

University of Delaware
Discrete Mathematics Seminar

**Computational Complexity and
Information Asymmetry in Financial Products**

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Abstract

Traditional economics argues that financial derivatives, like CDOs and CDSs, ameliorate the negative costs imposed by *asymmetric information*. This is because securitization via derivatives allows the informed party to find buyers for less information-sensitive part of the cash flow stream of an asset (e.g., a mortgage) and retain the remainder. In this paper we show that this viewpoint may need to be revised once *computational complexity* is brought into the picture. Using methods from theoretical computer science this paper shows that derivatives can actually amplify the costs of asymmetric information instead of reducing them. Note that computational complexity is only a small departure from full rationality since even highly sophisticated investors are boundedly rational due to a lack of requisite computational resources.