

The Digest

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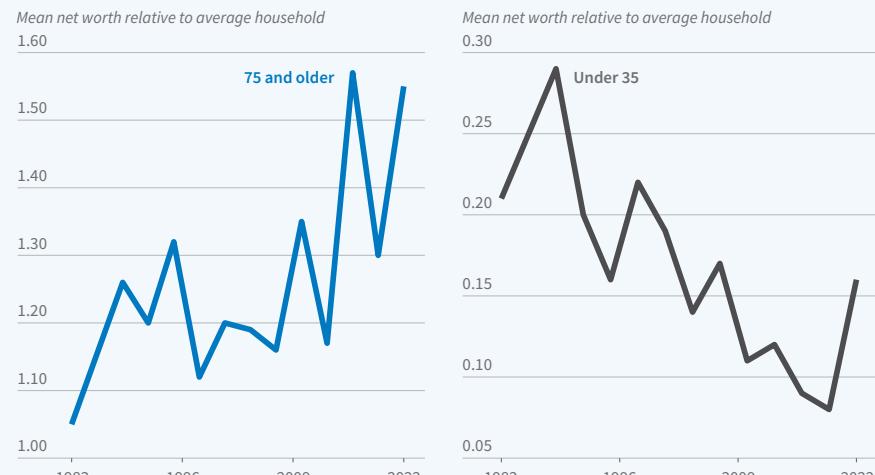
Shifting Wealth of US Age Groups

In [The Extraordinary Rise in the Wealth of Older American Households](#) (NBER Working Paper 34131), [Edward N. Wolff](#) documents changes in age-wealth profiles in the US between 1983 and 2022. Using data from the Federal Reserve's Survey of Consumer Finances (SCF), he computes the relative wealth changes for different age groups, focusing primarily on the youngest (under 35) and oldest (75 and over) households.

The wealth of households aged 75 and over increased from 5 percent above the overall average in 1983 to 16 percent above it in 2007, then continued to rise to 55 percent above by 2022. Correspondingly, the relative wealth of all other age groups declined during this period. For example, the mean net worth of households under 35 slipped from 21 percent of the overall mean in 1983 to 17 percent in 2007 to 16 percent in 2022.

Wolff identifies three principal factors driving these shifts. First, homeownership rates among the oldest Americans rose by 11.5 percentage points (from 69 to 81 percent) between 1983 and 2022. Meanwhile, younger households saw their homeownership rates remain essentially flat at around 39 percent, falling further behind the overall national average of 66 percent in 2022.

Net Worth of Youngest and Oldest Age Groups in the US



Source: Researcher's calculations using data from the Survey of Consumer Finances.

In 1983, the average wealth of American households headed by someone aged 75 or older was 5 percent greater than the national average; in 2022, it was 55 percent greater. Gains in owner-occupied housing and the stock market, and reduced mortgage debt, were key contributors.

Second, direct and indirect stock holdings—through mutual funds, trusts, IRAs, and 401(k) plans—of households aged 75 and older rose from 56 percent of the overall average in 1989 to 347 percent in 2022.

Third, while debt levels rose in absolute terms across all ages, the ratio of mortgage debt to house value declined for older households, from 21 percent in 1983 to

10 percent in 2010 where it remained through 2022. Meanwhile for younger households, this ratio rose from 23 percent in 1983 to 76 percent in 2010 before moderating to 57 percent in 2022.

Wolff finds that at least for the latter part of his sample period, 2007 through 2022, educational debt explains only a small fraction of young households' relative wealth decline.

Hospital Acquisitions of Physician Practices Generate Price Increases Without Quality Improvement

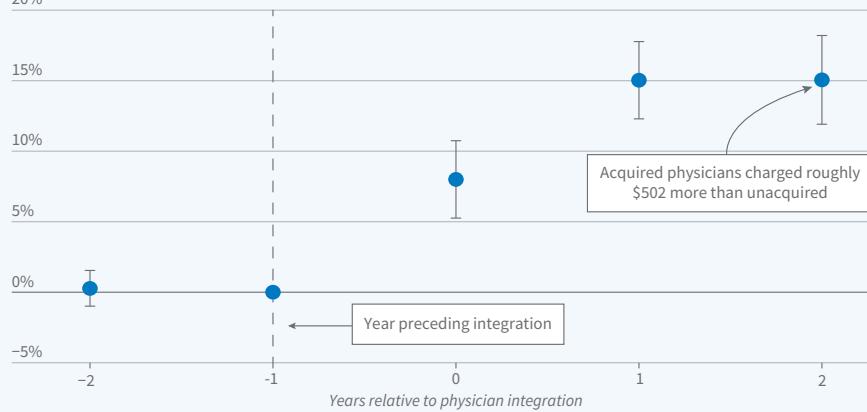
In recent years, there has been a dramatic increase in hospital acquisitions of physician practices that has transformed the structure of healthcare delivery across the United States. While antitrust enforcement has typically focused on horizontal mergers between direct competitors, there has been less regulatory scrutiny of these vertical or complementary acquisitions despite their potential impact on competition and pricing.

In [Are Hospital Acquisitions of Physician Practices Anticompetitive? \(NBER Working Paper 34039\)](#), Zack Cooper, Stuart V. Craig, Aristotelis Epanomeritakis, Matthew Grennan, Joseph R. Martinez, Fiona Scott Morton, and Ashley T. Swanson examine whether practice acquisitions between 2008 and 2016 led to price increases. They document the rise in physician-hospital integration during this period, with the share of physicians employed by hospitals rising from 27.5 percent to 47.2 percent. Using claims data from a large national insurer and focusing on labor and delivery services, they analyze the price consequences of 276 physician integration events and 66 hospital integration events. Their empirical strategy compares trends in outcomes for merged providers with those of nonmerging “control” providers before and after integration.

In the two years after integration, hospital prices for labor and delivery increased on average by 3.3 percent (\$475), while physician prices rose by 15.1 percent (\$502). The researchers find no discernible improvements in quality that might justify the price increases and in fact observe an increase

Price Impact of Hospital Acquisitions of Physician Practices

Percentage difference between prices charged for labor and delivery by practices acquired by hospitals versus never-acquired and already integrated practices



Bars represent 95% confidence intervals.
Source: Researchers' calculations using several datasets.

When hospitals acquire physician practices, prices increase for both, but there is little evidence of quality improvement.

of between 4.5 and 8.0 percent in cesarean section rates, which are often considered a sign of physician-induced demand rather than improved care.

The study identifies three key mechanisms driving price increases. First, the effect on hospital prices is larger when acquired physicians have the ability to redirect patients to acquiring hospitals. Second, physician price increases are greater when the acquiring hospital has more market power, consistent with a “recapture” mechanism where integration improves negotiating leverage with insurers. Third, price increases are larger for transactions that increase concentration in physician markets, suggesting horizontal market power effects even in nominally nonhorizontal transactions.

To distinguish competitive effects from other potential explanations for price changes, the researchers examine physicians who were already integrated with acquiring hospitals. These physicians' prices increased by approximately 9 percent after their hospitals acquired additional physicians in their specialty, despite no change in their own integration status, negotiating skill, or presumed quality of care.

The researchers note that nearly all of the observed physician-hospital transactions fell below Hart-Scott-Rodino antitrust reporting thresholds, making them difficult for regulators to identify and challenge. However, their collective impact on healthcare prices within impacted specialties appears comparable to the effects of horizontal hospital mergers that have received much greater regulatory attention.

The researchers received financial support for this project from the Commonwealth Fund and Arnold Ventures.

Investment Returns of Nonprofit Endowments

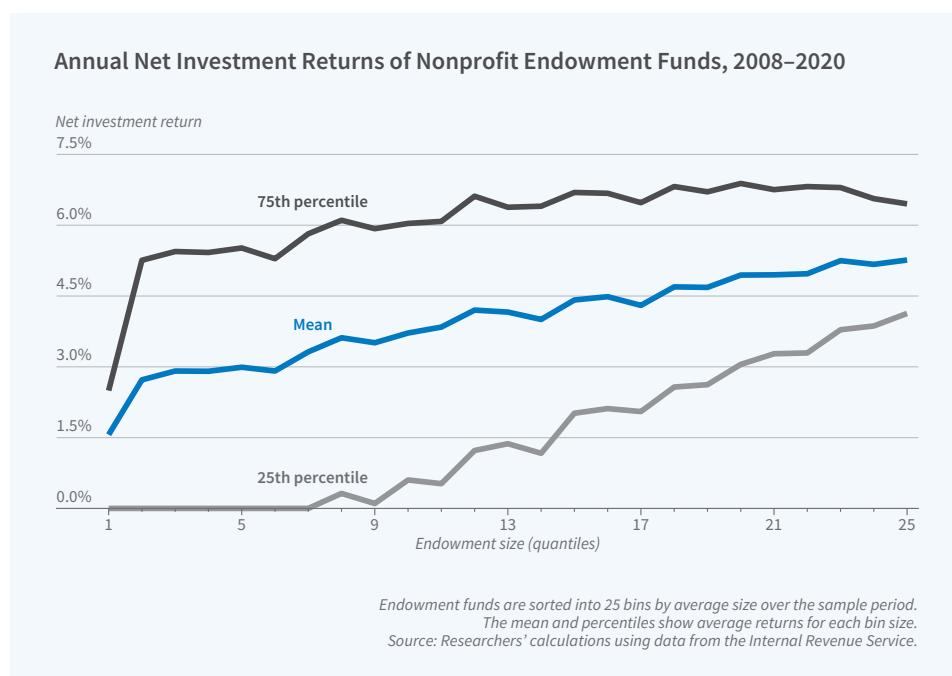
Endowments sustain the operations and activities of many nonprofit organizations, yet little is known about how they are invested or the returns that they earn. In [The Risk, Reward, and Asset Allocation of Nonprofit Endowment Funds](#) (NBER Working Paper 34078), [Andrew W. Lo](#), [Egor V. Matveyev](#), and [Stefan Zeume](#) present new facts about the function, asset allocation, and returns of US nonprofit endowments.

The researchers collect the tax return filings, specifically Form 990, for nearly 375,000 public nonprofit organizations for fiscal years 2008 through 2020. They identify approximately 40,000 endowments. The forms report information on organizations' missions, activities, governance structures, officers and directors, balance sheets, income statements, and asset allocations.

Organizations that have endowment funds are larger, older, have more employees and volunteers, and spend more on charitable activities than those that do not. They spend a smaller fraction of their budget on administrative expenses, and they tend to grow faster. On average, 29.6 percent of an organization's total assets are held in an endowment. Hospitals, with only 6 percent of funds in endowment, are notably different from other nonprofits on this dimension.

Over the 2008–20 period, endowment funds experienced a median annual growth rate of 3.4 percent. There are a small number of institutions with much higher growth; the mean is 9.4 percent. Endowments receive inflows from contributions, which are high at inception but then fall, and investment returns. On average, returns account for two-thirds of endowment growth, but for the median endowment, they account for nearly 95 percent. The average net investment return is 4.3 percent, but there is a wide spread.

The endowments' portfolio allocations to public equity increased between 2008 and 2020, while allocations to fixed income and cash declined. Allocations to other assets, including private equity, venture capital, hedge funds, real assets, and real estate, were stable. Smaller funds were significantly more likely to invest in individual stocks and bonds. Large



endowments allocated about 35 percent to international equity, whereas smaller funds allocated a much smaller share.

Organizations in sectors that are sometimes called upon in emergencies, such as environment, religion, and human services, exhibit relatively high allocations to safe assets. In contrast, higher education and hospitals, which are supported more by consistent revenue, invest more in asset classes other than public equity, fixed income, and cash.

Charitable giving is procyclical. A 1 percent market return is associated with a 3 percent increase in donation growth; therefore, organizations dependent on donations are more exposed to aggregate market risk. These organizations allocate less to public equities and hold more cash and fixed-income securities.

Large funds earn higher returns than small ones. The largest funds have an average net return of 4.73 percent, compared to 3.75 percent for the smallest ones. This pattern is observed in every nonprofit sector. The average Sharpe ratio, which measures the risk-adjusted investment return, was 0.535 across all endowment funds, and the average Relative Sharpe Ratio was 0.759 when the comparison portfolio held 40 percent US equities, 20 percent international equities, 20

percent investment-grade bonds, 10 percent real estate, and 10 percent cash. This means that the average endowment's risk-adjusted performance was 24.1 percent lower than the benchmark's Sharpe ratio.

Only 3.8 percent of nonprofits employ a chief investment officer, and those that do underperform those that do not by 20 basis points in net returns. About 60 percent of organizations do not utilize investment management services; those that do not report net returns 40 basis points lower than those that do. Average annual investment management fees are 0.63 percent of assets under management. There is a weak positive association between fees and gross returns. The higher returns are not enough to justify the high management fees, however, and the association between fees and net returns is strongly negative.

Organizations with higher administrative expenses and more highly compensated employees tend to have lower endowment returns. Those with larger boards (25 percent have fewer than 10 members) and more-independent directors generate higher returns. Organizations where CEOs capture larger shares of total compensation (averaging 55.9 percent) also tend to have higher endowment returns.

—Whitney Zhang

Why Aren't College Savings Accounts More Widely Used?

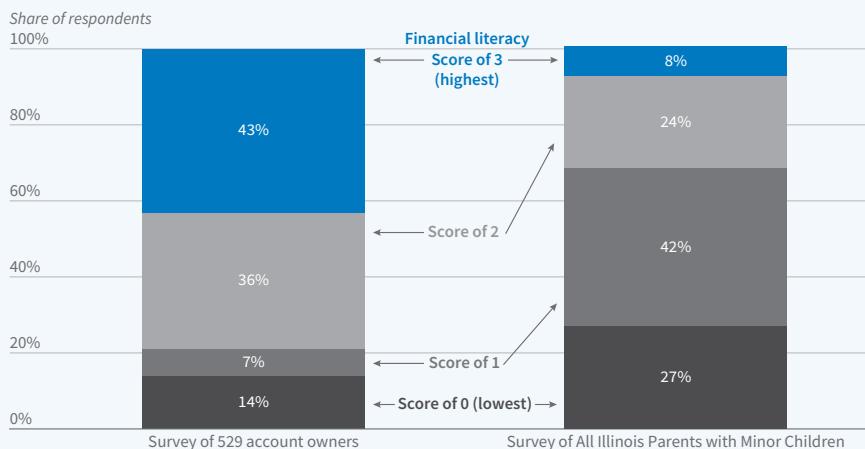
Access to higher education remains a significant challenge for many families as college costs rise and public funding declines. Effective college saving strategies can help students offset some of these costs and reduce the burden of their future student loan debt, yet many families do not take up tax advantaged college savings accounts (CSAs), also known as 529 plans.

In [Navigating the College Affordability Crisis: Insights from College Savings Accounts](#) (NBER Working Paper 34126), researchers [Guglielmo Bruscemi](#), [John A. List](#), and [Sabrina Liu](#) analyze administrative data from over 900,000 Illinois 529 plans from 2000 to 2023. They link these data to National Student Clearinghouse records and supplement them with surveys of account owners and parents.

The researchers find that approximately 11 percent of Illinois children were beneficiaries of a 529 plan over the past decade, and while there are households saving through CSAs in almost every ZIP code in the state, participation has been concentrated among those who live in places with higher-income, more educated families.

Surveys of representative samples of Illinois parents reveal that low awareness and plan attractiveness played a limited role in explaining disparities in participation. Instead, financial literacy emerges as a critical factor. Among parents with CSAs, 79 percent scored highly on financial literacy measures, compared to just 32 percent of parents surveyed from a representative sample of the state population. Excluding

Financial Literacy Scores of 529 Account Owners in Illinois



The "All Illinois parents" column adds up to 101 percent due to rounding. Source: Researchers' calculations using data from surveys of Illinois 529 account owners (N = 3,337) and a representative sample of Illinois parents with at least one child aged 17 or younger (N = 1,013).

Limited financial literacy and misperceptions significantly limit college savings account participation and saving.

CSA owners from the latter sample, this share drops even further to 19 percent. The researchers also find that misperceptions about the value of saving are widespread. Among parents who do not own CSAs but could save enough to cover 50 percent or more of future college costs, 61 percent still believe their potential savings would not make a substantial difference in covering the future costs of college, a perception that is found across income groups.

The researchers also find significant disparities in saving behavior. In 2023, the top 5 percent of account owners held 29.3 percent (\$4.97 billion) of total deposits, while the bottom half collectively owned just 8.3 percent (\$1.4 billion). The average balance for the top 1 percent was \$531,000,

compared to \$9,000 for the bottom 50 percent.

Limited attention to saving appears to contribute to these disparities. Many account owners rely on simple heuristics, like saving around \$100 monthly, and rarely adjust their contributions. Thirty-six percent of account owners set up automatic contributions, but approximately one-third never adjust these amounts and have lower cumulative savings than those who actively manage their accounts.

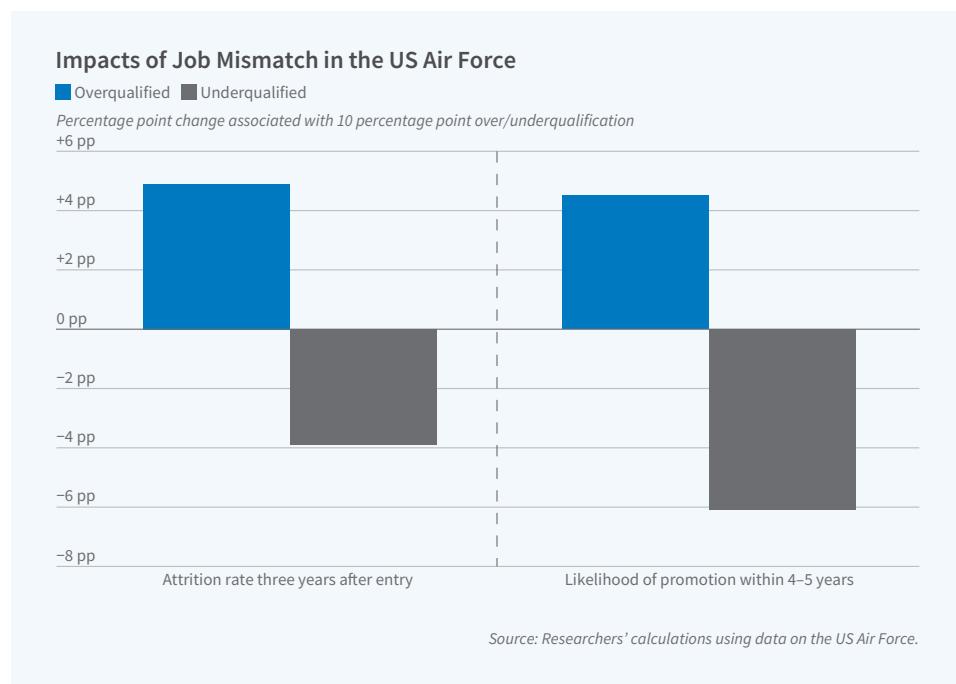
The study is also the first to link CSA and National Student Clearinghouse data. Higher CSA balances are associated with an increased likelihood of four-year college enrollment, attendance at selective institutions, and the pursuit of postgraduate degrees.

Job Mismatch and Early Career Outcomes

How does misalignment between a worker's cognitive skills and their job demands affect their career trajectory? Despite the importance for labor markets, it has been challenging to isolate the causal impacts of being over- or underqualified because workers self-select into occupations. This makes it difficult to determine whether performance differences stem from mismatch or from other factors that influence job choice.

In [Job Mismatch and Early Career Success](#) (NBER Working Paper 34215), researchers [Julie Berry Cullen](#), [Gordon B. Dahl](#), and [Richard De Thorpe](#) overcome this challenge using data from the US Air Force, where new enlistees are assigned to over 130 different jobs based partly on test scores. They calculate a worker's relative ability as the difference between their own Armed Forces Qualification Test (AFQT) score and the average score of others in the same job. Those with positive relative ability are categorized as having an "ability surplus," while those with negative values have an "ability deficit." To isolate plausibly exogenous variation in surplus and deficit, they construct instruments by simulating job assignments based on job availability and the quality of other recruits entering at the same time.

The researchers track individuals for up to five years, observing them during their initial technical training and subsequently on the job. Compared to other workers with the same ability level, being overqualified leads to higher attrition rates, with a 10 percentage point increase in ability surplus decreasing technical training graduation by 1.5 percentage points and increasing three-year attrition by 4.9 percentage points; the baseline



Quasi-random job assignments in the US Air Force suggest that overqualified workers outperform others in the same job but have higher turnover, while underqualified workers show greater commitment but are less productive.

attrition rate is 14 percent. Overqualified workers also exhibit more behavioral problems, receive lower performance evaluations, and score worse on tests of general military knowledge. On the positive side, overqualified individuals score better on job-specific skill tests, both during technical training and on the job. The net effect is an advantage when it comes to promotion, with a 10 percentage point increase in ability surplus leading to a 4.5 percentage point increase in the likelihood of promotion relative to a benchmark of 18 percent.

Underqualification produces the opposite effects. It leads to improvements in retention (with a 10 percentage point increase in ability deficit decreasing three-year attrition by 3.9 percentage points), behavior, scores on the test of general military knowledge,

and performance evaluations. But underqualified workers also show poorer acquisition of job-specific skills, leading to a disadvantage when it comes to promotion (with a 10 percentage point increase in ability deficit reducing the likelihood of promotion by 6.1 percentage points).

These findings suggest that overqualified individuals invest less effort but still outperform others assigned to the same job. Conversely, underqualified individuals appear more motivated but struggle to compete when evaluated against others with higher abilities. These patterns are consistent with post-service incentives: overqualified individuals are placed in jobs that have lower civilian earnings potential, while underqualified individuals are placed in positions with higher potential earnings.

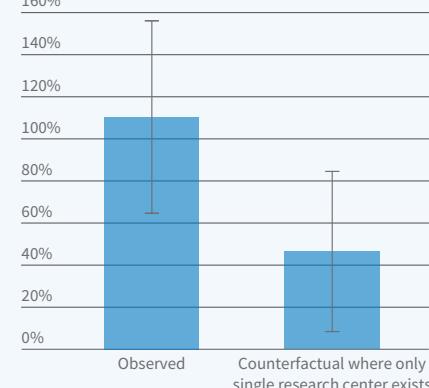
Public Agricultural R&D and Brazilian Economic Development

Global R&D investment is concentrated in a handful of high-income countries. When it is targeted to their specific needs, it may have limited productivity benefits elsewhere. In [Public R&D Meets Economic Development: Embrapa and Brazil's Agricultural Revolution](#) (NBER Working Paper 34213), researchers [Ariel Akerman](#), [Jacob Moscona](#), [Heitor S. Pellegrina](#), and [Karthik Sastry](#) investigate whether public R&D in a developing country can overcome this problem of technology mismatch. They focus on Embrapa (Empresa Brasileira de Pesquisa Agropecuária), a large-scale agricultural research corporation that was launched in Brazil in 1973.

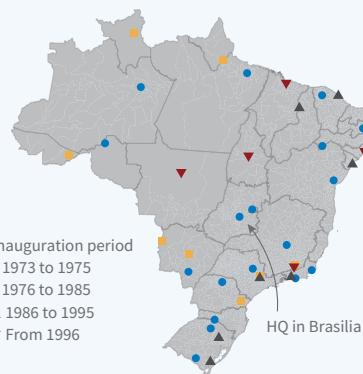
The researchers identify two ways in which Embrapa influences Brazilian agriculture. First, it alters the focus, trajectory, and productivity of agricultural science and technology development. Embrapa scientists are more likely than their peers to conduct research that is relevant to Brazil's ecology and major staple crops. This was accomplished by building new research centers in all of Brazil's diverse ecological zones, where researchers could focus on understanding local ecosystem characteristics, and achieved while also increasing research productivity. Moreover, Embrapa also shifted the research focus for the broader Brazilian research community, inducing non-Embrapa researchers to tailor their focus to the local ecology.

Public R&D Investment in Brazilian Agriculture

Increase in agricultural total factor productivity in 2006 relative to holding public R&D fixed at pre-Embrapa levels



Location of Embrapa research centers



Empresa Brasileira de Pesquisa Agropecuária (Embrapa) is a public research corporation established in 1973 to develop locally suitable science and technology. Bars represent 95% confidence intervals. Source: Researchers' calculations using Brazilian agriculture and geospatial data from multiple sources.

By investing in agricultural research about local ecological conditions, Brazil's Embrapa more than doubled national agricultural productivity.

Second, Embrapa substantially raised agricultural productivity in regions that were ecologically similar to Embrapa's labs and hence positioned to benefit from its innovation. An increase in Embrapa exposure of 1 cross-sectional standard deviation leads to a 12 percent gain in agricultural productivity. This result is not driven by proximity to research centers but rather facilitated by the ecological relevance of technologies developed by Embrapa. There are outsize effects of Embrapa exposure on both the adoption of technology and the productivity of crops that Embrapa

explicitly targets.

The researchers attribute a 110 percent increase in Brazilian agricultural productivity to Embrapa, with a benefit-cost ratio of 17. The corporation's geographic scope plays an important role: The researchers estimate that if Embrapa operated out of one large headquarters, as opposed to multiple geographically dispersed stations, the gain would have been 47 rather than 110 percent.

— Laurel Britt

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