

UBS Investment Research
Emerging Economic Comment

Chart of the Day:
The End of an Era

26 January 2012

www.ubs.com/economics

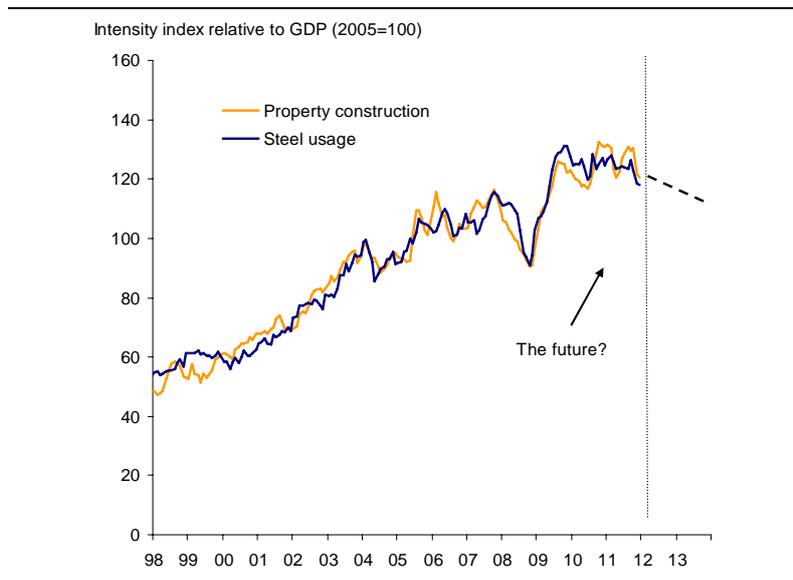
Jonathan Anderson

Economist
jonathan.anderson@ubs.com
 +852-2971 8515

The only thing you will ever be able to say in the so-called “social” sciences is “some do, some don’t”.

— Ernest Rutherford

Chart 1. And this is the “soft landing” version ...



Source: CEIC, UBS estimates

(See next page for discussion)

What it means

In today's chart we want to make a simple point: After a stunning and unprecedented decade, the days of rising Chinese steel and material intensity are almost certainly over, at least for the foreseeable future. In fact, looking back years hence we may well point to 2009 as the historical peak.

Property and steel

What do we mean? Just look at the behavior of our intensity measures in Chart 1 above, now updated through end-2011. The blue line shows an index of physical domestic steel consumption (defined as local steel production less net exports) relative to real GDP, and the green line shows the same ratio for physical property activity (defined as the average of total floorspace under construction, floorspace completed and floorspace sold).¹

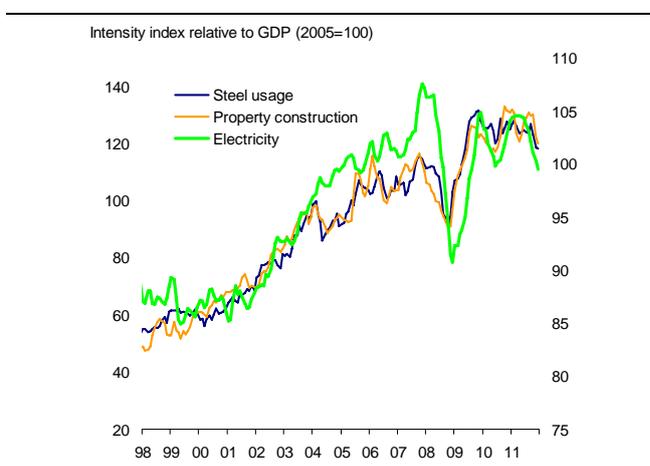
There are two things immediately evident from the chart:

1. Property construction is far and away the most important driver of steel and material usage in China, and the property boom of the 2000s more than doubled material intensity over the same period.
2. Both property activity and steel use peaked as a share of GDP in 2009 or early 2010, and have been falling gradually since.

And not just steel

And it's not just steel. In Chart 2 below we superimpose the electricity intensity of GDP against those property and steel lines – and although the scales are very different, the story is pretty much the same: intensity has been flat or falling for the past three years.

Chart 2. Not just steel



Source: CEIC, UBS estimates

¹ Normally we would just use total floorspace under construction – and indeed, we did just that for earlier versions of this chart – but as discussed in recent research, since 2009 mainland figures for floorspace starts and total floorspace under construction no longer correspond to commodity and material usage because of policy distortions, leaving physical completions and sales as a much more accurate measure (see *The Three Charts That Worry Us Most in EM, Part 3, EM Daily, 15 December 2011*).

Where to from here?

So where do we go from here? Looking back at Chart 1, the dotted line on the right-hand side shows the likely path of property and steel intensity over the next two years under China economics head **Tao Wang**'s current growth scenarios.

And, of course, that line is going down. Why do we think that intensity will continue to fall? The following reasons come to mind:

1. The private property market is very soft going into 2012. As Tao stresses, nationwide sales have been flat or falling outright in the second half of last year, and overall prices have stopped rising as well; high end investment-grade markets have been weaker still through the fourth quarter. And barring a sharp turnaround in current tight financial and regulatory policies, her team doesn't see much room for dramatic improvements in property market sentiment.
2. Which brings us to the next point: we don't expect an aggressive easing of policy this year. Of course we did see a relative pickup in financial flows in Q4 2011, and it's pretty clear that the policy tightening trajectory has run its course – but Tao and team are really looking for effective stabilization and gradual easing in 2012, and certainly nothing remotely like the unprecedented 2008-09 stimulus package.
3. In fact, the sharp run-up in aggregate leverage over the past three years will make it difficult for the Chinese authorities to do anything but maintain a tighter and more prudent stance over the medium term in order to gradually bring down debt ratios in the economy.
4. It's not just about the private market, of course; policy-led "social housing" construction has played a more significant role in the post-crisis era. But as discussed in *The Three Charts That Worry Us Most in EM, Part 3 (EM Daily, 15 December 2011)*, the impact on commodity demand and activity has been much less than some of the more buoyant headline construction data might suggest (see footnote 1 above). Social housing support has been enough to keep aggregate steel and material usage in positive growth territory despite a weaker private housing market – but not enough to prevent a significant slowdown in growth rates. And with macro policies remaining relatively tight in 2012 and beyond, it would be difficult to expect a dramatic acceleration ahead.
5. Tao's longer-term work also highlights the effects of demographic changes and a slowdown in the pace of urbanization on overall trend growth in the Chinese economy; both factors had been big pillars of support for the mainland housing boom of the past decade as well. We don't see either change leading to a sudden drop in variables like construction demand; however, they do act as a major headwind against significant further increases in structural intensity from here.

Putting this all together, Tao and her team expect positive aggregate construction growth in 2012-13 – but somewhere in the low- to mid-single digit range, i.e., below the 7.5% to 8% pace of real GDP growth they have penciled in for the next two years. Which of course corresponds to falling intensity ratios.

What about the S-curves?

Many investors have asked how flat or falling commodity intensity can be consistent with what commodity "S curve" analyses commonly show for China, which is that the mainland economy has still only come part of the way towards historical cross-country peak per capita usage for steel and a host of other industrial materials and products.

The answer is that there is no inconsistency at all. Intensity ratios are measured as a *share of real GDP*, while S curves measure *usage per capita*. If steel demand is growing, for example, but at a pace lower than GDP, it's still growing nonetheless – which means that per capita consumption is still rising even as intensity ratios are

falling. In fact, as a rule of thumb peak intensity often corresponds to the “inflection point” along the S-curve, where the shape of the “S” changes from concave to convex.

For further details on our China views, Tao can be reached at wang.tao@ubs.com.

■ Analyst Certification

Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

Required Disclosures

This report has been prepared by UBS Securities Asia Limited, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission.

Company Disclosures

Issuer Name

China (Peoples Republic of)

Source: UBS; as of 26 Jan 2012.

Global Disclaimer

This report has been prepared by UBS Securities Asia Limited, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS. In certain countries, UBS AG is referred to as UBS SA.

This report is for distribution only under such circumstances as may be permitted by applicable law. Nothing in this report constitutes a representation that any investment strategy or recommendation contained herein is suitable or appropriate to a recipient's individual circumstances or otherwise constitutes a personal recommendation. It is published solely for information purposes, it does not constitute an advertisement and is not to be construed as a solicitation or an offer to buy or sell any securities or related financial instruments in any jurisdiction. No representation or warranty, either express or implied, is provided in relation to the accuracy, completeness or reliability of the information contained herein, except with respect to information concerning UBS AG, its subsidiaries and affiliates, nor is it intended to be a complete statement or summary of the securities, markets or developments referred to in the report. UBS does not undertake that investors will obtain profits, nor will it share with investors any investment profits nor accept any liability for any investment losses. Investments involve risks and investors should exercise prudence in making their investment decisions. The report should not be regarded by recipients as a substitute for the exercise of their own judgement. Past performance is not necessarily a guide to future performance. The value of any investment or income may go down as well as up and you may not get back the full amount invested. Any opinions expressed in this report are subject to change without notice and may differ or be contrary to opinions expressed by other business areas or groups of UBS as a result of using different assumptions and criteria. Research will initiate, update and cease coverage solely at the discretion of UBS Investment Bank Research Management. The analysis contained herein is based on numerous assumptions. Different assumptions could result in materially different results. The analyst(s) responsible for the preparation of this report may interact with trading desk personnel, sales personnel and other constituencies for the purpose of gathering, synthesizing and interpreting market information. UBS is under no obligation to update or keep current the information contained herein. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS, into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this report is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues, however, compensation may relate to the revenues of UBS Investment Bank as a whole, of which investment banking, sales and trading are a part.

The securities described herein may not be eligible for sale in all jurisdictions or to certain categories of investors. Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates and other market conditions. Past performance is not necessarily indicative of future results. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument mentioned in this report. For investment advice, trade execution or other enquiries, clients should contact their local sales representative. Neither UBS nor any of its affiliates, nor any of UBS' or any of its affiliates, directors, employees or agents accepts any liability for any loss or damage arising out of the use of all or any part of this report. For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC and/or UBS Capital Markets LP) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms in the UK) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this research report. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein.

Any prices stated in this report are for information purposes only and do not represent valuations for individual securities or other instruments. There is no representation that any transaction can or could have been effected at those prices and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions, by UBS or any other source, may yield substantially different results.

United Kingdom and the rest of Europe: Except as otherwise specified herein, this material is communicated by UBS Limited, a subsidiary of UBS AG, to persons who are eligible counterparties or professional clients and is only available to such persons. The information contained herein does not apply to, and should not be relied upon by, retail clients. UBS Limited is authorised and regulated by the Financial Services Authority (FSA). UBS research complies with all the FSA requirements and laws concerning disclosures and these are indicated on the research where applicable. **France:** Prepared by UBS Limited and distributed by UBS Limited and UBS Securities France SA. UBS Securities France S.A. is regulated by the Autorité des Marchés Financiers (AMF). Where an analyst of UBS Securities France S.A. has contributed to this report, the report is also deemed to have been prepared by UBS Securities France S.A. **Germany:** Prepared by UBS Limited and distributed by UBS Limited and UBS Deutschland AG. UBS Deutschland AG is regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin). **Spain:** Prepared by UBS Limited and distributed by UBS Limited and UBS Securities España SV, SA. UBS Securities España SV, SA is regulated by the Comisión Nacional del Mercado de Valores (CNMV). **Turkey:** Prepared by UBS Menkul Degerler AS on behalf of and distributed by UBS Limited. **Russia:** Prepared and distributed by UBS Securities CJSC. **Switzerland:** Distributed by UBS AG to persons who are institutional investors only. **Italy:** Prepared by UBS Limited and distributed by UBS Limited and UBS Italia Sim S.p.A.. UBS Italia Sim S.p.A. is regulated by the Bank of Italy and by the Commissione Nazionale per le Società e la Borsa (CONSOB). Where an analyst of UBS Italia Sim S.p.A. has contributed to this report, the report is also deemed to have been prepared by UBS Italia Sim S.p.A.. **South Africa:** UBS South Africa (Pty) Limited (Registration No. 1995/011140/07) is a member of the JSE Limited, the South African Futures Exchange and the Bond Exchange of South Africa. UBS South Africa (Pty) Limited is an authorised Financial Services Provider. Details of its postal and physical address and a list of its directors are available on request or may be accessed at <http://www.ubs.co.za>. **United States:** Distributed to US persons by either UBS Securities LLC or by UBS Financial Services Inc., subsidiaries of UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a 'non-US affiliate'), to major US institutional investors only. UBS Securities LLC or UBS Financial Services Inc. accepts responsibility for the content of a report prepared by another non-US affiliate when distributed to US persons by UBS Securities LLC or UBS Financial Services Inc. All transactions by a US person in the securities mentioned in this report must be effected through UBS Securities LLC or UBS Financial Services Inc., and not through a non-US affiliate. **Canada:** Distributed by UBS Securities Canada Inc., a subsidiary of UBS AG and a member of the principal Canadian stock exchanges & CIPF. A statement of its financial condition and a list of its directors and senior officers will be provided upon request. **Hong Kong:** Distributed by UBS Securities Asia Limited. **Singapore:** Distributed by UBS Securities Pte. Ltd [mica (p) 039/11/2009 and Co. Reg. No.: 198500648C] or UBS AG, Singapore Branch. Please contact UBS Securities Pte Ltd, an exempt financial advisor under the Singapore Financial Advisers Act (Cap. 110); or UBS AG Singapore branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or report. The recipient of this report represent and warrant that they are accredited and institutional investors as defined in the Securities and Futures Act (Cap. 289). **Japan:** Distributed by UBS Securities Japan Ltd to institutional investors only. Where this report has been prepared by UBS Securities Japan Ltd, UBS Securities Japan Ltd is the author, publisher and distributor of the report. **Australia:** Distributed by UBS AG (Holder of Australian Financial Services License No. 231087) and UBS Securities Australia Ltd (Holder of Australian Financial Services License No. 231098) only to 'Wholesale' clients as defined by s761G of the Corporations Act 2001. **New Zealand:** Distributed by UBS New Zealand Ltd. An investment adviser and investment broker disclosure statement is available on request and free of charge by writing to PO Box 45, Auckland, NZ. **Dubai:** The research prepared and distributed by UBS AG Dubai Branch, is intended for Professional Clients only and is not for further distribution within the United Arab Emirates. **Korea:** Distributed in Korea by UBS Securities Pte. Ltd., Seoul Branch. This report may have been edited or contributed to from time to time by affiliates of UBS Securities Pte. Ltd., Seoul Branch. **Malaysia:** This material is authorized to be distributed in Malaysia by UBS Securities Malaysia Sdn. Bhd (253825-x). **India :** Prepared by UBS Securities India Private Ltd. 2/F,2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000 SEBI Registration Numbers: NSE (Capital Market Segment): INB230951431 , NSE (F&O Segment) INF230951431, BSE (Capital Market Segment) INB010951437.

The disclosures contained in research reports produced by UBS Limited shall be governed by and construed in accordance with English law.

UBS specifically prohibits the redistribution of this material in whole or in part without the written permission of UBS and UBS accepts no liability whatsoever for the actions of third parties in this respect. Images may depict objects or elements which are protected by third party copyright, trademarks and other intellectual property rights. © UBS 2012. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.

