

WEEKLY REPORTING OF OTC CONTRACTS: MONTHLY ANALYSIS- REVISION 1 (APRIL 2011)

[An analysis of all weekly reports (reporting period 28th March – 1st May) received from licensed-traders for the month of April 2011]

Re Prepared on 23rd June 2011

Centre for Monitoring Indian Economy &
Market Monitoring Cell, CERC

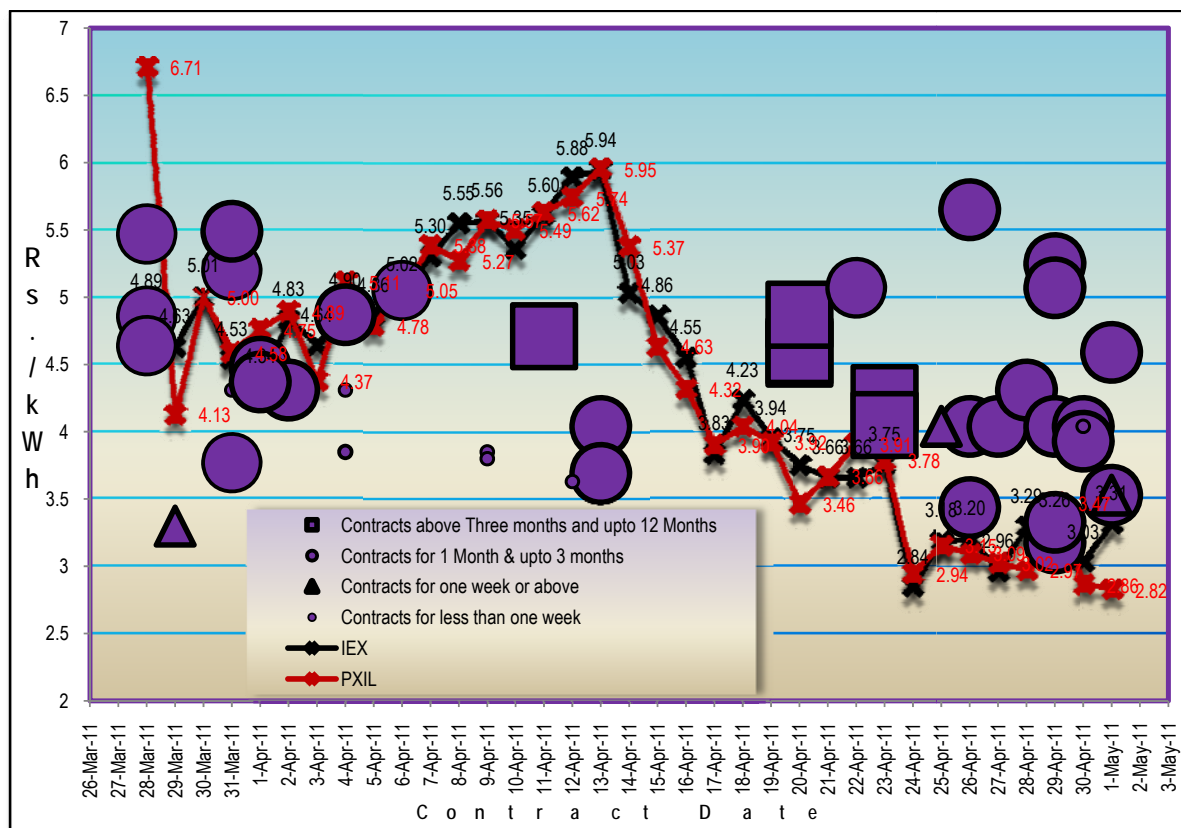
Snapshot for April 2011

- ✓ The reported short-term contract volume for the month of April was 9324.62 MUs whereas the same was 1410.05 MUs for the month of March. There is a 561% increase in reported contract-volume.
- ✓ 96% of total volume has been contracted at above price of Rs. 4/kWh.
- ✓ Total number of contracts (including swap & Banking) in April was 78 by 7 traders whereas in March it was 58 by 4 traders.

I. Comparison Of prices of Short Term OTC contracts with Power Exchange Prices (on Contracted Date)

The scatter diagram shows a comparative analysis of price movement in both the OTC and Power Exchange markets for the period of 28th March 2011 to 1st May 2011. As is seen from the scatter diagram, the contracts are well spread throughout the month and in a range of Rs. 3.17/kWh to Rs. 5.65/kWh. The contracts reported were mostly for one-month period of power delivery.

Chart 1: Scatter Diagram depicting Price of Electricity for OTC Contracts and in Power Exchanges



The following table shows the weighted average sale prices of all the contracts reported on a particular week and total contracted volume for the same. (Weights being the respective contracted volume).

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Table 1: Price and Volume of OTC Contracts

Weeks	Range of Sale Price (Rs./ kWh)		Weighted Average of Sale Price (Rs./ kWh)	Total Volume (MU)
	Max	Min		
28 th March – 3 rd April	5.49	3.30	4.84	245.23
4 th - 10 th April	5.05	3.80	4.60	18.98
11 th -17 th April	4.71	3.63	4.69	5397.08
18 th - 24 th April	5.07	4.05	4.54	3126.72
25 th April – 1 st May	5.65	3.17	4.07	536.61
Total	-			9324.62

Source: Based on Electricity Traders' weekly reports

Table 2: Prices on Power Exchanges on OTC Contracts Dates

Contract Date (2011)	28 th Mar	29 th Mar	31 st Mar	1 st Apr	2 nd Apr	4 th Apr	6 th Apr	9 th Apr	11 th Apr	12 th Apr	13 th Apr	20 th Apr	22 nd Apr	23 rd Apr	25 th Apr	26 th Apr	27 th Apr	28 th Apr	29 th Apr	30 th Apr	1 st May
IEX (Rs. / kWh)	4.89	4.63	4.53	4.34	4.83	4.90	5.02	5.56	5.60	5.88	5.94	3.75	3.66	3.75	3.18	3.20	2.96	3.29	3.26	3.03	3.31
PXIL (Rs. / kWh)	6.71	4.13	4.58	4.75	4.89	5.11	5.05	5.57	5.62	5.74	5.95	3.46	3.91	3.78	3.15	3.09	3.02	2.97	3.47	2.86	2.82
OTC Contracts (Rs./ kWh)	4.84 (Rs./ kWh) (28 th Mar- 3 rd Apr)			4.60 (Rs./ kWh) (4 th – 10 th Apr)			4.69 (Rs./ kWh) (11 th – 17 th Apr)			4.54 (Rs. /kWh) (18 th – 24 th Apr)			4.07 (Rs./ kWh) (25 th Apr- 1 st May)								

Source: Indian Energy Exchange & Power Exchange of India Ltd. Websites

Observations

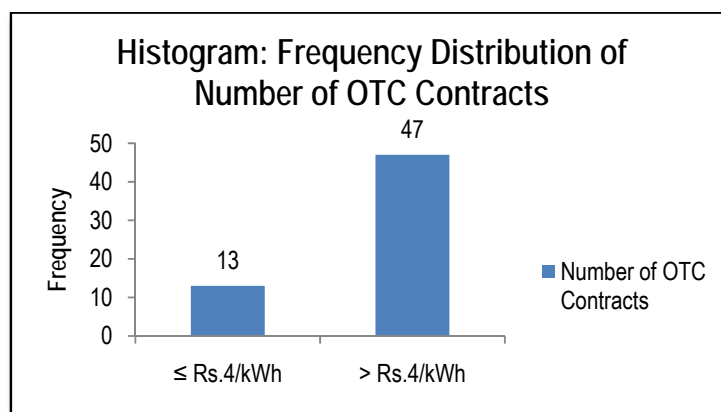
1. In the beginning of April, OTC Contract prices were quite close to the Indian Power Exchange (IEX) and Power Exchange of India Ltd. (PXIL) spot prices. But later in the month, both the exchanges' prices were lower than OTC contract prices. The minimum price in the exchanges during 28th March – 1st May was Rs. 2.82/kWh (PXIL, 1st May 2011) while that in the OTC market was Rs. 3.17/kWh. Maximum price at the exchange

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reached Rs. 6.71/kWh (PXIL, 28th March 2011) and in the OTC market it was Rs. 5.65/kWh.

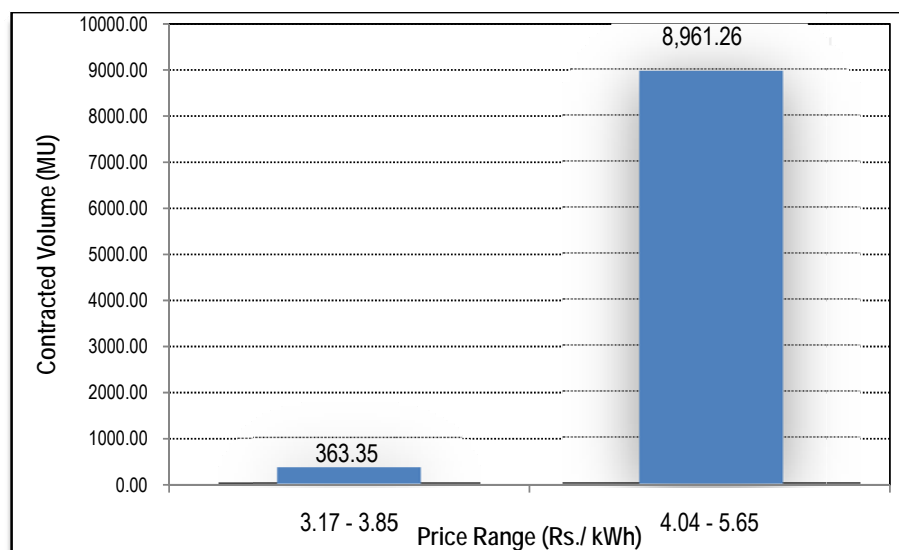
2. OTC contracts mostly are for a delivery period of a month. The scheduling of these contracts is generally happening from one day to one month after contract date.
3. In the number of contracts entered above Rs. 4/kWh were 47 out of total 60* contracts (total 78 contracts including swap & banking).

Chart 2: Histogram of Number of OTC Contracts



4. The cumulative volume traded above Rs. 4/kWh was 8961.26 MUs which is 96% of total OTC contracts for April 2011.

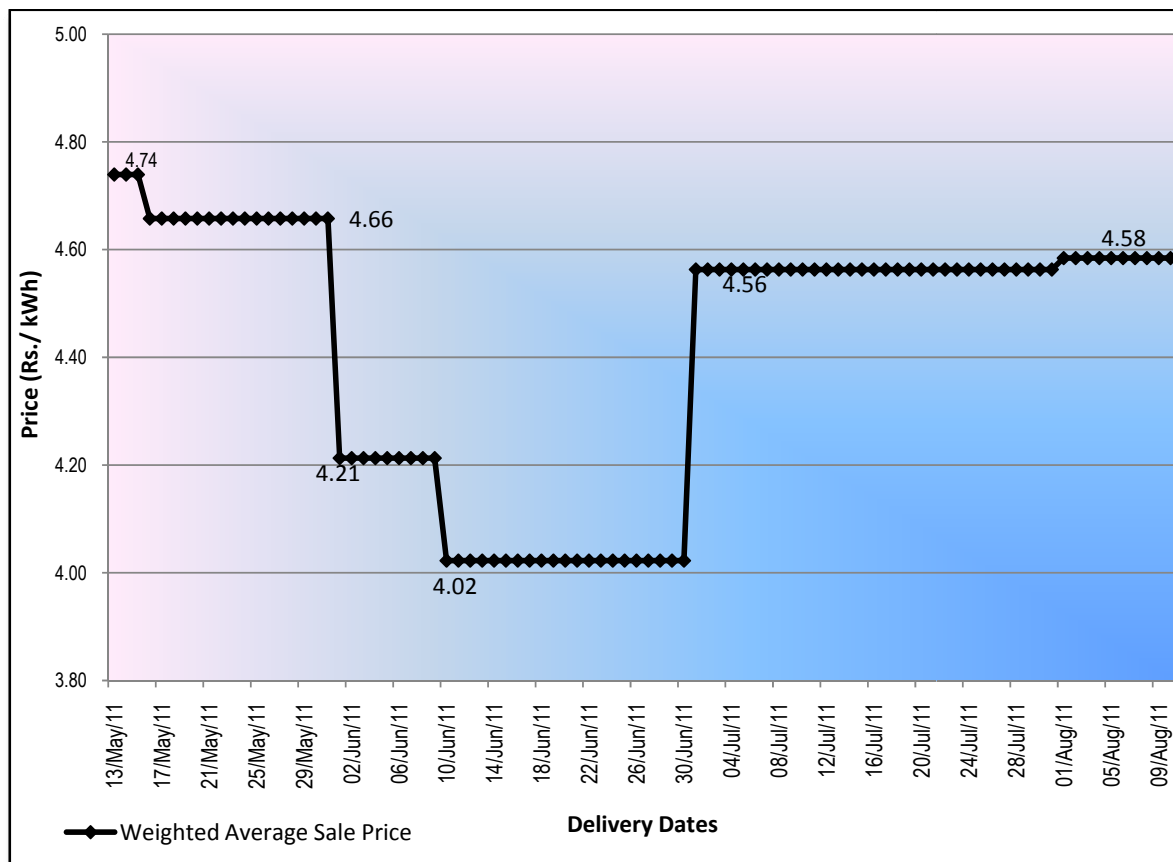
Chart 3: Cumulative Volume Traded below and above Rs. 4/kWh during April 2011



* Excluding swap/banking contracts since they do not have any sale price.

II. Three-Month Forward Curve of Power Prices

Chart 4: Forward Curve for 13th May - 10th August 2011



A forward curve reflects present day's expectation of spot prices for a future period. Accordingly a forward curve has been drawn based on prices of contracts executed for supply of power from 13th May 2011 to 10th August 2011, i.e. 90 days ahead period of power supply.

Observations

1. The forward curve for the next three month period i.e. from 13th May 2011 to 10th August 2011 is downward sloping till June 2011 and upward from July 2011. For May delivery, power price falls from Rs.4.74/kWh to Rs. 4.66/ kWh which falls further to Rs. 4.21/kWh on 1st June 2011. For June delivery, price drops again to Rs.4.02/kWh on 10th June and remains at that level till the end of the month. From 1st July, price rises to Rs. 4.56/ kWh and remains at that level till 31st July. For power delivery in August,

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the price rises further to Rs. 4.58/kWh. This forward curve made in May is based on 100 contract prices reported by traders.

- It may be noted that, the nature of the forward curves drawn for March and April are different. The curve drawn in March shows a downward trend in prices of power deliveries in April-July 2011 whereas the one drawn in April shows an upward trend in the same for power deliveries in May- August 2011. Prices for power deliveries in the month of May are different in two graphs. This is due to the fact that new contracts reported during this period decreased the average sale price from Rs. 4.85/kWh earlier to Rs. 4.66/kWh for the month of May deliveries.

Chart 4: Forward Curve in April for OTC Market, May - August 2011

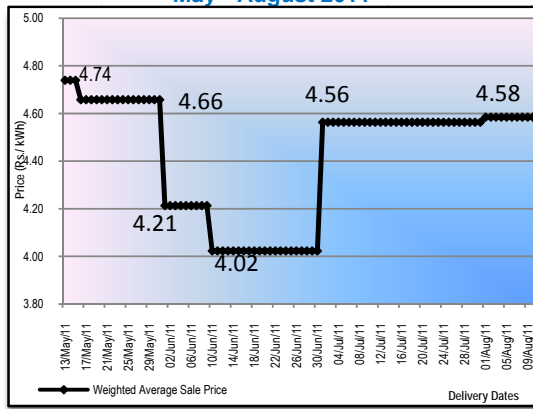
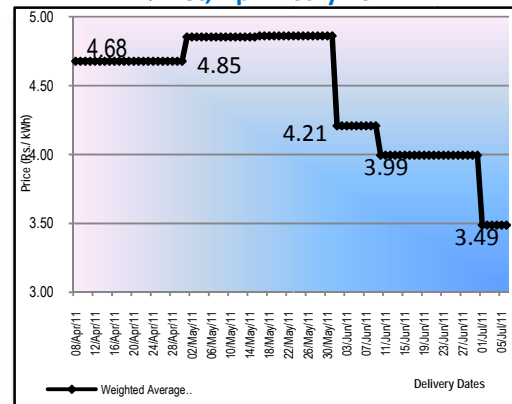


Chart 4.1: Forward Curve in March for OTC Market, April - July 2011

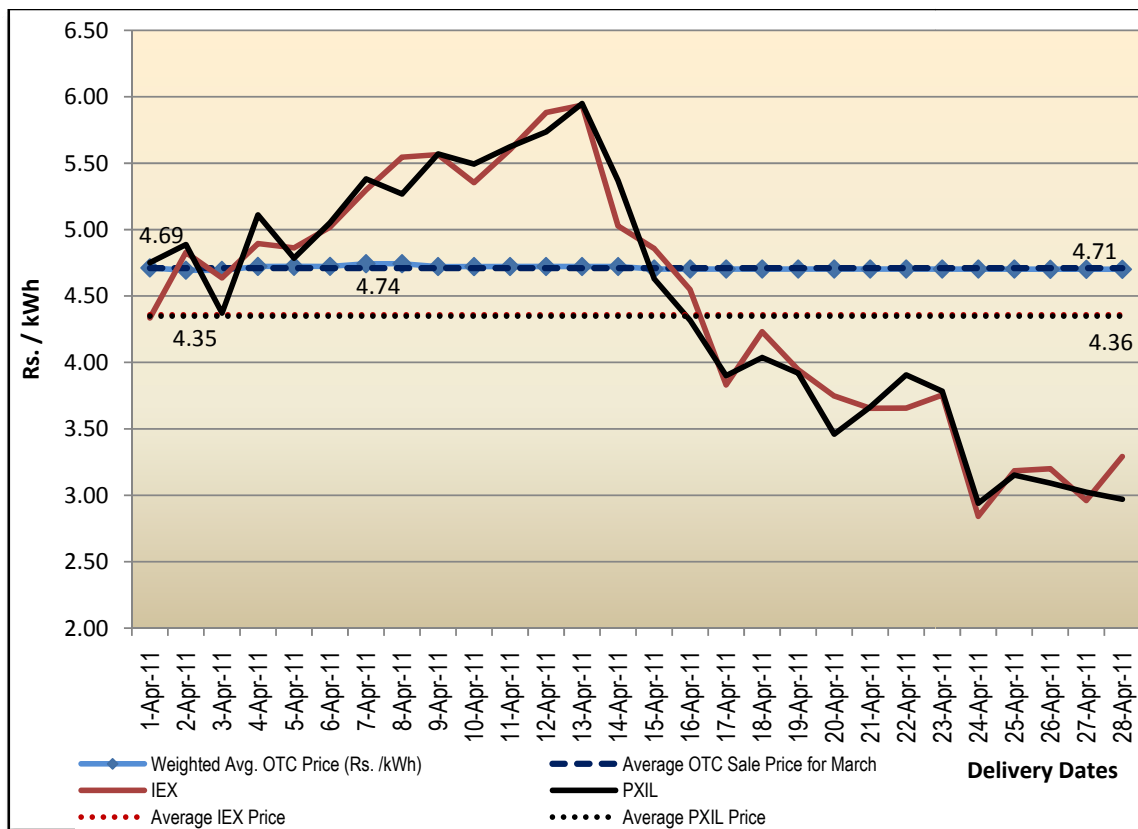


III. Post-facto Comparison of Prices in OTC Contracts and Power Exchanges (on Power Delivery Dates)

The post facto graph shows the average OTC price vis-à-vis power exchanges prices for the last month's power deliveries. Hence this compares the spot delivered prices with OTC deliveries (OTC contracts may have been executed earlier but delivered on these same days). The process of calculating the data points is same as in the forward curve.

It is observed that IEX and PXIL prices were above the average OTC prices in the beginning of the month whereas in the latter half of the month both the prices went below the average OTC prices.

Chart 5: Comparison OTC deliveries and Power Exchange Spot Delivery Price for April 2011



Overall Comparative View between March and April 2011

- Following table shows the number of contracts reported during March and April categorized according to the period of power supply.

Table 3: Number of Contracts Reported in March and April 2011^ψ

	March- 2011	April- 2011
Above three months and upto 12 months	-	5
One month or above	40	58
One week or above	5	3
Less than a week	13	12
Total	58	78

From the above table it is clear that the total numbers of contracts for power deliveries for one month or above was higher in April that of reported in March 2011.

A comparative table to represent maximum and minimum prices at both the exchanges vis-à-vis OTC contracts prices.

Table 3: Maximum and Minimum Prices-A Comparative View Rs/ kWh (Dates)

	March 2011 Report		April 2011 Report (28 th March – 1 st May)	
	Maximum	Minimum	Maximum	Minimum
IEX	5.91 (18 th)	3.00 (2 nd)	5.94 (13 th)	2.84 (24 th)
PXIL	6.06 (18 th)	2.82 (2 nd)	6.71 (28 th Mar)	2.82 (1 st May)
OTC Contracts	7.42 (9 th)	3.69 (22 nd)	3.17 (29 th)	5.65 (26 th)

^ψ Including swap/ banking contracts between different DISCOMS

Overall inferences

1. From Chart-1 (Contracted date price analysis), it is observed that a number of OTC contract prices were close to the IEX and PXIL spot prices in the beginning of the month though later both the exchange prices went below the OTC contract prices. (it may be pertinent to highlight that OTC contracts are for delivery in the period of April-July 2011 whereas spot price are day ahead contracts)
2. From Chart-5 (post facto power delivery date analysis), it is seen that the average OTC sale price was higher than the average exchange prices. Difference between the two was Rs. 0.36/kWh (PXIL & OTC) and Rs. 0.35/kWh (IEX & OTC).
3. In Chart 4, the Forward curve for 90 days ahead period (for 13th May - 10th August 2011 period of power delivery) is showing a downward trend in the near month and an upward trend in the further month.

Annexure-I

Table 4: List of Trading-Licensees who have undertaken Contracts in April 2011*

	Name of Licensee	8 th Mar – 3 rd April	4 th -10 th April	11 th -17 th April	18 th – 24 th April	25 th April – 1 st May	
1	NTPC Vidyut Vyapar Nigam Ltd.	Y (6)	Y(3)	Y (6)	Y (5)	Y (25)	
2	PTC India Ltd.	Y (6)	Y (2)	NIL	Y (5)	Y (2)	
3	GMR Energy Trading Ltd.	Y (2)	NIL	NIL	Y (5)	NIL	
4	Tata Power Trading Co. Ltd.	Y (6)	Y (1)	NIL	NR	NIL	
5	Adani Enterprise Ltd.	NIL	NIL	Y (1)	NIL	NR	
6	Lanco (NETS)	Y (2)	NIL	NIL	NIL	NR	
7	RPG Power Trading Ltd.	Y (1)	NIL	NIL	NR	NIL	
Total No. of Contracts		23	6	7	15	27	
Total for month for all traders							78

Note 1: NR: Not Reported


NIL: No Contracts was made during the week

Y (): Contracts had been struck (Number of Contracts)

*Note 2: This table shows list of traders who have reported & undertaken atleast one contracts during the month. There could be some traders who have reported but did not undertake any contracts.


Annexure-II

I. The Scatter Diagram

 *Process of Formulation:* The scatter diagram represents the details of OTC contracts undertaken by traders during any particular time period (e.g. for last five weeks) for short-term (upto less than a year) transactions of electricity. Each data-point represents contract sale-price on a particular contract date.

The varied shapes are to depict contracts for different time-span, e.g. the squares are for contracts of more than three months but less than a year, largest circles are for contracts which have been made for one or upto three months ahead, the triangles are to represent contracts made for a week or more but for less than one month and smallest ones (like dots) are for one day or more but less than a week period of contracts. In this diagram, no distinction has been made among the traders. The black and red markers connected with lines show the spot prices at the two power exchanges, viz. the Indian Energy Exchange (IEX) and the Power Exchange of India Ltd. (PXIL) on the respective contract dates.

II. The Forward Curve

 *Process of Formulation*

The forward curve has been made based on OTC sale prices reported every week by the traders. For a contract of a full month, the average monthly contract price is considered discretely as the price for each day. Finally, the average daily price for the forward curve is the weighted average daily price for all contracts existing in these days. (Weights being the respective contracted daily volume).

III. The Post-Facto Graph

 *Process of Formulation*

The post facto graph shows the average OTC price vis-à-vis power exchanges prices for the last month's power deliveries. Hence this compares the spot delivered prices with OTC deliveries (OTC contracts may have been executed earlier but delivered on these same days). The process of calculating the data points is same as in the forwards curve.