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Unfunded pension liabilities and stock returns☆

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This paper investigates whether the market rationally anticipates the value implications of unrecognized pension obligations, using a large sample of Japanese firms where pension obligations are substantially underfunded. If a firm's unrecognized pension obligation is not incorporated into its share price, its stock returns will be lower than those of other firms, because its deficit will affect the firm's income statement in the coming years. We find that firms with large unrecognized obligations earn lower risk-adjusted returns. This evidence suggests that the market does not efficiently incorporate information in the pension items.

1. Introduction

If a firm sponsors a defined benefit pension plan, it must pledge retirement benefits to its employees and make financial contributions to pension funds.[1] The present discounted value of all future pension obligations attributed to the employees' service to date, which is to be paid to them upon retirement, is simply a gross liability for the sponsoring firm. The difference between the present value of an obligation and the market value of the dedicated assets (the accumulation of contributions) is nothing less than a net liability for the sponsoring company, which is then to be recognized as an expense on the firm's income statement in the coming years. A pension plan deficit emerges whenever the present value of pension obligations exceeds the market value of the dedicated assets. This is often brought about by a decline in the market value of pension assets or a decrease in the rate at which future obligations are discounted,

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[1] The amount of the benefits is generally a function of each employee's age, tenure, and expected salary near retirement.

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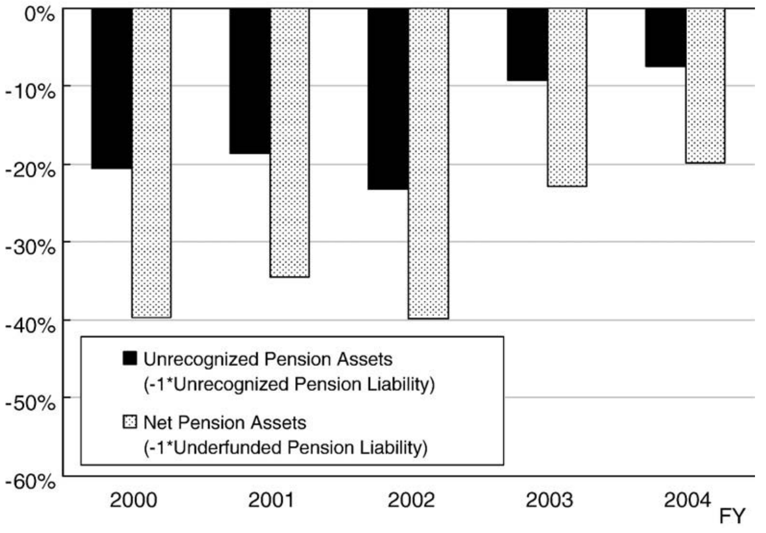

Fig. 1. The graph reports the average of net pension assets and unrecognized pension assets divided by the book value of equity respectively. In the case of underfunding, the numerator of the former is the product of −1 and underfunded pension liability and that of the latter is the product of −1 and unrecognized pension liability.

resulting in an increase in the obligations. Deficits are also caused by an increase in retirement benefits due to an amendment to the plan.

According to the accounting standard for retirement benefits for employees in Japan, as well as FAS 87 under U.S. GAAP, a firm with a net pension liability can defer the recognition of the deficit on its income statement to smooth the expense associated with the pension plan. In other words, if a firm has a net pension liability, it recognizes the deficit on its income statement in a manner by which the cost of the deficit is allocated to the years after its first emergence, whereas the amount of the unrecognized deficit is inconspicuously noted in the footnotes as unrecognized pension obligations.[2] Furthermore, it should be noted that the recognition of the deficit per year is subject to the broad discretion of the management. Therefore, after the first emergence of the deficit, only a small portion of it appears on the income statement and the balance sheet.[3]

Whether investors take into account the implication of unrecognized pension obligations when valuing a firm's share price is a matter of interest from the viewpoint of efficient allocation of resources via the capital market. If the market fails to fully incorporate the effect of pension deficits, the share prices of firms with unrecognized deficits would be overvalued, and hence, sponsoring firms might exploit these mispricings to raise funds at a lower cost of capital.

Although Feldstein and Seligman (1981), Feldstein and Mørck (1983), and Bulow et al. (1987) find evidence that the market does not neglect pension-related items, there might still exist mispricings that significantly violate market efficiency. Indeed, it is not easy for most investors to fully understand the implication of intricate pension-related information appearing in the footnotes when valuing a share price. Therefore, the market might fail to price the implications of current pension deficits. Consistent with this view, Franzoni and Marín (2006a) show concrete evidence that firms with large deficits in their defined

[2] As described in Section 3, lower deficits due to higher discount rates can be considered as a kind of unrecognized deficit, because the future benefit should be uniformly discounted at the interest rates of high safe debt.

[3] According to FAS 87, U.S. firms were required to recognize on their balance sheet at least the difference between the accumulated benefit obligation (ABO) and plan assets at fair value. This required liability is called the minimum liability amount. Thus, a firm with this deficit had to reckon both intangible assets and liabilities not exceeding unrecognized prior service cost, and then charge to equity the excess of additional pension liability over unrecognized prior service cost.