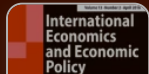


[Home](#) > [International Economics and Economic Policy](#) > [Article](#)

Forecasting exchange rate volatility: GARCH models versus implied volatility forecasts

| Original Paper | Published: 09 May 2014

| Volume 12, pages 127–142, (2015) [Cite this article](#)



[International Economics and](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 [partners](#), also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our [privacy policy](#) for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

- > **Store and/or access information on a device**
- > **Personalised advertising and content, advertising and content measurement, audience research and services development**

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)



This is a preview of subscription content, [log in via an institution](#)  to check access.

Access this article

Log in via an institution →

Subscribe and save

✓ Springer+ Basic

€32.70 /Month

- Get 10 units per month
- Download Article/Chapter or eBook
- 1 Unit = 1 Article or 1 Chapter
- Cancel anytime

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **[privacy policy](#)** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

Accept all cookies

Reject optional cookies

Manage preferences

Explore related subjects

Discover the latest articles and news from researchers in related subjects, suggested using machine learning.

[Capital Markets](#)[Econometrics](#)[Financial Econometrics](#)[Financial Economics](#)[Quantitative Finance](#)[Statistical Finance](#)

Notes

1. A symmetric model means that when a shock occurs, we will have a symmetric

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)[Reject optional cookies](#)[Manage preferences](#)

6. If the restriction does not hold we will have non-stationarity in the variance, if $\alpha_1 + \beta = 1$, we have a unit root in the variance.
7. If $\gamma = 0$, the model is symmetric. There is no need to be concerned about the conditional variance being negative since $\ln(\sigma_t^2)$ is modelled.
8. Bollerslev et al. (2001) argue that this type of volatility is an unbiased and very efficient estimator of return volatility.
9. It should be noted that the parameters $(\alpha + \beta)$ were less but close to unity, suggesting that the shocks are highly persistent and die out only gradually.

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 [partners](#), also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our [privacy policy](#) for more information on the use of your personal data. Your consent choices apply to [springer.com](#) and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

realized volatility. *Econometrica* 71(2):579–626

[Article](#) [Google Scholar](#)

Baillie RA, Bollerslev T (1991) Intra-day and inter-market volatility in foreign exchange rates. *Rev Econ Stud* 58(3):565–585

[Article](#) [Google Scholar](#)

Balaban E (2004) Comparative forecasting performance of symmetric and asymmetric conditional volatility models of an exchange rate. *Econ Lett* 83(1):99–105

[Article](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

management perspective. J Financ Econ 8(1):29-56

[Google Scholar](#)

Busch T, Christensen B, Neilsen M (2012) The role of implied volatility in forecasting future realized volatility and jumps in foreign exchange, stock, and bond markets. J Econ 160(1):48-57

[Article](#) [Google Scholar](#)

Chen X, Ghysels E, Wang F (2011) HYBRID GARCH models and intra-daily return periodicity. J Time Ser Econ 3(1):1-28

[Article](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Glosten L, Jagannathan R, Runkle D (1993) On the relation between expected value and the volatility of the nominal excess return on stocks. J Financ 48(5):1779–1801

[Article](#) [Google Scholar](#)

Hansen P, Lunde X (2005) A forecast comparison of volatility models: does anything beat a GARCH(1,1). J Appl Econ 20(7):873–889

[Article](#) [Google Scholar](#)

Higgins M, Bera A (1992) A class of nonlinear ARCH models. Int Econ Rev 33(1):137–158

[Article](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Silvennoinen A, Terasvirta T (2008) Multivariate GARCH models. In: Andersen TG, Davis, Kreiss, Mikosch (eds) Handbook of financial time series. Springer, New York

[Google Scholar](#)

Taylor S (1986) Modelling financial time series. Wiley, Chichester

[Google Scholar](#)

Zakoïan J (1994) Threshold heteroskedastic models. J Econ Dyn Control 18(5):931–955

[Article](#) [Google Scholar](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

About this article

Cite this article

Pilbeam, K., Langeland, K.N. Forecasting exchange rate volatility: GARCH models versus implied volatility forecasts. *Int Econ Econ Policy* **12**, 127–142 (2015). <https://doi.org/10.1007/s10368-014-0289-4>

Published

Issue Date

09 May 2014

March 2015

DOI

<https://doi.org/10.1007/s10368-014-0289-4>

Keywords

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 **partners**, also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our **privacy policy** for more information on the use of your personal data. Your consent choices apply to springer.com and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)

Your privacy, your choice

We use essential cookies to make sure the site can function. We, and our 93 [partners](#), also use optional cookies and similar technologies for advertising, personalisation of content, usage analysis, and social media.

By accepting optional cookies, you consent to allowing us and our partners to store and access personal data on your device, such as browsing behaviour and unique identifiers. Some third parties are outside of the European Economic Area, with varying standards of data protection. See our [privacy policy](#) for more information on the use of your personal data. Your consent choices apply to [springer.com](#) and applicable subdomains.

You can find further information, and change your preferences via 'Manage preferences'. You can also change your preferences or withdraw consent at any time via 'Your privacy choices', found in the footer of every page.

We use cookies and similar technologies for the following purposes:

Store and/or access information on a device

Personalised advertising and content, advertising and content measurement, audience research and services development

[Accept all cookies](#)

[Reject optional cookies](#)

[Manage preferences](#)