

Quantitative Analysis

QUANTITATIVE ANALYSIS

Global Dividend Strategy

Dividend Strategy Worldwide

Given the recent market volatility, many investors are looking toward dividends to point them in the right direction. In our Global Dividend Strategy series of reports, we examined 12 countries, calculating which combination of dividend yield and dividend payout ratio worked best to indicate future performance. Especially in the current market, we find good reason for continued interest in dividends.

Dividend Yield and Payout Ratio

In the majority of the markets we examined, the maximum performance was delivered by companies with high dividend yields and low payout ratios. This strategy had the best performance in our U.S. empirical test since 1990. (See Exhibit 1.) In some countries, such as Germany, high yield, high payout was the top strategy.

Dividend Yield

Stocks with high yields generally outperformed those with low yields. Our empirical tests verified this in all of the markets we examined. While high dividend paying stocks have dipped along with the rest of the market, they have maintained their status as top performers.

Exhibit 1: Dividend Yield and Payout Ratio

Equal-weighted performance from January 1990 to December 2008, quarterly rebalance



Source: Credit Suisse Quantitative Equity Research.

DISCLOSURE APPENDIX CONTAINS IMPORTANT DISCLOSURES, ANALYST CERTIFICATIONS, INFORMATION ON TRADE ALERTS, ANALYST MODEL PORTFOLIOS AND THE STATUS OF NON-U.S ANALYSTS. FOR OTHER IMPORTANT DISCLOSURES, visit www.credit-suisse.com/ researchdisclosures or call +1 (877) 291-2683. U.S. Disclosure: Credit Suisse does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. Customers of Credit Suisse in the United States can receive independent, third party research on the company or companies covered in this report, at no cost to them, where such research is available. Customers can access this independent research at www.credit-suisse.com/ir or call 1 877 291 2683 or email equity.research@credit-suisse.com to request a copy of this research.

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Dividend Strategy for the United States

Dividend Yield and Payout Ratio

To determine what combination of dividend yield and payout ratio generated the highest performance, our empirical test created nine portfolios for all arrangements of high, medium, and low yield and payout ratio. We define the dividend payout ratio as the ratio that we arrive at when we divide dividends by earnings.

Each quarter, from January 1990 to December 2008, equal weighted portfolios were created and their performance measured. We used the S&P 1500 as our universe¹. (See Appendix B: Empirical Test Methodology for further details of the empirical test.)

Below are the cumulative returns for various dividend yield and payout ratio portfolios. Our test indicated that the high yield, low payout ratio portfolio outperformed all others. Firms paying higher dividends and using a smaller percentage of earnings to do so, generated the best performance.

The low payout ratio helps to filter out firms with declining earnings that have been reluctant to reduce their dividend



Equal-weighted performance from January 1990 to December 2008, quarterly rebalance



Source: Credit Suisse Quantitative Equity Research.

¹Universe: S&P 500 from 1990, S&P 400 and S&P 500 from December 1991, and S&P 1500 from June 1994 to December 2008.





Examining the annual return on all nine portfolios over the 19-year period, we see that low payout ratio firms took the top three spots. High payout took the bottom three. The annualized return for companies that did not pay dividends was 10.6%, while the S&P 500 annualized returned was 8.4%.

Exhibit 3: Portfolio Groups





Exhibit 4: Annualized Returns From January 1990 to December 2008



Source: Credit Suisse Quantitative Equity Research.

The 2008 spread between the best- and worst-performing portfolios was 24.3%. The alltime maximum spread occurred in 1999, when the nondividend-paying portfolio outperformed the high yield, medium payout portfolio by 38.4%. For a complete chart from 1990 to 2008, please see Appendix A.

Exhibit 5: Dividend Yield and Payout Ratio Strategy Rankin	igs
Equal-weighted performance from January 2001 to December 2008, qu	larte

Equal-weighted performance from January 2001 to December 2008, quarterly rebalance											
	2001 2002 2003 2004		2004	2005	2006	2007	2008		1990 - 2008		
Best	High Yield Low Payout	High Yield Low Payout	No Dividend	Medium Yield Low Payout	Low Yield Low Payout	High Yield High Payout	Low Yield High Payout	High Yield Low Payout		High Yield Low Payout	
	No Dividend	Medium Yield Low Payout	High Yield High Payout	Low Yield Low Payout	Medium Yield Low Payout	Medium Yield Low Payout	Low Yield Medium Payout	High Yield Medium Payout		Medium Yield Low Payout	
ł	Medium Yield Low Payout	High Yield Medium Payout	Low Yield Low Payout	High Yield Low Payout	Low Yield Medium Payout	High Yield Medium Payout	Low Yield Low Payout	Medium Yield Low Payout		Low Yield Low Payout	
	High Yield Medium Payout	Medium Yield Medium Payout	Medium Yield Low Payout	Medium Yield Medium Payout	High Yield Low Payout	High Yield Low Payout	No Dividend	Medium Yield Medium Payout		Low Yield Medium Payout	
mance	High Yield High Payout	Low Yield Low Payout	High Yield Low Payout	Medium Yield High Payout	Medium Yield Medium Payout	No Dividend	Medium Yield Medium Payout	Low Yield Medium Payout		High Yield Medium Payout	
Perfor	Low Yield Low Payout	Low Yield Medium Payout	Low Yield High Payout	Low Yield Medium Payout	No Dividend	Low Yield Medium Payout	Medium Yield Low Payout	Low Yield High Payout		No Dividend	
	Medium Yield Medium Payout	High Yield High Payout	Medium Yield High Payout	No Dividend	Low Yield High Payout	Medium Yield High Payout	Medium Yield High Payout	Medium Yield High Payout		Medium Yield Medium Payout	
	Low Yield Medium Payout	Medium Yield High Payout	Low Yield Medium Payout	High Yield Medium Payout	High Yield Medium Payout	Medium Yield Medium Payout	High Yield Medium Payout	No Dividend		Medium Yield High Payout	
	Medium Yield High Payout	Low Yield High Payout	High Yield Medium Payout	Low Yield High Payout	Medium Yield High Payout	Low Yield Low Payout	High Yield High Payout	Low Yield Low Payout		High Yield High Payout	
Worst	Low Yield High Payout	No Dividend	Medium Yield Medium Payout	High Yield High Payout	High Yield High Payout	Low Yield High Payout	High Yield Low Payout	High Yield High Payout		Low Yield High Payout	



Dividend Yield

Our empirical test examining dividend yield showed that firms paying dividend yields on the higher end of the spectrum outperformed those paying lower dividends.

For our empirical test of dividend yield strategy. We restricted the universe to the S&P 500, and ran the simulation from January 1980 to December 2008. Equal-weighted decile portfolios were created based on dividend yields as of each month-end.

Because of the robust number of firms in the U.S. S&P 500, we were able to examine dividend paying stocks closely, classifying stocks into deciles. We see that the highest dividend yielding portfolio (decile 10), underperformed deciles 6 through 8, but outperformed deciles 5 and below. While higher dividends lead to outperformance, the best performance can be realized by selecting stocks yielding just below the top 10%. Deciles 8 and 9 were the best performers.

Dividend selection strategy helps investors to stay with high-earnings-quality companies, as companies that consistently grow dividends tend to signal sound financial health.

Exhibit 6: Dividend Yield Strategy

Equal-weighted decile performance from January 1980 to December 2008 (universe: S&P 500)



Source: Credit Suisse Quantitative Equity Research.



The Dividend Factor

We analyze dividends from the following angles: return contributions, relationship between earnings and dividends (payout ratio), trends in percentage of companies paying dividends, and dividend yield and long-term bond yield.

The dividend contribution to the S&P 500 total return was more than 40% from 1926 to 1990. Changes in the tax code in 1986 discouraged dividend payouts. In recent years, the percentage of total return attributable to capital gains significantly outpaced dividends, especially during the internet and real estate bubble years. The contribution of dividends to total returns from 1991 to 2006 was only 17%. Dividends contributed their all-time lowest amount to the total return in 2000.

The 2003 Tax Act reduced dividend tax rates and set the stage for a general uptick in the percent of total return contributed by dividends.

The large declines in the market over 2007 and 2008 wiped out much of the capital appreciation gained over the prior years. This has brought even greater interest in dividends. In 2008, dividends contributed the most to the total return of the S&P 500 since 1994—an increase of greater than 100% since 2000. While not able to offset the staggering declines in share prices, dividends are always positive and continue to lift returns.

To determine the contribution of dividends to an index's total return, subtract the price appreciation of the index (capital gains only), from the total return. The difference is the return do solely to dividends.

The reduction in dividend tax rates from the 2003 Tax Act has been extended until the end of 2010









Earnings and Dividends Timeline

In viewing the relationship between companies, earnings and dividends, five distinct U.S. economic periods emerge from 1871 to the present.

During the Gilded Age, the U.S. experienced rapid industrial expansion as the output of factories and farms increased dramatically. Governing bodies such as the SEC did not exist. Company management signaled the quality of earnings through dividends—paying out most earnings as dividends. The aggregate dividend payout ratio was roughly 75%. The annual variations in dividends and earnings were 15.5% and 22.4%.

As the industrial expansion continued to accelerate after the end of World War I, the accompanying economic boom and excesses could not be sustained. The stock market crashed in 1929, triggering the Great Depression. High growth during this period resulted in a high degree of variation in corporate earnings. The dividend payout ratio at this time declined slightly to just over 64%.

The Great Depression, the New Deal, and World War II marked this period. The New Deal created government agencies like the SEC, FDIC, and others to regulate the U.S. equity market. World War II boosted the economy, as factories were converted to the production of war equipment. Corporate earnings volatility remained relatively high, while companies distributed more than 80% of earnings as dividends.

The beginning of the Cold War also marked the beginning of the low dividend payout era. The payout ratio dropped to about 50%, as companies became increasingly conscious about cutting dividends during periods when earnings were temporarily depressed. The variation in dividends dropped considerably during this period, both in absolute terms and relative to the variation in earnings.

As the dividend payout ratio has hovered below 50% since 1979, the trends in the variation in earnings and dividends diverged. Earnings variation increased, while dividend variation further decreased. Dividends became much stickier during this period. The dividend payout ratio dropped to a record low of 31% in 2006.

Most recently, payout ratios rose in late 2007 and 2008 as earnings collapsed for S&P 500 companies.

Exhibit 8: Annual Variation in Dividends and Earnings Standard Deviation (σ) of annual changes



Source: Credit Suisse Quantitative Equity Research, www.econ.yale.edu~shiller/data.htm.

The Gilded Age, 1871-1900

Boom Times, 1901-1929

The New Deal and World War II, 1930-1945

Height of the Cold War, 1946-1978

Past 30 years, 1979-2008



Exhibit 9: Dividends and Earnings

Dividend Payout Ratio Decline

When studying aggregate earnings and dividends from 1870 to present, we can also observe two larger, general periods:

- High payout era, 1871 to 1945: Dividend policy focused on payout ratio;
- Low payout era, 1945 to present: Companies started managing the amount of dividends paid and were slow to increase dividends as earnings increased, effectively reducing the payout ratio.



Source: www.econ.yale.edu~shiller/data.htm, Credit Suisse Quantitative Equity Research.

The aggregate dividend payout ratio has declined from around 70% during the 1870-1945 period to roughly 50% in 1946-2008. (See Exhibit 12.) We believe that the reduction in the payout ratio is primarily due to the desire of corporate management to maintain dividend levels during cyclical downturns. Dividends variability has decreased dramatically from the high payout ratio era to the low payout ratio era. Meanwhile, earnings variability has fluctuated and remains relatively high.

A downward trend in the payout ratio over the past 60 years

Exhibit 10: During the Low Dividend Payout Era, Dividends and Earnings Variation Diverge Graphical representation highlighting earnings and dividends at aggregate level



Dividends are no longer a reflection of earnings

Source: Credit Suisse Quantitative Equity Research.



Over the past 60 years, firms lowered rather than increased dividend payout ratios during periods of high earnings. Firms targeted their dividend levels lower so that they would be able to keep their dividends constant, even during periods of depressed earnings. The market has generally punished companies unable to maintain dividend levels.



Most recently, dividend payout ratios have risen sharply as companies try to avoid decreasing dividends in the midst of falling earnings

Source: Credit Suisse Quantitative Equity Research, http://www.econ.yale.edu/~shiller/data.htm.

Exhibit 11: Aggregate Payout Ratio



The number of companies in the Russell 1000 index paying dividends declined throughout the 1980s and 1990s. Furthermore, there was a sudden drop in the percentage of companies paying dividends during the bubble period. For example, the percentage of companies paying dividends in 1999 and 2000 dropped by 5.2% and 10.2%, respectively.

The trend reversed following the bubble period. The percentage paying dividends recently peaked in May 2006 with 69.2% of companies paying dividends. Since May 2006, a gradual decline has resumed and is likely to hasten with the current economic downturn.

Changes to the tax code in 1986 discouraged dividend payouts.

Dividends and capital gains

are treated the same under

the 2003 Tax Act





Percentage of companies paying dividends declining slowly

Source: Credit Suisse Quantitative Equity Research, Frank Russell Co.



Exhibit 13: Percent of NASDAQ Companies Paying Dividends

Gradual increase since 2001



Dividend Yield and Bond Yield

Following the all-time dividend yield low in 2000, yields improved significantly in 2002 and 2003. Massive price declines in 2008 have caused yield to jump upward-as prices decline, but companies attempt to maintain their dividends at existing levels.



Source: Credit Suisse Quantitative Equity Research, http://www.econ.yale.edu/~shiller/data.htm.

As dividend yields have risen due to falling share prices, 10-year Treasury yields have remained low as investors have moved to the safety of government bonds. This has brought a sharp decline in the bond minus dividend yield spread.



Exhibit 15: Long-Term Bond Yield versus Dividend Yield

Source: Credit Suisse Quantitative Equity Research, http://www.econ.yale.edu/~shiller/data.htm.

Long-term bond yield was



Dividends in Global Markets

While dividends in the United States have hovered around 2% for much of the decade, recent price declines have pushed the level higher over the past year.

We compare equity dividend yields among major international markets. Yield in North America (United States and Canada) has typically been among the lowest developed equity markets (especially when compared to European markets). The reduction in taxes on dividends by The 2003 Tax Act helped reduce the gap between the United States and other markets. In many developed markets, tax relief or tax credits allow dividends to be taxed at a lower rate than regular income.

9.49 10.0 9.0 7.47 8.0 6.92 6.93 6.45 **Dividend Yield** 6.40 7.0 5.83 5.63 5.44 6.0 S&P 500 4.28 5.0 3.83 3.36 3.38 4.0 2.75 3.0 1.88 1.34 2.0 KOSEINOST KOUNT KORSA CSI 200 INDEX COMPOSITE 0.66 Lettered St. 500 S. AVC. Carebol Internation of Constraint Internation St. 100 S. AVC. Carebol Internation of Constraint International St. 100 Last Carebol International International



Source: Credit Suisse Quantitative Equity Research, Bloomberg.



Dividend Strategy Worldwide

We applied our two empirical tests to Canada and the 10 countries covered by our *What Works*[®] product.

Dividend Yield and Payout Ratio

Our findings in many of the countries were consistent with our U.S. results (high yield, low payout outperformance). Notably, some countries produced different results, with high yield, high payout leading performance. In all cases high yield was a component of the leading portfolio.

Hignest Performance Portfolio	Country						
High Yield, Low Payout	Canada						
	China						
	France						
	Italy						
	Japan						
	South Korea						
	Unite Kingdom						
	United States						
High Yield, High Payout	Australia						
	Germany						
	Hong Kong						
	Switzerland						

Exhibit 17: Dividend Yield and Payout Ratio, Country Summary Highest Performance Portfolio Country

Source: Credit Suisse Quantitative Equity Research.

Dividend Yield

In all of the countries we examined, high dividend yield portfolios outperformed lower yielding portfolios.



Canada

Dividend Yield and Payout Ratio

Exhibit 18: Dividend Yield and Payout Ratio

Source: Credit Suisse Quantitative Equity Research.

equal-weighted performance form January 1990 to December 2008, quarterly rebalance



Universe: top 85% of Canadian companies by market capitalization

High yield, low payout

The high yield, low payout

portfolio generated an

performance of 13.9%

annual return of 7.4%

versus the nondividend-

paying portfolio's average

average annual

outperforms

Dividend Yield



Higher dividend-paying companies outperformed the overall market



Credit Suisse

United Kingdom Dividend Yield and Payout Ratio

Exhibit 20: Dividend Yield and Payout Ratio



Source: Credit Suisse Quantitative Equity Research.

Universe: top 85% of U.K. companies trading on the London Stock Exchange by market capitalization

Investors should seek out

companies with high

payout ratios

dividend yields and low

Nondividend paying firms

margin, although their rise

during the internet bubble is

underperform by a wide

among the largest

Dividend Yield

Exhibit 21: Dividend Yield Strategy



Using dividend yield as the sole selection criteria: firms that paid higher dividends outperformed.



Japan Dividend Yield and Payout Ratio

Exhibit 22: Dividend Yield and Payout Ratio



Source: Credit Suisse Quantitative Equity Research.

Dividend Yield





Higher divided-paying firms outperformed

trading on the Tokyo Stock Exchange by market capitalization

High yield, low payout

Japanese equities pay

dividends that are among

the lowest in developed

Low yielding equities

Universe: top 85% of Japanese companies

underperformed

markets

produced the best returns

Source: Credit Suisse Quantitative Equity Research.



Germany

Dividend Yield and Payout Ratio

Exhibit 24: Dividend Yield and Payout Ratio

equal-weighted performance from January 1990 to Dec. 2008, top 90% of the Frankfurt Stock Exchange



High yield, high payout outperformed

In the German market, firms can reduce dividend payments without causing a severe drop in share price. This allows firms to pay a higher payout ratio, knowing that if earnings fall, the dividend amount can be reduced.

Universe: top 85% of German equities trading on the Frankfurt Stock Exchange (Deutsche Börse) by market capitalization

Source: Credit Suisse Quantitative Equity Research.

Dividend Yield

Exhibit 25: Dividend Yield Strategy



Fourth quartile (high yield) outperformance continues



China Dividend Yield and Payout Ratio

Exhibit 26: Dividend Yield and Payout Ratio

equal-weighted perf. from Jan. 1996 to Dec. 2008, top 90% of the Shanghai and Shenzhen exchanges



Source: Credit Suisse Quantitative Equity Research.

Dividend Yield





Source: Credit Suisse Quantitative Equity Research.

High yield portfolios produced the best returns

Nondividend-paying firms performed close to the overall average

Universe: top 90% of Chinese equities trading on the Shanghai or Shenzhen stock exchanges by market capitalization

Firms in the highest and second-highest dividendpaying groups (the third and fourth quartiles) outperformed those in the other quartiles.

Chinese equities pay dividend yields on the low end of the scale.

The Shanghai and Shenzhen exchanges have only been in operation since 1990 and 1991, respectively.

Prior to 1996, the necessary financial information for our empirical tests was not readily available.



High-yield stocks

outperformed

France

Dividend Yield and Payout Ratio

Exhibit 28: Dividend Yield and Payout Ratio



Source: Credit Suisse Quantitative Equity Research.

Dividend Yield



Higher dividend-paying firms outperformed

Universe: top 85% of equities issued and trading

in France by market capitalization

We tested increasing the universe to the top 90% of French equities. This allowed many smaller, nondividend-paying firms into the test, reducing the performance of the nondividend-paying portfolio.

Source: Credit Suisse Quantitative Equity Research.

Hong Kong Dividend Yield and Payout Ratio

Exhibit 30: Dividend Yield and Payout Ratio

CREDIT SUISSE



Source: Credit Suisse Quantitative Equity Research.

Dividend Yield



High-yield, high-payout stocks produced the best returns

Hong Kong has long been unique in that no taxes are generally levied on dividends or capital gains. Without a tax penalty, it is likely that shareholders desire the greatest dividend possible for a given company.

Universe: top 90% of equities issued and trading in Hong Kong by market capitalization

Using dividend yield alone: firms that paid the highest dividend yields outperformed

In Hong Kong, very few firms paid no dividends.



Switzerland

Dividend Yield and Payout Ratio

Exhibit 32: Dividend Yield and Payout Ratio



Source: Credit Suisse Quantitative Equity Research, Worldscope.

Dividend Yield

Exhibit 33: Dividend Yield Strategy equal-weighted performance from January 1990 to December 2008



The high yield, high payout basket produced the best returns

The Swiss equity market is highly concentrated by sector with financials, health care, and consumer goods making up approximately 80% of the Swiss Performance Index by market cap.

Switzerland has a unique tax structure with no tax on capital gains for residents and relatively light taxes on corporate gains. This favorable tax structure would likely support stocks that offer high dividends and high payouts.

The highest divide yield basket outperformed

Universe: top 95% of the Swiss equity market by market capitalization.

95% of the Swiss equity market was included to allow for an adequate quarterly sample size

Source: Credit Suisse Quantitative Equity Research, Worldscope.



Australia

Dividend Yield and Payout Ratio

Exhibit 34: Dividend Yield and Payout Ratio



Source: Credit Suisse Quantitative Equity Research, Worldscope.

High yield, high payout moved ahead of the high yield, low payout portfolio following the fourth quarter of 2008.

Nondividend-paying firms underperformed severely

Universe: top 85% of the Australian equity market by market capitalization.

Dividend Yield



High dividend yield paying firms outperformed

The Financials and Materials sectors make up approximately 64% of the S&P/ASX 200 Index.

The Australian equity market is dominated by a few mega-cap companies. The top 10 stocks in the ASX 200 Index make up 44% of the entire index by market cap.

Source: Credit Suisse Quantitative Equity Research, Worldscope.

Italy Dividend Yield and Payout Ratio

Exhibit 36: Dividend Yield and Payout Ratio



Source: Credit Suisse Quantitative Equity Research, Worldscope.

High yield, low payout outperforms

Investors favored firms that paid high dividends, relative to share price, yet did so using a smaller portion of net income

Universe: top 90% of the Italian equity market by market capitalization.

Dividend Yield



The highest yielding equities outperformed

The fourth quartile's cumulative performance was more than double that of the overall portfolio

The composite Italian Index (S&P/MIB) has the highest dividend yield among those we have studied

The Italian stock market is dominated by a few mega caps.

Source: Credit Suisse Quantitative Equity Research, Worldscope.



South Korea

Dividend Yield and Payout Ratio

Exhibit 38: Dividend Yield and Payout Ratio



The high yield, low payout portfolio maintains a slight edge over the high yield, high payout portfolio.

Universe: top 85% of the South Korean equity market by market capitalization.

Prior to March 1993, reliable dividend data was not available from our data sources.

Source: Credit Suisse Quantitative Equity Research, Worldscope.

Dividend Yield



Higher yielding equities outperformed

The third dividend quartile inched ahead of the 4th over the last quarter of 2008.

The South Korean equity market is heavily weighted in Information Technology, Industrials, and Financials. Companies in these three sectors combine to make up approximately 60% of the entire market cap.

Source: Credit Suisse Quantitative Equity Research, Worldscope.

Appendix A: U.S. Dividend Yield and Payout Ratio Performance

Exhibit 40: Dividend Yield and Payout Ratio

equal-weighted performance from January 1990 to December 2008, quarterly rebalance

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	1990 - 2008
Best	Low Yield Medium Payout	High Yield Low Payout	High Yield Low Payout	High Yield High Payout	Medium Yield High Payout	High Yield Low Payout	Medium Yield Low Payout	Medium Yield Low Payout	Low Yield Medium Payout	No Dividend	Low Yield Low Payout	High Yield Low Payout	High Yield Low Payout	No Dividend	Medium Yield Low Payout	Low Yield Low Payout	High Yield High Payout	Low Yield High Payout	High Yield Low Payout	High Yield Low Payout
	Medium Yield Medium Payout	Low Yield Low Payout	High Yield High Payout	No Dividend	High Yield Low Payout	Medium Yield Low Payout	High Yield Low Payout	High Yield Low Payout	No Dividend	Low Yield Low Payout	High Yield Medium Payout	No Dividend	Medium Yield Low Payout	High Yield High Payout	Low Yield Low Payout	Medium Yield Low Payout	Medium Yield Low Payout	Low Yield Medium Payout	High Yield Medium Payout	Medium Yield Low Payout
1	High Yield Medium Payout	No Dividend	Low Yield Low Payout	Low Yield Low Payout	Medium Yield Low Payout	High Yield Medium Payout	Medium Yield Medium Payout	High Yield Medium Payout	High Yield Low Payout	Medium Yield Low Payout	High Yield Low Payout	Medium Yield Low Payout	High Yield Medium Payout	Low Yield Low Payout	High Yield Low Payout	Low Yield Medium Payout	High Yield Medium Payout	Low Yield Low Payout	Medium Yield Low Payout	Low Yield Low Payout
	High Yield Low Payout	Low Yield Medium Payout	High Yield Medium Payout	Low Yield Medium Payout	Low Yield Medium Payout	No Dividend	Low Yield Low Payout	Low Yield Low Payout	Medium Yield Medium Payout	Medium Yield High Payout	Medium Yield Medium Payout	High Yield Medium Payout	Medium Yield Medium Payout	Medium Yield Low Payout	Medium Yield Medium Payout	High Yield Low Payout	High Yield Low Payout	No Dividend	Medium Yield Medium Payout	Low Yield Medium Payout
nance	Low Yield High Payout	Medium Yield Low Payout	Medium Yield Low Payout	Medium Yield High Payout	No Dividend	Medium Yield High Payout	Low Yield Medium Payout	Medium Yield Medium Payout	Low Yield Low Payout	Low Yield Medium Payout	Low Yield Medium Payout	High Yield High Payout	Low Yield Low Payout	High Yield Low Payout	Medium Yield High Payout	Medium Yield Medium Payout	No Dividend	Medium Yield Medium Payout	Low Yield Medium Payout	High Yield Medium Payout
Perfor	Low Yield Low Payout	Medium Yield Medium Payout	Medium Yield High Payout	High Yield Medium Payout	High Yield Medium Payout	Low Yield Low Payout	Medium Yield High Payout	Low Yield Medium Payout	Low Yield High Payout	Low Yield High Payout	Medium Yield High Payout	Low Yield Low Payout	Low Yield Medium Payout	Low Yield High Payout	Low Yield Medium Payout	No Dividend	Low Yield Medium Payout	Medium Yield Low Payout	Low Yield High Payout	No Dividend
	Medium Yield High Payout	High Yield High Payout	Medium Yield Medium Payout	Medium Yield Low Payout	Low Yield Low Payout	Medium Yield Medium Payout	No Dividend	Medium Yield High Payout	High Yield Medium Payout	High Yield High Payout	Low Yield High Payout	Medium Yield Medium Payout	High Yield High Payout	Medium Yield High Payout	No Dividend	Low Yield High Payout	Medium Yield High Payout	Medium Yield High Payout	Medium Yield High Payout	Medium Yield Medium Payout
	Medium Yield Low Payout	High Yield Medium Payout	No Dividend	High Yield Low Payout	Medium Yield Medium Payout	Low Yield Medium Payout	Low Yield High Payout	High Yield High Payout	Medium Yield Low Payout	High Yield Low Payout	Medium Yield Low Payout	Low Yield Medium Payout	Medium Yield High Payout	Low Yield Medium Payout	High Yield Medium Payout	High Yield Medium Payout	Medium Yield Medium Payout	High Yield Medium Payout	No Dividend	Medium Yield High Payout
	No Dividend	Medium Yield High Payout	Low Yield Medium Payout	Medium Yield Medium Payout	High Yield High Payout	Low Yield High Payout	High Yield Medium Payout	Low Yield High Payout	High Yield High Payout	Medium Yield Medium Payout	High Yield High Payout	Medium Yield High Payout	Low Yield High Payout	High Yield Medium Payout	Low Yield High Payout	Medium Yield High Payout	Low Yield Low Payout	High Yield High Payout	Low Yield Low Payout	High Yield High Payout
Worst	High Yield High Payout	Low Yield High Payout	Low Yield High Payout	Low Yield High Payout	Low Yield High Payout	High Yield High Payout	High Yield High Payout	No Dividend	Medium Yield High Payout	High Yield Medium Payout	No Dividend	Low Yield High Payout	No Dividend	Medium Yield Medium Payout	High Yield High Payout	High Yield High Payout	Low Yield High Payout	High Yield Low Payout	High Yield High Payout	Low Yield High Payout



Appendix B: Empirical Test Methodology

To determine the top performing strategies, we performed empirical tests using data from 1990 to December 2008. In the Chinese and South Korean markets, adequate data did not become available until 1996 and 1993. For the larger markets, the top 85% of the equity market by market cap was evaluated in our study. For countries with fewer firms, we used the top 90-95% of the equity markets. The increase was necessary in order to have a sufficient number of stocks for the various portfolios that we created and rebalanced quarterly.

Dividend Yield and Payout Ratio

The creation of our baskets was a two-stage process. First, the universe of stocks for each country was divided into two groups based on dividend yield. Each group was then further segmented into two groups based on payout ratio. Equal-weighted portfolios were created from each of the resulting baskets. A separate portfolio basket contained non-dividend-paying companies. The baskets were rebalanced and their performance measured on a quarterly basis.

Because of the large number of firms in the U.S. market, we were able to divide the U.S. market into high, low and medium groupings. This resulted in a greater number of test portfolios and more granular results.

Dividend Yield

Stocks were broken down into four groups based on their dividend yields. A fifth group contained stocks that did not pay dividends. We rebalanced the portfolios quarterly from 1990 to December 2008 and measured their performance on an equal-weighted basis.

For the United States, we divided the market into deciles by dividend yield and then measured their performance.



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