



Course One Assignment

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ANALYSIS OF THE ITALIAN FTSE MIB INDEX FROM THE POINT OF CYCLE PERIODICITIES

THE FOUR-YEAR CYCLE IN ITALIAN STOCKS

A careful examination of the Italian FTSE MIB Index since 1994 reveals the possibility of a 4-year cycle. There were only five instances observed since 1994, so the significance of this cycle is questionable at the present time.

Let's first of all give a listing of probable 4-year cycle troughs in the Italian stock market since 1994. This list will provide the month, year, and the number of months (in parentheses) that elapsed between these cycle troughs.

December, 1994	
October, 1998	(46)
October, 2002	(46) *
June, 2006	(44)
March, 2009	(33) *

Table 1: Four-year cycles – trough to trough – in the Italian stock market. The asterisks represent those which may coincide with the longer-term 6-years cycles or even 9-year cycles. The 6-year cycle may be part of a three-phase pattern to a greater 18-year cycle, and a 9-year cycle may be a part of a two-phase pattern to a greater 18-year cycle.

These cycles have a range of 33-48 months, with an average periodicity of 42.25. However there is a case of cycle that contracted to only 33 months, possibly in conjunction with the 6-year cycle. If we remove this case of contraction, then the range of the other 3 instances (75%) is 44-46 months.

Now let's look at the table (and chart) depicting interesting characteristics of this 4-year cycles in Italian stocks:

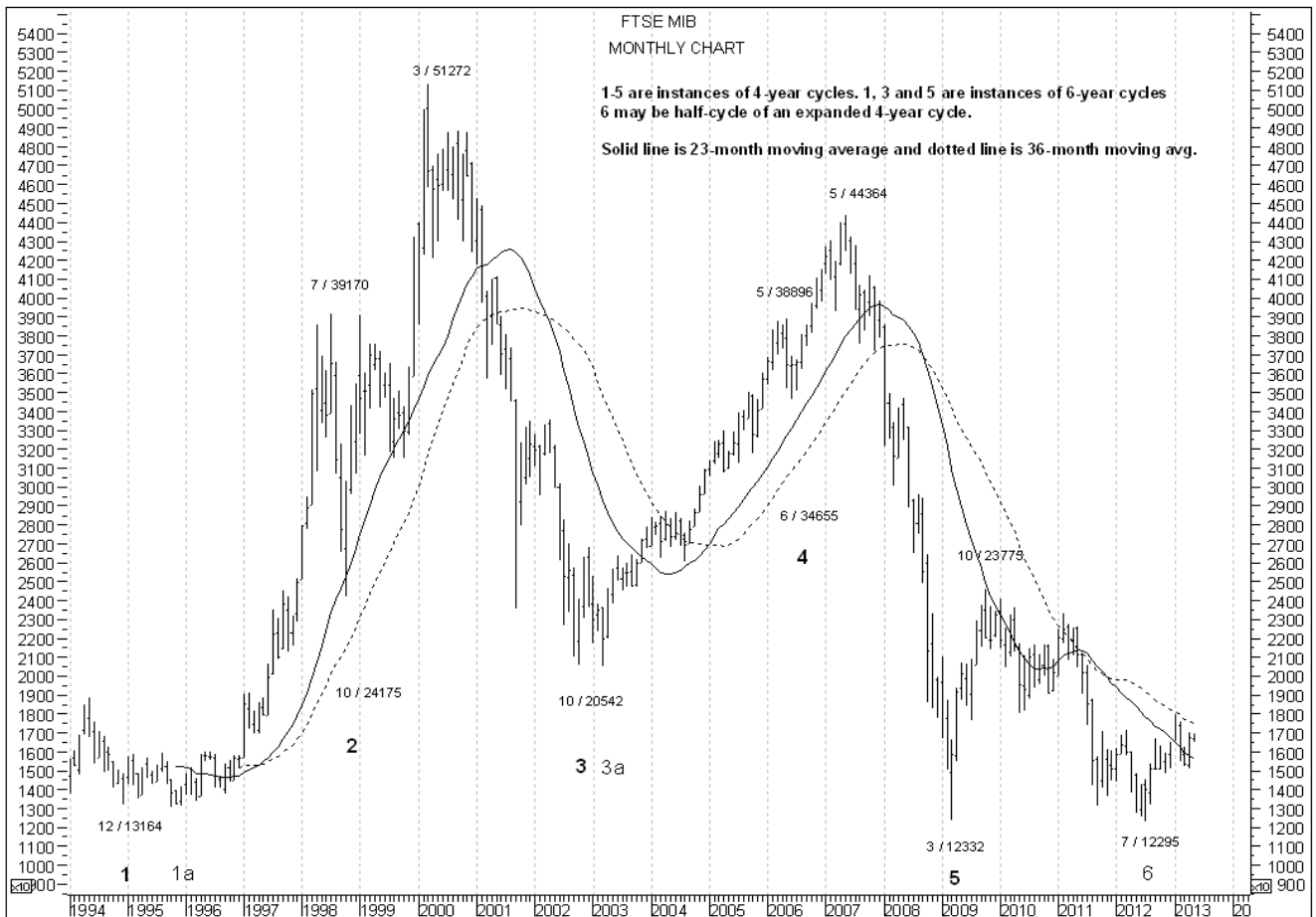
Cycle #	Trough	Crest	Trough	MoUp	MoDn	Low	High	Low	% Up	% Dn
1.	12/1994	7/1998	10/1998	43	3	13164	39170	24175	197.5%	38.3%
2.	10/1998	3/2000	10/2002	17	31	24175	51272	20542	112.1%	59.9%
3.	10/2002	5/2006	6/2006	43	1	20542	38896	34655	89.3%	10.9%
4.	6/2006	5/2007	3/2009	11	22	34655	44364	12332	28.1%	72.2%
5.	3/2009	10/2009	(?)	7		12332	23775	(?)	92.8%	(?)

Table 2: The table above lists the dates of each 4-year cycle trough and its crest since 1994. It also shows the number of months the market rose from the beginning trough to the crest, and the number of months it declined into its next trough. It gives the low prices of the beginning of the cycle (trough), and the percentage of each move up and down.

Looking at the table above note that 3 of these 5 instances exhibited bearish left translation (more months down than up). Also notice that in two cases of left translation (cycles #2 and 4), the low at the end of the cycle was lower in price than at the beginning of the cycle. The crest of those two cycles was also lower in price than the crest of the previous 4-year cycle. Thus we have all characteristics of a bear market in those two instances, and also in cycle #5, in all probability.

MONTHLY GRAPH OF ITALIAN FTSE MIB STOCK INDEX

This graph shows the monthly prices of the Italian FTSE MIB Stock Index, from 1994 through May 2013. Each bar represents the monthly high-low price in “bars chart” form. The beginning of each year is listed at the bottom of the chart with a vertical dotted line. Significant lows (troughs) and crests (highs) are pointed out with the month and the price of that high or low.



WEEKLY GRAPHS OF ITALIAN FTSE MIB STOCK INDEX

On the following pages are the weekly prices of the Italian FTSE MIB Stock Index, from September, 1994 through May, 2013. These charts identify the 50-week cycles, and the primary cycle phases within them.

Legend:

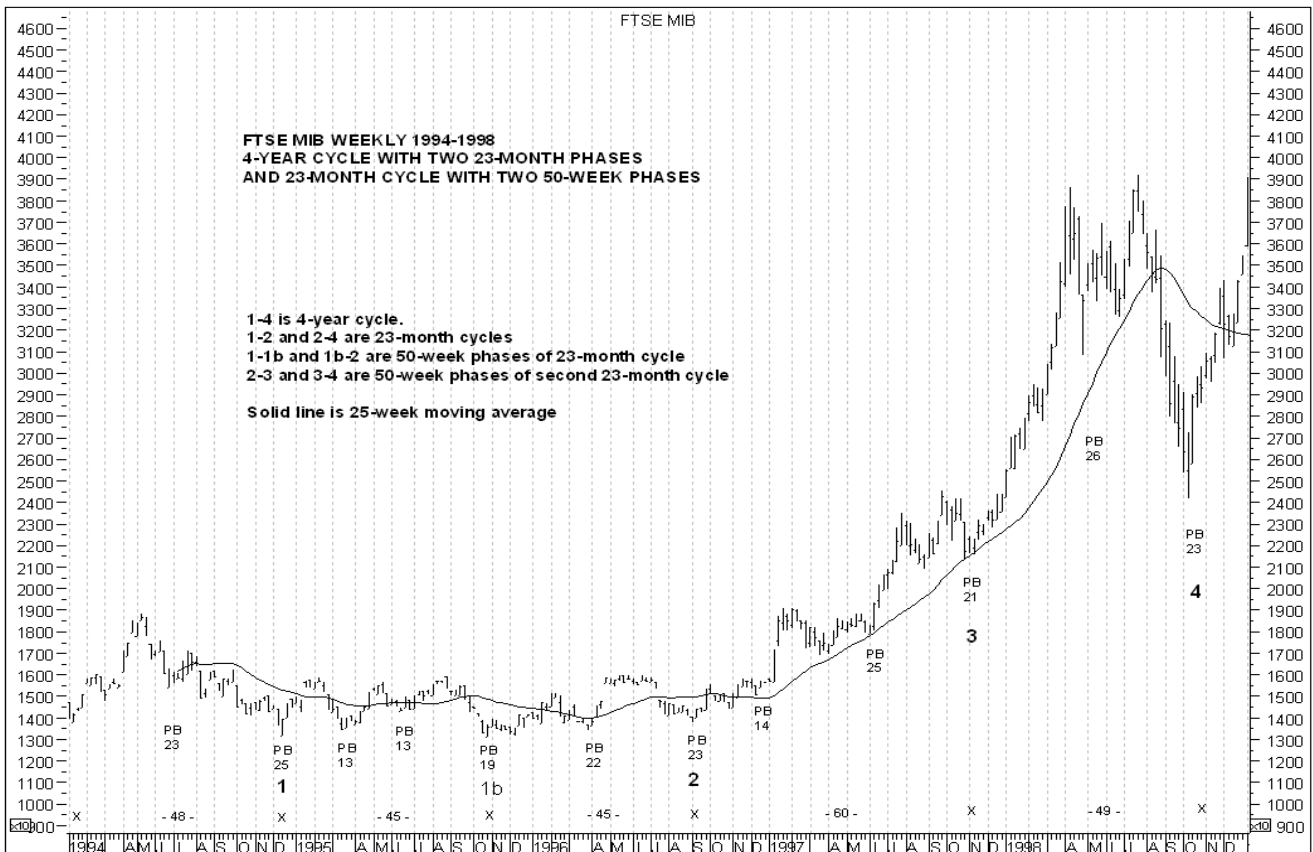
The 50-week cycles are identified with an 'X' at the bottom of the graph.

The number between the 'X's represents the number of weeks in each 50-week cycle (i.e. the number of weeks between the troughs of the 50-week cycle).

The primary cycles are identified with a PB (abbreviation for Primary Bottom).

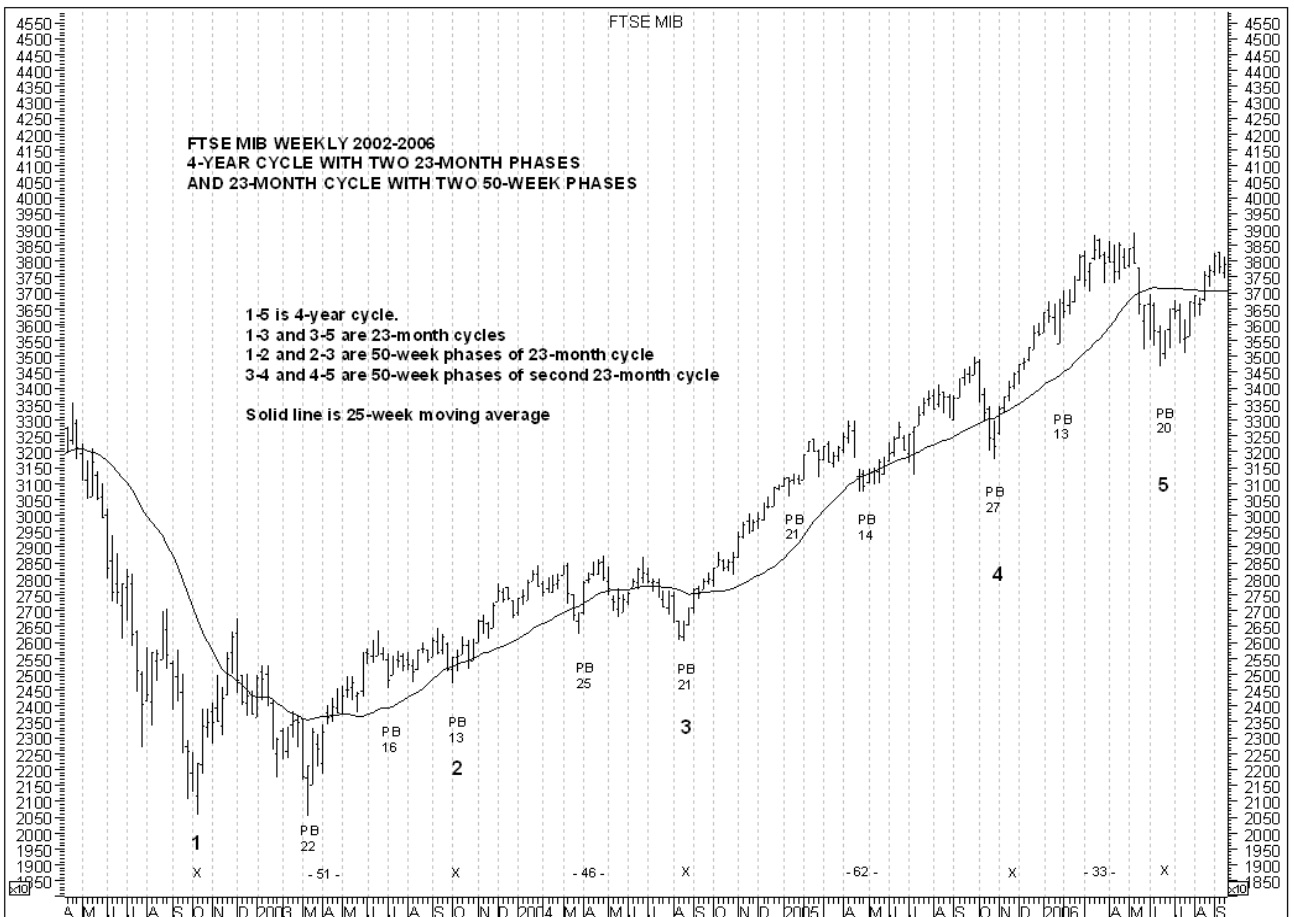
The number below each 'PB' represents the number of weeks in that particular primary cycle (i.e. the number of weeks from the prior primary cycle bottom).

Note that there are 19 completed 50-week cycles shown on these graphs. Note that eight (8) of these 50-week cycles are comprised of three primary cycle phases; that nine (9) are comprised of two primary cycle phases; that two (2) are comprised of four primary cycle phases. Those that are comprised of four phases represent the two longest 50-week cycles shown here: 63 (May, 2010) and 67 (September, 2011) weeks respectively.

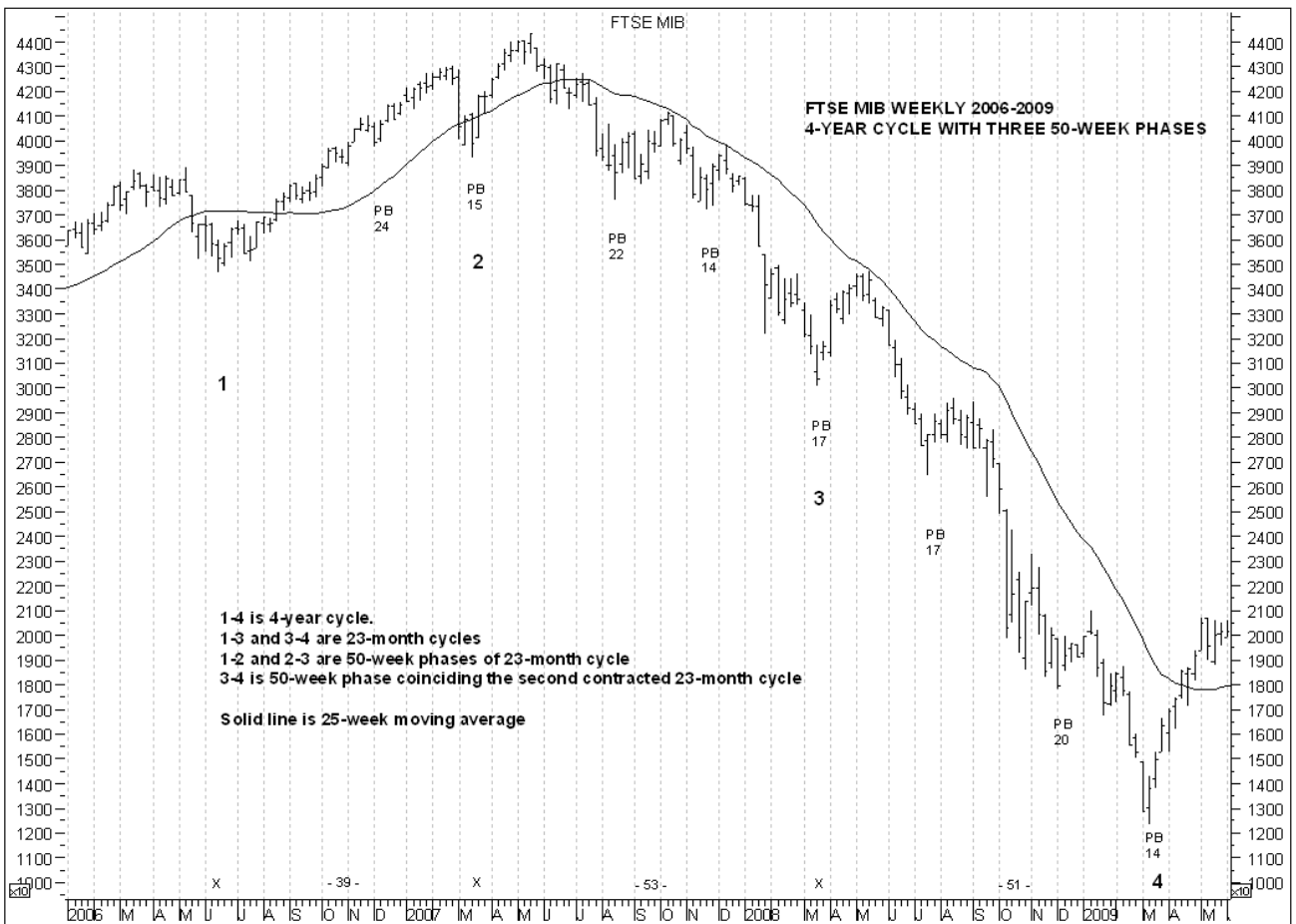




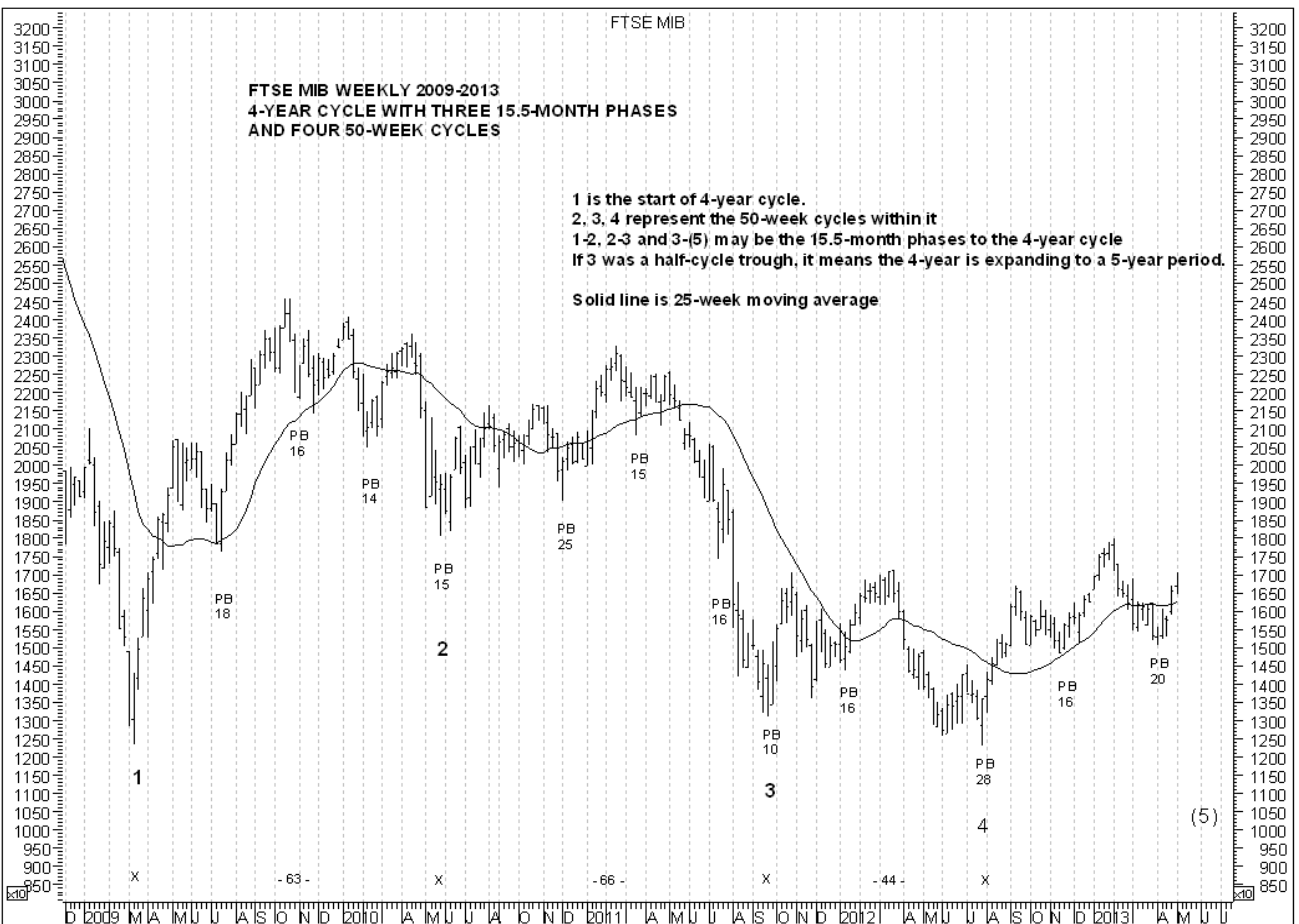
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THE 50-WEEK CYCLE IN ITALIAN STOCKS

The five pages which precede this chapter show the weekly graphs of the Italian FTSE MIB Stock Index from 1994 to May, 2013. These weekly charts indicate the 50-week cycles with an ‘X’ at the bottom of the graph, with the number of weeks in each cycle. These charts also identify the primary cycle phases (PB) which make up these 50-week cycles. Underneath each PB is a number signifying the number of weeks of that primary cycle.

50-WEEK CYCLE IN ITALIAN STOCKS: 1994-2013

Cycles # & Dates	Up-Dn	Primary Cycles	Cycles # & Dates	Up-Dn	Primary Cycles
01/1994					
1. 12/1994 (48)*	17 - 31	23 - 25	11. 08/2004 (46)	30-16	25-21
2. 10/1995 (45)	37-9	13-13-19	12. 10/2005 (62)	58-4	21-14-27
3. 09/1996 (45)	34-11	22-23	13. 06/2006 (33) *	28-5	13-20
4. 10/1997 (60)	55-5	14-25-21	14. 03/2007 (39)	36-3	24-15
5. 10/1998 (49) *	38-11	26-23	15. 03/2008 (53)	9-44	22-14-17
6. 10/1999 (54)	13-41	18-25-11	16. 03/2009 (51) *	8-43	17-20-14
7. 10/2000 (51)	21-30	26-25	17. 05/2010 (63)	31-32	18-16-14-15
8. 09/2001 (48)	5-43	23-25	18. 09/2011 (67)	36-31	25-15-16-10
9. 10/2002 (55) *	30-25	22-22-11	19. 07/2012 (44)	27-17	16-28
10. 10/2003 (51)	8-43	22-16-13	20. ?	?	16-20-?

Table 3: List of probable 50-week cycles (length in parentheses). Asterisks (*) represent 4-year cycles. Primary cycle lengths are in last column.

These 19 instances have a range of 33-67 weeks, with a median interval of 50.73 weeks. However 17 of these cycles (89%) unfolded between weeks 39-63, with an average interval of 50.82 weeks. If we used a Fibonacci orb of say, 38-62 weeks, we would find that 16 of the 19 instances unfolded within this interval (84%). So it seems safe to state that the median of this cycle is actually closer to 50 weeks and that this is a very reliable cycle throughout the late history of the Italian market.

There are other points of importance to this study. For instance, there were 11 cases of 50-week cycles exhibiting a bullish “*right translation*” pattern, 7 instances of a bearish “*left translation*” pattern, and one case of a neutral “*center translation*” pattern. The average length of those 11 right translation cycles was 49.5 weeks. The average length of the 7 left translation cycles was 50.8 weeks. In the cases of right translation patterns, the cycle rose an average of 37.2 weeks for the crest, with 72.7% occurring between weeks 30-55. The average decline from the crest to the following trough of the 50-week cycle was 10.2 weeks with a range of 3-31 weeks. However 72.7% declined for 3-16 weeks.

THE PRIMARY CYCLE IN ITALIAN STOCKS

Table 4 on the top of next page identifies the dates of 52 primary cycles in the FTSE MIB since January, 1994, and the number of weeks in each. From this table, first of all note that each “group” of primary cycles is segregated according to the 50-week cycle. Within each 50-week cycle are primary cycle phases. Note that there were 20 (19 + the current one) instances of 50-week cycles during this period. Nine (8+1?) of these exhibited three-phase patterns of primary cycles, while nine (9) contained two primary cycles phases, and two (2) contained four primary cycle phases.

Now let’s look at the time intervals of each primary cycle. The average of these 52 cases was 19.23 weeks. All of these primary cycles in the Italian FTSE MIB unfolded between weeks #10-28. However a full 45 of these instances unfolded at the 13-25 week interval (86.5%). 37 cases occurred in a range of 13-23 weeks (71.2%). **This creates an 18-week cycle that we will consider the norm with an orb of 5 weeks.** When the primary cycle coincides with the 50-week cycle, it has distorted about 42.1% of the time.

Now let’s examine the number of weeks up and down in these primary cycles. In all, there were 28 cases of *right translation* (53.8%), 17 cases of *left translation* (32.7%), and 7 cases of *center translation*, where the amount of time in rally was within one week of the amount of time in decline.

Of the 28 cases of *right translation*, the average interval between the start of the cycle and its primary cycle crest was 14.5 weeks. The range of time until the crest of the primary cycle varied from 8-23 weeks. However there were only three cases of the peak occurring in the 8th week. Thus in 21 of 28 cases (75%) the primary cycle topped out between the 9-20 week interval of the primary cycle when it was a *right translation*.

The decline from primary cycle crest to its trough lasted 1-9 weeks in all 28 cases of *right translation*, with an average duration of 4.11 weeks. However the majority of these instances (20 of 28 cases) saw the decline lasting just 1-5 weeks (71.4%).

The average time for the crest to unfold was 5.41 weeks into the *left translation* primary cycle. The range varied from 1-10 weeks. However there were only two cases of duration lasting less than 4 weeks. In only two instances did the primary cycle top out after the 8th week, supporting the rule that, in bull markets, the crest of the primary cycle will not occur until at least the 8th week of the primary cycle.

A high percentage of both *left or center translation* cycles happen during the last primary cycle phase of the 50-week cycle (11 of 19, or 57.9%), which is higher than is the case in the other primary cycles of the 50-week cycle. In the 33 cases of other primary cycles, both *left or center translation* occurred 12 times (36.3%).

DATES OF PRIMARY CYCLES IN THE ITALIAN FTSE MIB INDEX: 1994-2013

	Date	Weeks	Up-Down		Date	Weeks	Up-Down
	01/1994						
1.	06/1994	23	17 - 6	26.	03/2004	25	23 - 2
2.	12/1994	25 *	4 - 21	27.	08/2004	21	5 - 16
3.	03/1995	13	8 - 5	28.	01/2005	21	20 - 1
4.	06/1995	13	9 - 6	29.	04/2005	14	12 - 2
5.	10/1995	19	10 - 9	30.	10/2005	27	23 - 4
6.	03/1996	22	15 - 7	31.	01/2006	13	11 - 2
7.	09/1996	23	12 - 11	32.	06/2006	20 *	15 - 5
8.	12/1996	14	13 - 1	33.	12/2006	24	23 - 1
9.	09/1997	25	8 - 17	34.	03/2007	15	12 - 3
10.	10/1997	21	16 - 5	35.	08/2007	22	9 - 13
11.	04/1998	26	23 - 3	36.	11/2007	14	8 - 6
12.	10/1998	23 *	12 - 11	37.	03/2008	17	3 - 14
13.	02/1999	18	13 - 5	38.	07/2008	17	8 - 9
14.	08/1999	25	5 - 20	39.	12/2008	20	4 - 16
15.	10/1999	11	8 - 3	40.	03/2009	14 *	5 - 9
16.	04/2000	26	20 - 6	41.	07/2009	18	9 - 9
17.	10/2000	25	20 - 5	42.	11/2009	16	13 - 3
				43.	02/2010	14	10 - 4
18.	03/2001	23	5 - 18	44.	05/2010	15	9 - 6
19.	09/2001	25	6 - 19	45.	12/2010	25	19 - 6
20.	02/2002	22	11 - 11	46.	03/2011	15	11 - 4
21.	07/2002	22	8 - 14	47.	07/2011	16	7 - 9
22.	10/2002	11 *	5 - 6	48.	09/2011	10	1 - 9
23.	03/2003	22	8 - 14	49.	01/2012	16	5 - 11
24.	07/2003	16	14 - 2	50.	07/2012	28	10 - 14
25.	10/2003	13	10 - 3	51.	11/2012	16	7 - 9
				52.	04/2013	20	11 - 9

Table 4: List of primary cycles in the Italian Ftse Mib Index since January, 1994. “Weeks” designate number of weeks in that cycle (weeks from previous primary cycle trough). The asterisks (*) represent occurrence of 4-year cycles. Each series is groups according the 50-week cycle (i.e. space between certain dates represents the first primary cycle of new 50-week cycle). “Up-Down” refer to number of weeks from start to primary crest (up) and number of weeks from primary cycle crest to primary trough (down) that followed.

DAILY GRAPHS OF ITALIAN FTSE MIB STOCK INDEX

On the following pages are the daily prices of the Italian FTSE MIB Stock Index, from September, 1998 through July, 2012. These charts identify the primary, one-half primary, and/or major cycle phases within them. It also identifies some double bottoms and double tops to these cycles, and some cases of trading cycles. Each chart contains a moving average (25-day) and a 15-day slow stochastic at the bottom of the price bars.

Legend:

The primary cycles are identified with a PB (abbreviation for Primary Bottom). The crests of the primary cycles are identified with a PT (abbreviation for Primary Top).

The one-half primary cycles are identified as a ½-PB. They usually fall in the 7-11 week interval of the primary cycle – when they occur. The crests of the one-half primary cycles are identified as ½-PT (when they are lower in price than the primary cycle crest).

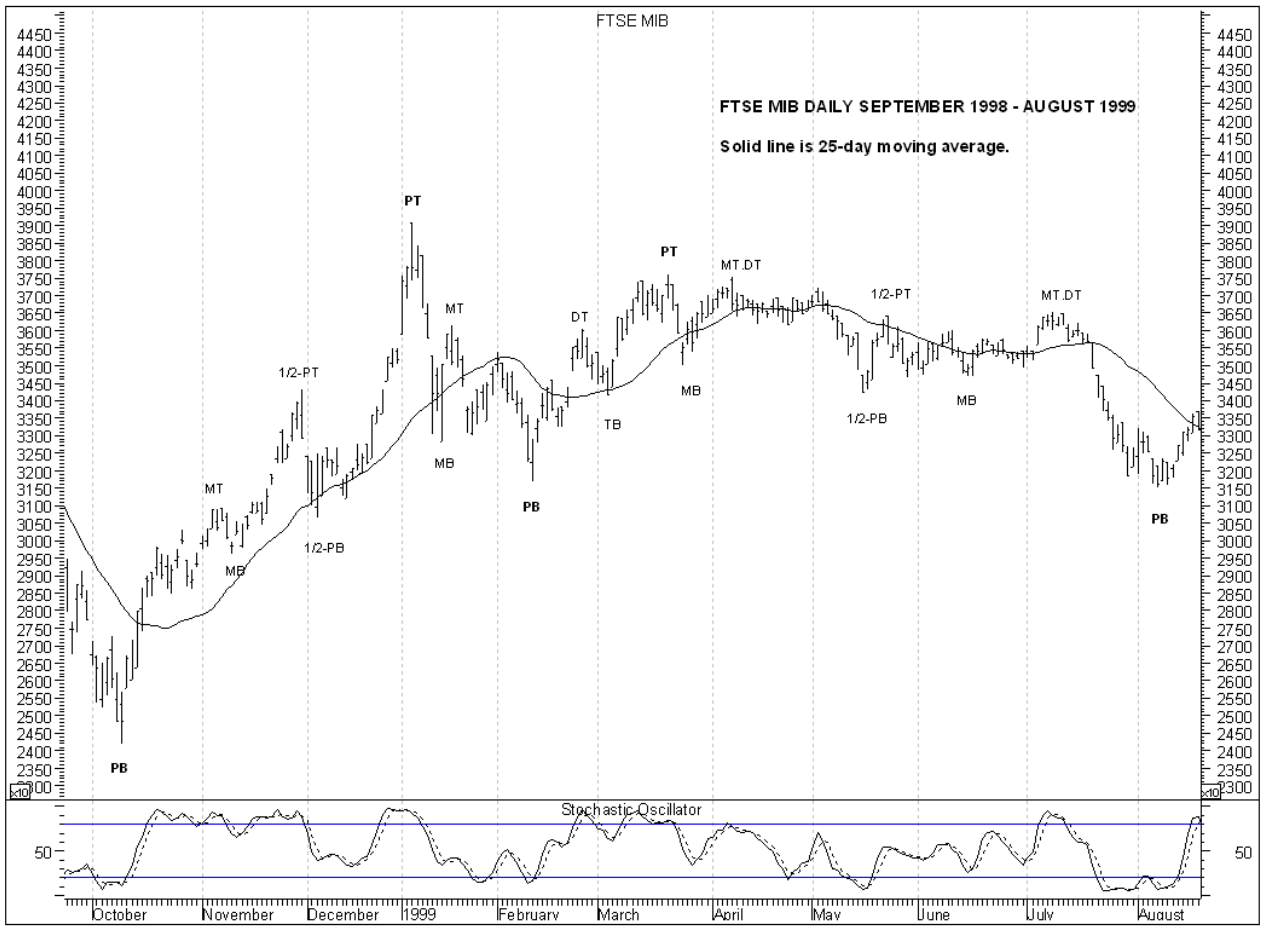
The major cycles are identified with a MB (abbreviation for Major Bottom). These tend to occur at 5-7 week intervals. The crests of the major cycles are identified with a MT (abbreviation for a Major Top). In some cases, there will be a one-half primary cycle within two major cycles' lows, and the one-half primary cycle will be the more dominant cycle.

Double bottoms are identified as DB. Double tops are identified as DT, especially when they occur close to the primary cycle of the same type.

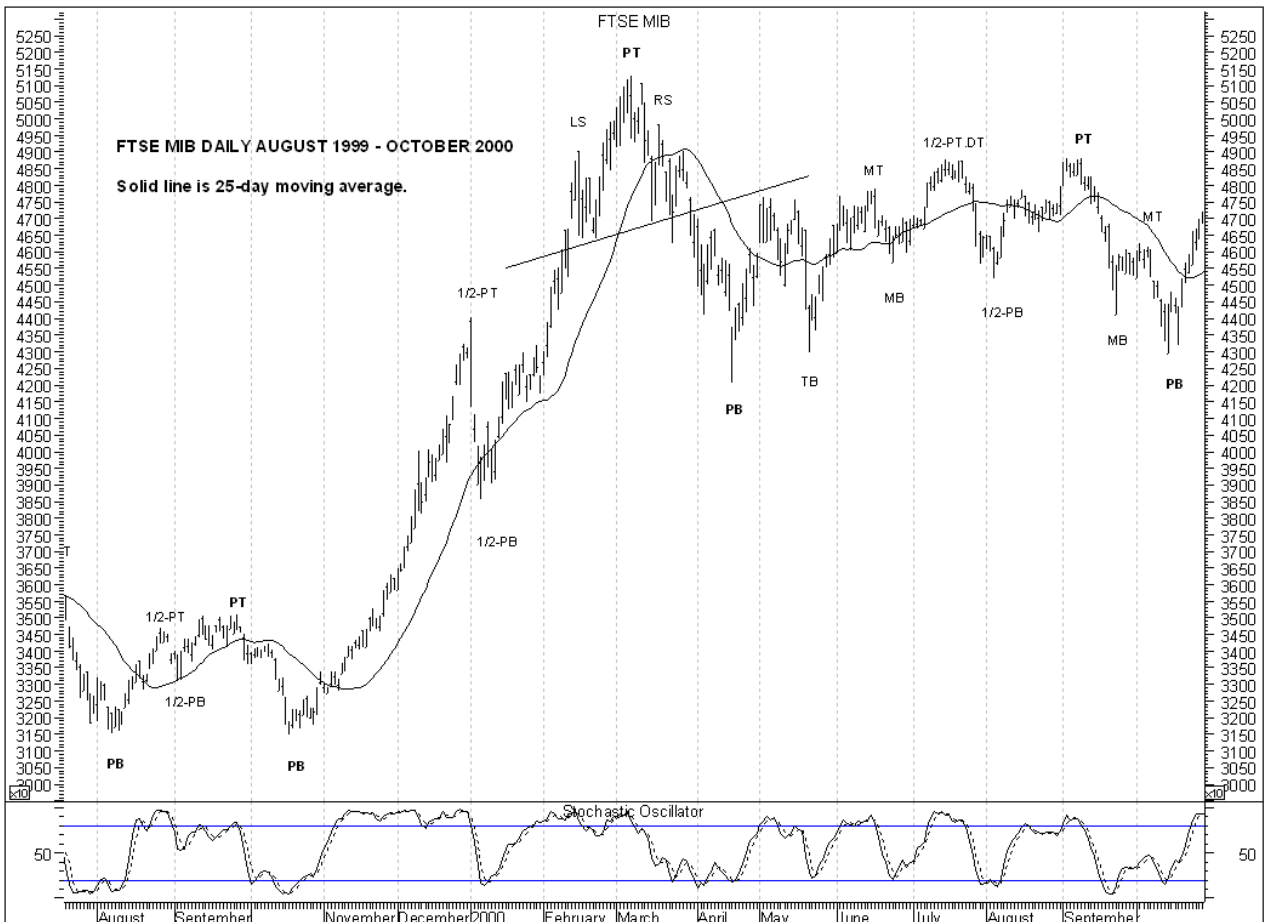
Occasionally a label is given to a prominent trough in between two major cycle bottoms as a TB, which stands for Trading Cycle Bottom.

Occasionally a sharp rally to an isolated high falls within the major cycle. This is sometimes labelled as a TT, which stands for Trading Cycle Top.

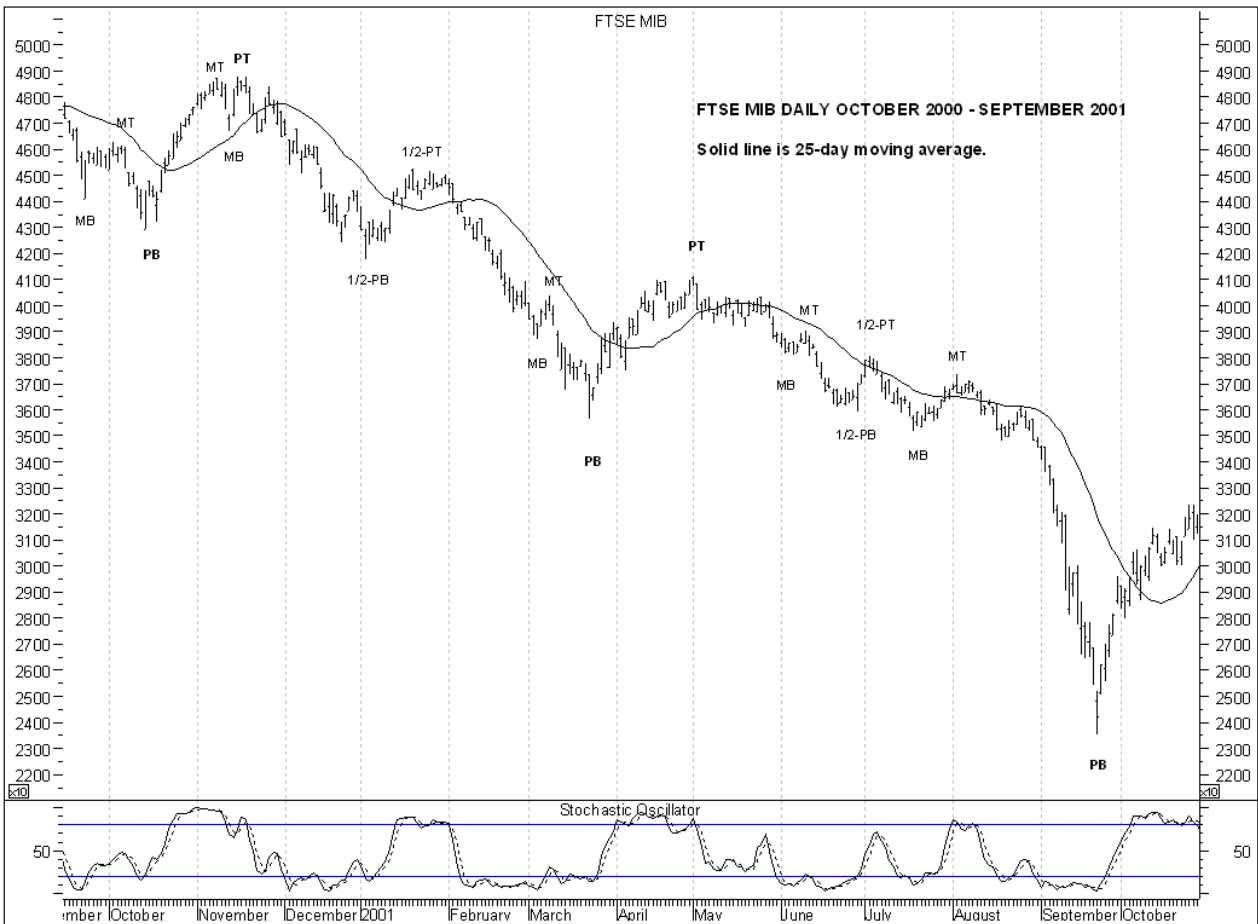
In some cases a “Head and Shoulders” pattern will be identified with LS (Left Shoulder), H (Head), and RS (Right Shoulder). The primary cycle itself is usually the head in these cases. A trendline will connect the “neckline” to help illustrate this pattern.



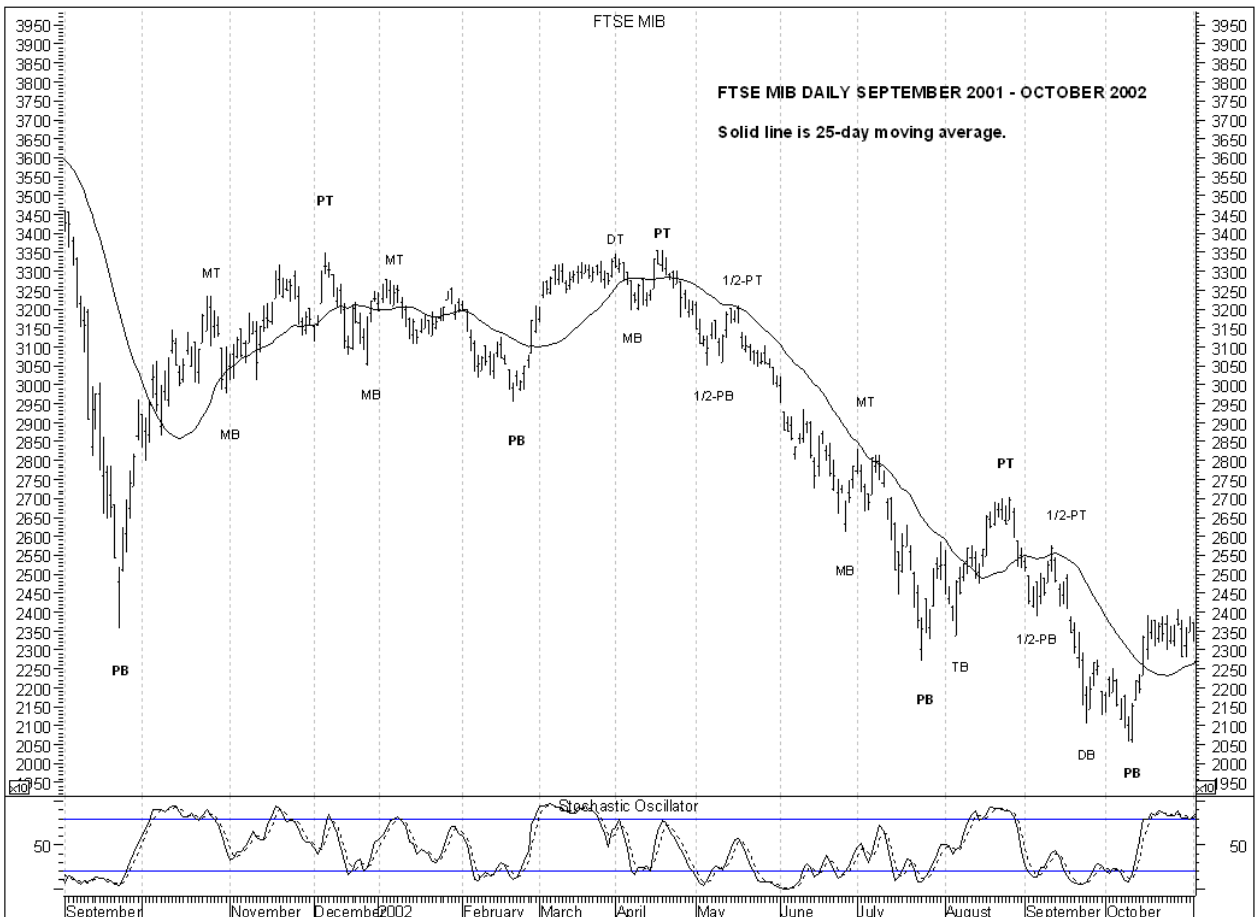
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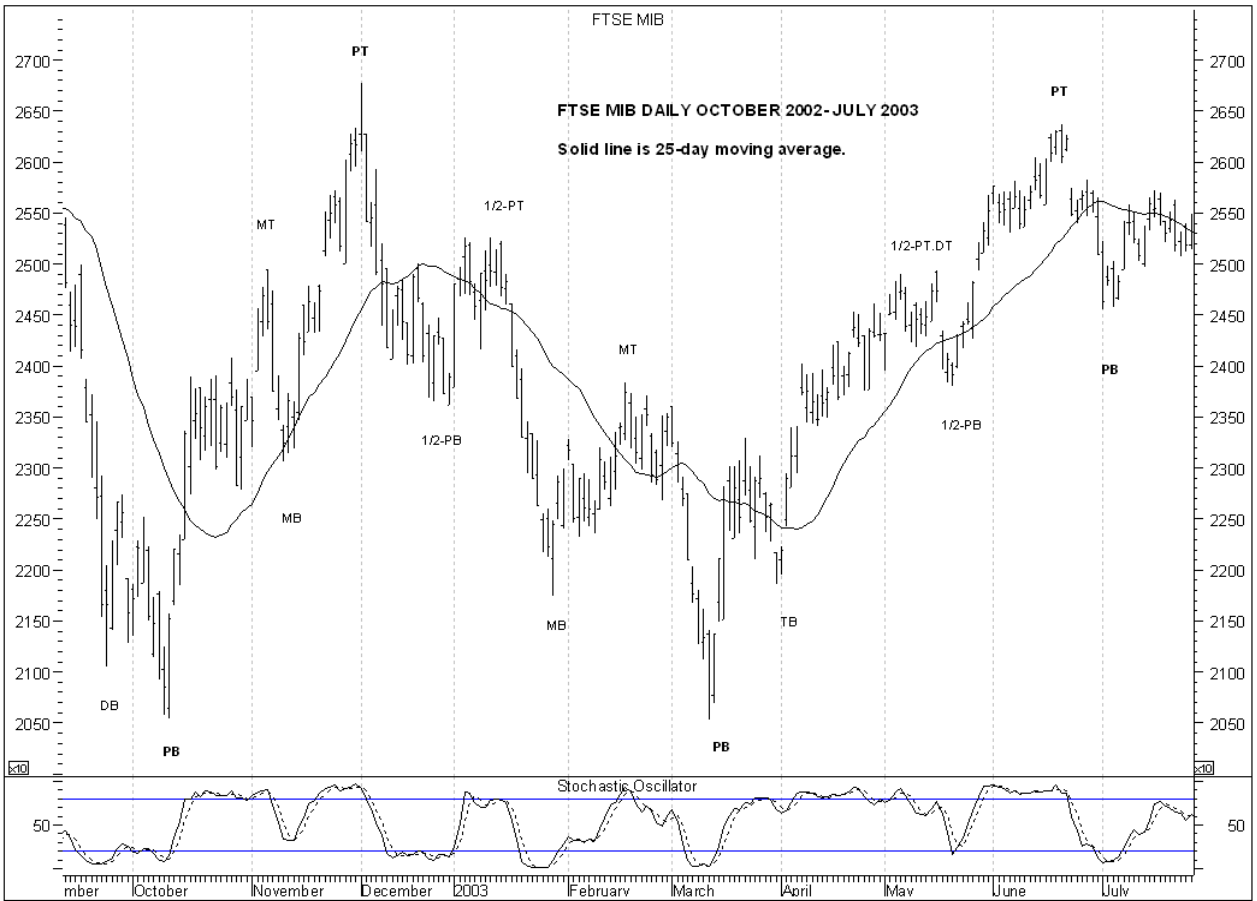
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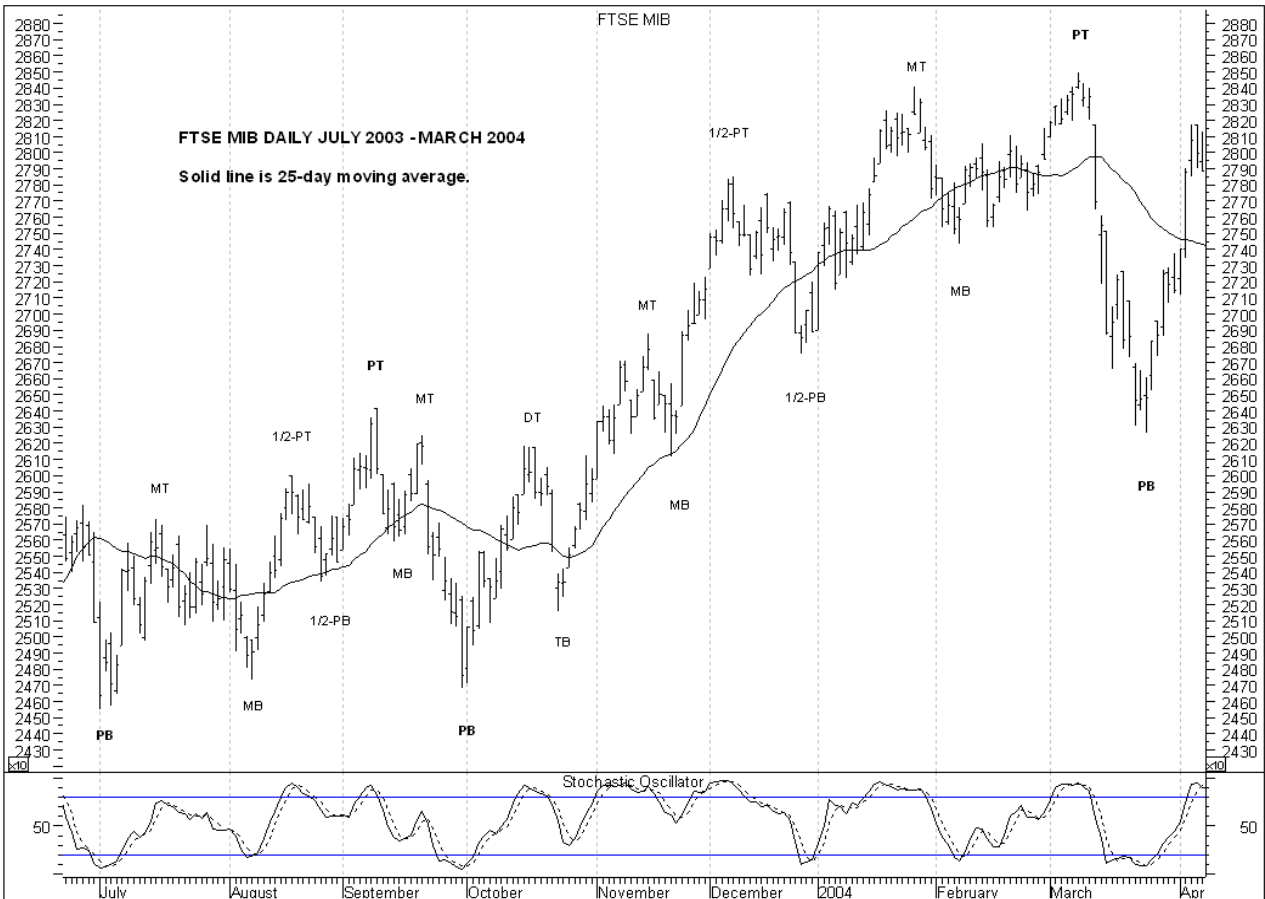
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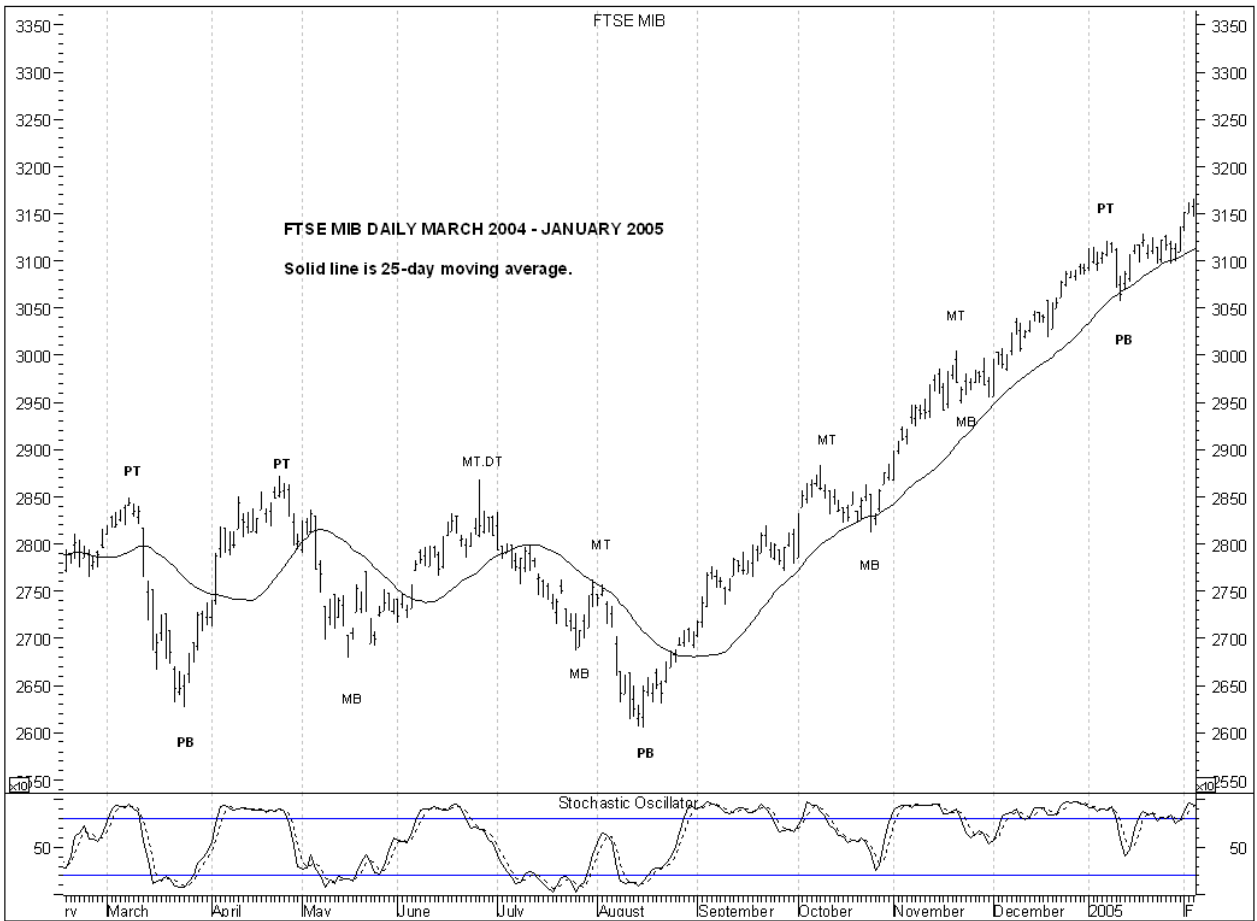
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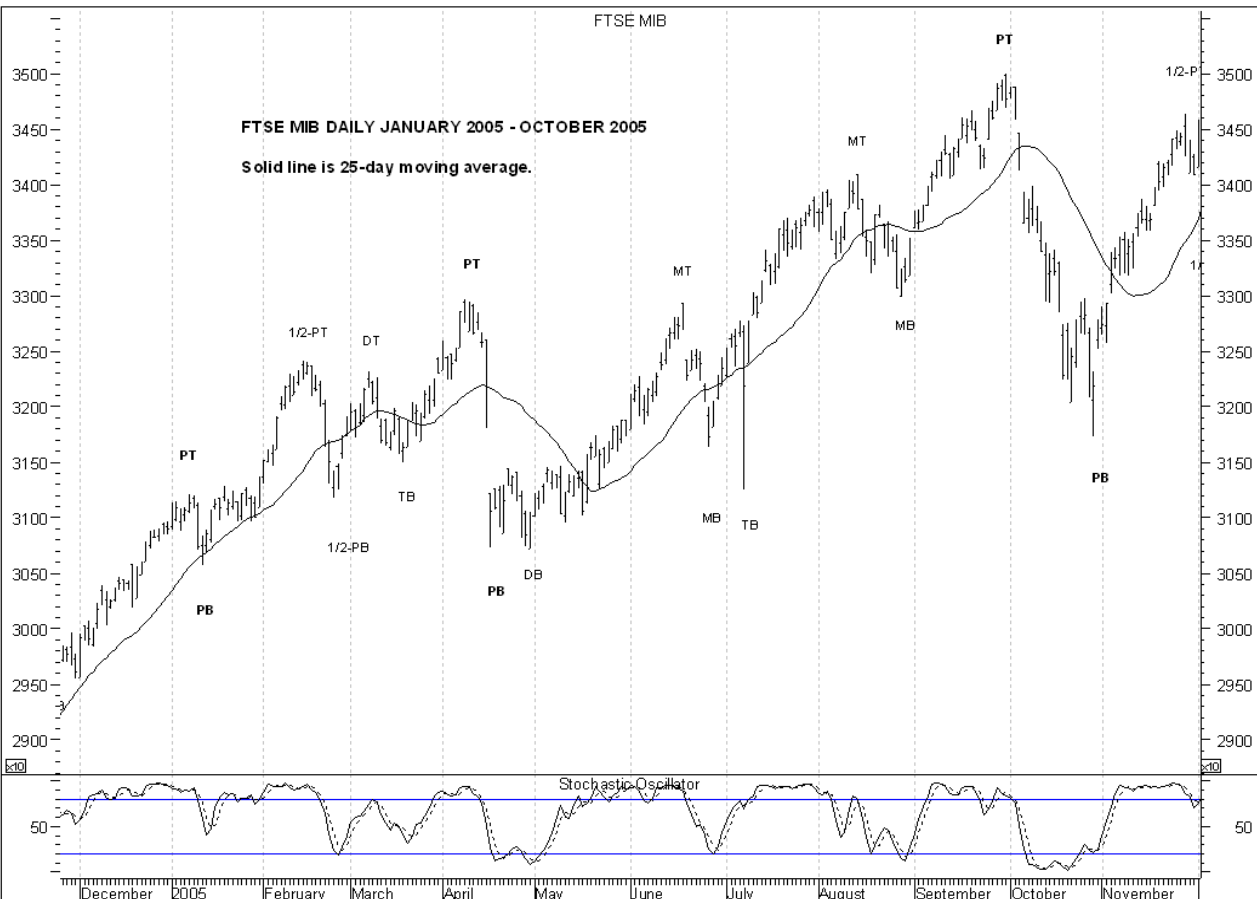
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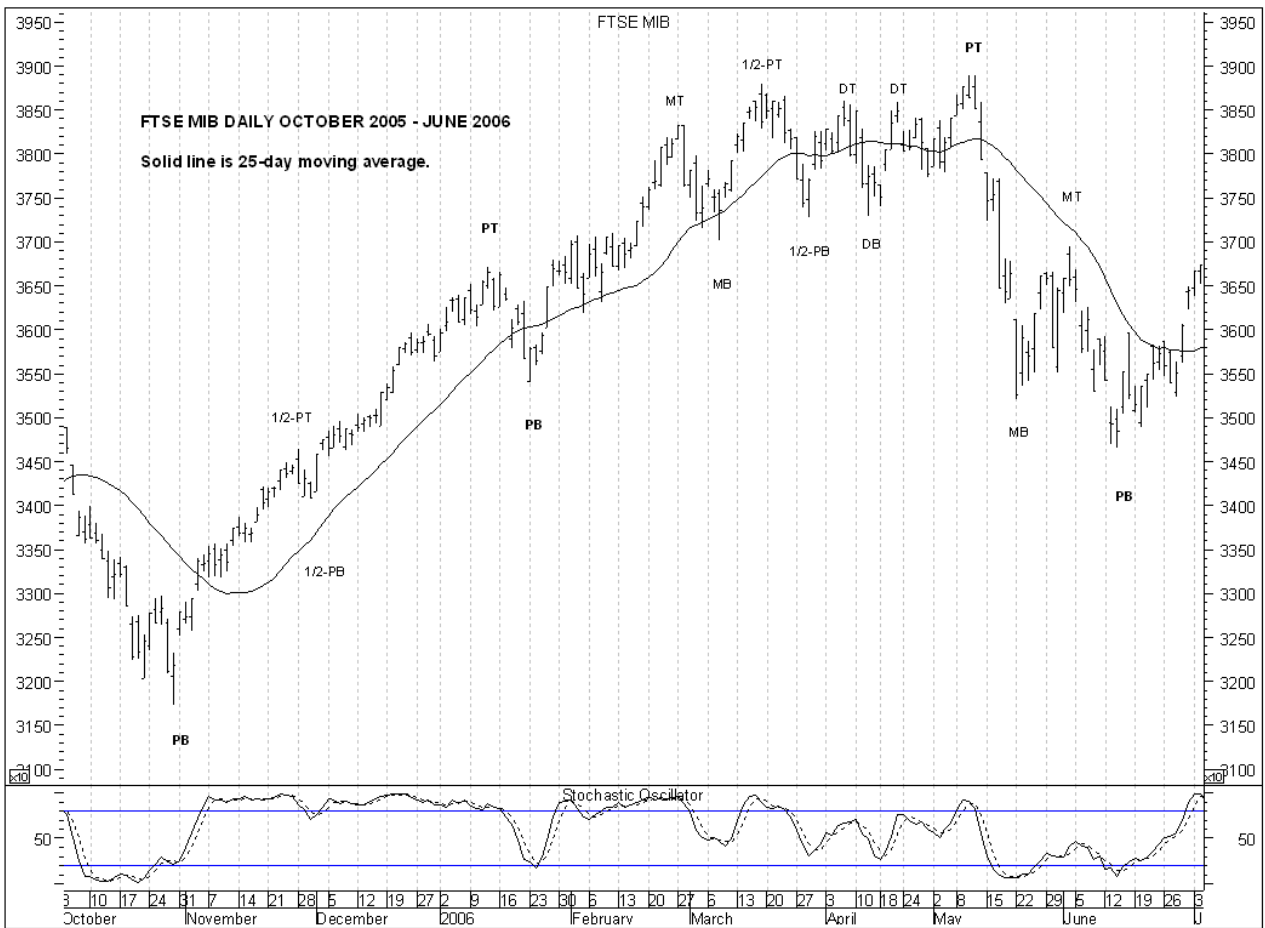
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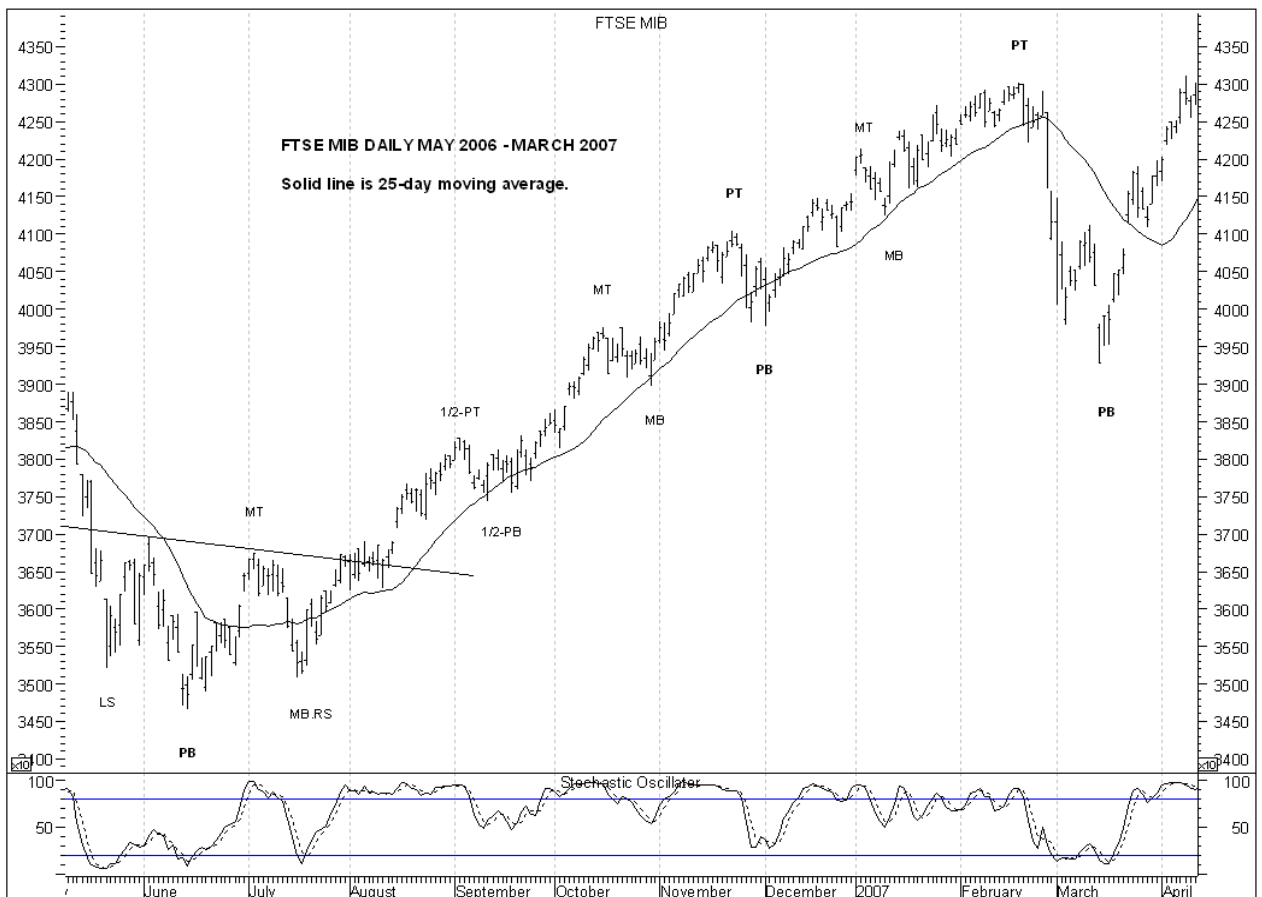
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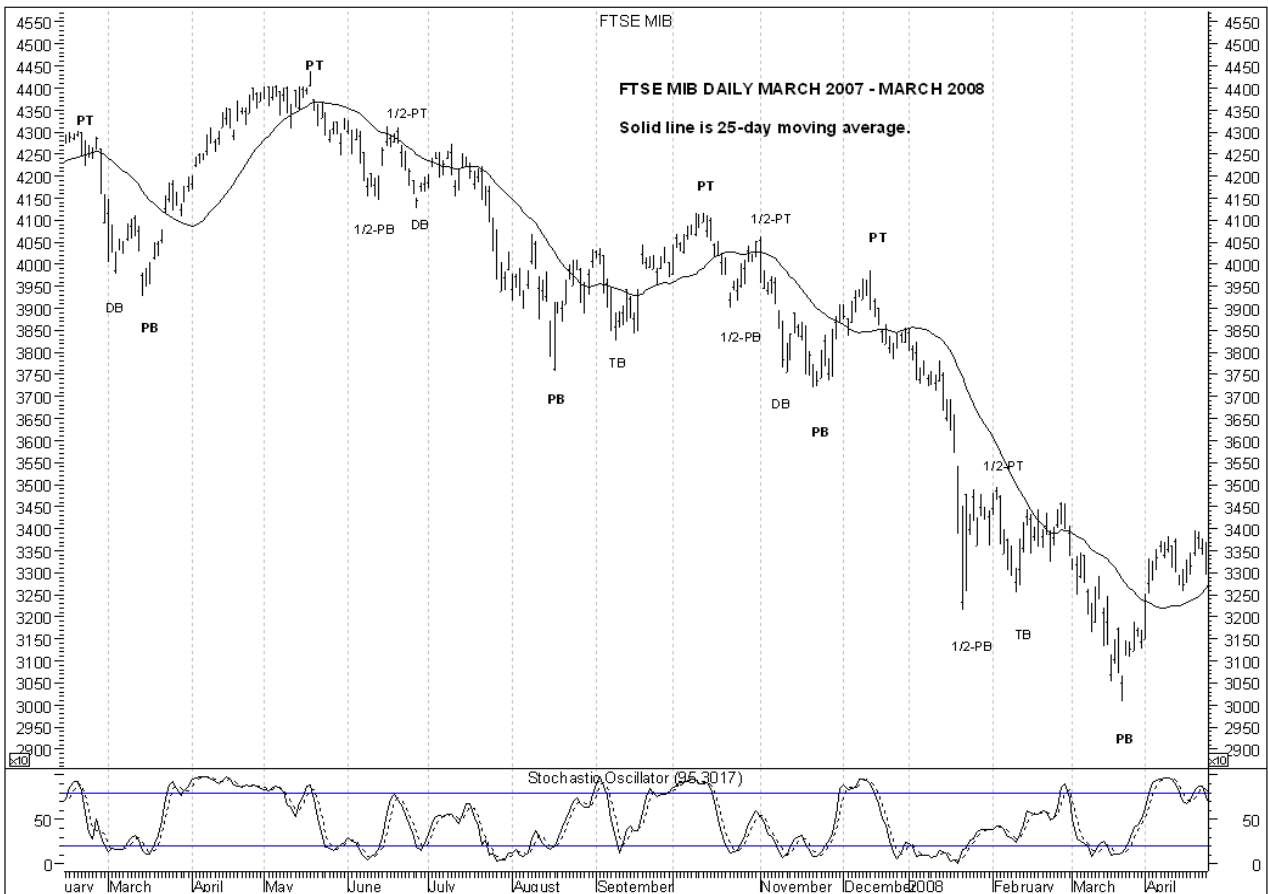
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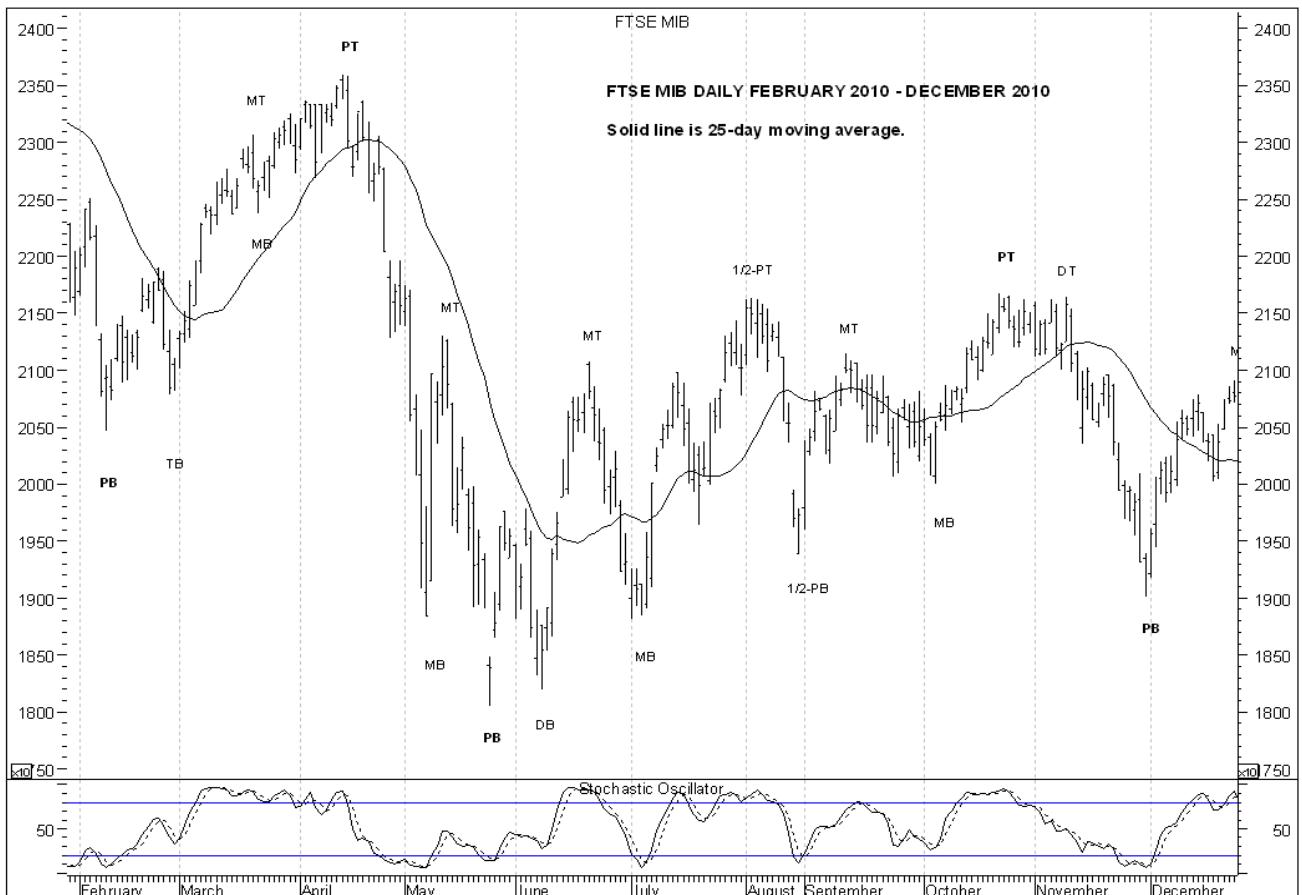
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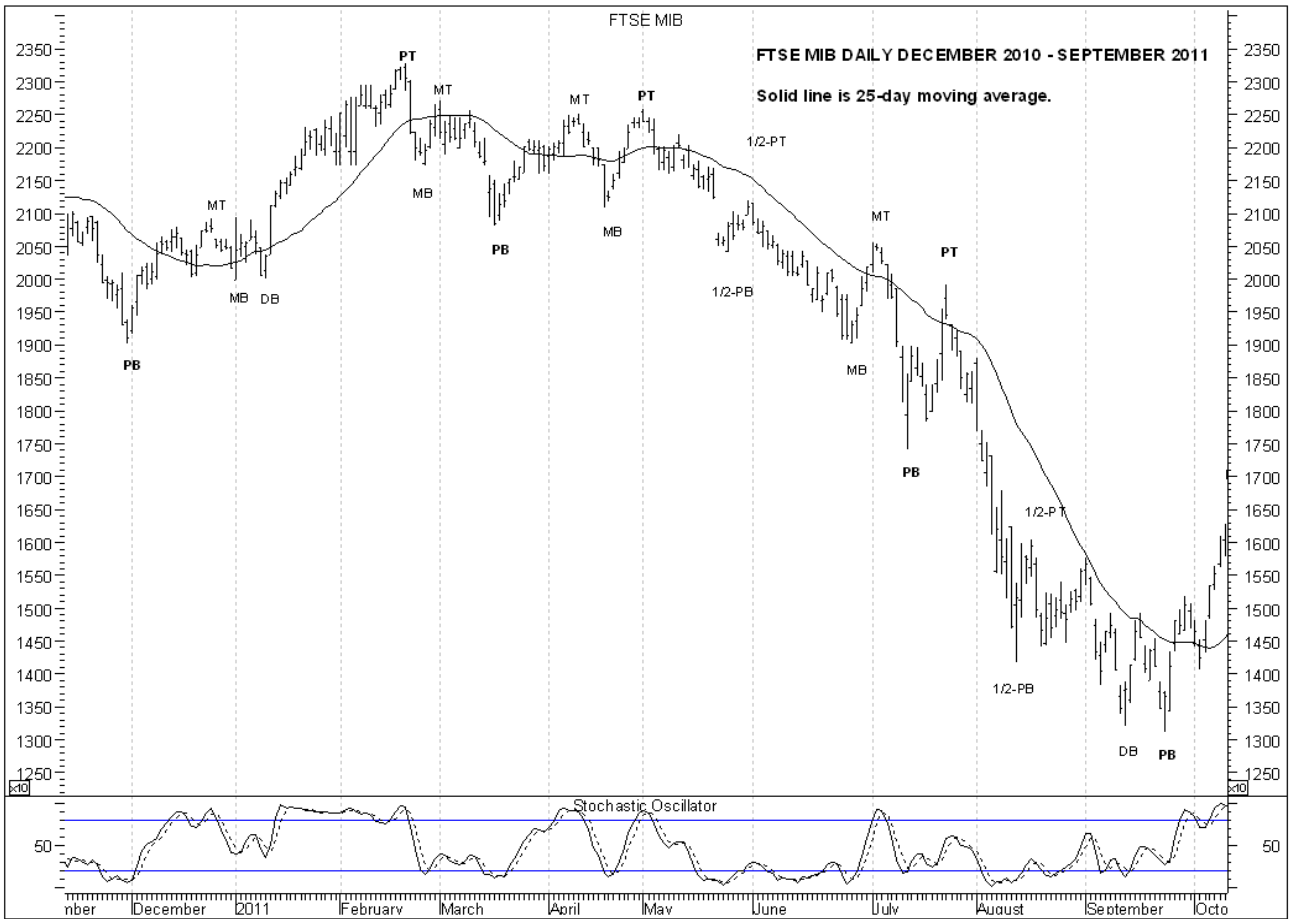
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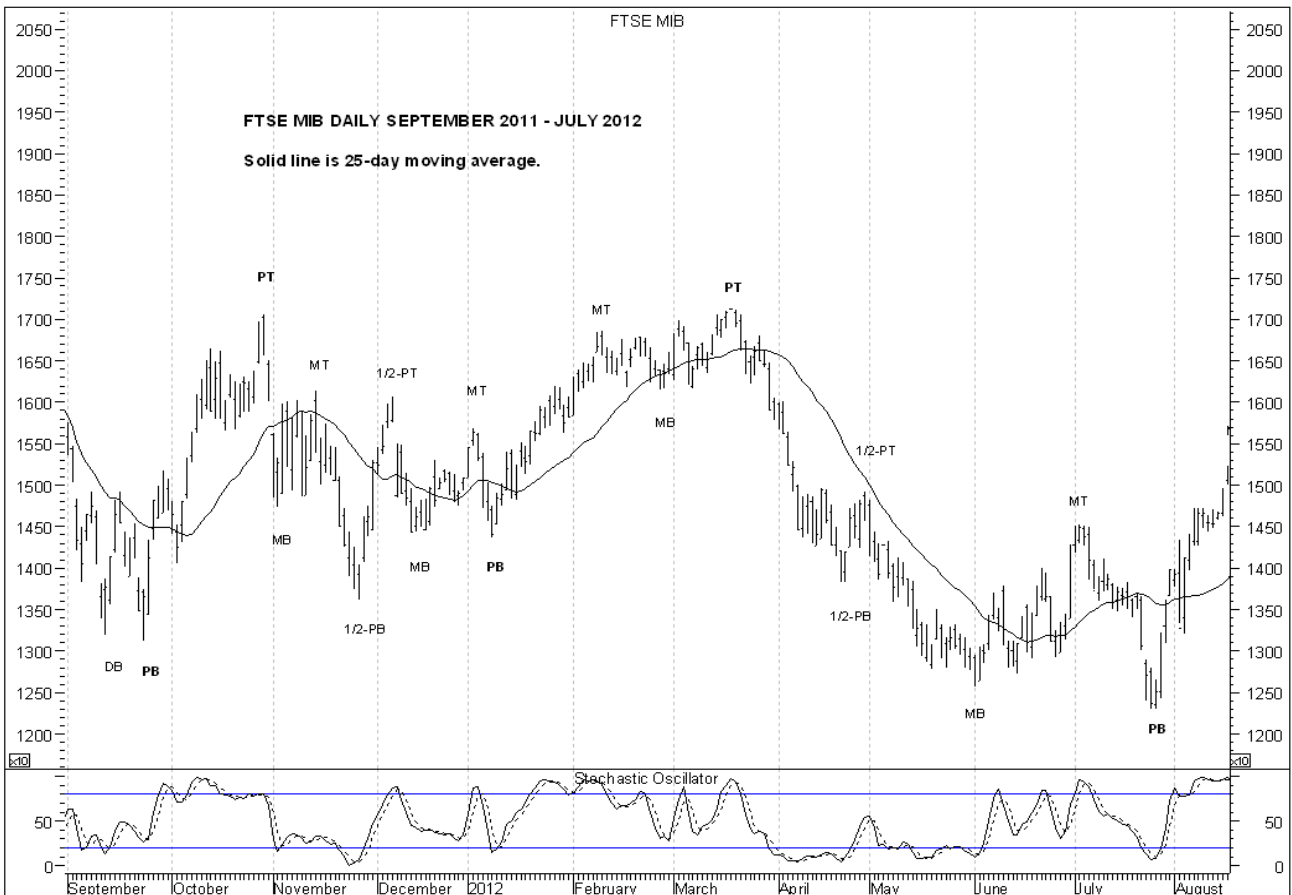
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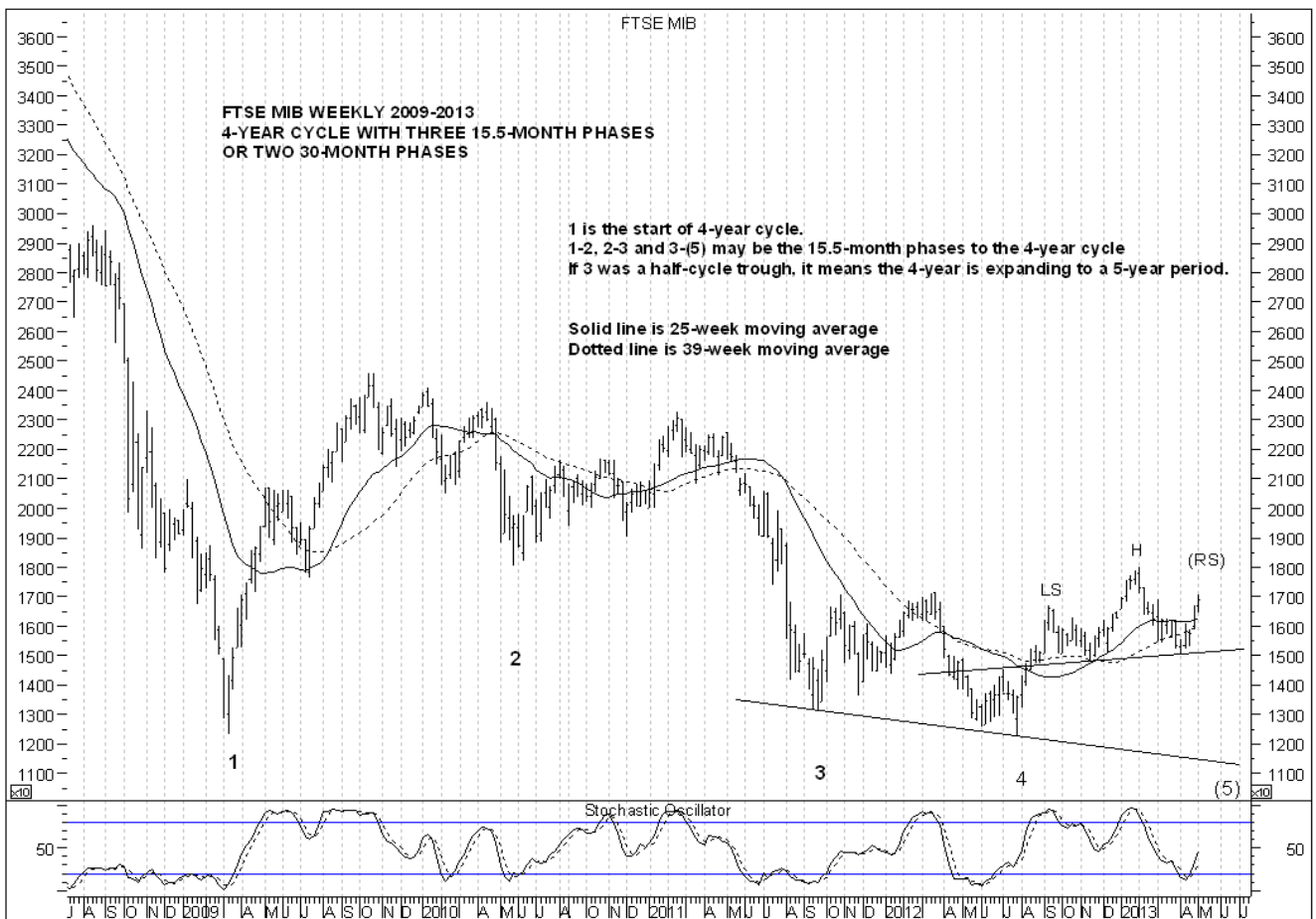


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Italian FTSE MIB Forecast

May 2013 starts the 50th month of the 4-year cycle in the Italian FTSE MIB. Our data does not go back far enough to confirm the existence of a 4-year cycle here, but we suspect it exists. If so, time is getting late in this 4-year cycle, and a steep decline is due to begin to the 4-year cycle trough. We also suspect this cycle will unfold similar to that in the USA. That is, it is going to be a three-phase pattern, consisting of three 15.5-month cycles with a range of 13-20 months. However, the third phase has a very wide range of 8-23 months. Measured from the 2nd phase at the low in September 2011, this third phase could be still be in effect and completed by August 2013. From the weekly chart, you can also see that the low of September 2011 (3) was either a 30-month half-cycle low to what will become a 5-year cycle, or the end of the second 15.5-month cycle. In that case, the final 30-month phase is not due until March 2014 +/- 5 months. In the second case, the third phase lasts 8-23 months and is thus anytime due by August 2013.

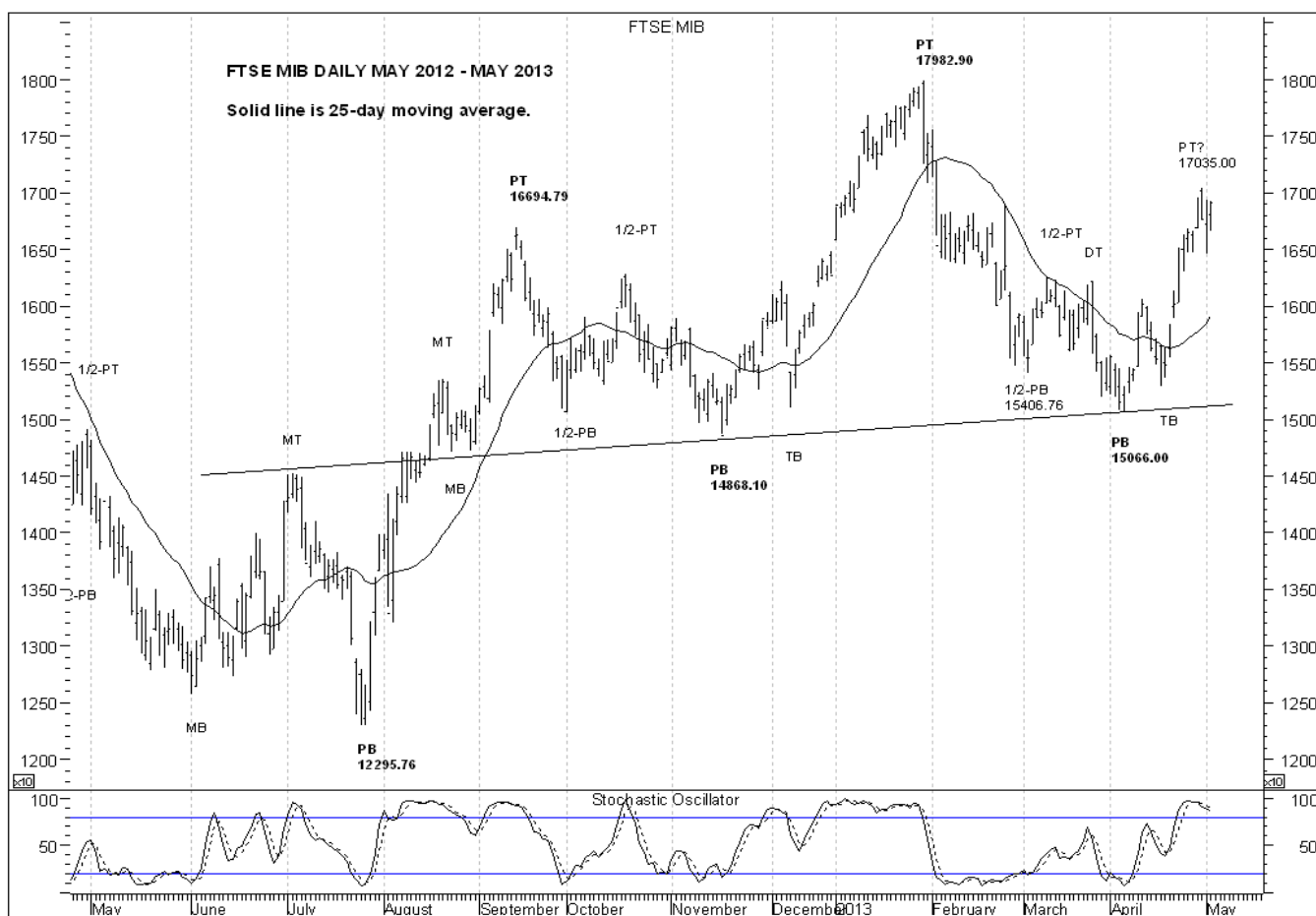
The 4-year cycle in the Italian FTSE MIB is definitely more bearish than other European markets. The weekly chart shows two basic characteristics of a bear market: 1) left translation pattern, with crest occurred in the early part of the cycle (24558 in October, 2009) and 2) the third 15.5-month half-cycle low (4) which was 12295 in July, 2012, took out the start of the cycle, which was 12322 in March, 2009.



In the weekly chart above, you can see these two cycle possibilities, based on the low at 3. Still, you can also see that the low at 4 is lower than both the start of 4-year cycle (1) and the 15.5-month cycle or 30-month half-cycle low (3), which is a characteristic of a bear market.

The weekly chart also shows that the last primary decline bottomed under the 39-week moving average, which confirms this last 15.5-month cycle has topped out with the high of 17982 on January 30 and the move down to the 4-year cycle trough is underway. It would likely be a decline of at least 30% from that high. If this is the first leg down to the 15.5-month and 4-year cycle troughs, then that high should hold on this rally. The preferred price target for the decline would be back to the area of the third 15.5-month half-cycle low (4), which was 12295 in July, 2012, or to the downward trendline drawn in the weekly chart (now at 11,470).

A bearish confirmation that 15.5-month cycle top is in will occur if next cycle high does not exceed the high on January 30 at 17,982. Yet another signal that the 15.5-month top is in and the move down to the 4-year cycle trough is underway will take place when the FTSE MIB breaks below the neckline of a bearish head and shoulders pattern identified in the weekly chart with LS (left shoulder), H (head), and RS (right shoulder).



May 6 begins the 6th week of the (13-25) week primary cycle following the low of 15,066 on April 5. It is possible that the high of 17,035 on May 3 could have been the primary cycle top. Failure to get back above the high on January 30 at 17,982 is bearish and implies a draft down to primary cycle trough is underway with a first downside MCP price objective of 14,118 +/- 456.