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The Risk-Return Relationship of Pension Funds With Investments in Hedge Funds

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ABSTRACT

This article investigates if investing in local hedge funds improves the risk-return relationship of Brazilian pension funds. Investment in hedge funds by pension funds is growing elsewhere, with an increasing utilization of a multiplicity of hedge funds specialized in specific strategies or niches. We analyzed the performance of a typical pension fund allocation in Brazil as well as alternate allocations that included hedge funds. We used robust estimates of the covariance matrix to mitigate the errors in variables that are problematic in the inputs of the optimization. The results show that hedge funds improve the risk-return relationship of the typical pension fund allocation, contribute to a higher accumulated return at the end of a one-year period, and reduce portfolio rebalancing. Investments in hedge funds ease reaching the typical 6% annual return target with less risk exposure.

RESUMEN

Analizamos en este artículo si el uso de los fondos multimercado, clasificados como “hedge funds,” mejora la relación riesgo retorno de los fondos de pensión brasileños. Los fondos de pensión en el exterior están utilizando cada vez más los “hedge funds,” expandiendo su uso a través de una amplia gama de fondos especializados en estrategias específicas y fondos de “hedge funds” de nicho. Elaboramos análisis sobre el desempeño de las asignaciones típicas de los fondos de pensión en Brasil, con asignaciones alternativas que incluyen “hedge funds.” Dichos análisis se basaron en estimativas robustas, que permitieron atenuar el problema de los errores en las estimativas de entrada de la optimización. Los resultados muestran que los “hedge funds” mejoran la relación riesgo retorno, permiten un retorno acumulado más alto al final de un período de un año y llevan a una recomposición menos frecuente de la cartera. La inversión en “hedge funds” puede resultar en una meta del seis por ciento de retorno real anual con un riesgo menor.

RESUMO

Este artigo analisa se o emprego de fundos multimercado classificados como “hedge funds” melhora a relação risco-retorno de fundos de pensão brasileiros. O emprego de “hedge funds” por fundos de pensão no exterior é crescente, com uso cada vez maior de ampla gama de fundos especializados em estratégias específicas e de fundos de “hedge funds” de nicho. Realizamos análises do desempenho de alocações típicas de fundos de pensão no Brasil com alocações alternativas que incluem “hedge funds.” Nestas análises empregam-se estimativas robustas para atenuar o problema dos erros nas estimativas de entrada da otimização. Os resultados mostram que os “hedge funds” melhoram a relação risco-retorno, possibilitam um retorno acumulado maior ao final de um período de um ano e levam a um rebalanceamento menor da carteira. O investimento em “hedge funds” pode levar à meta de seis por cento de retorno real anual com menor risco.

KEYWORDS:

hedge funds

multimarket funds

pension funds

portfolio optimization

robust estimates

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Notes

Sources: Arsenal indexes (www.arsenalinvestimentos.com.br); IFMM-A (BTG Pactual Bank); remaining indicators: Bloomberg.

Notes: All the series are monthly nominal returns beginning in January 2002 and ending in July 2008 (79 months) except the series of the IMA-B (58 months) and the AEHI (75 months). ACI is the Compound To Invest Hedge Fund Arsenal Index; AAI is the Arbitrage to Invest Arsenal Index; AEHI is the To Invest Equity Hedge Arsenal Index; AMI is the Macro To Invest Arsenal Index; ATI is the Trading To Invest Arsenal Index; IFMMA is the Multimarket Fund BTG Pactual Index; the IRF-M represents predetermined rate public bonds; the IMA-B represents public bonds linked to the IPCA inflation index; the IMA-C represents public bonds linked to the IGPM inflation index; CDI represents postdetermined fixed income bonds; the IBrX represents the stock market; and the INPC is the price index to consumers, which represents inflation. More details about each index are provided in the text of the article.

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