



International Tax Policy Forum

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**INTERNATIONAL TAX POLICY FORUM/
THE URBAN-BROOKINGS TAX POLICY CENTER
CONFERENCE**

Tax Reform in an Open Economy

December 2, 2005

 **THE BROOKINGS INSTITUTION**



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December 2, 2005

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Note: The contents of this book, as well as conference presentations, can be found on the International Tax Policy Forum website at www.itpf.org



The Brookings Institution



Tax Reform in an Open Economy

With a Keynote Address by Edward Lazear,

Member of the President's Advisory Panel on Federal Tax Reform

Date: Friday, December 2, 2005, 8:30 a.m.–1:30 p.m.

Location: The Brookings Institution, 1775 Massachusetts Avenue, N.W. Washington, DC 20036-2188

Description of conference: Three panels of public finance and trade experts discuss implications of U.S. tax reform on international trade, investment, capital markets, and tax treaties. A keynote address follows by Edward Lazear, who served on the President's Advisory Panel on Federal Income Tax Reform. The Panel issued its recommendations to Treasury Secretary Snow on November 1, 2005.

- 8:30 a.m. **Registration**
- 8:50 a.m. **Introductory Remarks**
John Samuels (General Electric) and Bill Gale (Brookings Institution)
- 9:00 a.m. **International Aspects of Federal Income Tax Reform Recommendations**
Presenter: Rosanne Altshuler (Rutgers University)
- 9:30 a.m. **Effects of Tax Reform on Foreign Direct Investment**
Moderator: Glenn Hubbard (Columbia University)
Presenters: James Hines (University of Michigan)
Michael Devereux (University of Warwick)
- 10:20 a.m. **Transition Issues in International Tax Reform**
Moderator: Michael Graetz (Yale University)
Presenters: Alan Auerbach (University of California-Berkeley)
Gary Hufbauer (Institute for International Economics)
William Randolph (Congressional Budget Office)
- 11:00-11:15 **Break**
- 11:15 a.m. **Effects of Tax Reform on International Trade Flows**
Moderator: James Hines (University of Michigan)
Presenters: Mihir Desai (Harvard University)
Michael Keen (International Monetary Fund)
Matthew Slaughter (Dartmouth College)
- Noon **Luncheon Address**
Introduction: Glenn Hubbard (Columbia University)
Keynote Address: Edward P. Lazear, Stanford University and Hoover Institution
- 1:30 pm **Adjourn**





International Tax Policy Forum

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About the International Tax Policy Forum

Founded in 1992, the International Tax Policy Forum is an independent group of 35 major U.S. multinationals with a diverse industry representation. The Forum's mission is to promote research and education on the taxation of multinational companies. Although the Forum is not a lobbying organization, it has testified before the Congressional tax-writing committees on the effects of various tax proposals on U.S. competitiveness. The ITPF also briefs Congressional staff periodically and sponsors public seminars on major international tax policy issues. Most recently, in December 2004, the ITPF co-sponsored a conference on "Domestic Effects of Foreign Direct Investment" with the American Enterprise Institute.

On the research front, the Forum has commissioned over 20 papers on international tax policy topics such as the effects of the interest allocation rules on the competitiveness of U.S. firms, the compliance costs of taxing foreign source income, and differences in effective tax rates faced by U.S. domestics and U.S. multinationals (*see* www.ITPF.org).

Members of the Forum meet three times a year in Washington, DC to discuss key international tax policy issues with leading experts in government, academia, and private practice.

PricewaterhouseCoopers LLP serves as staff to the Forum. **John Samuels**, Vice President and Senior Counsel for Tax Policy and Planning with General Electric Company, chairs the Forum. The ITPF's *Board of Academic Advisors* is chaired by Prof. **Glenn Hubbard** (Columbia University) and includes Prof. **James Hines** (University of Michigan) who also directs the ITPF research program, Prof. **Michael Graetz** (Yale), Prof. **Alan Auerbach** (University of California, Berkeley), and Prof. **Mihir Desai** (Harvard).

ITPF Mission Statement

The primary purpose of the Forum is to promote research and education on U.S. taxation of income from cross-border investment. To this end, the Forum sponsors research and conferences on international tax issues and meets periodically with academic and government experts. The Forum does not take positions on specific legislative proposals.

TAX REFORM AND FOREIGN DIRECT AND PORTFOLIO INVESTMENT

Michael P. Devereux
University of Warwick

ISSUES

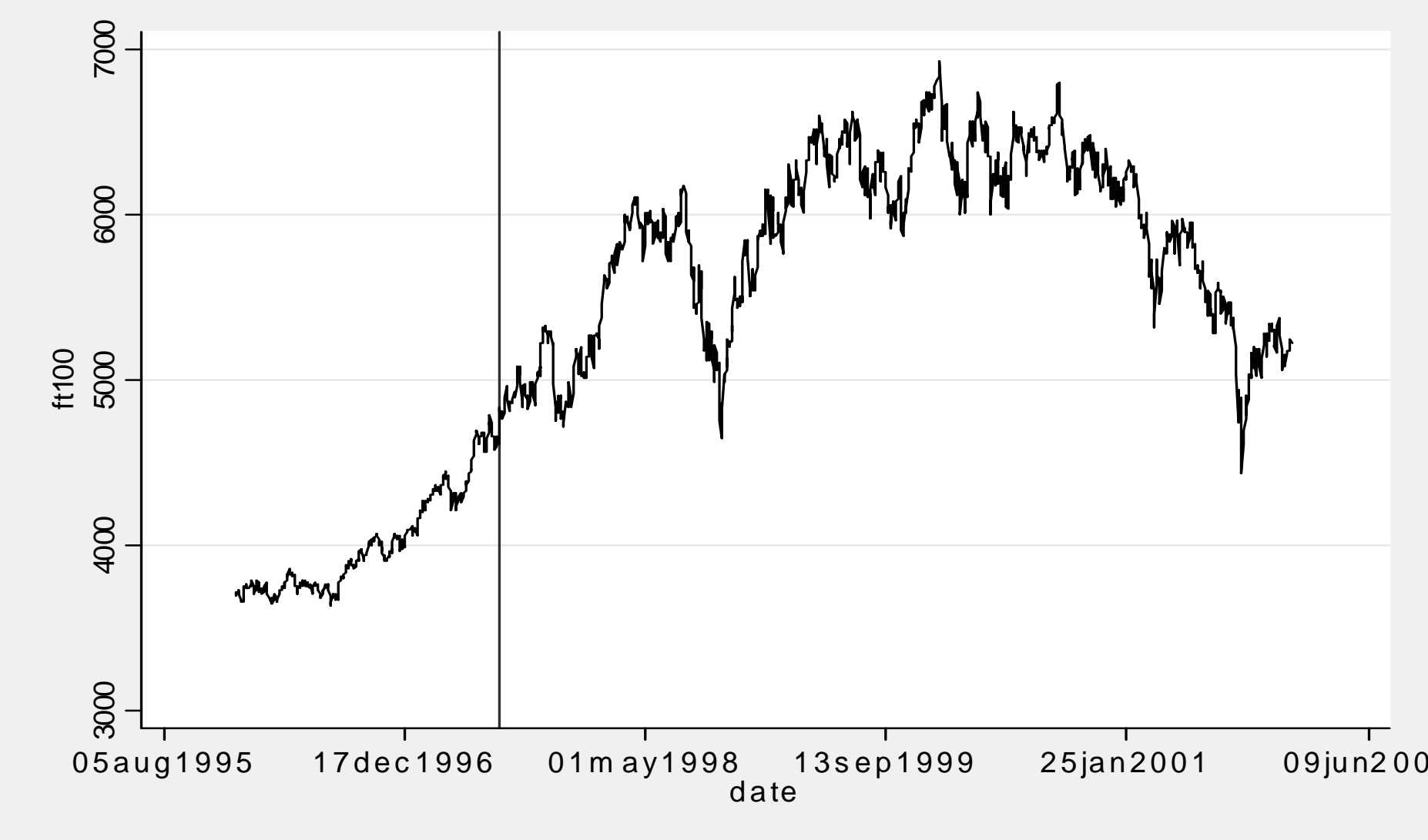
1. Closed-economy traditional concerns:
minimise economic distortions to investment,
financial policy, incorporation
 - low effective marginal tax rate – preferably zero, as with cash flow tax
 2. Open economy – distortions to location of capital and profit
 - depends on effective average tax rates and statutory rates
 - optimal policy for outbound investment?
 - tax competition for inbound investment
 - or a destination-base
- Role of personal taxes?

Taxation of dividends: a lesson from the UK ?

- In 1997, UK pension funds owned 22% of UK equities
- They received tax rebate of £25 per £100 cash dividends from UK companies
- Broadly, offsetting tax (ACT) levied at company level if dividends paid out of foreign income

In 1997, rebate was abolished. What happened?

FTSE 100 Index



Why no effect ?

- Theory says effect depends on average tax rate of *all* investors who own some UK equities
- UK pension funds represent a small share of wealth of *all* such investors
- Removal of subsidy induced UK pension funds to sell UK equities; but price at which others were willing to buy was unchanged

Changes to Portfolio composition

	1997	2000
% of UK pension funds assets held in UK equities	76.5	68.8
% of UK equities owned by UK pension funds	22.1	17.7
% of UK equities owned by non-UK investors	24.0	32.4

Effects on dividends and investment

- Change in form of dividends (to foreign income dividends)
- No evidence of:
 - an increase in total funds used to pay dividends (is current US increase in dividends per share because low tax rate is temporary ?)
 - a decrease in investment

Territoriality, tax competition and dividend taxes

- No clear guide from theory to compare territorial and worldwide systems

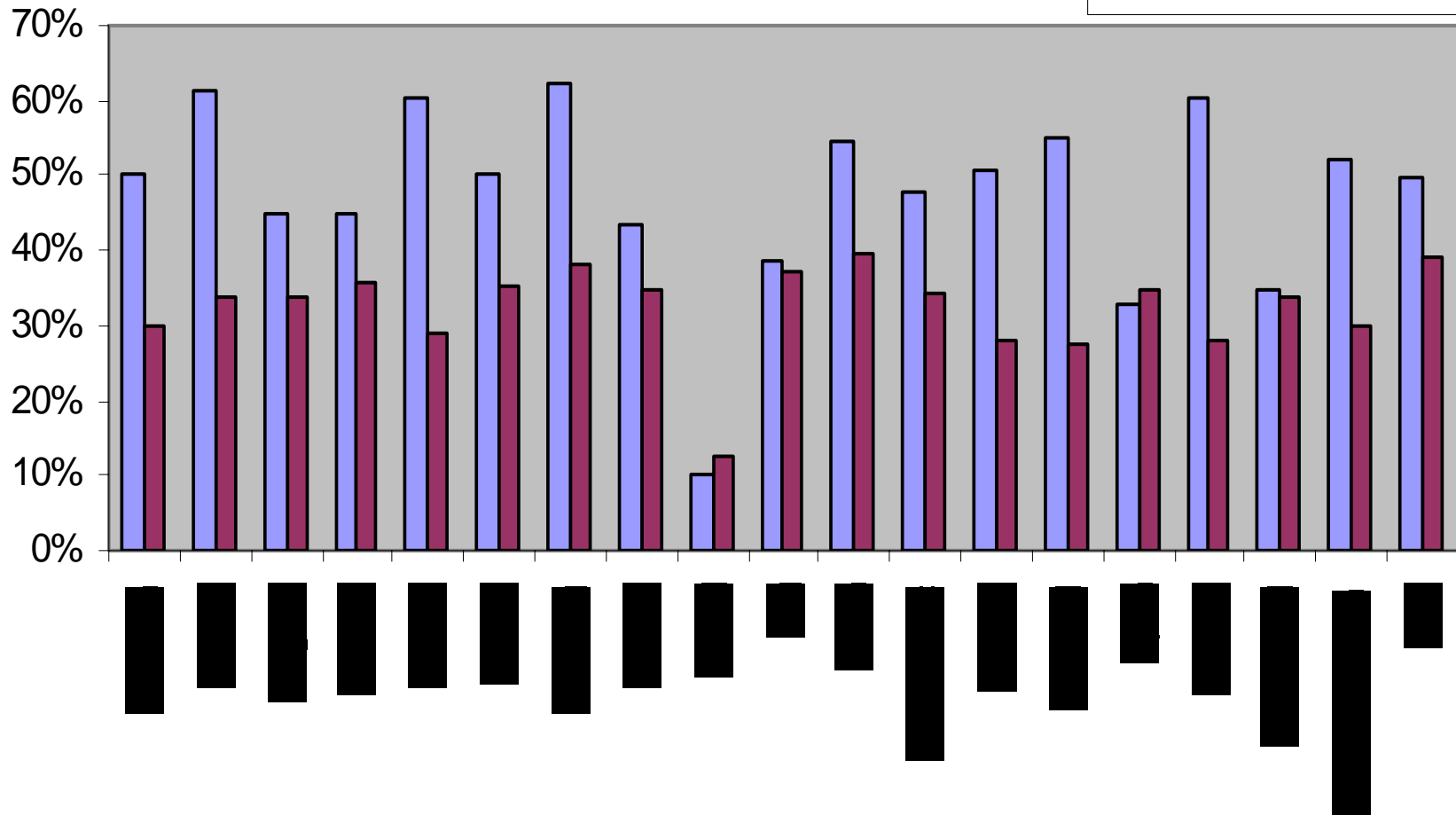
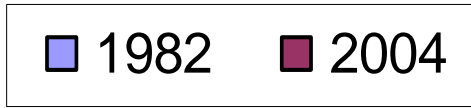
But

- US credit system may affect tax rates set elsewhere
- Is territoriality consistent with personal taxes only on dividends from foreign source income?

Territorial v Worldwide

Territorial	Worldwide
Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden	Greece, Ireland, UK USA

Statutory Corporation Tax Rates 1982 and 2004



To briefly sum up, I'm

- Sceptical that reductions in dividend taxes have much effect
- Not (very) alarmed by move to territorial system
- Puzzled that dividends from domestic and foreign sources should be treated differently
- Enthusiastic about developing the destination-basis approach

The effects of dividend taxes on equity prices: a re-examination of the 1997 UK tax reform

Stephen R. Bond

(Nuffield College, Oxford and Institute for Fiscal Studies)

Michael P. Devereux

(University of Warwick and Institute for Fiscal Studies)

Alexander Klemm

(Institute for Fiscal Studies and University College London)

November 2005

Abstract

We re-examine the impact on UK equity prices of the 1997 UK dividend tax reform, which removed a tax credit for an important group of investors: UK pension funds. The tax-adjusted CAPM suggests that the impact should depend on an average of tax rates across all investors, and that pension funds should reduce their holdings of the tax-favoured asset, UK equities. Given that UK pension funds are small relative to the total size of the world capital market, a small open economy-type argument implies that the main effect of the reform would be to reduce UK pension funds' ownership of UK equities, with little impact on the price of UK equities. We present evidence which is consistent with these hypotheses. We discuss why previous research (Bell and Jenkinson, 2002) reached the different conclusion that this tax reform had a large negative impact on UK share prices.

Acknowledgement: This paper is part of the research of the Large Business Tax Programme at the Institute for Fiscal Studies, supported by the Hundred Group, the Inland Revenue, and the ESRC Centre for Public Policy. We thank Tim Besley and Jim Poterba for helpful comments.

1 Introduction

We re-investigate the impact of dividend taxes on equity prices, using evidence based on an important tax reform in the UK in 1997. Before 1997, UK pension funds, and UK insurance companies managing pension-related assets, received an effective subsidy on dividend income, equal to 20% of all cash dividends received from UK companies. This subsidy cost around £5 billion per annum, equivalent to approximately 20% of UK corporation tax revenue. Before 1997, UK pension funds owned around 30% of all UK equities, and held approximately three quarters of their equity holdings in UK companies. This dividend subsidy was removed by the new Labour government in its first budget in 1997. We investigate the impact that this tax reform had on UK equity prices.

In an earlier paper, Bell and Jenkinson (2002) (BJ henceforth) used this tax reform to examine whether UK pension funds were “the marginal investors” in UK equities, implying that UK equity prices should reflect the post-tax and post-subsidy valuation of UK pension funds. Ignoring other factors, the value to a UK pension fund of a cash dividend of £100 from a UK company fell from £125 before the reform to £100 after the reform. If UK pension funds were “the” marginal investors, then the ex-day fall in the market value of the company on payment of £100 of cash dividends should have been £125 before the reform and £100 after the reform; that is the drop-off ratio (the change in the market value expressed as a proportion of the cash dividend) should have fallen from 1.25 to 1 - a fall of 20%. BJ did find a large fall, especially for large companies, although their central estimate is from around 1.05 to 0.85. They argued that this is consistent with the prices of UK equities being determined by the valuations of UK pension funds. They also presented evidence that the change in drop-off ratios was greater for companies with higher dividend yields, consistent with the proposition that UK pension funds were the marginal shareholders principally for UK companies which paid high dividends.

The contribution of this paper is twofold. First, we note that the dominant role given to the tax treatment of UK pension funds in the discussion of BJ is inconsistent with standard asset pricing theories when different investors have

different tax rates. In models such as those based on Brennan (1970), there is no unique marginal investor. Rather, the effect of dividend taxes on share prices depends on an average of tax rates across all investors. Moreover, given the size of UK pension funds relative to the world capital market, there is little reason to expect a large impact on UK share prices from a tax reform that affected only this class of investors. Second, we present a more detailed empirical analysis of the behavior of ex-day drop-off ratios in the UK, both around the 1997 tax reform and over a longer period. While the mean drop-off ratio did fall in the UK in the second half of the 1990s, we show that this was associated with an increase in the proportion of observations with very high implied tax rates on dividends, not with a fall in the proportion of observations with very low implied tax rates on dividends - as would be expected if the elimination of a uniquely favorable tax treatment of dividend income for UK pension funds was the main explanation. Similar fluctuations in the mean drop-off ratio are also observed in earlier periods, when there were no changes to the tax treatment of UK pension funds. This evidence on mean drop-off ratios in the UK thus suggests that fluctuations associated with non-tax influences are too large to allow reliable conclusions about the impact of dividend taxes on share prices to be based on changes in the mean drop-off ratio during short periods around tax reforms.¹

The theoretical problem with BJ's conclusion is that in the presence of heterogeneous tax treatments, there is no reason to suppose that any one group of investors should be "the" marginal investors. We take a marginal investor to be any investor who is just willing to hold an asset at its prevailing price. That is, given the portfolio of the investor and the risk characteristics of two assets, the investor will hold both assets at the prevailing prices only if the risk-adjusted rate of return from the two assets is equal. If the risk-adjusted rate of return from asset A exceeded that of asset B, then the investor would sell B and buy A. This would continue up to the point at which the two risk-adjusted rates of return are

¹Chetty, Rosenberg and Saez (2005) document similar volatility over time in the behaviour of the mean drop-off ratio in the US, and draw the same conclusion. Interestingly their estimates show that there was also a sharp fall in the mean drop-off ratio in the US in the second half of the 1990s, although there was no similar tax change in the US that would explain this development.

equalized, or until some other constraint intervenes. The most likely constraint is a short-selling constraint; the investor cannot have unlimited negative holdings of asset B. If there is a constraint that holdings cannot be negative, then it is possible that the investor will hold only asset A.² In this case, the investor is not marginal; small changes in the price of A will not necessarily induce any change in the investor's portfolio allocation between A and B. But if the investor does hold both A and B, then he is a marginal investor; small changes in the price of A will affect the portfolio allocation. BJ's characterization of UK pension funds being "the" marginal investors in UK equities therefore implies that all other investors are at a corner solution in their portfolio allocations: either they are completely specialized in UK equities or they hold no UK equities. This is clearly false.³

Fortunately, we do not have to go far to find an alternative model. The simple tax-adjusted capital asset pricing model (CAPM), first set out by Brennan (1970), and used in numerous studies since,⁴ suggests that many investors with different tax rates can nevertheless all be marginal investors. To follow the example above, as the investor switches his portfolio more and more towards specialization in asset A, the benefits of diversification are reduced: his portfolio becomes more risky. The investor needs to balance this increased risk against the higher expected return from A; the increase in risk is likely to generate an outcome in which the investor holds positive amounts of both assets. Extending this, suppose that there are two investors, with different tax rates; investor i has a higher tax rate on B and investor j has a higher tax rate on A. Then we should expect some, but not complete specialization. Investor i will hold a larger proportion of his portfolio in A, and j will hold a larger proportion of his portfolio in B. However, both remain marginal investors. According to the Brennan (1970) model, the impact of the taxes on the prices of A and B should depend on an average of tax rates across

²Litzenberger and Ramaswamy (1980) present a version of the tax-adjusted capital asset pricing model (CAPM), described below, with short-selling constraints, which also generates tax clientele effects.

³Another possibility is that some investors face high trading costs, and therefore do not respond to small changes in the price of an asset.

⁴A large literature has examined the implication that that the required return on a stock depends on the dividend yield. See, for example: Litzenberger and Ramaswamy (1979, 1980, 1982), Black and Scholes (1974), Miller and Scholes (1982), Kalay and Michaely (2000).

