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War Bonds, Postwar Inflation, and Voter Sentiment

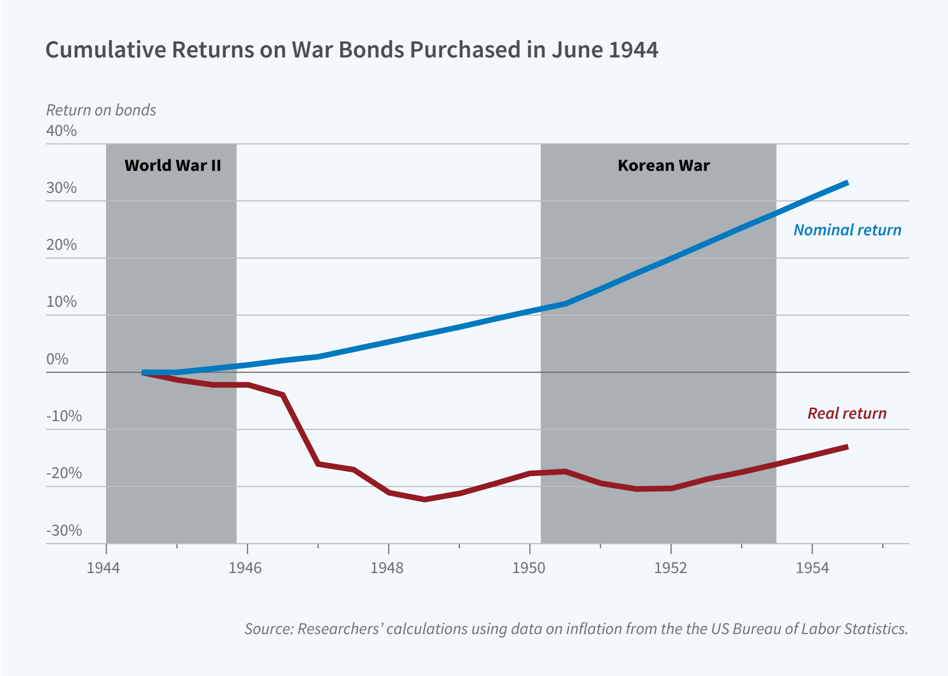
During World War II, the US government, under Democratic Party leadership, encouraged citizens to invest in savings bonds, and over 85 million Americans subscribed. But high post-war inflation diminished the value of these bonds. The Republican Party criticized Democrats for the poor returns earned by bondholders. Running on a platform that promised to control inflation, the Republicans won the presidency in 1952, ending two decades of Democratic dominance. In Inflation, War Bonds, and the Rise of Republicans in the 1950s (NBER Working Paper 31969), researchers Gillian Brunet, Eric Hilt, and Matthew S. Jaremski examine how ownership of war bonds affected the presidential elections of the 1950s.

In May 1941, the federal government began selling "E bonds" to finance WWII. Bond drives supported by celebrities, government officials, and civil society organizations boosted sales, as did major events like the bombing of Pearl Harbor in December 1941. From 21 percent of households in November 1941, the E-bond ownership rate rose to 65 percent in May 1942 and to nearly 85 percent by 1944.

As a result of the high inflation rates in the postwar years and the early 1950s, the real return — the nominal bond return minus inflation — on E bonds held to their maturity at 10 years was negative. For an E bond purchased in June 1944, the cumulative nominal return to maturity was over 30 percent, but the real return was negative 13 percent. The bondholder could not have avoided negative returns by redeeming early. For most redemption dates after 1946, a 1944 E bond's cumulative real return ranged from negative 16 percent to negative 22 percent.

The marketing campaigns of the drives claimed that E bonds were "The Greatest Investment on Earth," and presented the public with images of postwar prosperity produced by E bonds' returns. A 1944 Gallup poll revealed that 91 percent of adults believed E bonds were a good investment. If Consumer Price Index inflation forecasts at that time had been accurate, the cumulative real return on 1944 E bonds at the time of the 1952 election would have been about 10 percent. Instead, unexpectedly severe postwar inflation led to realized

High inflation between the end of WWII and the start of the Korean war eroded the value of war bonds and enhanced Republicans' electoral appeal.



real returns of negative 17 percent in 1952. Although E bonds offered better returns than savings accounts, the public felt misled.

Postwar inflation began in 1946, and survey data suggest that voters anticipated mild deflation by the time of the 1948 elections, when Democrat Harry Truman retained the presidency. The outbreak of the Korean War in July 1950, however, saw the onset of another significant wave of inflation. By 1952, inflation had become a prominent issue: 35 percent of survey respondents in August of that year identified it as the country's most significant problem, up from 8 percent in March 1948. Moreover, households expected that inflation would continue, adding to the appeal of the Republicans' anti-inflation rhetoric in the 1952 campaign.

The researchers analyze county-level data on E bond subscription rates from 1944. In the 1952 election, a 1 standard deviation increase in E bond purchases per capita in a county — an increase of about $63 per person — was associated with a 1.2 percent increase in the Republican vote share. This finding is largely unaffected by controlling for independent estimates of support for WWII, and the level of bank balances that were available to invest in war bonds.

—*Leonardo Vasquez*

Measuring the Informal Economy, with a Literary Twist

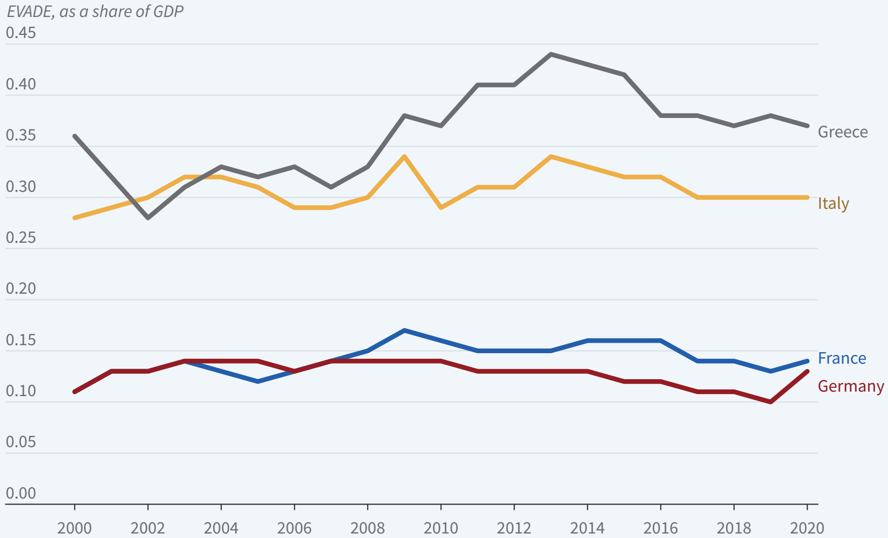
A new metric for the size of the informal economy suggests it is smaller than previously thought in most European countries, but larger in Italy, Spain, and Greece.

Novelist Victor Hugo offered insightful analysis of the underground economy in his 1862 novel *Les Misérables*: "when work is lacking, when the trade is nil, the taxpayer resists the tax by shortage, exhausts and exceeds the deadlines, and the State spends a lot of money in duress and enforcement fees. When work abounds … the tax is easily paid." In Rethinking the Informal Economy and the Hugo Effect (NBER Working Paper 31963), Francesco Pappadà and Kenneth S. Rogoff develop a novel measure of the size of the off-the-books economy in the countries in the European Union, and they test Hugo's conjecture about its cyclical variation. Drawing on estimates of compliance with the value-added tax (VAT) over the period 1999–2020, they find that the size of the informal economy varies more widely among member states than previous approaches have indicated.

Their new measure, Evading Value Added Duty Economy (EVADE), compares actual VAT revenues with the amount that ought to have been collected based on consumption data in national household surveys. The revenue shortfall provides a metric for gauging the size of each nation's informal economy.

Measuring the Size of the Informal Economy Using EVADE

EVADE, as a share of GDP



Source: Researchers' calculations using national account and VAT data.

This measurement approach differs from previous yardsticks in several ways, especially in being more transparent, algorithmic, and straightforward to compute. It applies a uniform approach to all nations, and accounts for goods that are covered by special tax rates as well as more stringent enforcement of VAT on imports as a result of border controls. This means that it can be used to "compare across countries with very different trade compositions and choices of politically favored consumption goods."

EVADE estimates of the size of informal economies are small for most European countries, including relatively affluent nations such as Belgium (at 5 percent of GDP, the smallest), Sweden, and Ireland, and lower-income countries such as Croatia, Latvia, Hungary, and Bulgaria. It shows larger informal economies for Italy, Spain, and especially Greece, which at 36 percent of GDP has the largest informal economy. EVADE's estimates for Germany (13 percent) and France (14 percent) are similar to previous estimates that applied different methods.

Earlier measures of the informal economy were more difficult to use for high-frequency analysis of countercyclical patterns. Such patterns arise, for example, when workers laid off in the formal economy during a recession take jobs in the informal one. The researchers label the countercyclical nature of informality the "Hugo Effect." They calculate that a 1 percent increase in the growth rate of GDP — instrumented by the global financial cycle — leads the informal economy to contract by 0.60 basis points.

The researchers stress that their work builds on previous findings that document the economic significance of the informal sector in many countries. "These findings suggest that the monetary and fiscal authorities should take more seriously into account the informal economy, and the possible consequences related to its countercyclical behavior."

—Steve Maas

Crowd Out from Expanding the Supply of Foreign-Trained Doctors

Expansion of a visa-waiver program in 2002 enabled more foreign-trained doctors to practice in underserved areas in the US but did not reduce employment of US-trained doctors.

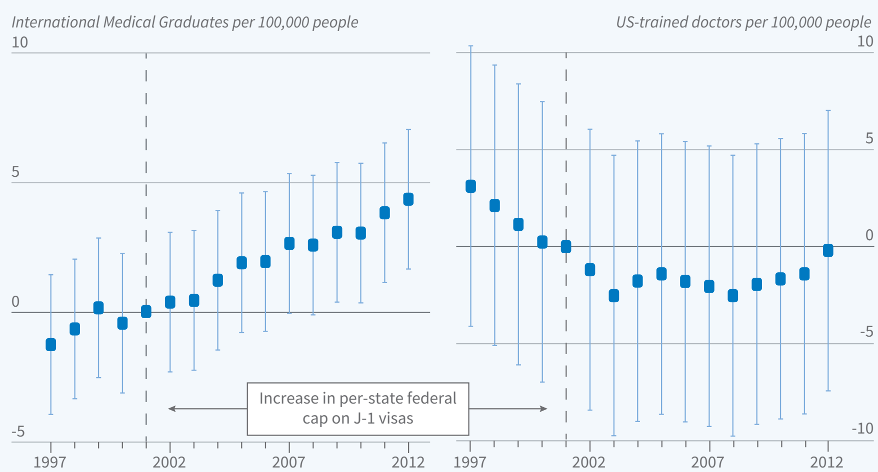
The number of new physicians trained in the US each year is constrained in part by the capacity of domestic medical schools. Graduates of foreign medical schools augment this supply to some extent; many apply to and are accepted by medical residency programs in the US. After graduation from these programs, the J-1 visa program that typically covers their residency requires that foreign-trained doctors spend two years in their home countries, effectively deferring their entry into the US healthcare workforce. The Conrad 30 Waiver Program, introduced in 1994, allows some international medical graduates (IMGs) to apply for a waiver of the two-year foreign residence requirement and begin practice in the US immediately after residency. Over 18,000 foreign physicians have participated in the program since 2001.

In Migration Policy and the Supply of Foreign Physicians: Evidence from the Conrad 30 Waiver Program (NBER Working Paper 32005), researchers Breno Braga, Gaurav Khanna, and Sarah Turner use data from 1997 to 2020 to analyze the impact of a 2002 expansion in the waiver program that increased the per-state cap on the number of visa waivers from 20 to 30. They estimate that this program allowed an additional 4,000 IMGs to enter the US between 2002 and 2020.

There is substantial variation across states in the use of the visa waivers that the Conrad 30 program allows. In 2001, before the limit increase, the 18 states at or near the 20-waiver limit had more IMGs and fewer US-trained doctors per capita than the 33 states comfortably below the limit. States constrained by the cap had fewer restrictions on whether waiver recipients needed to be primary care physicians or work in facilities required to accept patients who were uninsured or covered by Medicaid. In the decade following the cap increase, all states experienced increases in the number of IMGs per capita, but the 18 constrained states requested more waivers, on average, than the 33 nonconstrained states. States with fewer restrictions on practice, including requirements to work in primary care, were better able to leverage the change in the cap and enroll more participants in the program.

The 2002 expansion of the waiver limit raised the supply of foreign-trained doctors in constrained states, but there is no evidence of a decline in the number of US-trained physicians in these states. States that took advantage of the cap expansion experienced a 9 percent increase in the number of IMG doctors per capita compared with the unconstrained states. Most IMGs work in Health Professional Shortage Areas (HPSAs) — areas lacking an adequate

Effects of Admitting More Foreign-Trained Doctors



Bars represent 95% confidence intervals.
Source: Researchers' calculations using data from the AMA and State Primary Care Offices

number of primary care physicians, dentists, or mental health care providers. The gap in the supply of IMGs between better-served and underserved counties decreased by about 41 percent in states with fewer restrictions, without any detectable effects on US-born doctors. The researchers conclude that expanding the number of Conrad 30 waivers likely increased physician availability in underserved areas.

—Leonardo Vasquez

Fund Flows, Returns, and Mutual Fund Managers' Pay

Growth in assets under management increases managers' compensation, while strong investment returns primarily affect pay through their impact on AUM although they also influence bonuses.

Actively managed mutual funds, which pool money from many investors and invest it in stocks, bonds, and other financial assets, are an important part of the US financial system. About half of US households invest part of their savings in mutual funds. Some are actively managed; others follow a passive index–style investing approach. In 2016, mutual and pension funds held around 44 percent of the US equity market. Managers of actively managed funds make frequent trading and investment decisions that have important ramifications for the savings or pensions of invested households.

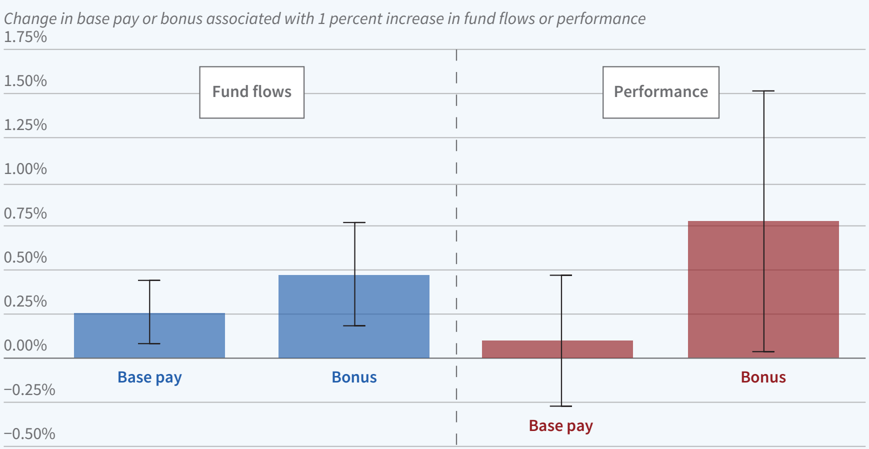
Despite the scale and importance of these funds' activities, the incentives facing fund managers are poorly understood, mainly due to a lack of data on managers' compensation. Designers of compensation structures for fund managers face the classic problem of aligning the incentives of the "agent" — in this case the fund's manager — with the interests of the "principal" — the fund's investors.

In Fund Flows and Income Risk of Fund Managers (NBER Working Paper 31986), Xiao Cen, Winston Wei Dou, Leonid Kogan, and Wei Wu construct a dataset covering the compensation and employment histories of managers at actively managed US equity mutual funds. They use it to study the determinants of fund managers' compensation and career outcomes. They extract fund managers' names from the databases of the Center for Research in Security Prices and Morningstar, and from LinkedIn, fund prospectuses, and fund websites. They then use managers' names to find other pieces of identifying information, which in turn enables the linking of managers to observations in the Longitudinal Employer-Household Dynamics dataset of the US Census Bureau, which contains information about compensation and employment.

The researchers demonstrate that fund managers' compensation is primarily tied to their assets under management (AUM). In particular, a 1 standard deviation increase in capital inflows to a fund's assets is associated with an estimated 6 percentage point rise in compensation. Additionally, strong performance by managers — yielding high returns on investments, whether relative to the market or not — primarily increases their compensation through its effect on AUM and has a sizable additional impact on bonuses. Furthermore, a manager's pay is linked not just to the inflow of capital into their own fund but also to inflows into the broader fund family they belong to. These findings are at odds with the public statements of mutual funds, of which less than 20 percent claim their managers' pay depends on AUM.

—Shakked Noy

Performance and Compensation of Fund Managers



Bars represent 90% confidence intervals.
Investment performance is measured by gross returns.
Source: Researchers' calculations using data from the US Census and other sources.

Estimates of Long-Term Yields from UK Housing Markets

The long-term yield of housing, or rent-to-price ratio, contains information about the expected long-term outlook of the economy. Estimating it is difficult, as transitory factors such as monetary policy, credit booms, short-run asset market bubbles, and capital adjustment costs can affect the dividends and realized capital gains that are often used in estimating asset yield movements. Structural approaches to estimating long-term yields are sometimes used, but are often imprecise and subject to model misspecification concerns.

In Dynamics of the Long Term Housing Yield: Evidence from Natural Experiments (NBER Working Paper 31760), Verónica Bäcker-Peral, Jonathon Hazell, and Atif R. Mian use publicly available data on leasehold extensions on properties in the United Kingdom to estimate the monthly long-term yield of housing. In the UK, 97 percent of apartments are leaseholds. Freeholders, who have a perpetual claim to the ownership of the property, issue long-duration leases that confer the right to occupy it. Lease terms are typically 90 years or more. Leaseholders can sell the lease to another occupant, or extend their leasehold after paying the freeholder the negotiated value of a leasehold extension. Leaseholds are typically extended when the current lease has 60 to 90 years left. Increasing the duration of a leasehold increases its market value because it provides the leaseholder with a longer span over which to live in the property or receive income from it.

There were 134,201 leasehold extensions from 2003 through the first part of 2023, covering about 5 percent of all UK apartments. Short leaseholds — 250 years or less — comprised 70 percent of the apartments studied. Thirty percent had remaining terms of 700 years or more.

The researchers assume that the service flow from a given property will grow similarly for extended leaseholds and shorter leaseholds on similar properties without extensions. Control group properties had similar average floor area and numbers of bedrooms. Rental prices were about 2 percent higher for extending properties, but extending properties were no more likely to be renovated than control properties, and their rents grew at the same rate. The researchers apply a discounted cash flow pricing equation to estimate the market's expected long-term housing yield from the price difference for properties with extensions and a control group of properties without.

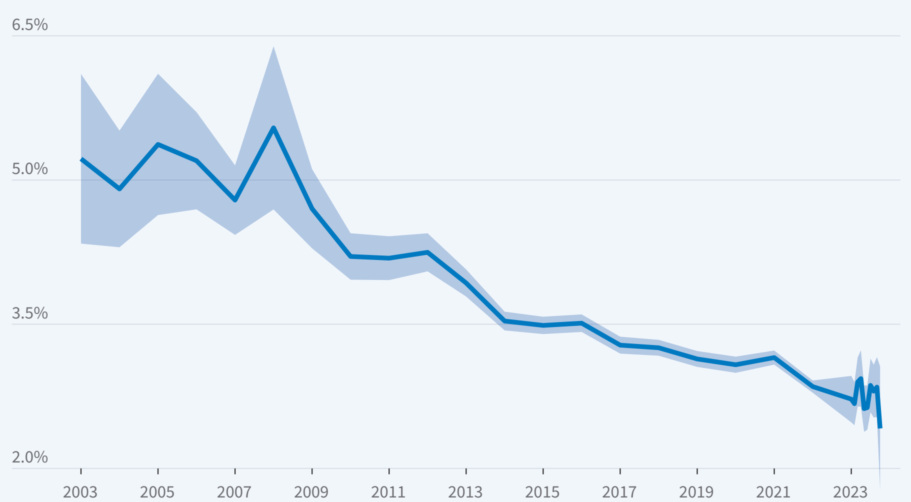
Differences in property prices around leasehold extensions provide estimates of long-run yields.

On average, when a leasehold was extended, its price increased by about 10 percent relative to the price of a leasehold on a similar property in the control group. The percentage increase in leasehold value from an extension was larger for properties with shorter leases before the extension. Leasehold values went up by more than 30 percent for properties with 40-year leases before extension that were extended by 90 years, and by only 5 percent for properties with 90-year leases before extension.

These price changes associated with leasehold extensions vary over time within the data sample and provide information on the variation in the long-term housing yield. The estimates suggest a value of around 5.2 percent between 2003 and 2006 that began to fall at the onset of the 2008 recession and reached a low of 2.8 percent in 2023. The decline is consistent with an observed decline in yields for several major asset classes across the globe during this period, suggesting it may have been driven by a common factor. The magnitude of the decline also encodes information about the elasticity of housing supply; when long-run safe interest rates fall, putting upward pressure on prices, elastic land supply will accommodate the growth in demand and mitigate the decline in long-term housing yields.

—Linda Gorman

The Expected Long-Term Yield of Housing in the United Kingdom, 2003–2023



The shaded area represents 95% confidence intervals.
Source: Researchers' calculations using data from the Land Registry, Rightmove, and Zoopla.

Impulsivity, Firearm Purchase Delay Laws, and Suicides

According to the Centers for Disease Control and Prevention, approximately 48,000 people died by suicide in 2021 in the United States. In Age and Suicide Impulsivity: Evidence from Handgun Purchase Delay Laws (NBER Working Paper 31917), John J. Donohue, Samuel V. Cai, and Arjun Ravi study the effects of firearm purchase delay laws, which create a "buffer" period to allow for the potential dissipation of impulsive thoughts, on suicide rates. They find that these laws substantially reduce the suicide rate for those under the age of 35.

Using county-level mortality data from 1987 to 2019, the researchers examine the change in adult firearm suicide rates between the periods before and after a state implements a handgun purchase delay law. They stratify the population into three age groups: young (21–34), middle-aged (35–54), and older (55+). They estimate that purchase delay laws are associated with a 6.1 percent decrease in firearm suicide rates among young adults. There are also negative effects for the middle-aged and older groups, but they are substantively smaller — less than 3 percent in both cases — and statistically indistinguishable from zero. In the figure shown, the plotted point for each age is the estimated effect of purchase delay laws on firearm suicide. The positive slope indicates that these laws decrease in efficacy as age increases, suggesting that suicide impulsivity declines with age.

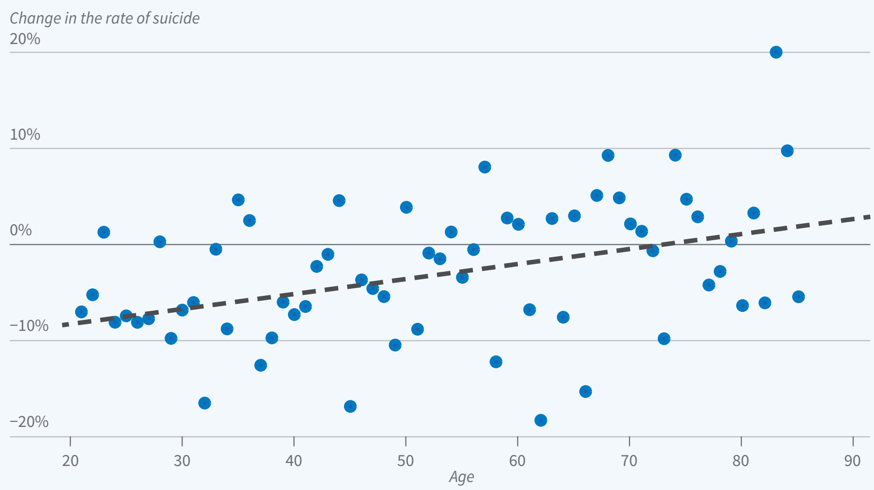
Firearm purchase delay laws decrease firearm suicide rates among young adults by 6.1 percent.

Delayed purchase laws will have a smaller effect when individuals already have access to firearms, and one explanation of the age pattern that the researchers find is that younger adults have less access to guns than older individuals. When the researchers control for the existing level of gun ownership, they reject this potential explanation and still find that the impact of delay laws declines with age.

The researchers conclude that younger adults are more prone to impulsive decisions regarding suicide and that delaying their access to firearms through purchase delay laws could be an effective method for preventing suicide.

—Leonardo Vasquez

Effect of Gun Purchase Delay Laws on Firearm Suicide, by Age



Source: Researchers' calculations using data from the US Census, the CDC, and the RAND Corporation.