



Quantitative Finance > Pricing of Securities

Arbitrage-free SVI volatility surfaces

Jim Gatheral, Antoine Jacquier

(Submitted on 3 Apr 2012 (v1), last revised 8 Apr 2012 (this version, v2))

In this article, we show how to calibrate the widely-used SVI parameterization of the implied volatility surface in such a way as to guarantee the absence of static arbitrage. In particular, we exhibit a large class of arbitrage-free SVI volatility surfaces with a simple closed-form representation. We demonstrate the high quality of typical SVI fits with a numerical example using recent SPX options data.

Comments: 23 pages, 6 figures Corrected some typos Extended bibliography
Subjects: **Pricing of Securities (q-fin.PR)**
MSC classes: 91G60
Cite as: **arXiv:1204.0646v2 [q-fin.PR]**

Submission history

From: Antoine Jacquier Dr. [[view email](#)]
[v1] Tue, 3 Apr 2012 10:23:12 GMT (3748kb,D)
[v2] Sun, 8 Apr 2012 08:56:02 GMT (3749kb,D)

[Which authors of this paper are endorsers?](#)

Link back to: [arXiv](#), [form interface](#), [contact](#).

Download:

- [PDF](#)
- [Other formats](#)

Current browse context:

q-fin.PR
[< prev](#) | [next >](#)
[new](#) | [recent](#) | [1204](#)

Change to browse by:

[q-fin](#)

References & Citations

- [NASA ADS](#)

Bookmark (what is this?)

