**Title: Combining Price Indices in Temporal Hierarchies**

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**Abstract**

There is a growing demand from central banks, governments, banks, real estate developers, and households for higher frequency house price indices. Such indices are not widely available since they are considered less reliable. In this paper, we show that by combining lower and higher frequency indices (e.g., annual, quarterly and monthly) it is possible to improve quality at all frequencies. Furthermore, our method provides more timely indices. For example, rather than having to wait until the end of the year to obtain a new annual index, or the end of a quarter for a new quarterly index, our method produces a new annual and quarterly index every month. While the method can be applied to price indices in any field, in our empirical application we focus specifically on house price indices. We show that our reconciled annual, quarterly and monthly house price indices are more reliable than their unreconciled counterparts. Improving both reliability and timeliness allows users to make more informed decisions.

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