmonetary items adjusted for the changes in purchase power.[9] Under GPPA, monetary assets would not be adjusted in the current period, but monetary items in prior-period balance sheets would be adjusted to express them in terms of current purchasing power. The second approach is referred to as a replacement cost or current-cost accounting (hereafter, the CCA approach). Under this approach, PPE and inventory would be adjusted to the asset-specific replacement cost for an asset with equivalent capacity. As any change in asset values would affect depreciation and cost of goods sold (COGS), the firm would be required to disclose the corresponding effect on depreciation and COGS.

The approaches differ in two important ways. First, they differ in whether a general adjustment is made for all nonmonetary items (GPPA) or whether the adjustments are asset-specific (replacement cost). Second, the CCA approach only applies to PPE and inventory, thus creating potential mismatches. Flynn (1977) illustrates this point with an example. Consider a fixed asset purchase financed with long-term debt. Adjusting the asset balances to the replacement cost with a corresponding increase in depreciation expense would decrease net income for the increase in depreciation. However, the long-term debt would also be repaid with cheaper future dollars, generating an offsetting gain that is ignored under the CCA approach. Under the GPPA approach, the historical value of the debt would be restated, and changes in the historical value of the debt would (approximately) offset any increase in depreciation. It is important to note that despite considerable interest in adjusting financial statements for inflation, the proposals discussed above were never implemented.[10]

[9] For example, is purchasing power ten years ago was 75% higher, then a fixed asset with a historical cost of $1,000 would be presented in the current financial statements at $1,750 (Flynn 1977).

[10] In 1981, the FASB issued SFAS 52 on foreign currency. This standard includes accounting guidance for hyperinflationary economies, defined as economies with cumulative inflation of 100% or more over 3 years. Under this guidance, nonmonetary assets and liabilities and the related expenses (e.g., depreciation) must be remeasured at the exchange rate at the time when the asset or liability was created. All gains and losses resulting from this remeasurement process must be reported in net income. In contrast, monetary assets and liabilities must be remeasured

3. Hypotheses Development

As the previous section illustrates, the debate around inflation's effects on the usefulness of accounting numbers has revolved around the fact that historical cost accounting requires firms to report the value of many of their assets and liabilities at the original transaction price less accumulated depreciation or amortization on their balance sheet.[11] Although much of the historical debate focuses on the failure of accounting to adjust for inflation, there are reasons to believe that inflation may increase or decrease value relevance. We outline these competing predictions below.

Conceptually, inflation can affect value relevance through a historical cost accounting channel and a cost of capital channel. With respect to the historical cost accounting channel, the primary reason that inflation may lead to a decrease in value relevance is the prevalence of measuring assets, liabilities, and income in nominal terms. If inflation erodes the real value of dollar amounts stated on the balance sheet, this leads to a divergence between balance sheet values and economic values over time.[12] This divergence has at least three income statement effects. First, it increases the difference between economic and financial statement depreciation and amortization. Second, it affects the likelihood and measurement of asset impairments.[13] Third,

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using current exchange rates. See the PwC Foreign Currency Guide, Section 6.3 for detailed examples. In contrast to US GAAP, IAS 29 requires firms to adjust their financial statements for inflation not only for foreign subsidiaries but also for the parent firm if the parent firm operates in a hyperinflationary environment. Examining the value relevance of these inflation-adjusted accounting numbers in a sample of Zimbabwean firms over the 2000 to 2005 period, Chamisa et al. (2018) find that historical cost earnings are as (more) value relevant as inflation-adjusted earnings when inflation is high (low).

[11] One notable exception is land which is not depreciated. The accounting treatment for Goodwill has varied over our sample period. In the post FAS 142 period (issued in 2001), Goodwill has not been amortized. Prior to FAS 142, Goodwill accounting APB Opinion No. 17, *Intangible Assets* which required the amortization of goodwill.

[12] Hodder et al. (2014, p. 228-229) discuss DuPont's accounting for the land its headquarters are built on as an extreme example of how inflation can cause accounting and economic values to diverge. According to Note 10 of DuPont's 2013 10-K, the land is still carried at its pre-1905 purchase price, which is likely much less than what DuPont could sell the land for at current market prices.

[13] Under current US GAAP, fixed assets are subject to a two-step impairment test. In the first step, the entity compares the carrying value of the asset to its undiscounted expected future cash flows. An increase in the price level will increase expected future cash flow, which may decrease the likelihood of an impairment. If the carrying value exceed the undiscounted expected future cash flows, then, in the second step, the entity measures the impairment loss as the difference between the carrying value and the discounted expected future cash flows (Deloitte 2022).

firms report their inventory at historical cost and hence inflation will directly affect the gross profit recognized from the sale of inventory. In sum, inflation leads balance sheet and income statement numbers to become increasingly distorted reflections of economic reality and changes in economic reality and therefore less useful for investors' decision making. As a result, value relevance decreases.[14] This leads to our first hypothesis:

Hypothesis 1. Inflation reduces value relevance by distorting the relation between accounting and economic value.

With respect to the cost of capital channel, inflation directly increases the cost of capital (which consists of the real cost of capital plus inflation) and thereby the value of current relative to more distant payoffs (Fisher 1930).[15] As a result, current earnings and invested capital make up a larger share of overall firm value and value relevance increases (Ohlson 1995; Feltham and Ohlson 1995). This leads to our second hypothesis:

Hypothesis 2. Inflation increases value relevance by increasing firms' cost of capital.

The discussion above offers competing directional predictions on the association between inflation and value relevance. Conceptually, we may find no evidence of an overall association, but strong evidence in favor of both channels in approximately equal and offsetting magnitudes. Similarly, documenting a positive or negative association does not indicate that only one channel exists. Both channels may exist but at differing magnitudes.

[14] The concern that inflation may decrease value relevance aligns closely with the FASB's stated rational for requiring new inflation-related disclosures in FASB Statement 33, *Financial Reporting and Changes in Prices*. When issuing the standard, the FASB stated: "This Statement meets an urgent need for information about the effects of changing prices. If that information is not provided: Resources may be allocated inefficiently; investors' and creditors' understanding of the past performance of an enterprise and their ability to assess future cash flows may be severely limited" (FASB 1979, Summary). In Appendix B, we provide additional details on the required disclosures as well as an example.

[15] By changing firms' cost of capital inflation likely also induces managers and consumers to change their investment and consumption decisions and thereby earnings (Binz 2022; Binz et al. 2022b). However, it is unclear why the value relevance of these earnings changes would vary with inflation through other channels than those outlined in this section.

4. Data

4.1. Firm-Level Data

We collect firm-level stock return data from CRSP and fundamental data from Compustat and Moody's Industrial Manuals. We start our sample in 1926 (the first year CRSP covers) and end in 2021 (the last year of data available at the time of the writing). Compustat's coverage starts in 1950 but suffers from survivorship bias until 1962. Hence, we use the Moody's Industrial Manuals data collected by Graham et al. (2015, 2018) to cover the 1926 to 1950 period and to supplement Compustat for the 1950 to 1962 period. We restrict our sample to NYSE firms because CRSP did not cover other exchanges until 1962 when it started to cover AMEX firms and 1973 when NASDAQ was added. We exclude firms in the financial services (SIC 6000-6999) and utilities (SIC 4900-4999) industries because they are not covered by the Moody's Industrial Manuals. We require non-missing data for all our variables of interest and winsorize all continuous firm-level variables at the 1^{st} and 99^{th} percentiles.

Figure 1 presents the number of observations by year. Recessions as classified by the National Bureau of Economic Research are shaded in grey. The sample size steadily increases from 86 in 1926 to 1,061 in 1974. The sample then declines to 804 observations in 1989 before climbing again to an all-time high of 1,183 observations in 1998, the peak of the dot-com bubble. Thereafter, the number of observations steadily declines to 809 observations in 2021, the last sample year. Table 1 presents the Fama and French (1997) 48 industry composition of our sample. Retail (8.13%), Petroleum and Natural Gas (6.71%), and Machinery (6.18%) are the industries with the largest numbers of observations, though the distribution of industries is broad.

Table 2 Panel A presents the descriptive statistics for our firm-level variables. All variables are defined in Appendix A. The annual stock returns (*Return*), computed from April of the current to March in the subsequent fiscal year (Fama and French 1992),[16] are skewed to the right, with a mean of 14.9% and a median of 8.9%. We require non-missing values for all 12 months of the fiscal year to compute *Return*. Earnings yield (*Earnings*), computed as earnings scaled by beginning-of-the-year market value of equity, is 6.5% on average, but varies widely with a standard deviation of 12.8%. As evidenced by the 12.6% standard deviation of the change in earnings yield (Δ*Earnings*), computed as the change in earnings scaled by beginning-of-the-year market value of equity, this variation arises not only because of across-firm but also because of within-firm developments. Companies' exposure to market risk (*Beta*), computed as the slope coefficient obtained by regressing the firm's monthly excess stock return on the excess market return while suppressing the intercept (Sharpe 1964), is on average positive (0.188). Firm size (*Size*), computed as the natural logarithm of one plus total assets, is $496 million on average. This statistic should be interpreted with caution as it pools observations collected from various years over the past century and, as a result, is distorted by inflation. Dividend yield (*Dividend Yield*), computed as dividends scaled by beginning-of-the-year market value of equity, is 3% on average; and the mean of *Dividend Payer*, an indicator that the firm pays a dividend, shows that 77.9% of firms pay dividends. The mean of *Loss*, an indicator that the firm is making a loss, shows that 12.2% of our sample firms are making a loss. The market-to-book ratio (*Market-to-Book*), computed as the market scaled by the book value of equity at the end of the fiscal year, is 2.1 on average, suggesting that the market generally expects firms to grow.

4.2. Aggregate-Level Data

[16] Our results are robust to computing returns from January to December of the current fiscal year, from January of the current to March of the subsequent fiscal year, and from January of the current to April of the subsequent fiscal year (Lev and Zarowin 1999; Francis and Schipper 1999; Ely and Waymire 1999).

We collect data on PPI inflation (*PPI*) and CPI inflation (*CPI*) from the Burau of Labor Statistics; real GDP growth (*GDP*) and GDP deflator growth (*GDP Deflator*) from www.MeasuringWorrth.com for 1926 to 1930, and from the Bureau of Economic Analysis for 1930 to 2021; unemployment (*Unemployment*) from the National Bureau of Economic Research for 1926 to 1947, and from the Burau of Labor Statistics for 1948 to 2021; and Baker et al. (2015) economic policy uncertainty (*Macroeconomic Uncertainty*) from www.PolicyUncertainty.com. Figure 2 plots PPI, CPI, and GDP deflator inflation over time. The three inflation measures are highly correlated but exhibit different levels of volatility. The GDP deflator is the least volatile and PPI inflation is the most volatile. Inflation spikes during the aftermath of the Great Depression of the 1930s, World War II, the Great Inflation of the 1970s, and, more recently, the aftermath of COVID-19 and the advent of the Russo-Ukrainian War.

Table 2 Panel B presents the descriptive statistics for our aggregate-level variables other than inflation. Real GDP growth averages 3.3%, with a minimum of -12.9% in 1932, the nadir of the Great Depression, and a maximum of 18.9% in 1942, the year after the United States entered World War II on December 7th, 1941. Unemployment averages 6.9% but exhibits substantial volatility with a standard deviation of 4.6%. Economic policy uncertainty averages 0.969 with a standard deviation of 0.437. PPI, CPI, and GDP deflator inflation average around 3% over our sample period.

Table 3 provides more detailed descriptive statistics for PPI, CPI, and GDP deflator inflation for the full sample and how these descriptive statistics change from the pre- to the post-Compustat-initiation period. Consistent with Figure 1, we find more variation in our three inflation measures before Compustat initiation. All three inflation measures show a greater standard deviation and range and reach their lows (during the Great Depression) and highs (following World

War II) over this period. Further, CPI and GDP deflator inflation experience their only deflation, and PPI inflation has 15% more deflationary years. We find a similar percentage of years with high inflation (over 5%) before and after Compustat initiation but a larger percentage of years with stable inflation (0 to 5%) after the initiation of Compustat.

Together, the information in Figure 2 and Table 3 highlights the importance of using the longer time series of our hand-collected data. After Compustat was initiated, inflation has become more stable and experienced a general downward trend. An unobservable, omitted factor with a similar time trend as inflation would lead to biased inferences. Before Compustat initiation and over the full sample, there is no such time trend, reducing the possibility that an unobserved factor correlated with inflation would confound the results.[17] To ensure the robustness of our results, we estimate our main tests for the full sample as well as separately for the pre-and post-Compustat initiation periods.

Table 4 presents the correlation matrix. Returns correlate positively with earnings levels and changes (Ball and Brown 1968) but negatively with GDP growth and various inflation measures. In contrast, earnings levels and changes correlate positively with GDP growth and various inflation measures. Firms are more likely to experience losses, market-to-book ratios tend to be low, and leverage tends to be high when GDP growth is low. However, these univariate correlations between firm-level and aggregate-level variables are difficult to interpret since the aggregate-level variables tend to be highly correlated with each other, highlighting the importance of controlling for macroeconomic variables in multivariate analysis.

[17] To illustrate this concern, it is possible that firms during the high-inflation periods of the 1970s and early 1980s are fundamentally different in some unobservable way from firms during the low-inflation period from the 1990s to 2020. Under this scenario, this unobserved factor, not inflation, would drive any changes in value relevance. In the pre-Compustat-initiation period, there is no clear time trend and it is difficult to posit an unobservable factor or firm characteristic that would systematically covary with the numerous inflation spikes during this period.

5. Aggregate-Level Results

5.1. Main Results

Following Francis and Schipper (1999), we compute earnings relevance (*Earnings Relevance*) as the adjusted R-squared obtained from annual cross-sectional regressions of *Return* on *Earnings* and Δ*Earnings*:

$$Return_{it} = \beta_0 + \beta_{1t}Earnings_{it} + \beta_{2t}\Delta Earnings_{it} + \varepsilon_{it}. \quad (1)$$

Table 2 Panel B shows that variation in earnings explains on average 12.3% of the variation in returns, with a minimum of 2.1% in 1937 and a maximum of 27.0% in 1950.

Figure 3 Panel A plots earnings relevance and PPI inflation over time. We choose PPI instead of CPI or GDP deflator inflation as our primary inflation measure because Shivakumar and Urcan (2017) document that the relation between aggregate earnings and inflation is most pronounced when using PPI to measure inflation. To facilitate interpretation and to reduce noise, we standardize and, in Figure 3 Panel B, smooth (by taking a moving average over the preceding, current, and subsequent year) both measures. As documented by Francis and Schipper (1999) and Lev and Zarowin (1999), earnings relevance appears to decline from the 1970s until 2020. This decline coincides with a decline in inflation levels over the same period. However, consistent with Ely and Waymire (1999), the declining trend in earnings relevance becomes much less clear once one extends the sample period back to 1926. Most recently, there is an uptick in earnings relevance to 22.2% in 2021, the highest level since 1984.

To address concerns that the positive correlation between inflation and earnings relevance might be driven by outlier years, Figure 4 shows a scatter plot of standardized earnings relevance against PPI inflation. Inconsistent with such concerns, the plot displays an approximately homoscedastic and strongly positive relation. Indeed, the slope of the line derived from univariate regression analysis is significantly positive (0.436) and significant at the 1% level.

Consistent with the cost of capital channel, Figures 3 and 4 present a strong and significant positive correlation between earnings relevance and inflation. Table 5 Panel A tests whether this correlation persists after including macro controls that the Fed forwards as the key drivers of its monetary policy decisions in its Tealbook (formerly Greenbook) before each meeting of the Federal Open Market Committee (*GDP Growth* and *Unemployment*), and *Macroeconomic Uncertainty*, a key driver of aggregate dynamics (Bloom 2014). To facilitate interpretation, we standardize all variables. We estimate standard errors following Newey and West (1987) using a lag order of five.[18]

Earnings Relevance is significantly positively related to all three inflation measures. A one-standard-deviation change in *PPI* (*CPI*, *GDP Deflator*) relates to a 0.346 (0.369, 0.345) change in *Earnings Relevance*. These associations are economically large relative to all control variables. *GDP Growth* and unemployment do not significantly relate to *Earnings Relevance*. While *Macroeconomic Uncertainty* relates negatively to *Earnings Relevance* in all models, the economic magnitude of its effect is smaller than that of inflation. For example, in Column (1), a one-standard-deviation change in *Macroeconomic Uncertainty* relates to a 0.229 inverse change in *Earnings Relevance*, which is 33.8% (= 0.229/0.346 – 1) smaller than the effect of a one-standard-deviation change in *PPI*.

Table 5 Panel A shows a reliably positive association between inflation and earnings relevance. This finding suggests that as inflation falls, as it did for a considerable number of years after the great inflation of the 1970s, value relevance is likely to decline. It is possible that the fall

[18] We use only the current value of variables in our aggregate-level analysis. However, to determine whether another lag order fits the data better, in untabulated analyses, we re-estimate the model after varying the lag order from 0 to 10 and compute the Bayesian Information Criteria (BIC) and the Akaike Information Criterion (AIC). For all three of our inflation measures, a lag order of 0 yields the lowest BIC as well as AIC, which is evidence that the models presented here describe the data best.

in value relevance and inflation since the 1970s is due to a correlated omitted variable or unrelated time trends, and that this portion of the sample is driving our results. To address these concerns, in Table 5 Panels B and C, we repeat the analysis for the pre- and post-Compustat-initiation periods, where inflation characteristics and the composition of firms differs. We find a reliability positive association between inflation and earnings relevance in both periods, suggesting that our main result is not driven by a trending correlated omitted variable.

5.2. Additional Tests

5.2.1. Importance of Inflation Relative to Previously Documented Value Relevance Determinants

To further benchmark inflation's importance in explaining changes in value relevance, we extend the models estimated in Table 5 to include other determinants highlighted in prior literature: a time trend (*Year*), the percentage of loss firms (*Loss*), the percentage of technology firms (*Technology*), and indicators for the tenures of different standard-setting bodies (*SEC*, *CAP*, *APB*, *FASB*). We use the Shapley value variance decomposition to compute how much of the variance in value relevance each determinant explains relative to all other determinants (Shapley 1953; Winter 2002; Sharapov et al. 2021). As discussed in recent accounting research (McInnis et al. 2018; Abdalla and Carabias 2022), the Shapley value shows the contribution of a specific variable to the total explanatory power of a regression. Shapley values are computed by comparing the adjusted R-squared from the regression including the variable with a regression excluding the variable (Israeli 2007). The greater a variable's Shapely value, the more variation (adjusted R-squared) that variable explains.

Table 6 Columns (1), (4), and (7) present the estimation results and Columns (2), (5), and (8) (Columns (3), (6), and (9)) present the percentages of the explained variance attributable to the corresponding full (grouped) set of determinants. Across all three measures of inflation, we document that inflation is the most influential variable in explaining earnings relevance. *PPI* (*CPI*, *GDP Deflator*) accounts for 33.86% (36.77%, 30.35%) of the explainable variation in the full and for 35.07% (38.23%, 32.40%) in the grouped model. The inflation effect magnitudes are large relative to those of other determinants. For example, in the full model, *CAP* (the second most influential determinant) explains 12.73% (11.05%, 12.29%) of the explainable variation in the *PPI* (*CPI*, *GDP Deflator*) model; i.e., only about a third as much as the inflation measures. Similarly, in the grouped model, standard setting body tenures (i.e., *SEC*, *CAP*, *APB*, and *FASB* jointly) explain 27.34% (25.52%, 28.41%). Figure 5 Panels A and B depict these results graphically and illustrate that inflation is an important determinant of value relevance relative to other factors examined in prior literature.

5.2.2. Alternative Value Relevance Measures

Following Francis and Schipper (1999), we construct two additional value relevance measures to test the robustness of our results. First, we compute assets and liabilities relevance (*Assets & Liabilities Relevance*) as the adjusted R-squared obtained from annual cross-sectional regressions of market value of equity on total assets and total liabilities. Second, we compute book value of equity and earnings relevance (*Book Value & Earnings Relevance*) as the adjusted R-squared obtained from annual cross-sectional regressions of market value of equity on book value of equity and earnings. Table 7 Panel A and B present the results. Inflation relates significantly positively to value relevance across all models. For example, a one-standard-deviation increase in *GDP Deflator* is associated with a 0.396 and a 0.361 standard-deviation increase in *Assets & Liabilities Relevance* and *Book Value & Earnings Relevance*, respectively. This suggests that our results are robust across different value relevance measures.

5.2.3. Supply-Driven Inflation

Cieslak and Pflueger (2022) distinguish between “bad” supply-shock-induced and “good” demand-shock-induced inflation. They argue that supply-shock-induced inflation has longer lasting and more contractionary effects on firms than demand-shock-induced inflation. If supply-shock-induced inflation has larger effects on firms’ fundamentals, it might have larger effects of investors’ assessment of these fundamentals, i.e., value relevance. To test this conjecture, we rely on Cieslak and Pflueger’s (2022) theoretical result that supply-shock-induced (demand-shock-induced) inflation causes a positive (negative) relation between treasury bond and stock returns. Thus, we measure whether inflation in a given year is predominantly supply-shock-induced as an indicator that the covariance between monthly treasury bond and CRSP aggregate stock market returns is positive (*Supply-Driven Inflation*) and interact it with our inflation measures. Table 8 presents the results. While the main coefficients on the three inflation measures continue to be significantly positively related to *Earnings Relevance*, their interactions with *Supply-Driven Inflation* are not significant throughout. This evidence suggests that the importance of inflation to value relevance is pervasive in the sense that inflation plays a similarly important role in both demand- and supply-driven inflation regimes.

6. Firm-Level Results

In this section, we complement the aggregate-level results in the previous section with a set of firm-level results that provide evidence on the mechanisms underlying Hypotheses 1 and 2.

6.1. Historical Cost Accounting Channel

First, we examine Hypothesis 1’s prediction that inflation distorts the relation between historical cost accounting numbers and economic values, rendering accounting numbers less useful for investment decision making. If so, we would expect that inflation should decrease value relevance more for firms with a larger share of assets that are subject to historical cost accounting treatment. To test this prediction, we estimate the following firm-level panel data regression model separately for firms with above and below median PPE or inventory scaled by total assets:

$$Return_{it} = \beta_0 + \beta_1 Earnings_{it} + \beta_2 PPI_t + \beta_3 Earnings_{it} \times PPI_t + \Gamma_i + \Phi_t + \varepsilon_{it}. \quad (2)$$

The focus on inventory and PPE is consistent with the FASB's FAS 33 disclosure requirements, which require firms to provide supplemental information about inventory and PPE and their income statement flows depreciation expense and cost of goods sold (see Appendix B). *Controls* denotes a vector of firm-level controls including *Beta*, *Size*, *Dividend Yield*, *Dividend Payer*, *Loss*, *Market-to-Book*, and *Leverage*. Γ denotes a firm fixed effect and Φ denotes a year fixed effect. All other variables are as defined before. We cluster standard errors by firm and year. We standardize all continuous variables to facilitate interpretation. In contrast to the aggregate-level analysis in which we directly measured value relevance as the R-squared obtained from annual cross-sectional regressions of returns on earnings, for the firm-level analysis we now focus on the β_1 slope coefficient, another commonly used value relevance measure (Barth et al. 2001).

Table 9 Panel A Columns (1) and (2) present the results when using PPE to identify firms for which historical cost accounting is more important. The last row (*High – Low*) present the p-value of a 1,000 repetitions bootstrap analysis testing whether the *PPI* × *Earnings* coefficient in Column (1) and is different from the one in Column (2). Inconsistent with Hypothesis 1, we do not find that inflation's effect on the returns-earnings relation is mitigated for firms with high PPE. The *PPI* × *Earnings* coefficients in Columns (1) and (2) are similar in economic magnitude (0.050 vs. 0.047) and not significantly different at conventional levels ($p = 0.227$).

Columns (3) and (4) present the results when using inventory to identify firms for which historical cost accounting is more important. US GAAP requires firms to hold their inventory at the historical purchase price or the current market price, whichever is lower. When inflation increases the nominal price of inventory, the inventory amount stated on firms' balance sheet becomes a worse reflection of what the inventory could be sold for at current market prices. In contrast to the PPE analysis, we find that *PPI* × *Earnings*'s slope coefficient is economically (0.067 vs. 0.021) and statistically ($p < 0.01$) smaller for firms with large inventory balances. In sum, consistent with Hypothesis 1, we find that inflation's effect on value relevance is weaker for firms that hold large inventory balances, but not for firms that hold large PPE balances.

6.2. Cost of Capital Channel

Second, we examine Hypothesis 2's prediction that inflation increases value relevance by raising firms' cost of capital and thereby the share of firm value comprised by current earnings. If so, we would expect that inflation should increase earnings relevance more for firms that are more sensitive to changes in firms' cost of capital. To test this prediction, we re-estimate Equation (2) separately for firms with above and below median Dechow et al. (2004) equity duration.[19] Similar to bond duration, equity duration directly measures the sensitivity of firms' equity value to cost of capital changes by taking a value-weighted average of the time until forecasted future cash flows are expected to realize. As discussed in Dechow et al. (2004), firms with high equity duration also tend to have higher market-to-book ratios. A high market-to-book ratio indicates that investors expect the firm to realize a large share of its cash flow in the more distant future, making it sensitive to cost of capital changes. Thus, we also estimate Equation (2) separately for firms with above and below median market-to-book ratios.

Table 9 Panel B Columns (1) and (2) show how the results vary with equity duration, a direct measure of how sensitive firms' value is to cost of capital changes. Consistent with Hypothesis 2, *PPI* × *Earnings*'s slope coefficient is economically (0.027 vs. 0.095) and

[19] To compute equity duration, we follow the methodology and adopt the assumptions described in Section 2 of Dechow et al. (2021).

statistically ($p < 0.01$) larger for firms with high equity duration. Columns (3) and (4) corroborate this finding by examining firms with above and below-median market-to-book ratios. As in Columns (1) and (2), we find that inflation's effect on value relevance is stronger for high market-to-book ratio firms ($p < 0.01$). In sum, we find consistent evidence for Hypothesis 2's prediction that inflation's effect on value relevance is more positive for firms that are more sensitive to cost of capital changes, which is further evidence for the presence of the cost of capital channel.

7. Conclusion

Motivated by the recent rise in inflation, we use a novel dataset to examine how inflation affects the value relevance of accounting numbers over the past century. Inconsistent with concerns that inflation makes it more difficult for investors to assess cash flows by distorting historical cost accounting numbers but consistent with the hypothesis that inflation increases the importance of current relative to future payoffs by increasing firms' cost of capital, we document a positive relation between inflation and value relevance. The relation persists after controlling for other macro factors that could drive inflation, its magnitude and explanatory power is large in absolute terms and relative to other drivers of relevance examined in prior literature. The findings are robust to using different measures of inflation and value relevance. Cross-sectional analysis reveals that, while the cost of capital effect dominates on average, both the cost of capital and the historical cost accounting channels exist. The historical cost accounting channel appears to be present for firms with large inventory balances, but not for firms with large PPE balances. Our finding that inflation is an important determinant of value relevance has implications for policy evaluation. Since inflation is outside the control of accounting standard setters, researchers seeking to understand changes in value relevance should control for inflation.

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Appendix A. Variable Definitions

Panel A. Firm-Level Variables

Variable	Source	Definition
Return	CRSP	Stock return computed from the beginning of April of the current to the end of March of the subsequent fiscal year.
Earnings	Compustat & Moody's	Earnings scaled by lagged market value of equity.
ΔEarnings	Compustat & Moody's	Change in earnings scaled by lagged market value of equity.
Beta	Compustat & Moody's	Slope coefficient estimated from regressing the firm's daily excess stock returns on the excess market return for the fiscal year.
Size	Compustat & Moody's	Natural logarithm of one plus total assets.
Dividend Yield	Compustat & Moody's	Dividends scaled by lagged market value of equity.
Dividend Payer	Compustat & Moody's	Indicator that the firm is paying a dividend.
Loss	Compustat & Moody's	Indicator that the firm is making a loss.
Market-to-Book	Compustat, Moody's & CRSP	Market value of equity scaled by book value of equity.
Leverage	Compustat & Moody's	Total debt scaled by total assets.

Panel B. Aggregate-Level Variables

Variable	Source	Definition
Earnings Relevance	Compustat, Moody's & CRSP	R-squared obtained by estimating annual cross-sectional regressions of *Return* on *Earnings* and *ΔEarnings*.
Assets & Liabilities Relevance	Compustat, Moody's & CRSP	R-squared obtained by estimating annual cross-sectional regressions of market value of equity on total assets and total liabilities.
Book Value & Earnings Relevance	Compustat, Moody's & CRSP	R-squared obtained by estimating annual cross-sectional regressions of market value of equity on earnings and book value of equity.
PPI	BLS	PPI inflation
CPI	BLS	CPI inflation.
GDP Deflator	www.MeasuringWorth.com & BEA	GDP deflator inflation.
GDP Growth	www.MeasuringWorth.com & BEA	Real GDP growth.
Unemployment	NBER & BLS	Unemployment rate.
Macro Uncertainty	www.PolicyUncertainty.com	Economic Policy Uncertainty index.

Appendix B. Disclosure Requirements in FASB Statement 33, Financial Reporting and Changes in Prices

In September 1979, the FASB issued FASB Statement 33, *Financial Reporting and Changes in Prices.* That Standard requires firms to report the following information (FASB 1979, Summary):

For fiscal years ended on or after December 25, 1979, enterprises are required to report:

1. Income from continuing operations adjusted for the effects of general inflation
2. The purchasing power gain or loss on net monetary items.

For fiscal years ended on or after December 25, 1979, enterprises are also required to report:

1. Income from continuing operations on a current cost basis
2. The current cost amounts of inventory and property, plant, and equipment at the end of the fiscal year
3. Increases or decreases in current cost amounts of inventory and property, plant, and equipment, net of inflation.

As noted discussed in FAS 33, "this Statement calls for two supplementary income computations, one dealing with the effects of general inflation, the other dealing with the effects of changes in the prices of resources used by the enterprise. The Board believes that both types of information are likely to be useful.(FASB 1979)" FAS 33 provides the following illustrative example:

STATEMENT OF INCOME FROM CONTINUING OPERATIONS
ADJUSTED FOR CHANGING PRICES

For the Year Ended December 31, 1980
(In (000s) of Dollars)

	As Reported in the Primary Statements	Adjusted for General Inflation	Adjusted for Changes in Specific Prices (Current Costs)
Net sales and other operating revenues	$253,000	$253,000	$253,000
Cost of goods sold	197,000	204,384	205,408
Depreciation and amortization expense	10,000	14,130	19,500
Other operating expense	20,835	20,835	20,835
Interest expense	7,165	7,165	7,165
Provision for income taxes	9,000	9,000	9,000
	244,000	255,514	261,908
Income (loss) from continuing operations	$ 9,000	$(2,514)	$(8,908)
Gain from decline in purchasing power of net amounts owed		$ 7,729	$ 7,729
Increase in specific prices (current cost) of inventories and property, plant, and equipment held during the year *			$ 24,608
Effect of increase in general price level			18,959
Excess of increase in specific prices over increase in the general price level			$ 5,649

Figure 1. Number of Observations by Year

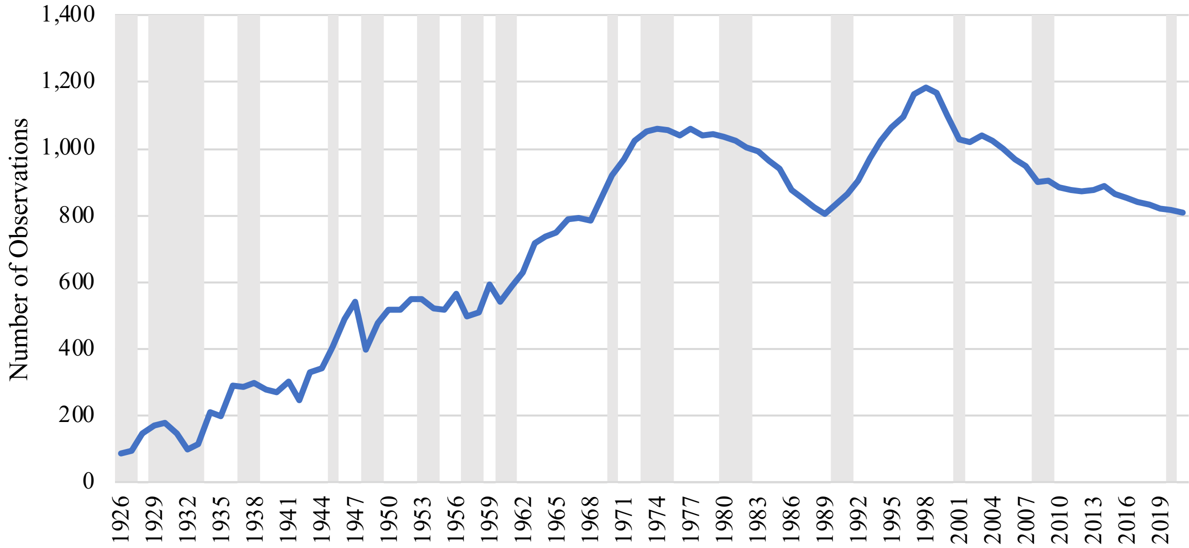


Figure 1 presents the number of our sample observations by year. Recessions as classified by the National Bureau of Economic Research are shaded in grey. The sample period spans from 1926 to 2021.

Figure 2. Different Inflation Measures over Time

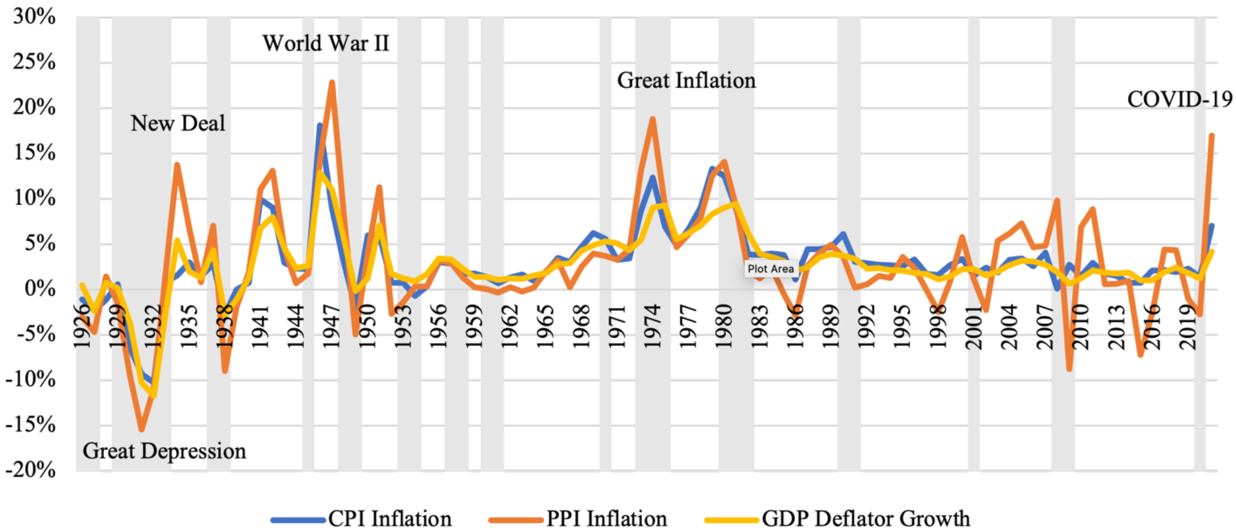
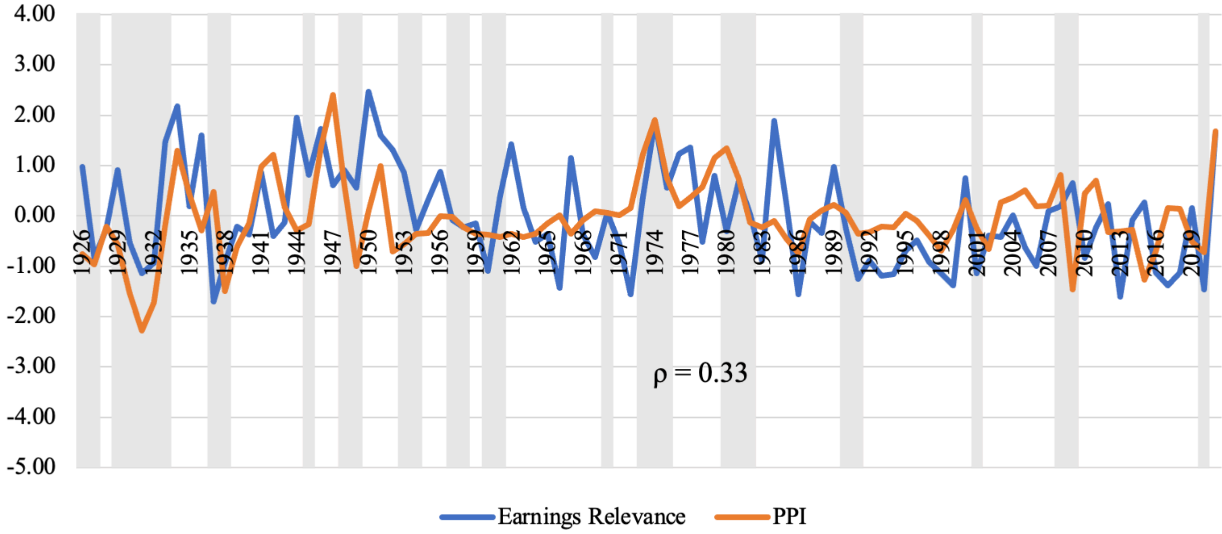


Figure 2 presents different inflation measures over our sample period. Recessions as classified by the National Bureau of Economic Research are shaded in grey. The sample period spans from 1926 to 2021.

Figure 3. Earnings Relevance and Inflation over Time

Panel A. Unsmoothed



Panel B. Smoothed

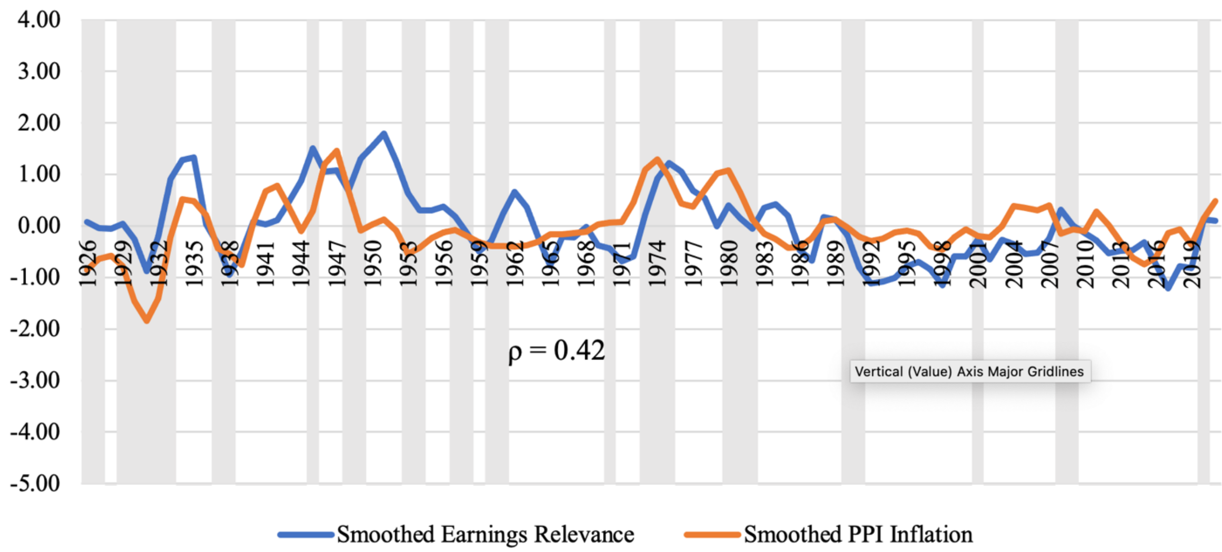


Figure 3 plots earnings relevance and PPI inflation over time. To facilitate interpretation and to reduce noise, we standardize and, in Panel B, smooth (by taking a moving average over the preceding, current, and subsequent year) both measures. Recessions as classified by the National Bureau of Economic Research are shaded in grey. The sample period spans from 1926 to 2021.

Figure 4. Earnings Relevance and Inflation Scatter Plot

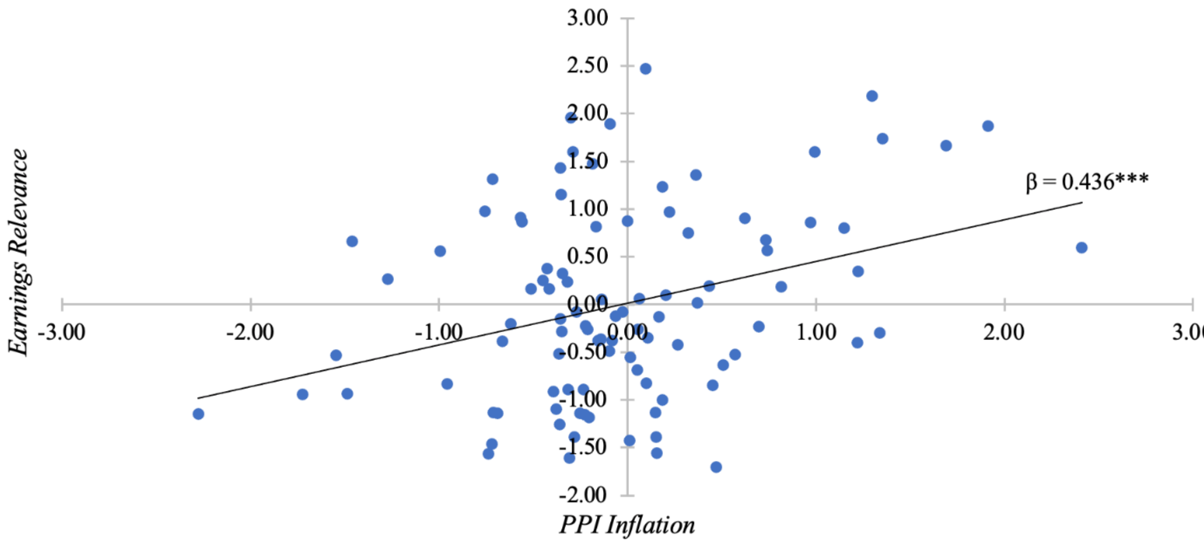
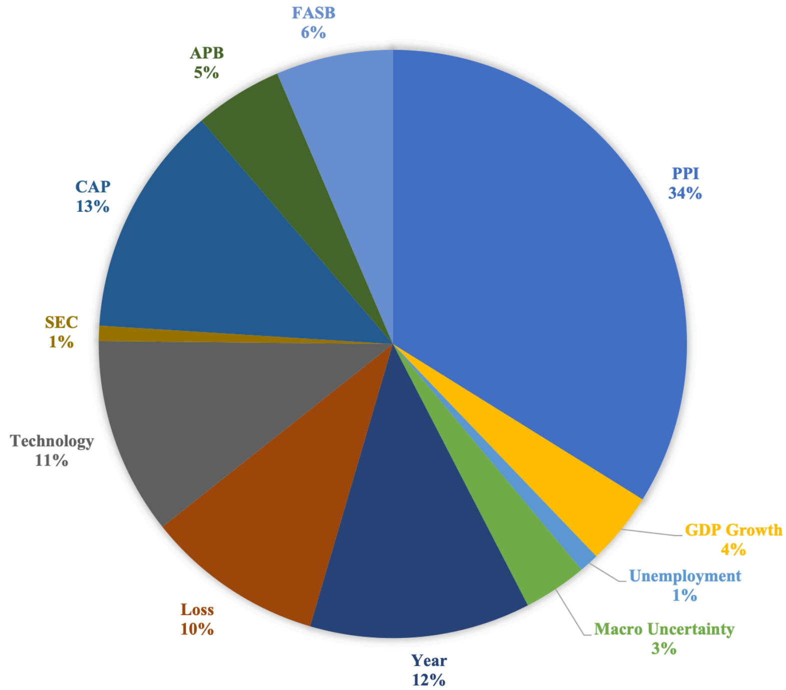


Figure 4 plots earnings relevance against PPI inflation. To facilitate interpretation and to reduce noise we standardize both measures. The sample period spans from 1926 to 2021.

Figure 5. Shapley Value Decomposition

Panel A. Full Model



Panel B. Grouped Model

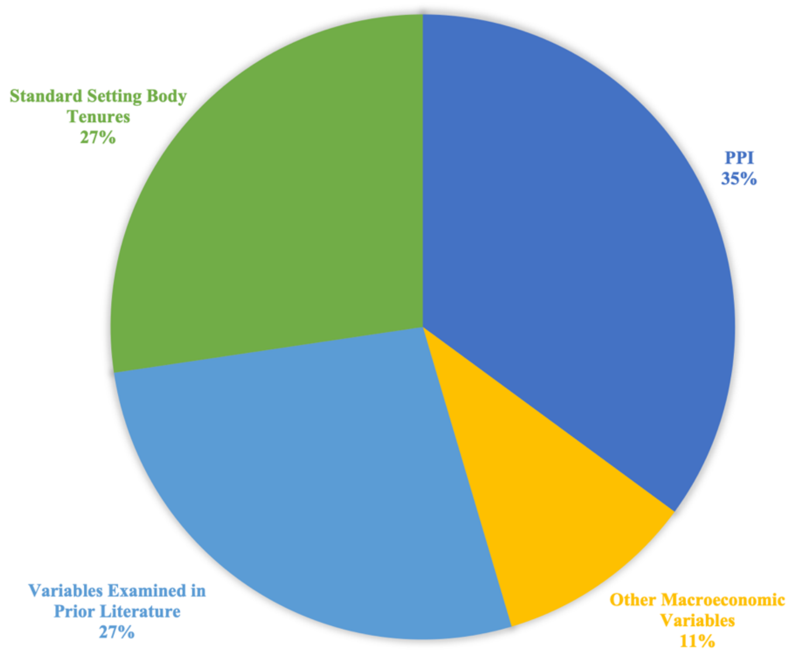


Figure 5 Panel A (Panel B) illustrates the results of the full (grouped) Sharpley decomposition.

Table 1. Descriptive Statistics

Industry	Observations	Percent of Total
Agriculture	155	0.22
Food Products	2,961	4.29
Candy & Soda	313	0.45
Beer & Liquor	525	0.76
Tobacco Products	419	0.61
Recreation	582	0.84
Entertainment	999	1.45
Printing and Publishing	807	1.17
Consumer Goods	2,118	3.07
Apparel	1,582	2.29
Healthcare	824	1.19
Medical Equipment	1,018	1.48
Pharmaceutical Products	1,465	2.12
Chemicals	3,292	4.77
Rubber and Plastic Products	771	1.12
Textiles	1,099	1.59
Construction Materials	3,484	5.05
Construction	1,128	1.64
Steel Works Etc.	3,193	4.63
Fabricated Products	223	0.32
Machinery	4,261	6.18
Electrical Equipment	1,510	2.19
Automobiles and Trucks	2,745	3.98
Aircraft	1,336	1.94
Shipbuilding, Railroad Equipment	564	0.82
Defense	292	0.42
Precious Metals	388	0.56
Non-Metallic and Industrial Metal Mining	692	1.00
Coal	407	0.59
Petroleum and Natural Gas	4,627	6.71
Communication	1,757	2.55
Personal Services	749	1.09
Business Services	3,699	5.36
Computers	1,463	2.12
Electronic Equipment	2,239	3.25
Measuring and Control Equipment	984	1.43
Business Supplies	1,768	2.56
Shipping Containers	832	1.21
Transportation	2,101	3.05
Wholesale	2,126	3.08
Retail	5,607	8.13
Restaurants, Hotels, Motels	1,070	1.55
Other	784	1.14

Table 1 presents our industry composition. The sample period spans from 1926 to 2021.

Table 2. Descriptive Statistics

Panel A. Firm-Level Variables

Variable	N	Mean	Std	P1	P25	Median	P75	P99
Return	68,959	0.149	0.451	-0.722	-0.125	0.089	0.343	2.005
Earnings	68,959	0.065	0.128	-0.609	0.040	0.071	0.112	0.406
Δ*Earnings*	68,959	0.008	0.126	-0.505	-0.015	0.007	0.029	0.649
Beta	68,959	0.188	0.840	-1.890	-0.339	0.124	0.640	2.864
Size	68,959	6.209	1.959	2.106	4.769	6.139	7.580	10.973
Dividend Yield	68,959	0.030	0.029	0.000	0.004	0.024	0.046	0.134
Dividend Payer	68,959	0.779	0.415	0.000	1.000	1.000	1.000	1.000
Loss	68,959	0.122	0.328	0.000	0.000	0.000	0.000	1.000
Market-to-Book	68,959	2.132	2.326	0.195	0.863	1.445	2.469	15.776
Leverage	68,959	0.232	0.163	0.000	0.106	0.222	0.334	0.676

Panel B. Aggregate-Level Variables

Variable	N	Mean	Std	P1	P25	Median	P75	P99
Earnings Relevance	96	0.123	0.060	0.021	0.073	0.115	0.169	0.270
PPI	96	0.029	0.062	-0.155	0.001	0.020	0.056	0.229
CPI	96	0.030	0.040	-0.103	0.014	0.027	0.040	0.181
GDP Deflator	96	0.027	0.035	-0.118	0.012	0.023	0.042	0.129
GDP Growth	96	0.033	0.048	-0.129	0.016	0.032	0.053	0.189
Unemployment	96	0.069	0.046	0.012	0.044	0.056	0.074	0.249
Macro Uncertainty	96	0.969	0.437	0.318	0.637	0.946	1.203	3.263

Table 2 presents our descriptive statistics. All variables are defined in Appendix A. The sample period spans from 1926 to 2021.

Table 3. Inflation over the past Century

Panel A. PPI Inflation

	Years	Mean	Std	Low	High	Range	% High Inflation (over 5%)	% Deflation	% Stable (0 to 5%)
Full Sample	96	2.87%	6.19%	-15.47%	22.86%	38.33%	26.04%	23.96%	50.00%
Pre: 1926 to 1962	36	1.88%	7.64%	-15.47%	22.86%	38.33%	25.00%	33.33%	41.67%
Post: 1962 to 2021	60	3.47%	5.11%	-8.80%	18.79%	27.59%	26.67%	18.33%	55.00%
Difference (Post − Pre)	24	1.60%	-2.50%	6.70%	-4.10%	-10.70%	1.70%	-15.00%	13.30%

Panel B. CPI Inflation

	Years	Mean	Std	Low	High	Range	% High Inflation (over 5%)	% Deflation	% Stable (0 to 5%)
Full Sample	96	2.98%	3.98%	-10.27%	18.13%	28.41%	18.75%	9.38%	71.88%
Pre: 1926 to 1962	36	1.57%	5.07%	-10.27%	18.13%	28.41%	16.67%	25.00%	58.33%
Post: 1962 to 2021	60	3.82%	2.88%	0.09%	13.29%	13.20%	20.00%	0.00%	80.00%
Difference (Post − Pre)	24	2.30%	-2.20%	10.40%	-4.80%	-15.20%	3.30%	-25.00%	21.70%

Panel C. GDP Deflator Inflation

	Years	Mean	Std	Low	High	Range	% High Inflation (over 5%)	% Deflation	% Stable (0 to 5%)
Full Sample	96	2.72%	3.47%	-11.75%	12.88%	24.63%	19.79%	8.33%	71.88%
Pre: 1926 to 1962	36	1.70%	4.74%	-11.75%	12.88%	24.63%	19.44%	22.22%	58.33%
Post: 1962 to 2021	60	3.33%	2.26%	0.64%	9.46%	8.82%	20.00%	0.00%	80.00%
Difference (Post − Pre)	24	1.60%	-2.50%	12.40%	-3.40%	-15.80%	0.60%	-22.20%	21.70%

Table 3 Panel A (Panel B, Panel C) summarizes PPI (CPI, GDP Deflator) inflation during our sample period. We summarize inflation for the full sample, the pre-Compustat-initiation period, and the post-Compustat-initiation period. The column % High Inflation (% Deflation, % Stable) shows the number of years with inflation above 5% (below 0%, between 0 and 5%).

Table 4. Correlation Matrix

Variable		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Return	1	1.00	0.18*	0.22*	0.18*	0.00	0.08*	0.00	-0.10*	0.13*	-0.05*	-0.09*	-0.02*	-0.03*	-0.08*	0.13*	0.12*
Earnings	2	0.28*	1.00	0.46*	-0.01*	-0.09*	0.34*	0.24*	-0.68*	-0.09*	-0.18*	0.18*	0.19*	0.21*	0.12*	-0.05*	-0.16*
ΔEarnings	3	0.24*	0.46*	1.00	0.08*	-0.01*	0.01*	-0.04*	-0.30*	0.03*	-0.03*	0.07*	0.06*	0.03*	0.08*	0.02*	-0.01*
Beta	4	0.12*	0.04*	0.10*	1.00	-0.06*	-0.08*	-0.11*	0.06*	0.00	0.05*	0.02*	0.01*	0.02*	-0.02*	0.08*	0.04*
Size	5	0.01*	-0.17*	-0.02*	-0.06*	1.00	-0.22*	0.00	0.02*	0.25*	0.31*	-0.05*	-0.07*	-0.12*	-0.15*	-0.08*	0.38*
Dividend Yield	6	0.12*	0.46*	0.01	-0.10*	-0.21*	1.00	0.55*	-0.20*	-0.25*	-0.18*	0.11*	0.16*	0.21*	0.11*	0.00	-0.21*
Dividend Payer	7	0.05*	0.26*	-0.02*	-0.09*	-0.01*	0.72*	1.00	-0.27*	-0.08*	-0.13*	0.07*	0.14*	0.17*	0.07*	-0.07*	-0.20*
Loss	8	-0.15*	-0.57*	-0.30*	0.05*	0.02*	-0.25*	-0.27*	1.00	-0.03*	0.19*	-0.09*	-0.10*	-0.11*	-0.11*	0.07*	0.18*
Market-to-Book	9	0.20*	-0.24*	0.07*	-0.01*	0.33*	-0.30*	-0.04*	-0.13*	1.00	0.10*	-0.09*	-0.12*	-0.15*	-0.04*	-0.07*	0.19*
Leverage	10	-0.08*	-0.14*	-0.03*	0.03*	0.33*	-0.18*	-0.10*	0.17*	0.00	1.00	0.01	0.04*	0.02*	-0.08*	-0.06*	0.15*
PPI	11	-0.08*	0.20*	0.13*	0.05*	-0.01*	0.08*	0.05*	-0.08*	-0.13*	0.02*	1.00	0.76*	0.77*	0.08*	-0.10*	0.00
CPI	12	-0.04*	0.23*	0.11*	0.03*	-0.05*	0.16*	0.14*	-0.09*	-0.14*	0.08*	0.69*	1.00	0.90*	-0.02*	-0.14*	-0.03*
GDP Deflator	13	-0.05*	0.24*	0.07*	0.05*	-0.12*	0.21*	0.17*	-0.10*	-0.19*	0.05*	0.75*	0.86*	1.00	-0.02*	-0.14*	-0.08*
GDP Growth	14	-0.08*	0.12*	0.16*	-0.01*	-0.19*	0.10*	0.09*	-0.11*	-0.05*	-0.07*	0.06*	0.09*	0.04*	1.00	-0.08*	-0.21*
Unemployment	15	0.14*	0.01*	0.02*	0.07*	0.09*	-0.02*	-0.03*	0.07*	-0.05*	0.02*	-0.01*	0.02*	0.04*	-0.20*	1.00	0.30*
Macro Uncertainty	16	0.00	-0.17*	-0.02*	0.02*	0.40*	-0.26*	-0.20*	0.17*	0.14*	0.13*	0.03*	-0.05*	-0.06*	-0.29*	0.37*	1.00

Table 4 presents our correlation matrix. * indicates significance at the 1% level. Pearson (Spearman) correlations are above (below) the diagonal. The sample period spans from 1926 to 2019. All variables are defined in Appendix A. The sample period spans from 1926 to 2021.

Table 5. Inflation and Earnings Relevance

Panel A. Full Sample

Variable	(1)	(2)	(3)
		Earnings Relevance	
PPI	0.346***		
	(3.86)		
CPI		0.369***	
		(4.48)	
GDP Deflator			0.345***
			(4.35)
GDP Growth	0.097	0.123	0.112
	(0.97)	(1.32)	(1.16)
Unemployment	0.142	0.204	0.214
	(1.19)	(1.44)	(1.48)
Macro Uncertainty	-0.229***	-0.234***	-0.219**
	(-2.82)	(-2.64)	(-2.50)
Observations	96	96	96
Adjusted R-squared	0.130	0.141	0.119

Panel B. Pre-Compustat-Initiation Sample

Variable	(1)	(2)	(3)
		Earnings Relevance	
PPI	0.329**		
	(2.60)		
CPI		0.391***	
		(3.78)	
GDP Deflator			0.329***
			(3.03)
GDP Growth	0.082	0.096	0.086
	(0.60)	(0.79)	(0.66)
Unemployment	0.003	0.090	0.092
	(0.02)	(0.39)	(0.37)
Macro Uncertainty	-0.162	-0.219	-0.179
	(-0.44)	(-0.59)	(-0.48)
Observations	36	36	36
Adjusted R-squared	0.090	0.143	0.089

Panel C. Post-Compustat-Initiation Sample

Variable	(1)	(2)	(3)
		Earnings Relevance	
PPI	0.402**		
	(2.30)		
CPI		0.526***	
		(2.80)	
GDP Deflator			0.545**
			(2.64)
GDP Growth	0.092	0.231	0.290
	(0.24)	(0.62)	(0.70)
Unemployment	0.470*	0.388*	0.255
	(1.92)	(1.93)	(1.10)
Macro Uncertainty	-0.138	-0.065	-0.023
	(-1.15)	(-0.54)	(-0.16)
Observations	60	60	60
Adjusted R-squared	0.119	0.155	0.117

Table 5 Panel A (Panel B, Panel)] estimates annual aggregate-level time-series regressions of *Earnings Relevance* on *PPI*, *CPI*, *GDP Deflator* inflation and controls for the full (pre-Compustat-initiation, post-Compustat-initiation) sample. Continuous variables are standardized to facilitate interpretation. Standard errors are computed following Newey and West (1987) using a lag order of 5. All variables are defined in Appendix A.

Table 6. How much of the Variance in Value Relevance Does Inflation Explain Relative to Variables Proposed in prior Literature?

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					Earnings Relevance				
PPI	0.337***	33.86%	35.07%						
	(2.65)								
CPI				0.490***	36.77%	38.23%			
				(3.05)					
GDP Deflator							0.445**	30.35%	32.40%
							(2.42)		
Other Macroeconomic Variables									
GDP Growth	0.065	3.98%		0.144	4.56%		0.130	4.89%	
	(0.36)			(0.73)			(0.65)		
Unemployment	0.007	1.08%	10.34%	0.056	1.22%	11.26%	0.132	1.93%	12.20%
	(0.05)			(0.49)			(0.79)		
Macro Uncertainty	-0.119	3.49%		-0.195	3.86%		-0.163	3.64%	
	(-0.96)			(-1.54)			(-1.24)		
Variables Examined in Prior Literature									
Year	-0.011	12.13%		0.000	10.34%		-0.000	11.47%	
	(-1.18)			(0.01)			(-0.01)		
Loss	0.574	9.79%	27.25%	1.779	9.20%	24.99%	1.098	10.02%	26.99%
	(0.30)			(0.73)			(0.49)		
Technology	-1.670	10.83%		-3.899	10.76%		-2.856	11.72%	
	(-0.17)			(-0.37)			(-0.28)		
Standard Setting Body Tenures									
SEC	-0.027	0.84%		-0.233	0.86%		-0.556	1.37%	
	(-0.05)			(-0.41)			(-0.76)		
CAP	0.431	12.73%		0.067	11.05%		-0.025	12.29%	
	(0.81)		27.34%	(0.12)		25.52%	(-0.04)		28.41%
APB	-0.101	4.84%		-0.636	5.06%		-0.712	5.54%	
	(-0.12)			(-0.67)			(-0.71)		
FASB	0.378	6.43%		-0.465	6.32%		-0.527	6.79%	
	(0.32)			(-0.35)			(-0.37)		
Observations		96			96			96	
Adjusted R-squared		0.168			0.205			0.166	

Table 6 Columns (1), (4), and (7) estimate annual aggregate-level time-series regressions of cross-sectional earnings relevance (*Earnings Relevance*) on different inflation measures (*PPI*, *CPI*, *GDP Deflator*), controls, and value relevance determinants proposed in prior literature. Columns (2), (5), and (8) (Columns (3), (6), and (9)) present the percentages of the explained variance attributable to the corresponding full (grouped) set of determinants (Shapley 1953). Continuous variables are standardized to facilitate interpretation. Standard errors are computed following Newey and West (1987) using a lag order of 5. All variables are defined in Appendix A. The sample period spans from 1926 to 2021.

Table 7. Alternative Value Relevance Measures and Inflation

Panel A. Assets & Liabilities Relevance

	(1)	(2)	(3)
Variable		*Assets & Liabilities Relevance*	
PPI	0.222*		
	(1.92)		
CPI		0.319**	
		(2.38)	
GDP Deflator			0.396***
			(2.76)
GDP Growth	-0.098	-0.097	-0.129
	(-1.23)	(-1.08)	(-1.31)
Unemployment	-0.139	-0.071	-0.023
	(-1.11)	(-0.61)	(-0.19)
EPU	-0.515***	-0.532***	-0.533***
	(-5.60)	(-5.64)	(-5.62)
Observations	96	96	96
Adjusted R-squared	0.335	0.379	0.418

Panel B. Book Value & Earnings Relevance

	(1)	(2)	(3)
Variable		*Book Value & Earnings Relevance*	
PPI	0.210**		
	(2.06)		
CPI		0.299**	
		(2.58)	
GDP Deflator			0.361***
			(2.86)
GDP Growth	-0.029	-0.028	-0.055
	(-0.50)	(-0.45)	(-0.81)
Unemployment	-0.031	0.033	0.073
	(-0.24)	(0.28)	(0.58)
EPU	-0.564***	-0.579***	-0.579***
	(-5.51)	(-5.59)	(-5.60)
Observations	96	96	96
Adjusted R-squared	0.324	0.362	0.390

Table 7 estimates annual aggregate-level time-series regressions of alternative cross-sectional value relevance measures (*Assets & Liabilities Relevance*, *Book Value & Earnings Relevance*) on inflation measures (*PPI*, *CPI*, *GDP Deflator*) and controls. Continuous variables are standardized to facilitate interpretation. Standard errors are computed following Newey and West (1987) using a lag order of 5. All variables are defined in Appendix A. The sample period spans from 1926 to 2021.

Table 8. Demand- vs. Supply-Shock-Induced Inflation

Variable	(1)	(2)	(3)
		Earnings Relevance	
PPI	0.327**		
	(2.09)		
PPI × Supply-Driven Inflation	0.043		
	(0.23)		
CPI		0.366***	
		(2.91)	
CPI × Supply-Driven Inflation		0.010	
		(0.07)	
GDP Deflator			0.300**
			(2.23)
GDP Deflator × Supply-Driven Inflation			0.104
			(0.67)
Supply-Driven Inflation	-0.109	-0.067	-0.100
	(-0.51)	(-0.34)	(-0.48)
GDP Growth	0.091	0.122	0.099
	(1.05)	(1.38)	(1.13)
Unemployment	0.154	0.211	0.228
	(1.34)	(1.52)	(1.66)
EPU	-0.238***	-0.239**	-0.231**
	(-2.69)	(-2.52)	(-2.45)
Constant	0.049	0.031	0.046
	(0.29)	(0.19)	(0.27)
Observations	96	96	96
Adjusted R-squared	0.114	0.123	0.104

Table 8 estimates annual aggregate-level time-series regressions of cross-sectional relevance (*Earnings Relevance*) on different inflation measures (*PPI*, *CPI*, *GDP Deflator*) interacted with an indicator that inflation during the year is primarily driven by supply shocks rather than demand shocks (*Supply-Driven Inflation*) and controls. Continuous variables are standardized to facilitate interpretation. Standard errors are computed following Newey and West (1987) using a lag order of 5. All variables are defined in Appendix A. The sample period spans from 1926 to 2021.

Table 9. Cross-Sectional Analysis

Panel A. Historical Cost Accounting Channel

Variables	(1)	(2)	(3)	(4)
	Returns			
	PPE/Assets		*Inventory/Assets*	
	Low	High	Low	High
PPI × Earnings	0.050**	0.047***	0.067***	0.021
	(2.30)	(4.11)	(4.10)	(1.30)
Earnings	0.183***	0.221***	0.172***	0.254***
	(9.01)	(12.96)	(9.52)	(12.22)
Observations	34,489	34,488	34,489	34,488
Adjusted R-squared	0.421	0.468	0.430	0.461
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
High − Low	0.227		0.000	

Panel B. Cost of Capital Channel

Variables	(1)	(2)	(3)	(4)
	Returns			
	Equity Duration		*Market-to-Book*	
	Low	High	Low	High
PPI × Earnings	0.027***	0.095***	0.034***	0.124***
	(2.67)	(3.58)	(3.40)	(4.22)
Earnings	0.221***	0.217***	0.168***	0.314***
	(13.02)	(10.41)	(10.27)	(9.23)
Observations	34,489	34,488	34,489	34,488
Adjusted R-squared	0.513	0.403	0.513	0.402
Firm Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
High − Low	0.000		0.000	

Table 9 Panel A [Panel B] estimates firm-level cross-sectional regressions of returns (*Returns*) on earnings (*Earnings*) interacted with PPI inflation (*PPI*), controls, and fixed effects separately for firms with above and below median PPE scaled by total assets or inventory scaled by total assets [equity duration or market-to-book ratio]. The last row (*High − Low*) present the p-value of a 1,000 repetitions bootstrap analysis testing whether the *PPI × Earnings* coefficients in Columns (1) and (3) are different from those in Columns (2) and (4). Continuous variables are standardized to facilitate interpretation. Standard errors are clusted by firm and year. All variables are defined in Appendix A. The sample period spans from 1926 to 2021.