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ROB ARNOTT'S NEWFANGLED STOCK INDEX FUNDS ARE OUTPERFORMING THE ORIGINALS INVENTED BY THE VANGUARD FOUNDER DECADES AGO. NEXT, HE PLANS TO DO FOR BONDS WHAT HE'S DONE FOR EQUITIES.

LEAVING *BOGLE* BEHIND

BY SREE VIDYA BHAKTAVATSALAM
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AS ROBERT ARNOTT WAS DECIDING WHETHER TO start his own investment firm, he met with his hero John Bogle for dinner. At a steakhouse in downtown Philadelphia in 2001, the founder of indexing powerhouse Vanguard Group Inc. spoke with enthusiasm about running his own firm. Bogle, who's now 82, told Arnott that starting a company could be rewarding once your investing ideas catch fire.

Arnott, 57, says Bogle inspired him to set up Research Affiliates LLC less than a year after that dinner. Arnott then went on to shake the foundation on which the older man built Vanguard: indexing that allocates equities based on market capitalization. Arnott debuted in 2005 a new type of indexing that uses fundamental measures such as cash flow to pick stocks—a methodology that the father of indexing would

later denounce as “witchcraft” in an interview with Morningstar Inc. because of its similarity to active management and higher costs. By 2011, the innovator’s brand of stock indexing had produced better returns than Bogle’s.

The PowerShares FTSE RAFI US 1000 Portfolio ETF, which is based on Arnott’s methodology, advanced at an average annual rate of 5.3 percent from its inception on Dec. 19, 2005, through May 9. That beats the flagship Vanguard 500 Index Fund’s 3.2 percent return, according to data compiled by Bloomberg. Armed with those results, Arnott is now planning to stir up the world of bond funds.

As the U.S. and Europe struggle with record deficits, the money manager is building a new set of bond indexes that shun the world’s most indebted nations and favor developing economies with smaller obligations. “Fundamental indexing in bonds may very well be bigger than in stocks,” Arnott says. “We’re looking now at how a debt burden affects gross domestic product and capital markets, and it paints a pretty scary picture.”

Economists and money managers, including Clifford Asness, founder of AQR Capital Management LLC, the \$38.8 billion hedge fund, have denounced Arnott’s indexes. “Rob’s a good guy; he’s very smart,” says Bogle, who retired as Vanguard’s chairman and chief executive officer in 1996. “He has beaten the market over the past five years, but one might want to think about what goes into that: risk.”

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Eugene Fama, a professor of finance at the University of Chicago’s Booth School of Business who helped develop the efficient market hypothesis, said Arnott’s indexes represent a triumph of marketing rather

than an innovation in investing. In a 2007 interview in the *Journal of Indexes*, Fama said they simply capture the “value effect” by using measures such as cash flow to select cheaper equities, not unlike what stock pickers do. In an e-mail in April, Fama said of Arnott’s work, “My view hasn’t changed.”

In his Newport Beach, California-based office, where he keeps a first edition of Adam Smith’s *The Wealth of Nations*, from 1776, Arnott says he enjoys dueling with his adversaries. “I thrive on the controversy,” Arnott says, smiling behind his neatly trimmed goatee. “Intellectual sparring is wonderful fun.”

SO IS RIDING MOTORCYCLES ON CALIFORNIA’S COASTAL HIGHWAY. Arnott keeps a collection of 20 rare and exotic motorcycles on hoists in his oversized garage. He says his British Vincent Black Shadow was the fastest production motorcycle of its era in the 1940s. His Italian Morbidelli 850 V8 is one of four prototypes produced for what would have been the world’s most expensive motorcycle. Arnott started riding motorcycles after high school in Claremont, California, when he couldn’t afford a car. Today, he confesses to sometimes exceeding 100 miles (160 kilometers) an hour on long road trips in Southern California.

“He pushes the envelope a little bit, although no wipeouts,” says Bradford Cornell, a visiting professor at California Institute of Technology in Pasadena who’s taken excursions with Arnott. “He’s good at it. He brings to motorcycles the same sort of competitive verve he brings to investing.”

Arnott has some of the biggest names in money management on his side in the debate over fundamental indexing. Bill Gross and Mohamed El-Erian, the co-chief investment officers of Pacific Investment Management Co., are so enamored with Arnott that he’s the only outside fund manager they use. In 2002, Pimco, whose headquarters is about two-and-a-half blocks down Newport Center Drive from Arnott’s office, hired Research Affiliates to start and manage its asset allocation funds. Pimco is also one of more than 20 firms, including San Francisco-based Charles Schwab Corp., that pay Research Affiliates a licensing fee to use its fundamental indexes. These firms apply Arnott’s strategy to funds with more than \$54 billion in assets.

El-Erian says the criticism of Arnott—that he practices active management in the guise of indexing—is

ARNOTT VS. BOGLE

Rob Arnott's fundamental stock strategy outperformed the cap-weighted style of indexing created by John Bogle.

POWERSHARES FTSE RAFI 1000		VANGUARD 500 INDEX	
METHOD			
Uses four fundamental measures—book value, cash flow, dividends and sales—to rank the top 1,000 U.S. stocks and buy them in proportion to their standing.		Employs one measure—market capitalization—to rank the top 500 U.S. stocks and buy them in proportion to their standing.	
TOP HOLDINGS			
Exxon Mobil	3.0%	Exxon Mobil	3.3%
AT&T	2.3	Apple	2.6
Bank of America	2.2	Chevron	1.7
General Electric	2.1	General Electric	1.7
Chevron	1.9	IBM	1.7
5-YEAR RETURN			
5.3%		3.2%	

Returns from Dec. 19, 2005, through May 9, 2011. Holdings as of March 31, 2011. Sources: Bloomberg, Research Affiliates, Vanguard Group

beside the point. “The key issue is, rather than be benchmark-centric, any investment manager should be assessed using three criteria,” El-Erian, 52, says. “How have they performed in an absolute sense, how have they done relative to peers and how have they performed relative to an index.” By these measures, Arnott is succeeding, with his funds doing well for investors and beating benchmarks, El-Erian says.

Arnott's next undertaking—fundamental indexes for bonds—is in line with Pimco's outlook of a prolonged period of subdued returns in developed nations due to record levels of debt. Arnott has maintained that view as stimulus measures by the Federal Reserve have helped U.S. stocks almost double through May 9 from a March 2009 low. To design his new bond indexes, Arnott is collecting and testing data using computer models, going back as far as five decades for the U.S. and about a quarter of a century for 40 other countries. His aim is to map the relationships between capital market returns and what he calls the “3 Ds”: deficits, debt and demographics.

Arnott says nations with higher levels of debt and aging populations, such as the U.S. and Japan, will produce lower returns than nations such as China, where debt and deficits are under control. “The only growth we've had in the last decade in the U.S. is deficit spending, which is unsustainable as a source of prosperity,” Arnott says.

Arnott, whose firm's 56 employees oversee more than \$75 billion in assets, spends his own money with gusto. He and his wife, Marina, a Russian abstract impressionist artist, rent a 14,000-square-foot (1,300-square-meter) home on a bluff overlooking the Pacific Ocean in Corona del Mar just south of Newport Beach. Arnott says the California housing market will continue to fall and at some point he may buy the home, which real-estate website Zillow.com valued at \$22.5 million as of early May. His wine collection with hundreds of bottles includes about a dozen of the 1982 first-growth Bordeaux, one of the most prized vintages from the region. Arnott celebrated his 2007 marriage to Marina, his second, with a masquerade ball fol-

lowing a wedding in southern France.

At a French restaurant in Boston where Arnott is visiting investors, he seems more like an absent-minded professor than a motorcycle daredevil. After an hour-long conversation on how the U.S. is sinking in debt, he hustles out the doorway to another appointment and leaves his laptop computer behind on the table. Arnott, who taught finance as a visiting professor at the University of California, Los Angeles, from 2001 to 2002, says he doesn't carry a smartphone, to avoid distractions and because he'd lose it anyway.

Arnott has been steeped in quantitative analysis since 1977, when he received a combined bachelor's degree in economics, applied mathematics and computer science from the University of California, Santa Barbara. After stints at Salomon Brothers Inc. as global equities strategist and Trust Services of America Inc., where he was president and CIO, he was named president of Morris Township, New Jersey-based First Quadrant Corp. in 1988.

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In 2001, Arnott gave a speech that grabbed the attention of Pimco and produced the most important break of his career. Arnott compared the magic of compound interest to Jesus finding a one-dollar gold coin on a sidewalk, says John Brynjolfsson, a former Pimco manager who heard the speech. At 5 percent annual interest and over 2,000 years, the gold coin would have grown to the size of Mars’s orbit around the sun, Arnott told the audience. “It certainly was visually captivating, and we all know that counts for a lot in the real world,” says Brynjolfsson, who now runs his own Aliso Viejo, California-based investment firm, Armored Wolf LLC.

BRYNJOLFSSON INVITED ARNOTT TO GIVE A TALK AT Pimco later that year on asset allocation. Bill Gross was at the meeting. Afterward, Arnott says, he asked Gross if there were ways they could work together. Gross referred him to Brent Harris, a Pimco managing director overseeing the firm’s funds group. Harris offered Arnott a job as an outside and independent adviser running a new asset allocation fund, which invests in a mix of stocks, bonds and commodities and protects investors from inflation. Pimco expanded it into three funds, the All Asset Fund, the All Asset All Authority Fund and the institution-only Pimco VIT All Asset Portfolio. Starting from nothing in 2002, they held a combined \$34 billion by the end of April. Given free rein by Pimco, Arnott invests exclusively in the firm’s funds, adjusting the balance depending on his outlook. The \$22.5 billion All Asset Fund advanced 7.3 percent on an annual basis in the five years ended on May 9, better than 99 percent of similar funds, Bloomberg data show.

Arnott’s Pimco affiliation gave him instant credibility with investors, helping him start Research Affiliates in 2002. Soon after, Arnott began developing fundamental indexing by examining the Internet

boom and bust of 2000. During the years leading up to the bubble, indexes automatically loaded up on hot tech stocks in proportion to their expanding market cap. In 1996, Cisco Systems Inc. amounted to just 0.4 percent of the cap-weighted Standard & Poor’s 500 Index. By 2000, the stock had become 4 percent of the entire index. When tech stocks collapsed that year, they took down the index funds with them.

In hunting for a better way to index, Arnott hired Jason Hsu in 2002 as a co-founder and researcher. Hsu had just received a doctorate in finance from UCLA and would later become the firm’s CIO. Hsu, Arnott and another colleague tested many key measures of company performance, including unconventional ones such as the number of employees, to design their index.

They eventually settled on cash flow, dividends, sales and book value—or the value of total assets minus liabilities—as the best indicators and assigned a value to them to determine how much weight to give a stock in the index. During test runs of the index, it beat the S&P 500 by two percentage points over a 43-year span. “It was almost too good to be true, so our reaction was one of instant skepticism,” Hsu, 37, says. “As we went back and double-checked, we realized that you have to really try hard to underperform the S&P 500.”

Arnott and his associates went public with their findings in 2005 in the CFA Institute’s *Financial Analysts Journal*. Even before that, some fund managers were intrigued enough to invest money. The South Dakota Investment Council, a state pension fund that oversees \$10 billion, in 2004 switched \$100 million from S&P 500 futures into a fundamental index fund. The council said it beat old-fashioned, market-cap-weighted funds by two percentage points within the first six months.

As investors started buying fundamental index funds, traditionalists publicly attacked them. Bogle, now president of Vanguard’s Bogle Financial Markets Research Center, and Burton Malkiel, a Princeton University economics professor, penned a column in the *Wall Street Journal* in June 2006 criticizing fundamental index funds for charging higher management fees and expenses that were five to 10 times as much as those levied by traditional index funds.

Arnott says his index fees are nowhere near that high. The PowerShares fund based on Arnott’s methodology charges 0.39 percent in fees. That’s higher than the 0.17 percent expense ratio on Vanguard’s

index fund but about half of the 0.77 percent charged by the average U.S. equity fund.

Arnott's contrarian streak has worked to his advantage at Pimco. As the global recession in early 2009 hammered markets, investors fled all but the safest government-backed bonds. John Cavalieri, an executive vice president at Pimco, says Arnott went in the opposite direction. He added to his investments in high-yield bonds for the All Asset Fund after saying that the spreads to own the high-yield bonds relative to Treasuries were the widest since the Great Depression. The fund rose 23 percent that year, a return that was comparable to stock market returns, with less than 10 percent of the fund invested in the stocks, says Cavalieri, who oversees the funds that Arnott manages. "He delivered equity-like returns with just a fraction of the volatility of the stock market," Cavalieri says.

The manager chases solar eclipses almost as often as he pursues new investing ideas. An amateur astronomer since grade school, he's traveled to see 11 of the 13 total eclipses that have occurred since 1991 through June. Arnott even chartered a six-seat turboprop plane in July 2009 in the Himalayan kingdom of Bhutan to get above the rain clouds and see that month's eclipse. He's already booked 10 rooms in a hotel in northern Australia in November 2012 to catch an upcoming one. "It's a hobby that helps me go to places I wouldn't think of going to otherwise," Arnott says.

In 2007, Arnott began developing his latest obsession: fundamental indexes for bonds. Just like equities that are over-weighted in cap-weighted index funds because they're popular, Arnott says indexes that track sovereign and corporate debt have the biggest slices devoted to large borrowers who gorge on debt. "If you're a bond investor, you're a lender," Arnott says. "If you're a cap-weight bond investor, you're just lending more to whoever is more deeply in hock."

Japan, whose \$10.95 trillion in public debt ranks first among industrialized countries, occupies the biggest portion of indexes that track the global bond markets. The nation accounts for more than one-fifth of the benchmark Barclays Capital Global Treasury Ex-US Capped Index. With Japan's public debt at about twice the size of the nation's GDP, investors in bond indexes are automatically investing in a borrower that rests on a shaky economic foundation.

Arnott's bond indexes make investments based on measures of a borrower's health, such as GDP, assets available to service debt, a nation's land mass and energy consumption. So far, just one firm has licensed Arnott's bond index. Last year, Atlanta-based Invesco Ltd. converted an existing exchange-traded-bond fund into the new PowerShares Fundamental High Yield Corporate Bond Portfolio. The fund returned 8.9 percent from August 2, when Invesco made the switch, through May 9. That's less than the 11.7 percent increase in State Street Corp.'s SPDR Barclays Capital High Yield Bond ETF, which tracks the cap-weighted index of junk bonds.

When he's not poring over financial data, Arnott clears his head by taking one of his motorcycles for a spin. He doesn't worry about his own driving skills so much as everyone else's. "It's safest to assume that others are out to get you, because once in a while, they are," Arnott says.

After taking barbs from some of the titans of the financial world, Arnott's distrust may be understandable. As he licenses his new bond indexes, money managers will likely launch more attacks at him, creating the kind of heated debate that keeps Arnott racing ahead.

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PowerShares FTSE RAFI US 1000 Portfolio (PRF), Vanguard 500 Index Fund (VFINX), PowerShares Fundamental High Yield Corporate Bond Portfolio (PHB) and SPDR Barclays Capital High Yield Bond (JNK) ETFs

Average Annual Total Returns (%), as of June 30, 2011

PRF	1 Year	3 Year	5 Year	10 Year	Fund Inception
NAV	30.97	8.24	4.30	-	4.70
After Tax Held	30.11	7.53	3.69	-	4.11
After Tax Sold	20.09	6.62	3.31	-	3.67
Market Price	30.97	8.24	4.30	-	4.70
VFINX					
NAV	30.51	3.28	2.86	2.62	10.64
PHB					
NAV	13.10	2.30	-	-	0.57
After Tax Held	10.43	-0.80	-	-	-2.42
After Tax Sold	8.44	0.05	-	-	-1.33
Market Price	13.09	2.18	-	-	0.45
JNK					
NAV	15.87	8.96	-	-	6.50
After Tax Held	12.07	4.63	-	-	2.51
After Tax Sold	10.33	4.95	-	-	3.05
Market Price	17.36	9.17	-	-	6.43

Sources: Invesco PowerShares, Vanguard.com and StateStreetSPDRs.com

PRF Fund Inception: Dec. 19, 2005

VFINX Fund Inception: Aug. 31, 1976

PHB Fund Inception: Nov. 15, 2007

JNK Fund Inception: Nov. 28, 2007

Performance data quoted represents past performance. As stated in PRF's prospectus, the total expense ratio is 0.45%. However, the Adviser has contractually agreed to waive fees and/or pay certain expenses which resulted in a net expense ratio of 0.39%. These waivers and reimbursement contracts extend through at least Aug. 31, 2011. As stated in the PHB's prospectus, the expense ratio of 0.50% is expressed as a unitary fee to cover expenses incurred in connection with managing the portfolio. Past performance is not a guarantee of future results. See invescopowershares.com to find the most recent month-end performance numbers.

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Investing in securities of small and medium-sized companies may involve greater risk than is customarily associated with investing in large companies.

Investments focused in a particular industry are subject to greater risk, and are more greatly impacted by market volatility, than more diversified investments.

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The Fund is considered non-diversified and may be subject to greater risks than a diversified fund.

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To obtain a copy of the VFINX prospectus, please visit www.vanguard.com.

To obtain a copy of the JNK prospectus, please visit www.spdrs.com.

An investor should consider the Funds' investment objectives, risks, charges and expenses carefully before investing. For this and more complete information about the Funds call 800 983 0903 or visit invescopowershares.com for a prospectus. Please read the prospectus carefully before investing.

