

Understanding rebar and the new LME ferrous contracts

From the LME Research Team

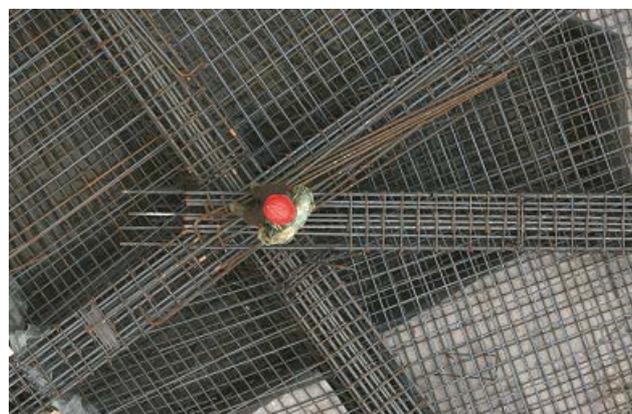
LME Steel Rebar will begin trading on the London Metal Exchange (LME) on 23 November 2015*. The new contract will, at expiry, be cash-settled to the Platts Rebar FOB Turkey Index. As established at the globally relevant export hub of Turkey, LME Steel Rebar provides an effective instrument for the global steel and construction industry to manage risk in an increasingly uncertain environment. For the financial community, LME Steel Rebar offers unique exposure to trends in global construction.

Background to rebar: the most commoditised steel product

Rebar (short for concrete reinforcing bar) is used to strengthen concrete in construction and sits in the broader category of long rolled steel products. Combined with LME Steel Scrap, which will launch in tandem with LME Steel Rebar, the LME will cover the supply chain of long products from initial inputs (scrap) through intermediate stages (billet) to final products (rebar).

Rebar is the most standardised and commoditised of the steel products. While varying grades of dexterity, strength and diameters do exist, research and development is a fairly minimal industry component compared to flat steel. So whereas higher performance bars can sell for a premium, all rebar prices broadly move in step, and price is the main competitive factor when contractors choose where to source their material. The specific Platts FOB Turkey settlement price refers to a range of 16-20mm

in diameter, at a European grade standard (B500C). This is an internationally recognized standard of quality construction grade material, and amid a 20 million tonne total rebar export market¹, can be shown to be suitably correlated to rebar prices globally.



Rebar forms the initial frame at a construction site before concrete is poured

Scrap

Approx. 25% of global steel production is by electric arc furnace (EAF) using mostly scrap as a raw material

INPUT

Billet

Contract available on the LME since 2008

SEMI-FINISHED

Rebar

The most commoditised steel product. Used in construction to reinforce concrete

OUTPUT

Cash settlement

The LME Steel Rebar and LME Steel Scrap contracts are cash settled. At contract expiry any outstanding LME Steel Rebar positions will be settled according to the monthly average of the Platts assessed index of FOB Turkish Rebar. The Platts benchmark price has been carefully chosen for its existing acceptance across the steel industry and comprehensive methodology, taking account of IOSCO standards.

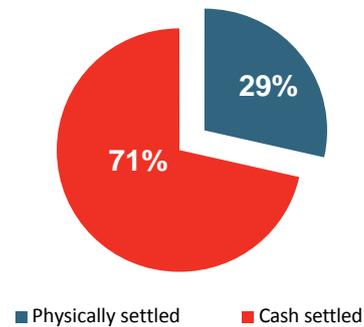
Cash settlement is new to the LME but is commonplace in most commodity markets. The LME remains committed to price discovery by physical settlement in its base metals suite, however the physical delivery of steel is challenging for various reasons:

- Steel rusts and deteriorates over time
- Storage and transportation costs are very high relative to the value of the metal
- Rebar is mostly sourced direct from the producers

With guidance from industry, the LME believes it is logical to maintain a physically delivered billet contract to ensure price convergence, and to act as the core of a suite of products that can then be cash-settled, with the market able to trade spreads back to the billet contract. In this way, the LME aims to deliver the optimal balance between physically settled and cash-settled contracts.

Until final settlement, daily settlement prices - used for margining - will be independent of the published Platts index price. Daily settlement prices for LME Steel Rebar and LME Steel Scrap will be calculated based on a Volume Weighted Average Price (VWAP) methodology applied to transactions on LMEselect between 16:25 and 16:30 London time.

Commodity contracts by type of settlement

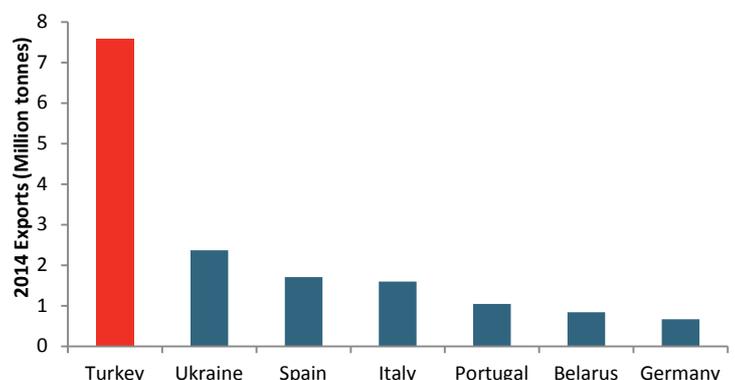


Turkey: a global price reference for rebar

Turkey is uniquely positioned to provide a reference price for rebar that is relevant for global markets. Turkey is a major steel producer (the eighth largest in 2014) and was the largest exporter of rebar globally last year, exporting over 7.5 million tonnes. Its top ten importing partners are globally diversified across the USA, North Africa, Middle East, Europe and South America².

On top of its own surging domestic consumption, Turkish rebar made up 35% of the international import/export market in 2014. To the extent, then, that any country imports or exports rebar, its producers naturally compete with Turkish products on the international level. As detailed in the analysis below this international relationship has rendered a high correlation between the Turkish FOB price and rebar prices globally.

Rebar exports by country 2014

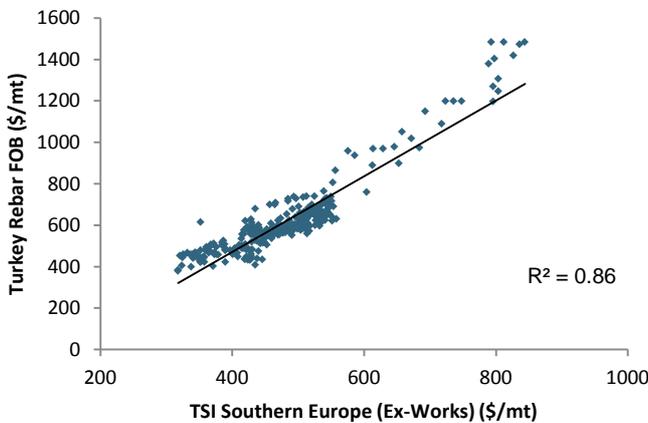


NB: Comparison excludes China whose rebar exports are reported with billet and wire rod. See page 5 for China-specific analysis.

Europe

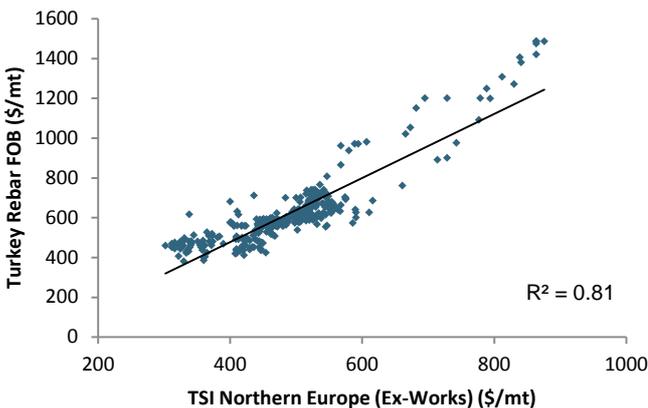
The interaction between the European and Turkish rebar market is varied. The UK, in particular, is a top-ten importer of Turkish rebar, whereas Germany, Italy, Spain and Portugal are major exporters to the global markets and compete directly with the Turkish mills. With Turkey's geographical proximity it is unsurprising to see such a strong correlation between Turkish and European rebar prices.

**Rebar, Turkey FOB v Southern Europe Ex-Works
(Weekly, Jan 2007 - Mar 2015)**



Rebar prices are assessed for both the northern and southern European regions. Most production is consumed locally although 2015 has seen sizeable shipments to Canada and Israel. Southern Europe, in particular Spain and Italy, exports rebar mostly to Algeria, where a rebate can be earned. Domestic prices for both north and south regions show historically strong correlations to the Turkish export price.

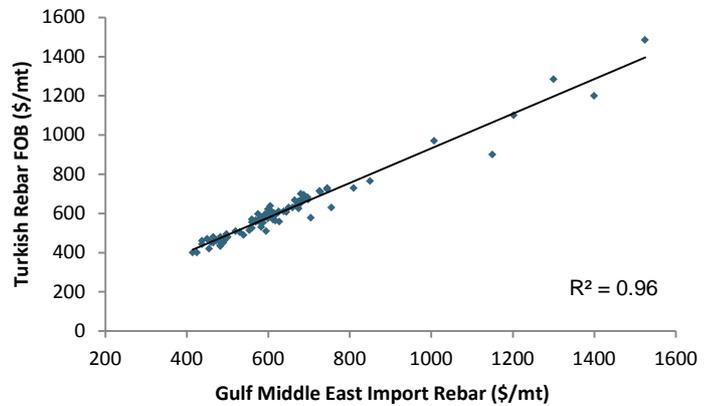
**Rebar, Turkey FOB v Northern Europe Ex-Works
(Weekly, Jan 2007 - Jul 2015)**



Middle East

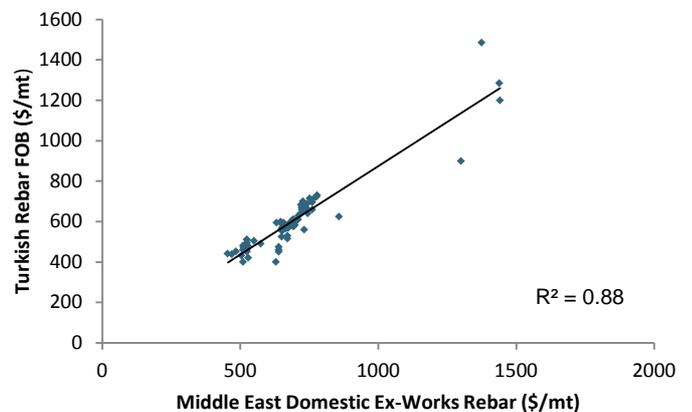
The Middle East is the largest importing region of rebar and six of the top ten importers of Turkish rebar over H1 2015 were in the Middle East and North Africa. This region is experiencing a major construction boom. According to EC Harris³, almost 120 major \$10bn+ projects, totalling over \$1 trillion, are scheduled in the Middle East by 2030.

**Rebar, Turkey FOB v CFR Gulf
(Monthly, Feb 2007 - Jun 2015)**



Turkish rebar is well placed to reflect this demand, having had a near perfect correlation with import prices into the Gulf and explaining almost 80% of all domestic price moves through 2008 to the first half of 2015.

**Rebar, Turkey FOB v Middle East Domestic
(Monthly, Jun 2008 - Jun 2015)**



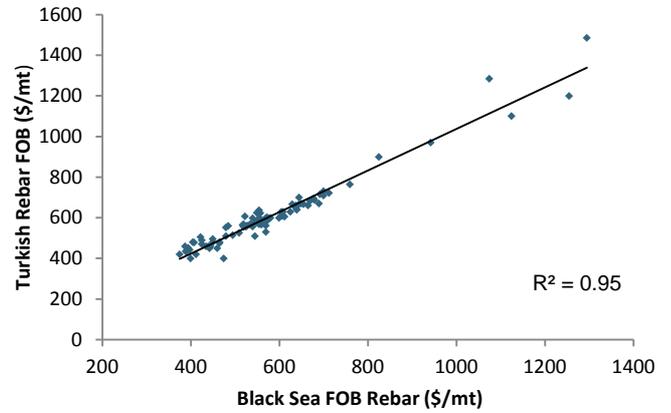
CEE/CIS

Turkey stands connected to the CEE/CIS regions by both land and the Black Sea. The historic correlation between FOB Turkey and Black sea has crucially been very high . Ukraine was the second largest exporter of rebar globally in 2014, and Romania is a top 10 importer of Turkish rebar.

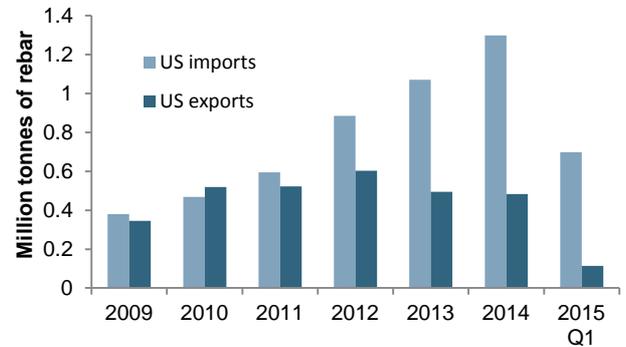
USA

The United States spent just under \$1 trillion on construction in 2014⁴, and is the largest importer of Turkish rebar on top of its own domestic production. The Concrete Steel Reinforcing Institute expects the US to consume 7.9 million tonnes of domestic and imported rebar in 2015, an 8% increase on 2014.

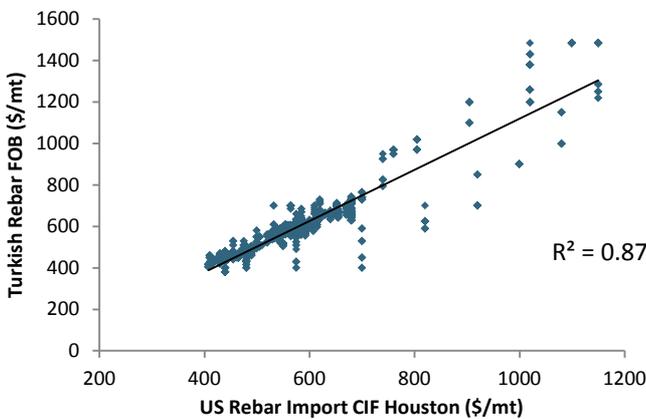
**Rebar, Turkey FOB v Black Sea FOB
(Monthly, Feb 2007 - Jul 2015)**



US trade flows for rebar

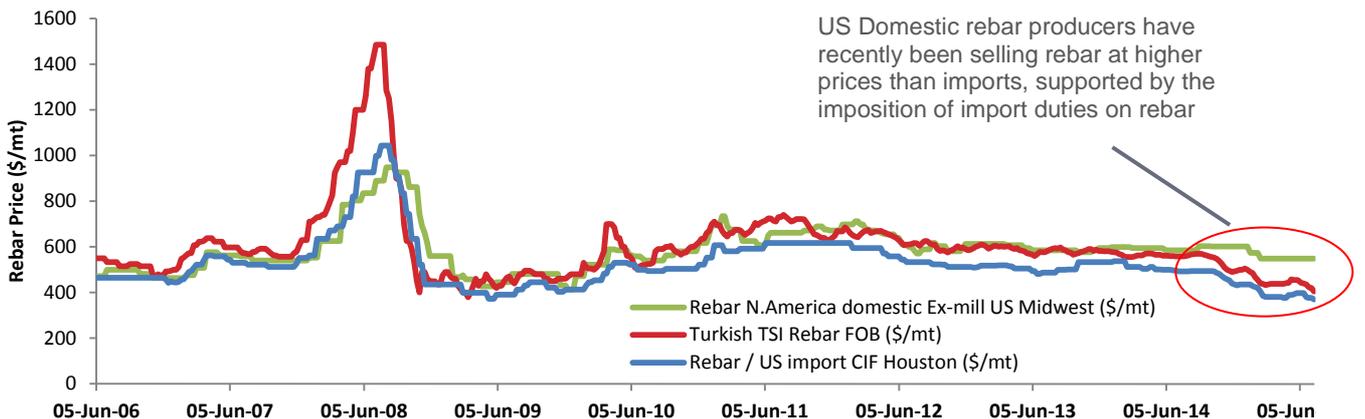


**Rebar, Turkey FOB v US Import
(Daily, Jan 2007 - Jul 2015)**



Trade flows have resulted in a strong correlation between Turkish FOB and US import prices all the way back to 2006. Domestic US producers do however sell for a premium which can fluctuate, especially on the addition of new import duties. Correlations are still reasonable however and explained 80% of price movements before 2014 when new duties were imposed.

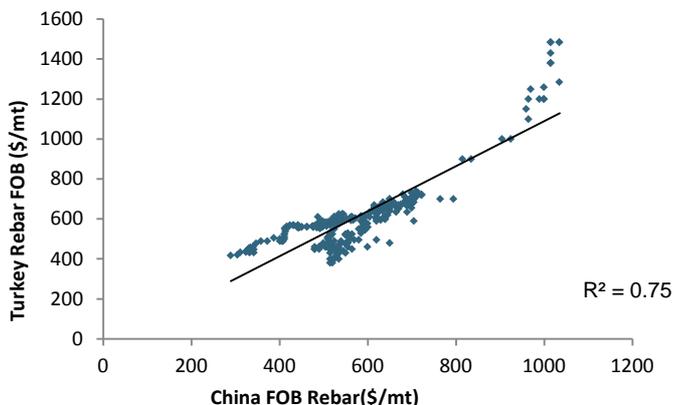
Rebar, Turkey FOB v US Import v NAm domestic (Jan 2006 - Jul 2015)



China and East Asia

The World Bank has identified a need for \$8 trillion to be spent on infrastructure in developing Asia by 2020⁵. Currently China is by far both the largest consumer and producer of rebar globally. As of July 2015, a pipeline exists of 6.5 billion square metres of floor space under construction, and 817 million square metres in the newly started phase. To meet these huge infrastructure demands China produced 21 million tonnes in of rebar in 2014, around the same as the total of what was internationally traded. The One Belt One Road, infrastructure project to connect China and Asia by road, rail and port to as far as Western Europe may well see Chinese rebar being consumed increasingly across developing Asia.

Rebar, Turkey FOB vs China FOB
(Weekly, Jan 2007 - July 2015)

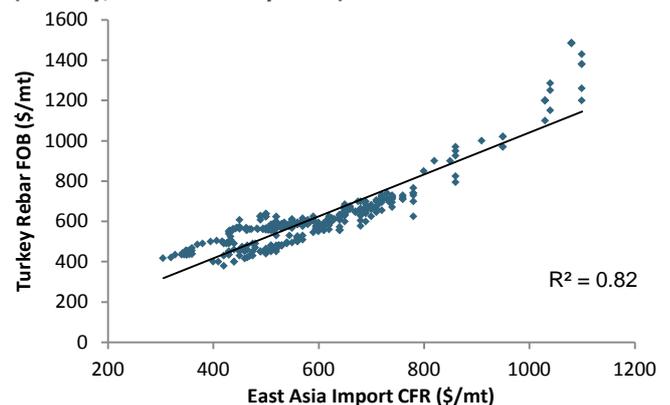


China was historically both a minimal importer and exporter of steel products but a state of overcapacity has altered this dynamic. Through H1 2015 total exports steel products were up nearly 30% on last year and rose 50% to nearly 94 million tonnes in 2014. Steel exports within the rebar, wire rod and especially billet category (the precursor product to rebar), more than doubled to 31 million tonnes⁶ in 2014 and already stood at 18.6 million in H1 2015. Although a source of complaint for many Turkish mills, the seaborne competition has continued to result in high correlations between Turkish FOB

rebar and the Chinese FOB price.

For the broader East Asia region, the correlation with import prices is almost as high as Turkey FOB is to Europe.

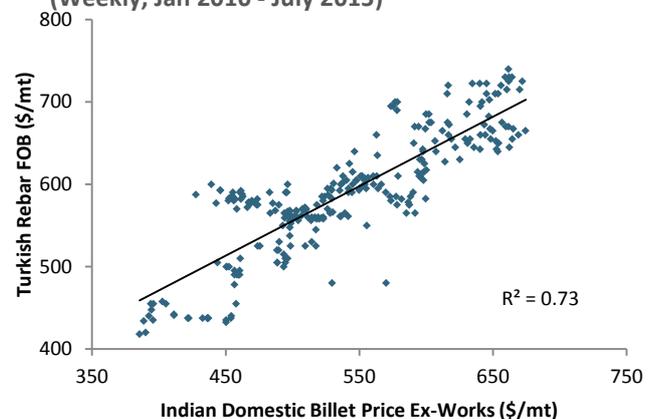
Rebar, Turkey FOB v East Asia CFR
(Weekly, Jan 2007 - July 2015)



India

With 1.3 billion inhabitants and a comparatively low urbanisation rate, India could be key for future commodity demand. The UN predicts five billion people will live in cities globally compared to only 3.4 billion now and India's low 34% urban population (compared with 54% in China, 81% in the US) is set to see the country play centre stage in such a migration. The Indian rebar price is not formally assessed but the correlation between Turkish rebar and Indian billet is encouraging. The impact of import restrictions and duties will be key to watch for future trade flows.

Rebar, Turkey FOB v India Ex-works Billet
(Weekly, Jan 2010 - July 2015)



Contact us

For more information on the new LME Steel Rebar and LME Steel Scrap contracts and the incentives available for market makers and liquidity providers, get in touch with the LME Ferrous team by email at ferrous@lme.com or visit our website at www.lme.com/ferrous

Accessing the LME

The only organisations able to trade contracts on the LME are its member firms. However, you do not have to be an LME member to trade on the LME. Clients who have successfully opened an account with an LME member are able to trade with and through them to access the market.

Find the full list of LME members at www.lme.com/trading/membership

Contract specification	LME Steel Rebar		
Contract names and codes	LME Steel Rebar	SR	
Contract type	Futures		
Delivery type	Cash settled		
Lot size	10 metric tonnes		
Contract period	Monthly out to 15 months		
Price quotation	US dollars per metric tonne		
Clearable currencies	US dollars		
Minimum price fluctuation (tick size) per metric tonne	Venue	Outright	Carries
	LMEselect	\$0.50	\$0.01
	Inter-office	\$0.01	\$0.01
Termination of trading	Last business day of the contract month until 16:30 London time		
Daily settlement procedure	LME Market Operations will calculate daily settlement values based on its published procedure		
Final settlement procedure	Final settlement, following termination of the trading for a contract month, will be based on the Monthly Average Price Index of the "Platts Rebar, Turkish Exports, FOB Turkey Port" Index, which is available from 16:30 on the last trading day		
Trading venues	LMEselect and Inter-office telephone		
Trading hours	LMEselect	01:00-19:00 London time	
	Inter-office	24 hours a day	
Margining	Realised variation margins applied		

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¹ Sum of ISSB recorded rebar exports in 2014 was 21 million tonnes

² Source: Turkish Steel Exporters Association

³ EC Harris Middle East major construction program, mitigating the delivery risk

⁴ US Census Bureau

⁵ The Economist, 11 November 2014 "Why China is creating a new 'World Bank' for Asia"

⁶ Beijing UC Steel, Rebar and wire Rod China exports, Bloomberg ticker: CNXMABQT Index

All correlation analysis, with the exception of Indian Billet refers to price assessments by Platts/TSI. Indian domestic billet prices are sourced from Metal Bulletin. R squared analysis is shown based on end of period prices and to 2 decimal places



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