

Some thoughts on long-term trends in NO_2 , NO_x and $\text{NO}_2:\text{NO}_x$ ratios

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IAQM
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Outline.

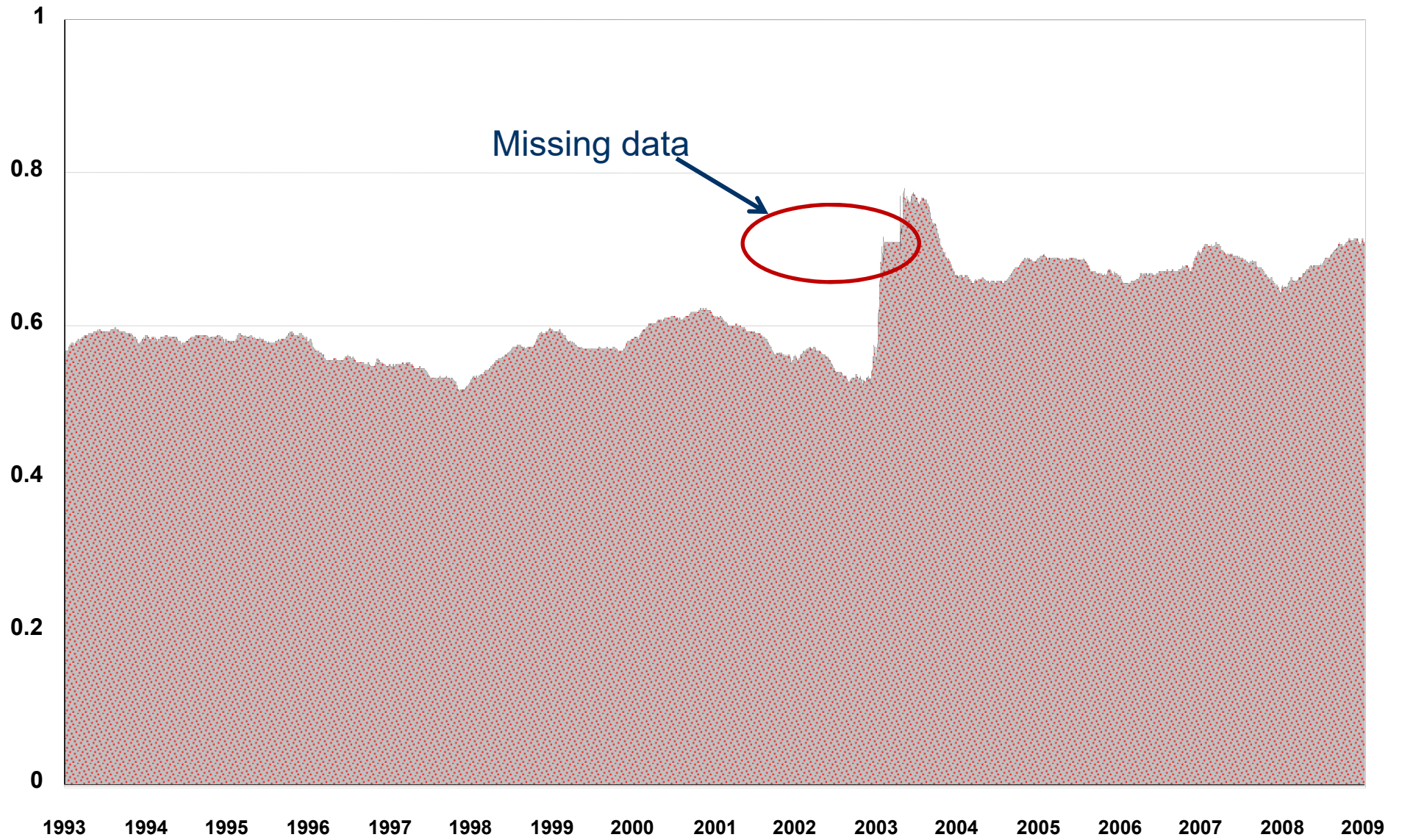
Long term trends - 199? to December 2009

Urban Background sites - London Bloomsbury,
- Leeds Centre.

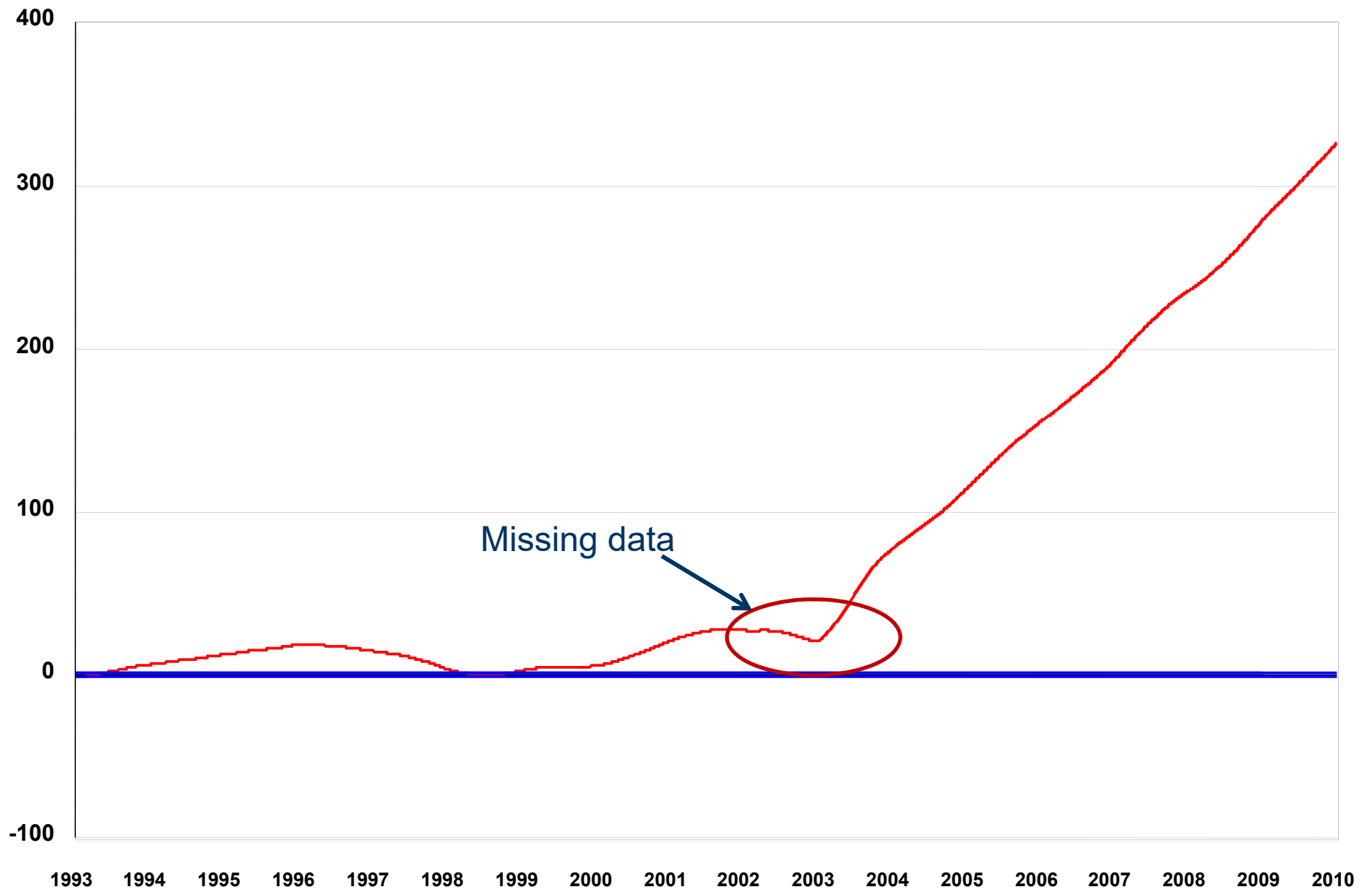
Roadside sites - Camden Kerbside,
- Bury Roadside,
- Haringey Roadside,
- Marylebone Road,
- Bath Roadside,
- Glasgow Kerbside.

London Bloomsbury NO₂:NO_x

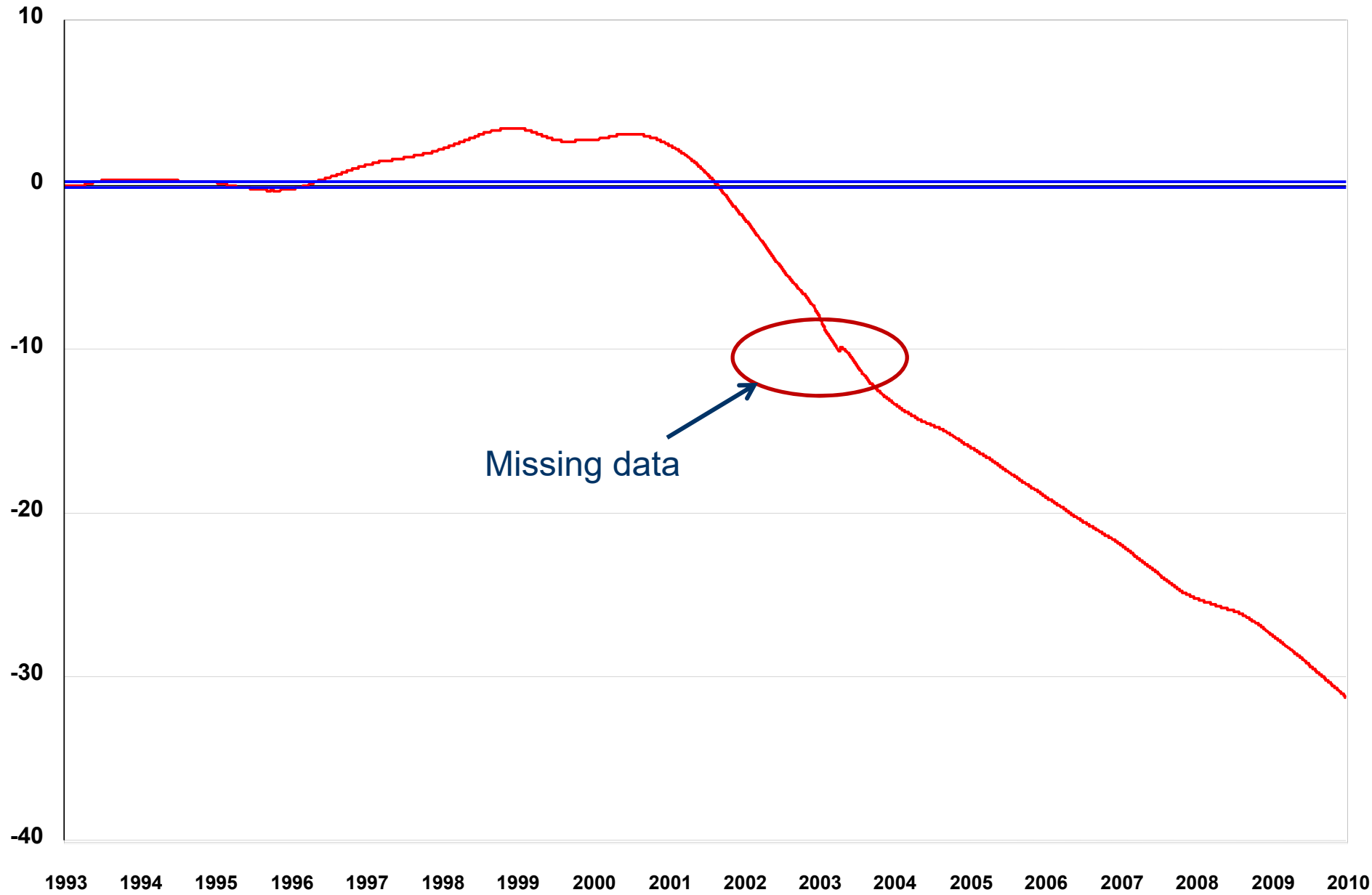
Ratio



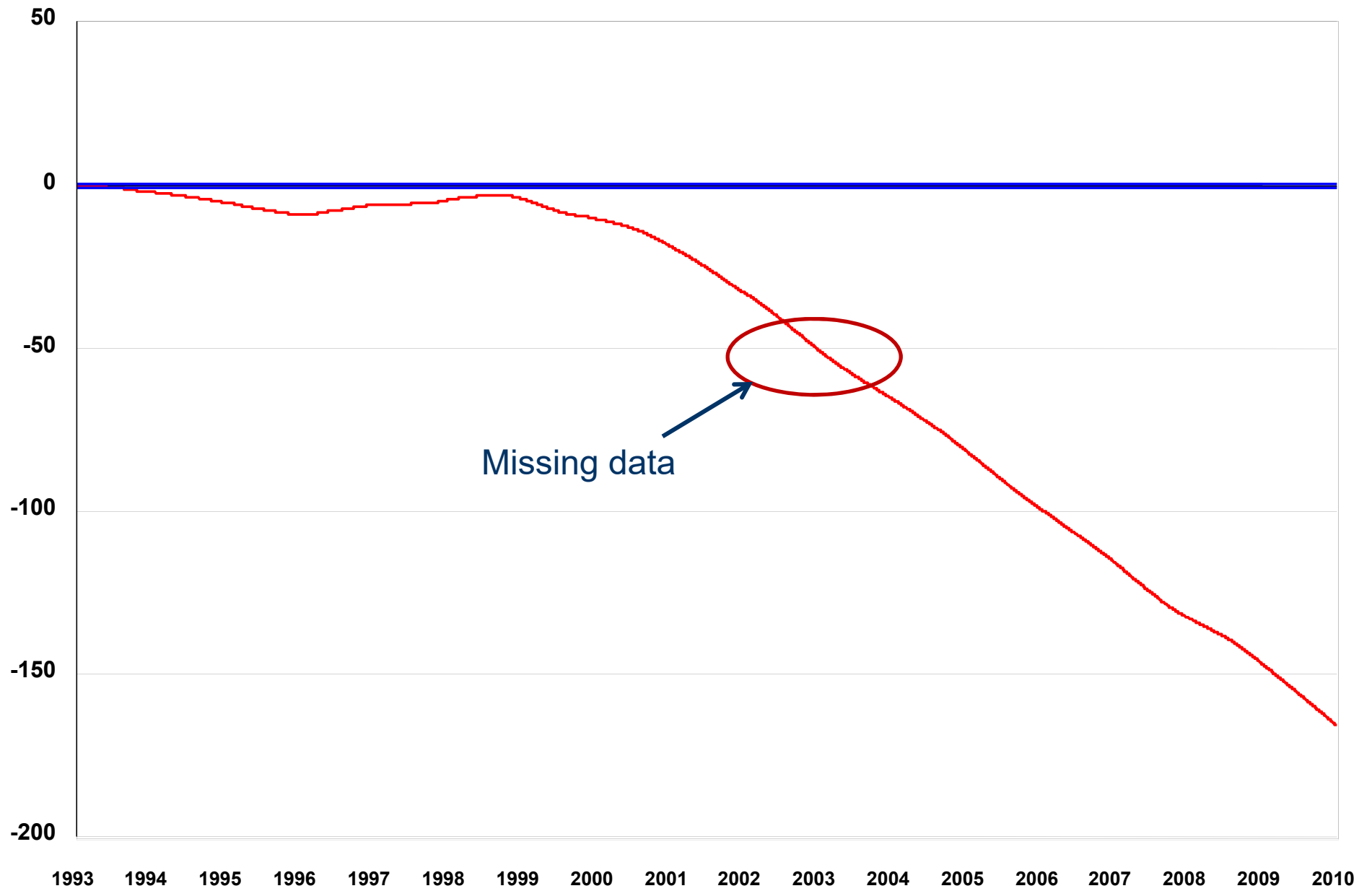
London Bloomsbury NO₂:NO_x



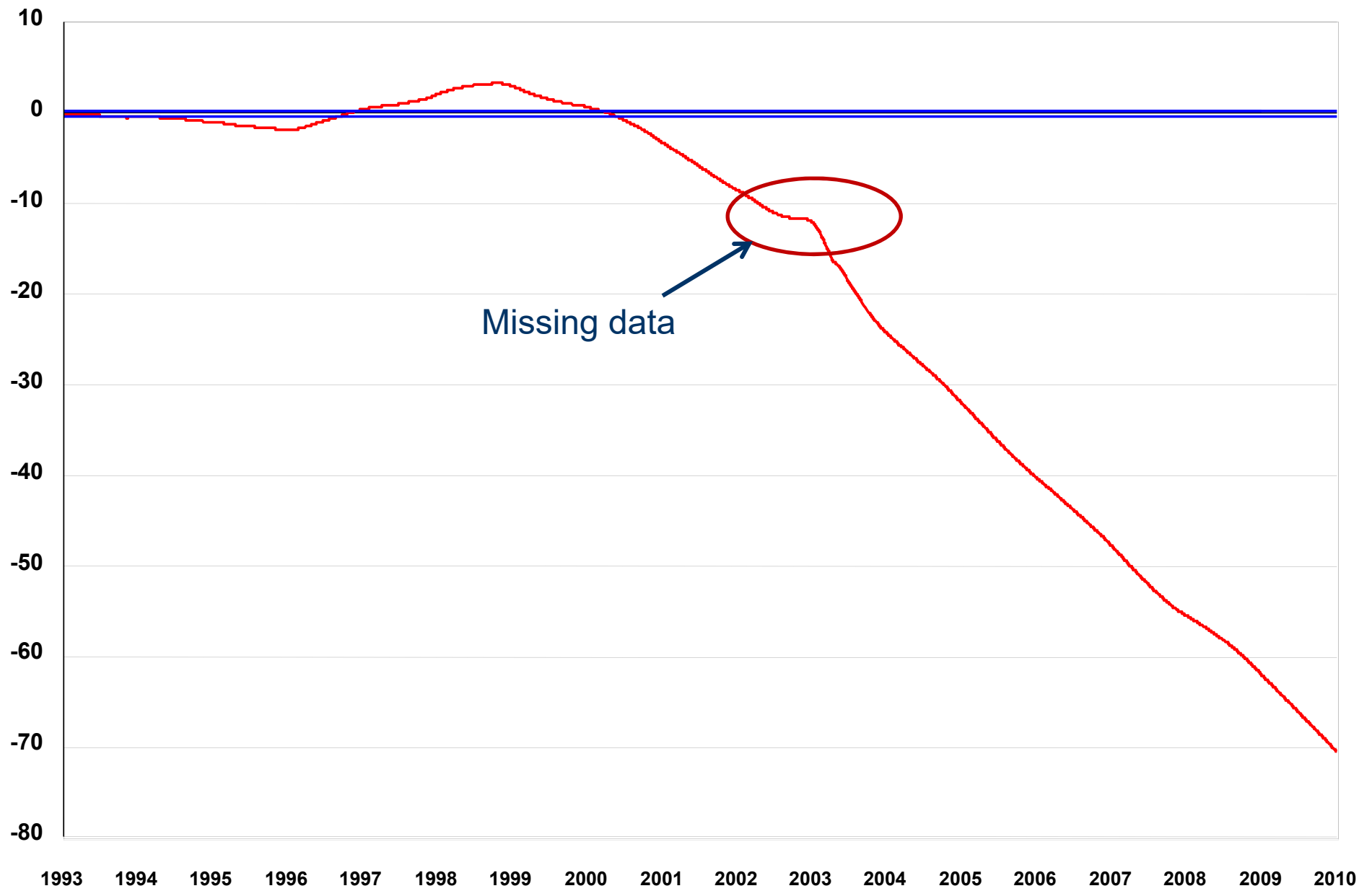
London Bloomsbury NO₂



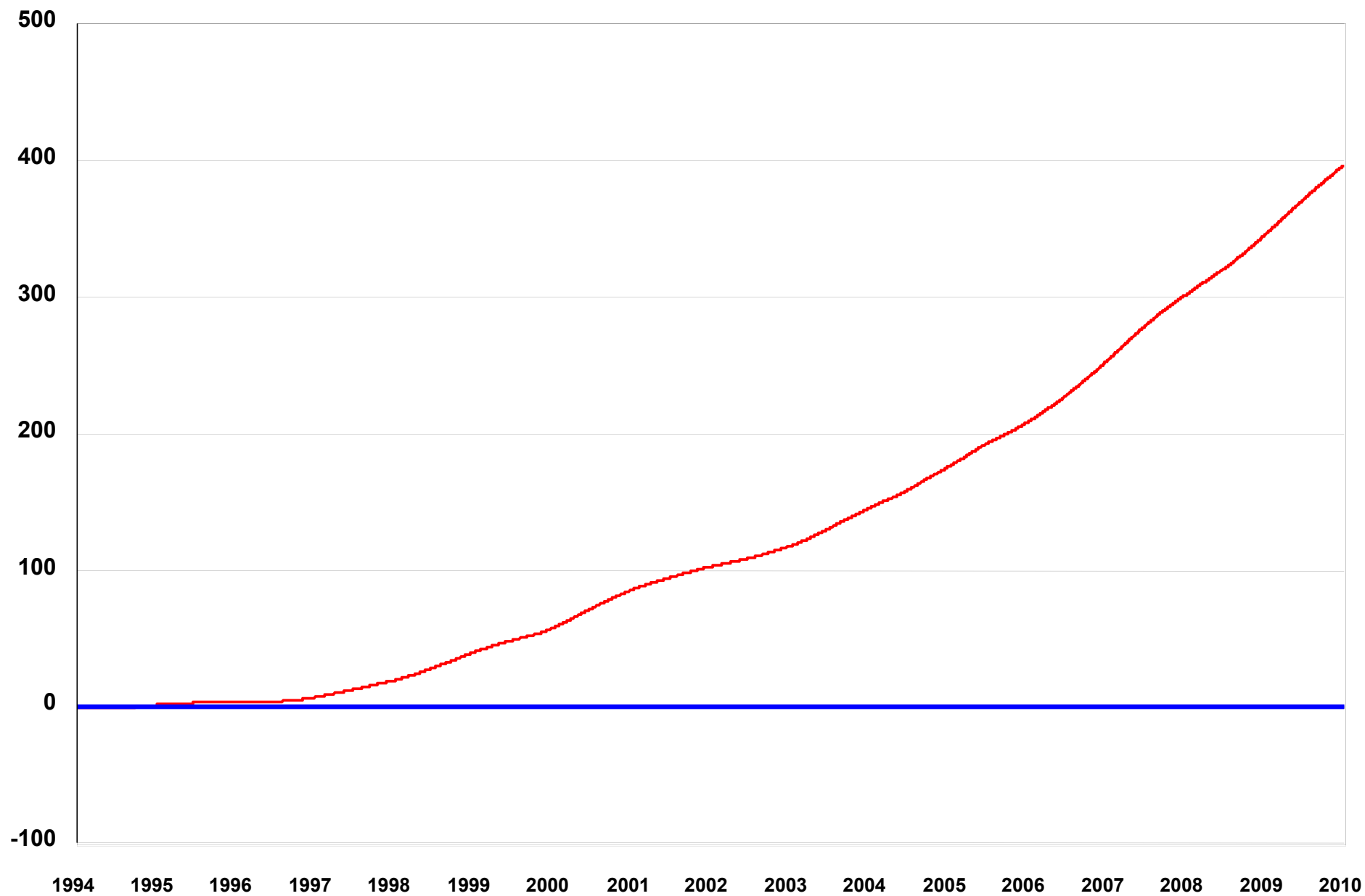
London Bloomsbury NO_x



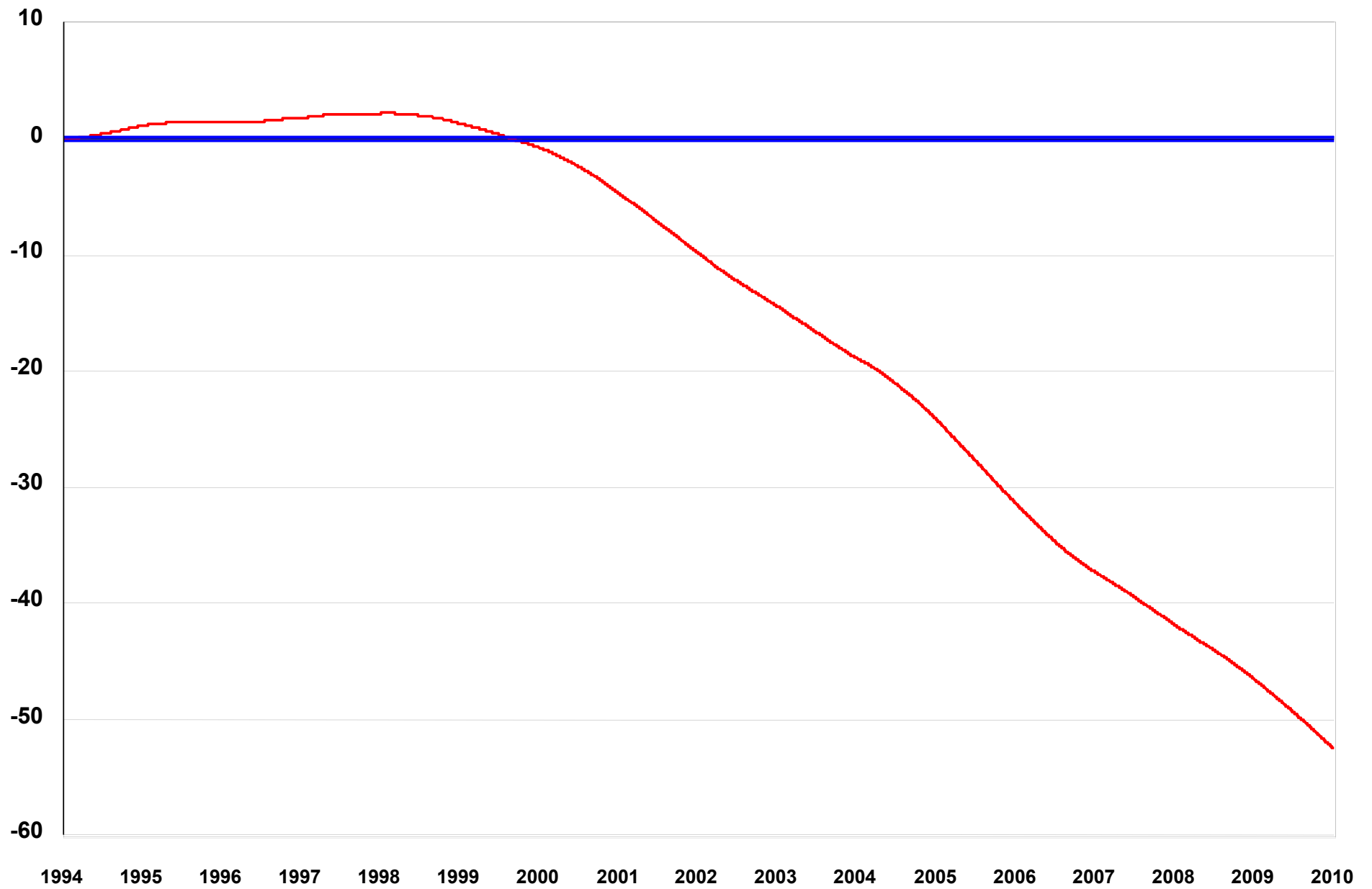
London Bloomsbury NO



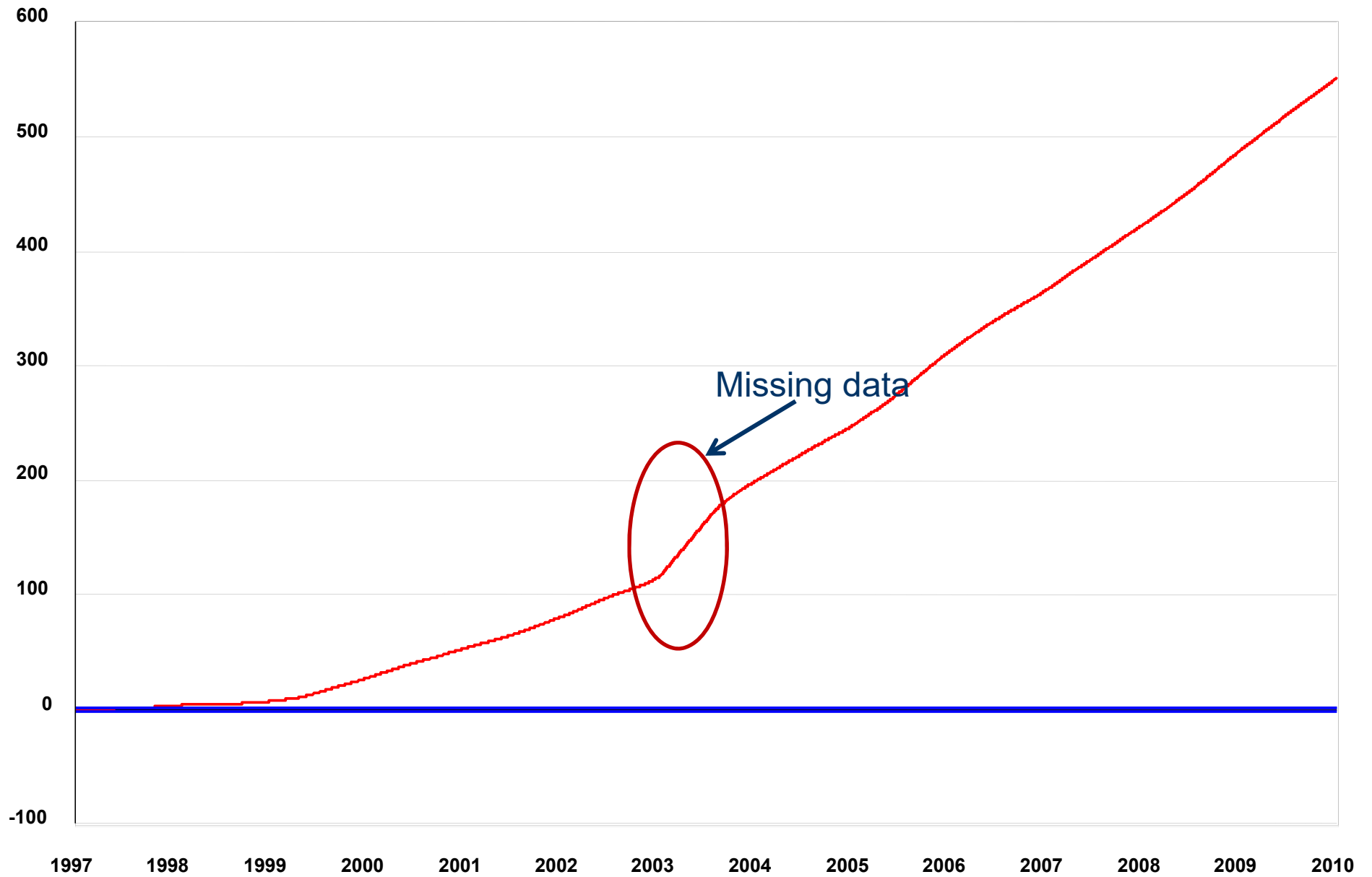
Leeds Centre NO₂:NO_x



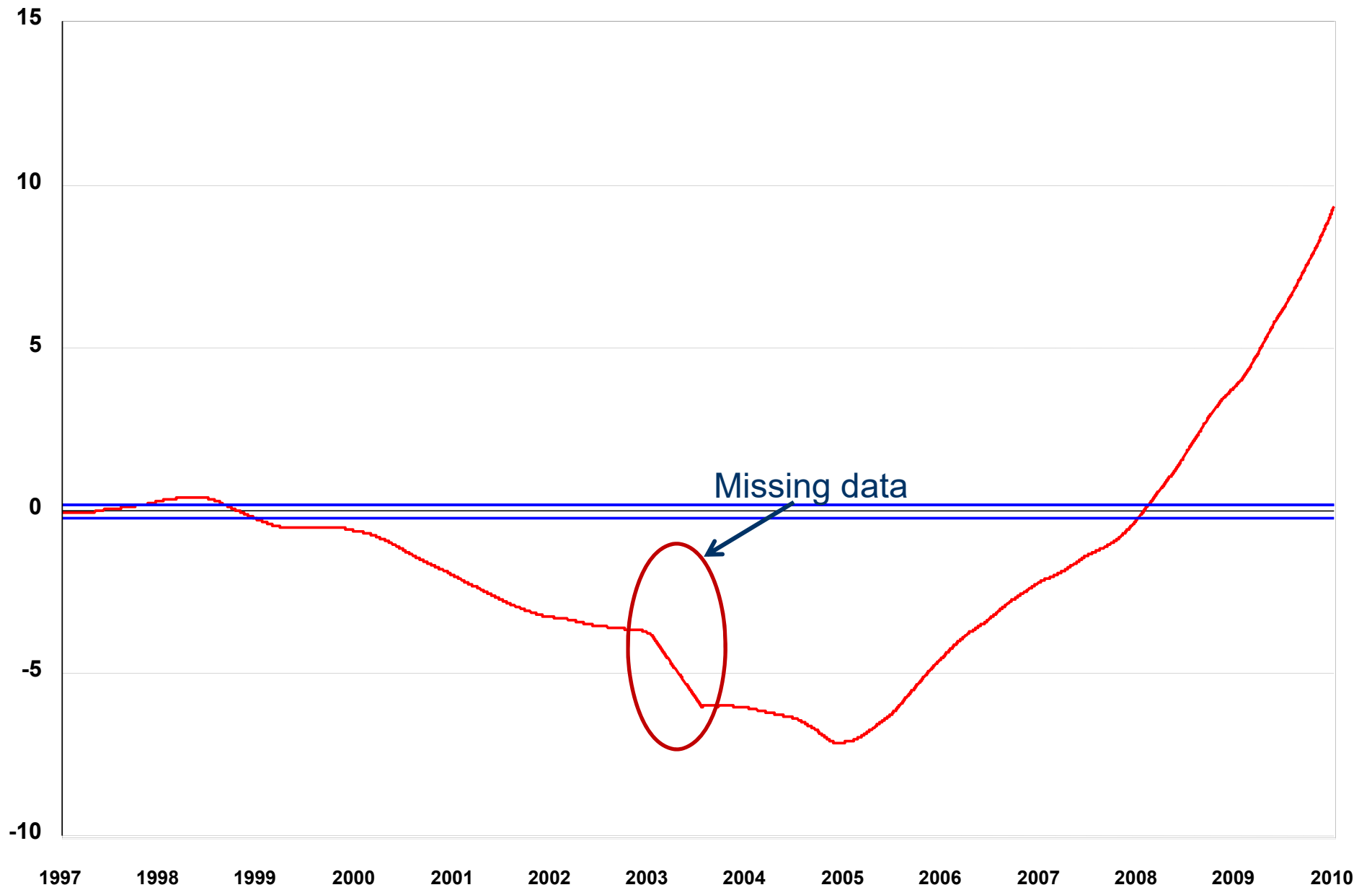
Leeds Centre NO₂



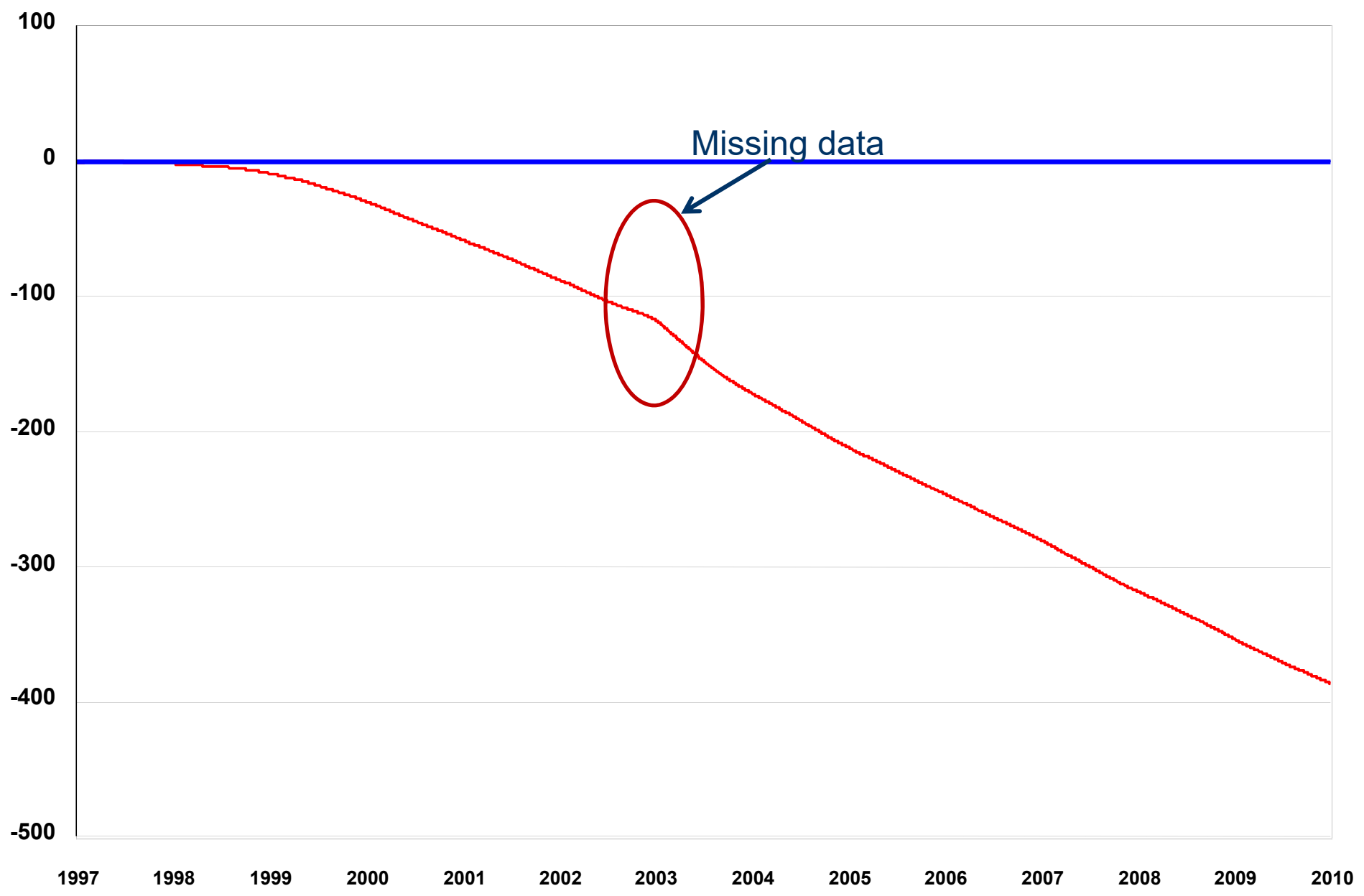
Camden Kerbside NO₂:NO_x



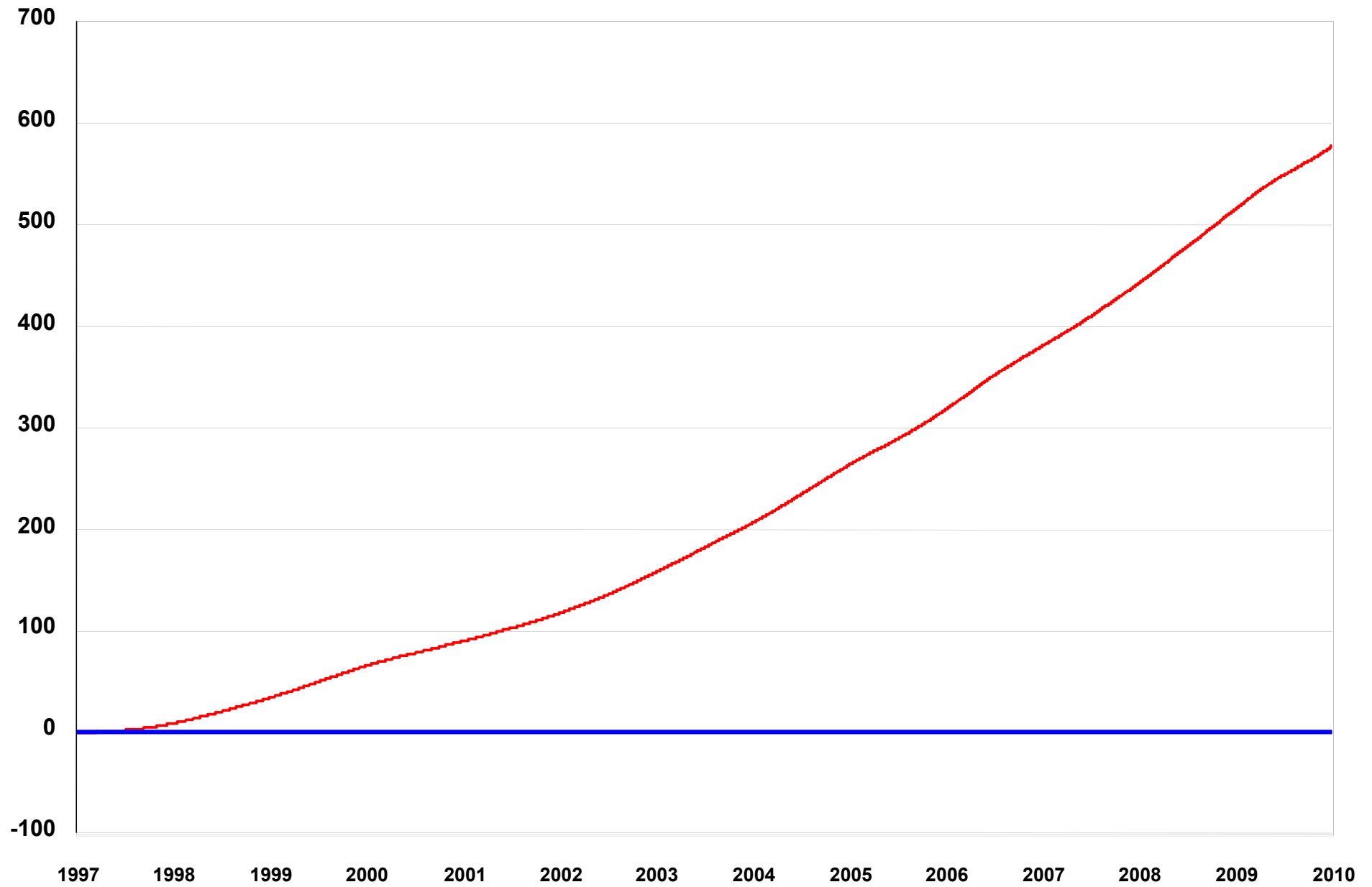
Camden Kerbside NO₂



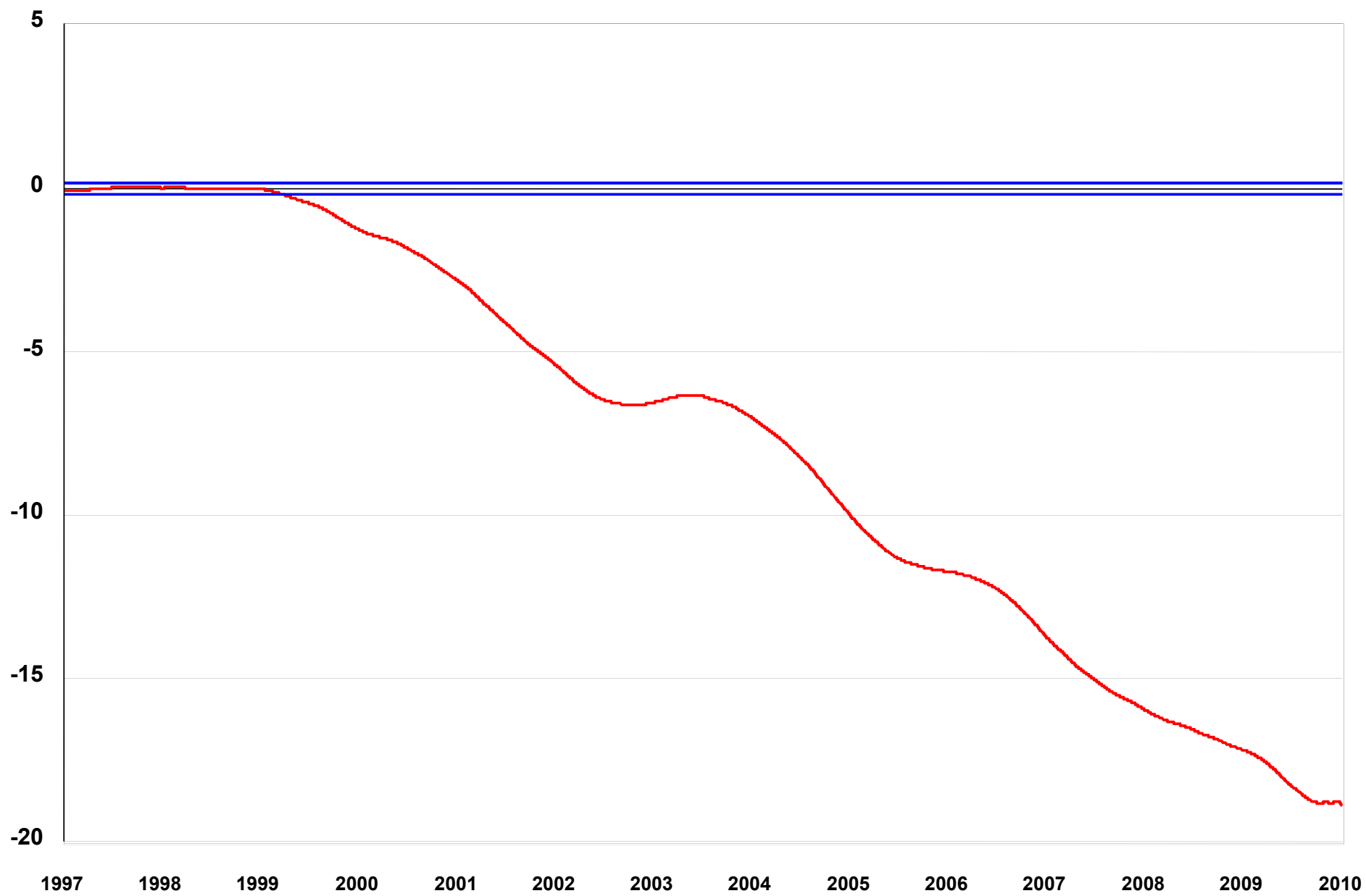
Camden Kerbside NO_x



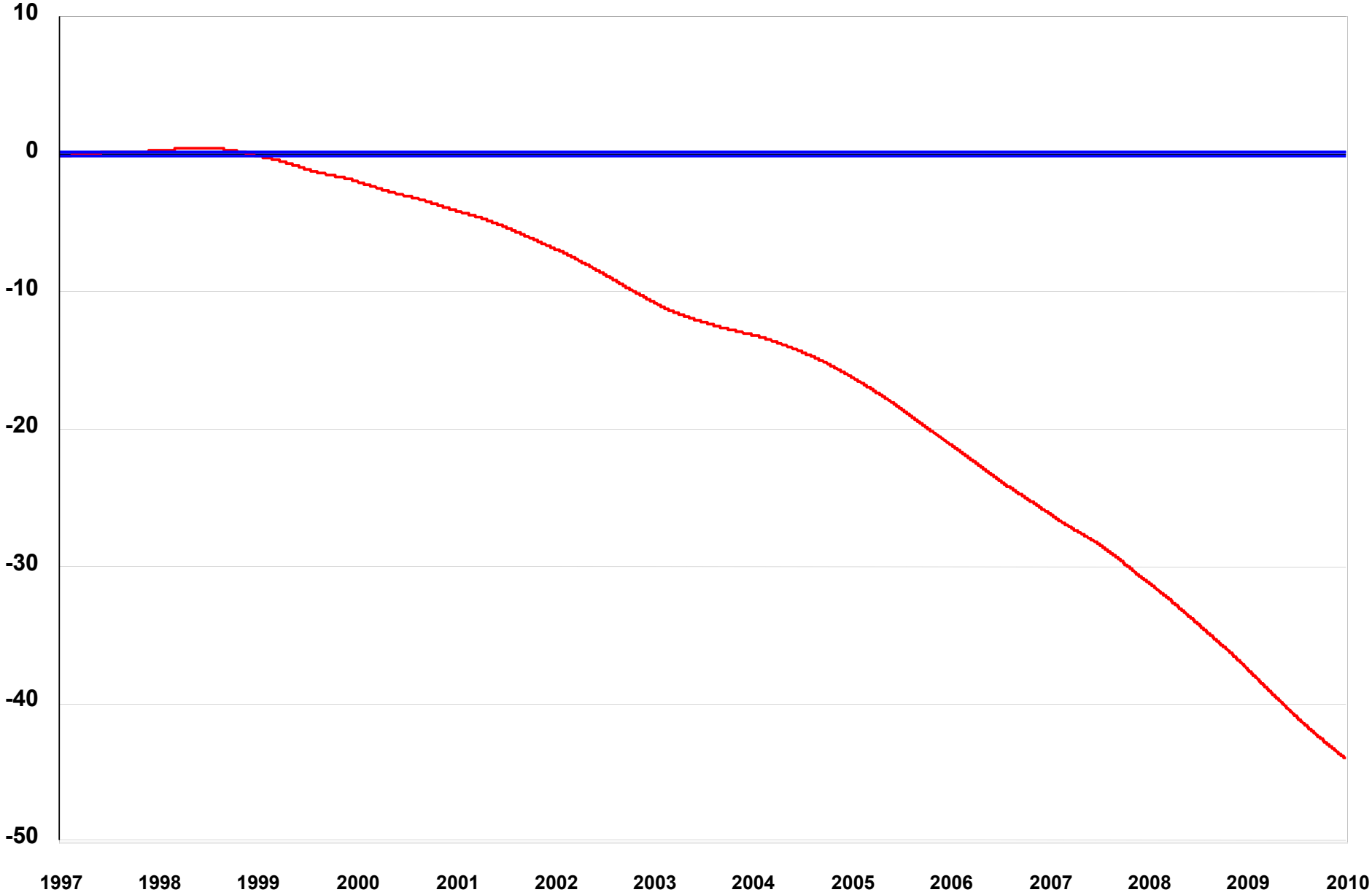
Bury Roadside NO₂:NO_x



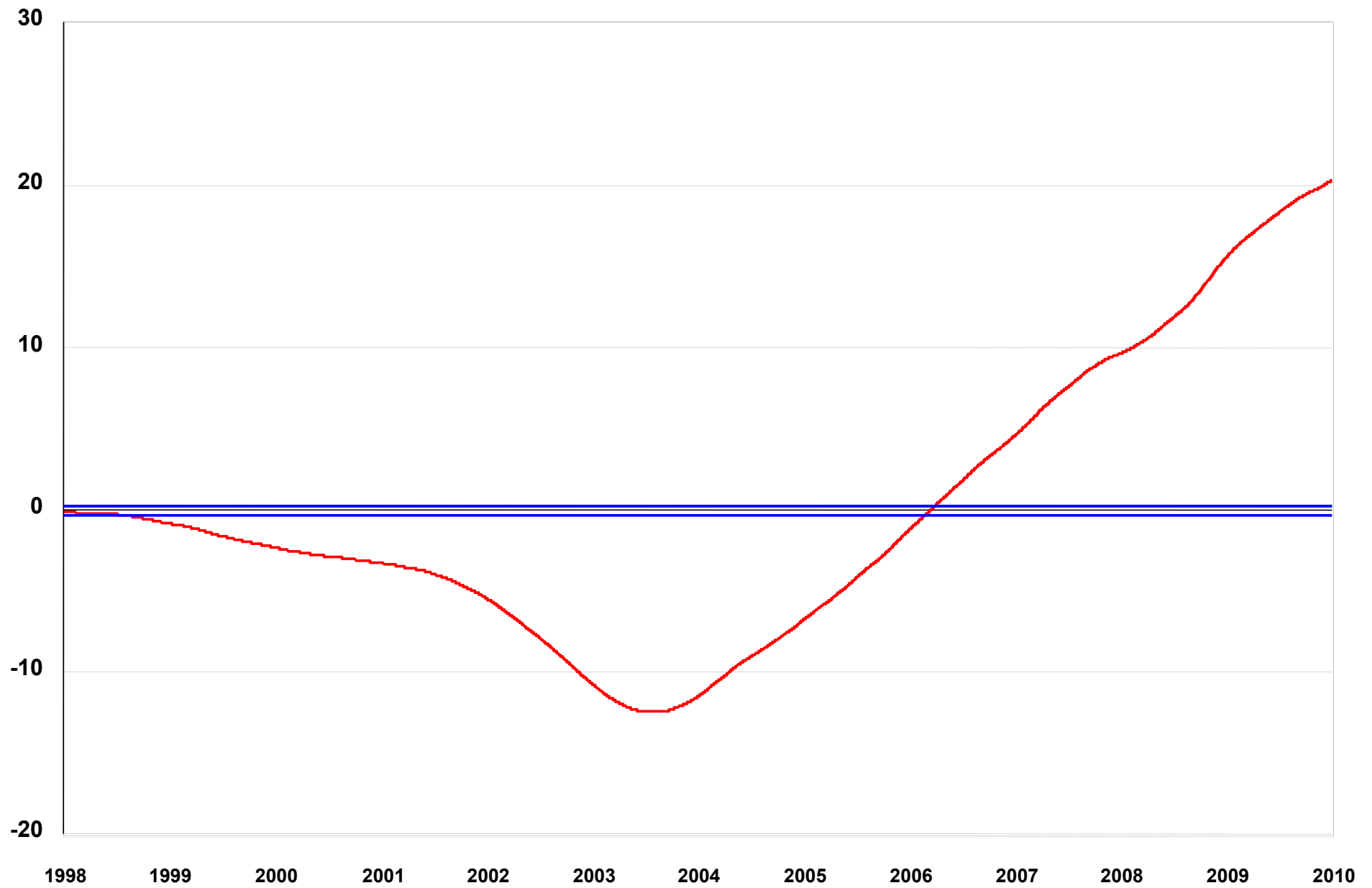
Bury Roadside NO₂



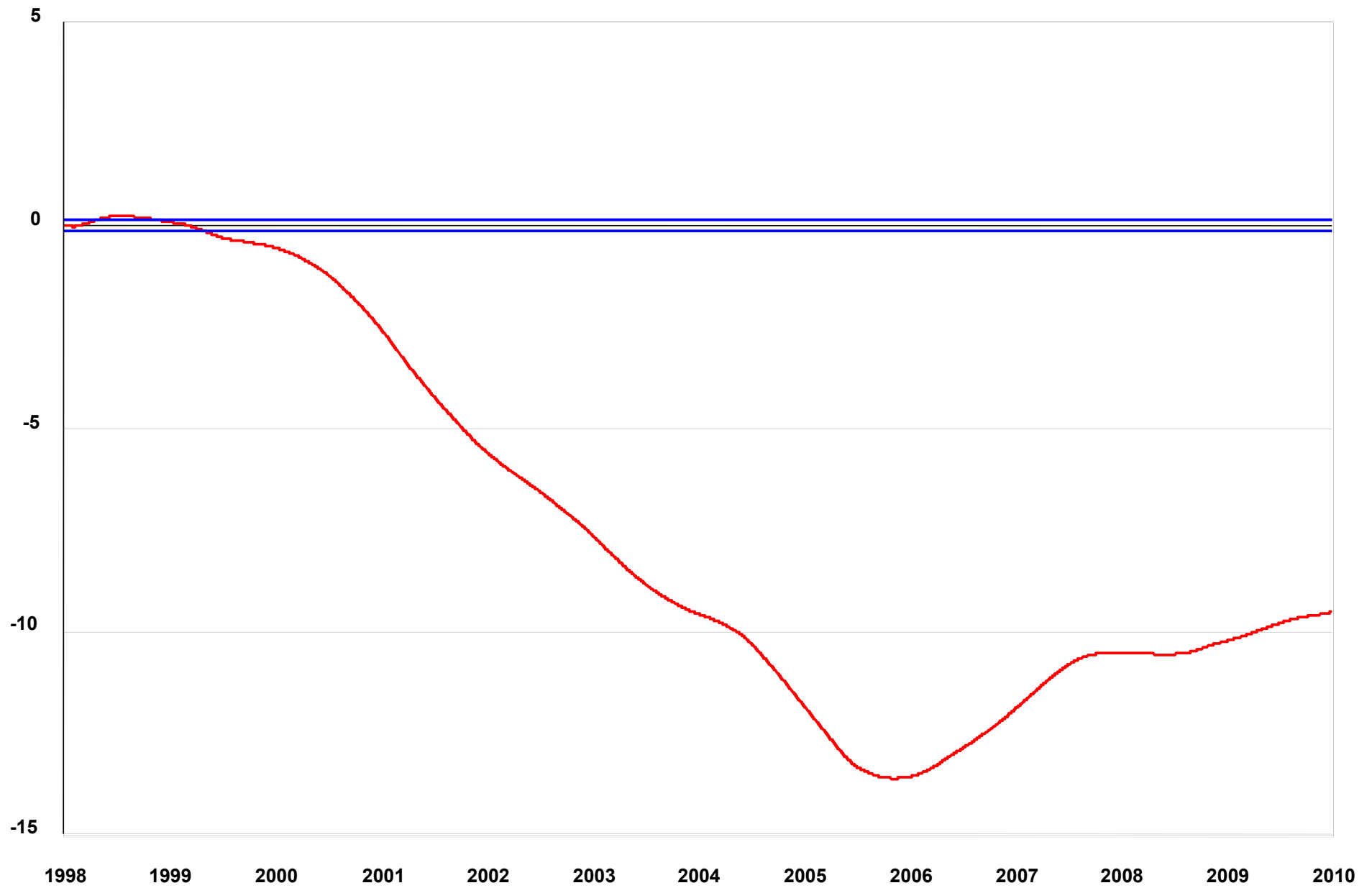
Haringey Roadside NO₂



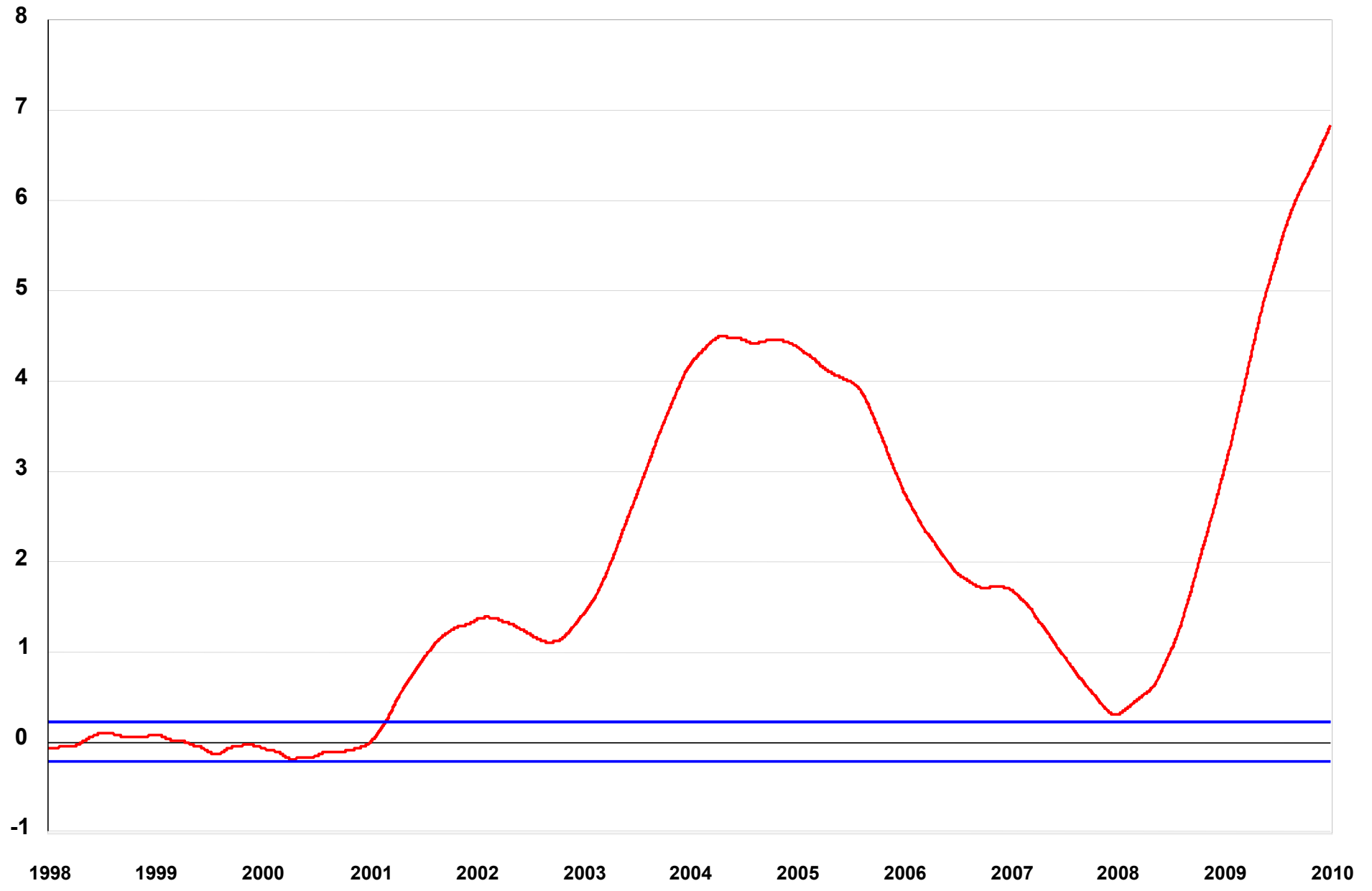
London Marylebone Road NO₂



Bath Roadside NO₂



Glasgow Kerbside NO₂



Conclusions/Questions.

1. The $\text{NO}_2:\text{NO}_x$ ratio increased at a number of (maybe all) urban sites between 1998 & 1999.
2. At Urban Background sites $[\text{NO}_2]$ has remained steady following earlier decreases.
3. At some Roadside sites $[\text{NO}_2]$ has also remained steady following earlier decreases, but....
4. At other Roadside sites $[\text{NO}_2]$ has increased since about 2003.
WHY???

Conclusions/Questions.

5. One possibility is that the sites where no significant increase has found are further away from the road or are upwind of road.
6. Another, and more realistic possibility, is that the sites where there have been increases in [NO₂] are located on roads with congested, slow-moving traffic.
7. Finally, and perhaps most important, do Euro standards and emissions factors even **BEGIN** to address this issue?