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Composite and Leading Indicators

Recent Economic Crisis as a Crash-Test for Competing Cyclical Indicators: The Russian Experience

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Abstract

For years anyone interested in Russia had access to a full set of common tools for business cycle analysis: several versions of Composite Leading Index, a Purchasing Managers' Index, Enterprise and Consumer Sentiment Indexes, etc. However the recent world crisis has spread throughout Russia quite unexpectedly for most politicians, businessmen and experts alike. Is it possible that none of existing indexes were able to say anything about the approaching decline? In reality this is not the case. So then why did a more or less definite forecast provided by some indexes have no consequences for common economic sentiments in Russia?

There are several reasons for this.

First is that during a long period of economic expansion there were few chances to calibrate leading indexes for their real leading qualities. So, when some of them began to signal future decline (of course, the various indexes did this with variable clarity) there was no reason to trust any particular indicator more than the other. Now, almost two years after the final peak and a year after the last trough, it is time to compare the predictive powers of various cyclical indicators and choose the best ones.

The second reason has to do with more than just a formal statistical criteria. Contemporary economic life is measured in days and hours, but most usual economic indicators have inevitable lags of months and sometimes quarters. Moreover, the real-time picture of economic dynamics may differ in some sense from the same picture in its historical perspective (because all fluctuations receive their proper weights only in the context of the whole). Therefore it's important to understand if monthly leading indicators are really capable of providing important information to decision-makers in Russia.

In the beginning of the article we describe all leading indexes available in Russia (including one proposed by the author). Then we compare these indexes' predictive power. The final section outlines problems of various cyclical indicators in Russia and prospects for their practical use. In this context the need of some weekly leading indicator is discussed.

Recent Economic Crisis as a Crash-Test for Competing Cyclical Indicators: the Russian Experience

Key Words: Cyclical Indicators, Leading Indicators, Russia

Novelty of the contribution: First systematic examination of all leading indicators available for Russia during the recent world crisis. Discussion of monthly and weekly leading indicators.

Data set: Russian economic, financial and enterprise survey data.

Methods: Statistical forecasting methods. Analysis of turning points.

Most relevant references: Leading indexes of The Conference Board, ECRI, and OECD.

JEL Classification: E32 - Business Fluctuations; Cycles

1 Introduction

For years anyone interested in Russia had access to a full set of common tools for business cycle analysis: several versions of Composite Leading Index, a Purchasing Managers' Index, Enterprise and Consumer Sentiment Indexes, etc. However the recent world crisis has spread throughout Russia quite unexpectedly for most politicians, businessmen and experts alike. Is it possible that none of existing indexes were able to say anything about the approaching decline? In reality this is not the case. So then why did a more or less definite forecast provided by some indexes have no consequences for common economic sentiments in Russia?

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2 Composite Cyclical Indicators for Russia: A Full Spectrum

2.1 Internationally Accepted Indexes for Russia

2.1.1 Composite Leading Index (CLI) by OECD

OECD is well known as an authoritative producer of CLI's for various countries and regions. Russian CLI is the only one of 42 OECD's indexes constructed by unified methodology which is well documented and doesn't need any additional description. But since components of a CLI for each country are different, we will focus on this particular point.

From April 2006 the list of components of the Russian CLI included the following five:¹

- Order books in manufacturing: level (% balance, sa)
- Stock prices: RTS index (2000 = 100)
- World market price crude oil (2000 = 100)
- Monetary aggregate M2, sa

¹ See Nilsson (2006), p.11.

- Foreign trade balance (f.o.b – c.i.f.), sa

We couldn't find the exact moment when one additional indicator was introduced:

- Level of finished goods stocks (inverted).

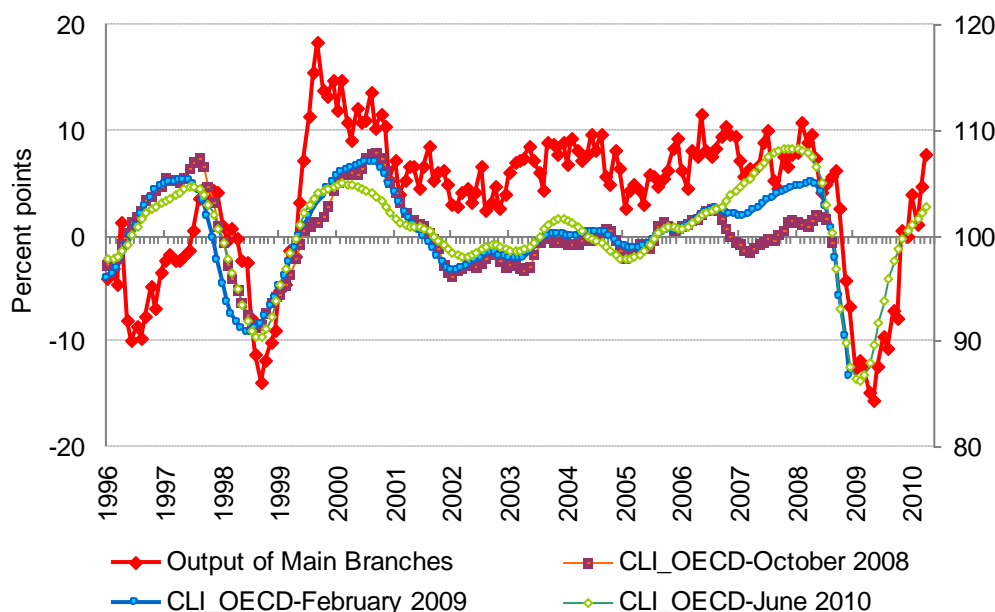
In February 2010 the Russian CLI (as well as some others) was revised. First three of its components were retained, but the last three were replaced by:²

- US imports from Russia (inverted);
- Production trend observed in manufacturing in recent months (% balance, sa);
- Assessment of present level of export order-books in manufacturing (% balance).

As a source of BTS data OECD began to use polls by the Institute for the Economy in Transition (IET) instead of the Centre for Economic Analysis (CEA). Since then the trajectory of OECD's Russian CLI has changed significantly. Before this it had changed substantially in December 2008, after modification of the OECD's procedure for all CLI calculations.³ It had also changed slightly every month as a result of seasonal adjustments and re-estimations with one more observation.

In Figure 1 several consecutive revisions of Russian CLI by OECD are plotted against official estimate of Y-o-Y outputs' growth rates for "main" branches of economy.⁴

Figure 1 OECD Amplitude Adjusted CLI's for Russia



Sources: Rosstat; OECD

² For historical drift in the list of Russian OECD CLI's components see: Kitrar et al (2003), Nilsson and Brunet (2006), Nilsson (2006), OECD (2010).

³ Gyomai and Guidetti (2008).

⁴ The "main" branches are the following: agriculture; mining; manufacturing; electricity and public utilities; construction; transportation; retail trade; wholesale trade. In the remaining part of our paper all other cyclical indicators are also plotted against these growth rates for main branches of the economy.

OECD publishes all its CLI's between 5-th and 11-th of a month, around 35-40 days after the end of the month in question. Russian CLI was released for the first time in April 2006.⁵ Now it is published in two forms: "trend restored" and "amplitude adjusted" (an index numbers "2005=100" and "long-term trend = 100", respectively). Since the end of 2008 the OECD's headline indicator is the amplitude adjusted CLI. It allows to identify four qualitatively different cyclical phases:

- expansion - CLI increasing and above 100;
- downturn - CLI decreasing and above 100;
- slowdown - CLI decreasing and below 100;
- recovery - CLI increasing and below 100.

2.1.2 Purchasing Managers' Index (PMI) by Markit Economics

Another well known cyclical indicator is the Purchasing Managers' Index. Markit Economics calculates these indexes for 26 main countries and key regions and Russia is one of them. The method for constructing the indexes is universal for all countries.⁶ Manufacturing PMI is based on a poll of around 300 Russian purchasing managers from this sector which were asked to compare current situation at their unit with the situation one month before. There are five parameters for comparison:

- new orders received (0.30);
- production/output (0.25);
- employment (0.20);
- suppliers' delivery times, volume weighted (0.15)⁷;
- stocks of purchases, in units (0.10).

Based on the answers for each of these questions a diffusion index is calculated as a sum of all positive ("improvement/increase") and half of neutral ("no-change") answers in percent to the whole number of respondents. After seasonal adjustments, five diffusion indexes are averaged into the composite PMI with the weight shown in brackets. If 100% of the survey panel report an "increase", the index would read 100. If 100% reported "decrease" the index would read 0. Thus, the index equal to 50 corresponds to a "no change" situation in manufacturing, more than 50 - to growth, and less than 50 to a decline in this sector.

A PMI for Services is one more indicator calculated by Markit for Russia. It uses similar methodology though slightly different wording of questions. Also the GDP Indicator is derived from PMI surveys of business conditions in the manufacturing and service sectors of Russia by weighting together the output measures from these surveys.

Manufacturing PMI has been calculated since September 1997, Services PMI and GDP indicator since October 2001. All of these indexes are published monthly: manufacturing PMI – on the first

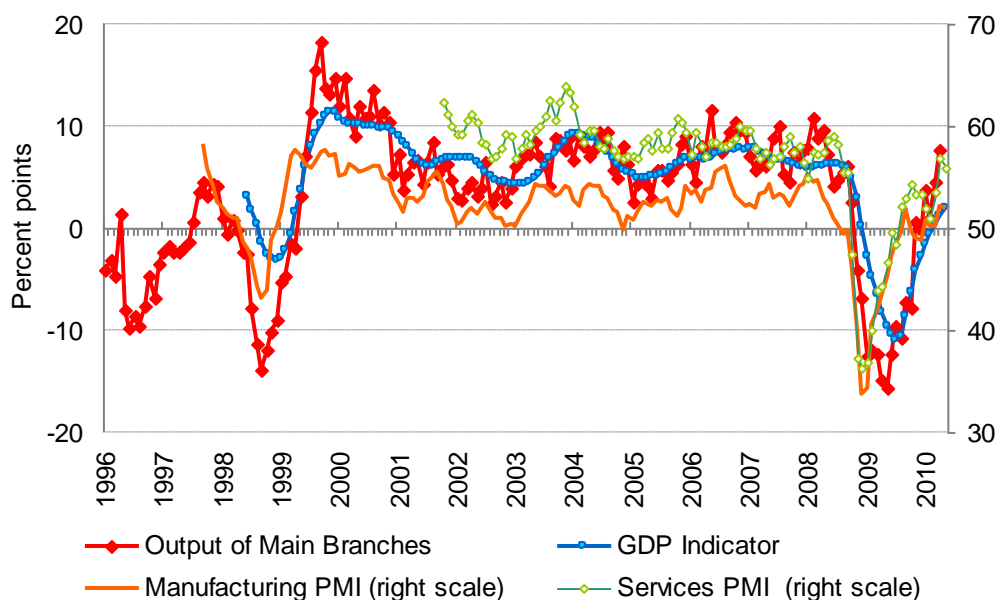
⁵ We mean the beginning of regular monthly publications. Very preliminary calculations were first published in 2003. See Kitrar et al (2003).

⁶ For details, see Markit Economics (2010). Russian PMI is usually named "the VTB Capital PMI" as the Russian company "VTB Capital" is the sponsor of this product.

⁷ The Suppliers' Delivery Times diffusion index is inverted to move in a comparable direction.

working day of a month following the month under consideration, other indexes on the third and fourth working days. Usually there are no revisions to PMI's after first publication.⁸

Figure 2 Manufacturing & Services PMI's for Russia



Sources: Rosstat; Markit Economics

2.2 Russian Indexes for Russia, Classic Type: Composite Leading Indexes (CLI)

2.2.1 CLI and Other Cyclical Indicators by The Development Center (DC)⁹

The system is based on the concept of “growth cycles” and includes not only leading, but also coincident and lagging composite indicators as well.

For coincident indicators, indexes of physical output for the following sectors are taken:

- Mining;
- Manufacturing;
- Agriculture;
- Construction;
- Freight transportation;
- Retail trade;

⁸ This is, in fact, quite surprising as any procedure of seasonal adjustment requires some re-estimations from time to time.

⁹ For the first version of this system see the author's paper at the 28-th CIRET Conference: Smirnov (2006).

- Paid services.

These industries account for about half of Russia's GDP. The weighted average Y-o-Y % changes of these seven indexes can be quite adequately used as the *Composite Coincident Indicator (CCI)*. It is available on a monthly basis with just a three week delay after the end of each month, while GDP is calculated only on a quarterly basis and has a two or three month lag after the end of each quarter.

For leading indicators, we use the following seven series:

- Average monthly price of Urals brand crude oil;
- The ratio of enterprises facing increased or stable domestic demand (IET Surveys);
- The ratio of enterprises having no excessive inventories of finished goods (IET Surveys);
- Nominal money aggregate M2;
- The (reverse) index of the real effective exchange rate of a ruble against a basket of currencies of Russia's trade partners (calculated by the Bank of Russia);
- The RTS stock price index;
- Interbank interest rates (MIACR-overnight)

The *Composite Leading Indicator (CLI)* is calculated as a weighted average Y-o-Y % change of these variables (Y-o-Y differences of some variable is expressed in percent points).

For lagging indicators, we take the following six items:

- Average price of dwelling space per 1 square meter in Moscow (in US\$);
- Number of imported autos;
- Number of officially registered unemployed (in reciprocal form);
- Fixed capital investments;
- Credits to enterprises and organizations (as a % of total assets of banking sector);
- Foreign currency reserves of the Bank of Russia (excluding gold).

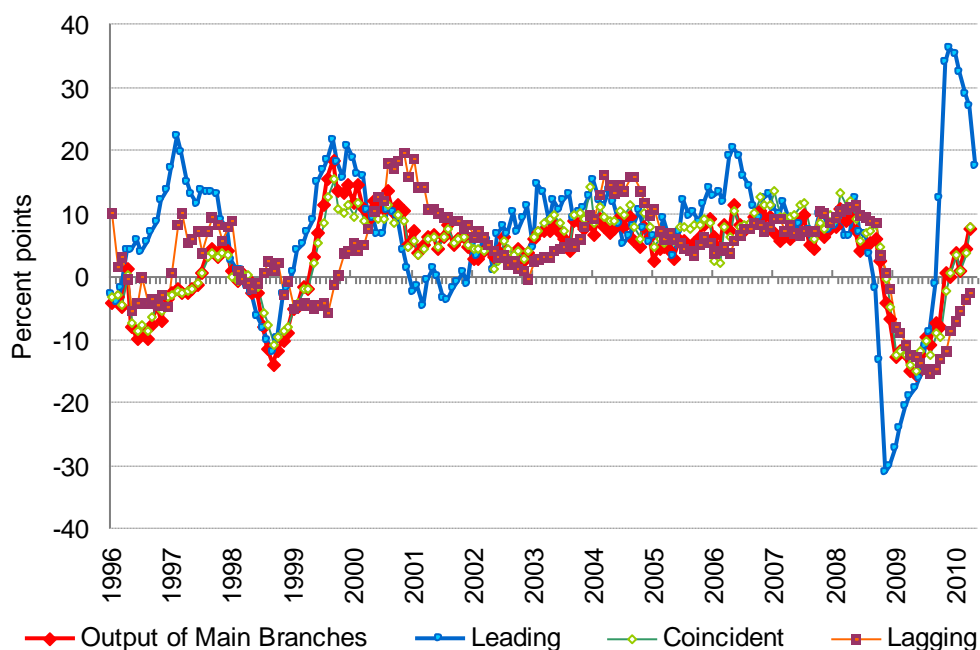
The *Composite Lagging Indicator (CLGI)* is calculated as a weighted average Y-o-Y % change of these variables.

The system of cyclical indicators by the Development Center was first introduced in May 2006.¹⁰ Since then only three minor revisions of the methodology took place: one variable was deleted and two replaced by the others.¹¹ The indexes are published monthly with average publication lag of 10-15 days for CLI and 40-45 days for CCI and CLGI.

¹⁰ For six years before 2006 we had used a CLI with another set of components. For details see Smirnov (2000, 2002).

¹¹ Non-weighted average of three indexes of physical output (for trucks, lumber, synthetic resins and plastics) did not work as a leading indicator and was deleted in January 2008. Average price of domestic car VAZ-2110 charged by five large-scale Moscow dealers (in US\$) was replaced by a number of imported autos in December 2007; money aggregate M2X which includes both ruble and foreign currency components was replaced by ruble money aggregate M2 in August 2008.

Figure 3 Composite Cyclical Indexes by the Development Center (DC)



Sources: Rosstat; The Development Center

2.2.2 CLI by Institute of Economy (IE), Russian Academy of Science

Similar system of indicators was suggested by authors from Russian Institute of Economy at the very end of 2009.¹² The leading index from this system is most similar to DC's version of CLI: the difference is in one missing variable (inventories in finished goods) and two additional variables (new orders and foreign trade balance). At the same time they retained the domestic demand variable which is quite collinear with new orders indicator.¹³

Composite coinciding and lagging indexes are less similar to DC's. The coinciding index consists of four components: retail sales; wholesale sales; disposable personal income (all in real terms); number of employees. The lagging index consists of eight components: fixed capital investments; core CPI; credits outstanding; household's deposits; number of unemployed (in reciprocal form); the ratio of enterprises in "good" and "normal" financial conditions (CEA Surveys); inventory/sales ratio in retail trade; CPI in paid personal services.¹⁴

Up until now the IE's system of cyclical indicators had a more academic than practical use as values of indexes has never been published – neither in a form of historical time-series, nor as monthly updates.

¹² Rayskaya et al (2009). Note, that these same authors have formerly developed a business activity index for "Fanance." journal (see item 2.4.2 below).

¹³ It may be told that the same factor enters the calculations of the CLI with a double weight. There is nothing frightful in it.

¹⁴ It's worth to note that most of the lagging indicators here are the same as the BIF's components (see item 2.4.2).

2.3 Russian Indexes for Russia, Classic Type: Indexes based on Business Tendency Surveys

2.3.1 Industrial Confidence Indexes by Higher School of Economics

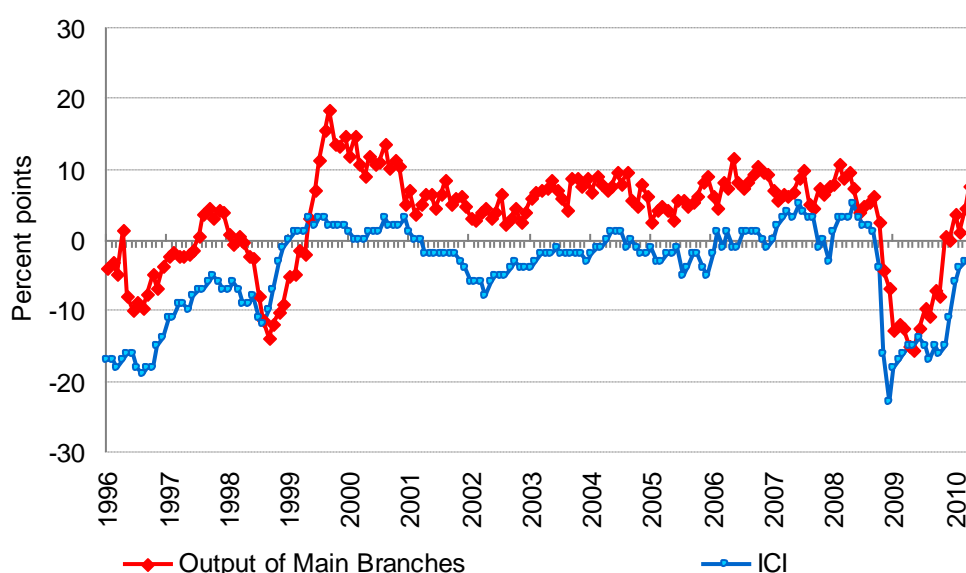
Industrial Confidence Index (ICI) by HSE is often seen as one harmonized with European Commission's methodology.¹⁵ It's based on answers of top-managers of about 600 "main" industrial plants to the following three questions:

- How do you expect your production to develop over the next 3-4 months? It will...: increase/ remain unchanged/ decrease;
- Do you consider current overall demand for your production (order books) to be...?: more than sufficient (above normal)/ sufficient (normal for the season)/ not sufficient (below normal);
- Do you consider your current stock of finished products to be...?: too large (above normal)/ adequate (normal for the season)/ too small (below normal)

The questionnaire was adapted for Russia by the Centre of Economic Analysis in 1995. This Centre estimated the seasonally adjusted ICI until July 2009. Since August 2009 this project was relocated to the Higher School of Economics.

The ICI equals a simple arithmetic average of balances (differences between "positive" and "negative" answers, all in percentage points); the last of three balances is taken with inverted sign. The ICI's value more than zero means increase of confidence in industry, value less than zero means decrease of confidence. Theoretically a value of ICI may fluctuate between -100 and +100, when in fact the range is much narrower.

Figure 4 Industrial Confidence Index by HSE



Sources: Rosstat; Higher School of Economics (HSE)

¹⁵ European Commission (2007).

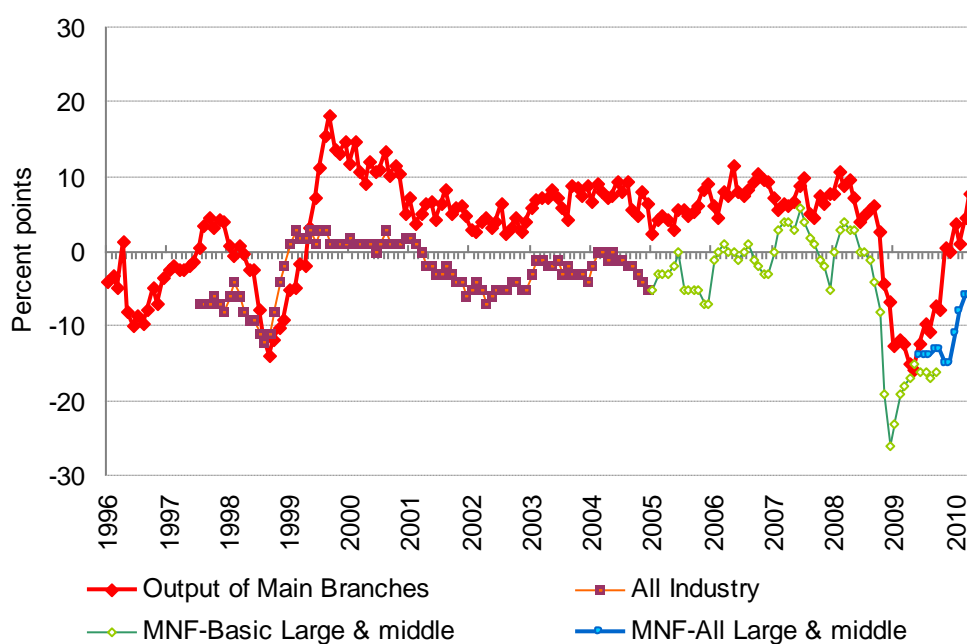
There are similar confidence indexes by HSE for three other sectors of Russian economy (construction, retail trade and wholesale trade) but up until this moment they are quarterly, not monthly. Since then it makes little sense to use them in real-time analyses of business cycle.

The ICI by HSE is published monthly, before the 5th working day of a next month.¹⁶

2.3.2 Industrial Confidence Index by Rosstat

In parallel with CEA and HSE during all these years the Russian State Statistical Committee (Rosstat) has been calculating non-adjusted ICI based on the same initial data (technically it's Rosstat who takes this survey). Unfortunately the wholly comparable time-series of this index simply doesn't exist. Currently, one can get only 1997-2010 data from Rosstat's site. They are broken into three pieces because of the changes in classification and aggregation methods.¹⁷ Comparison of these historic time-series with ICI data by HSE shows that they are quite similar and no important additional information is contained in the Rosstat's indicator.

Figure 5 Industrial Confidence Index by Rosstat



Source: Rosstat

¹⁶ See: <http://www.hse.ru/news/monitorings/>.

¹⁷ See: <http://www.gks.ru/dbscripts/Cbsd/DBInet.cgi?pl=1255091> ;
<http://www.gks.ru/dbscripts/Cbsd/DBInet.cgi?pl=1255113> ;
<http://www.gks.ru/dbscripts/Cbsd/DBInet.cgi?pl=1266017>.

2.3.3 Industrial Optimism Index by the Institute for the Economy in Transition (IET)

The IET has been conducting surveys of industrial enterprises (around 700-800 per month) since March 1992 but introduced its Industrial Optimism Index only in October 2008. Before this they preferred to analyse all variables in the questionnaire separately, without combining them into a single number. But the beginning of the most acute phase of the last crisis has changed their minds, as it fueled common interest for this special kind of statistical information.

The Industrial Optimism Index is calculated as a simple average of four “balances”:

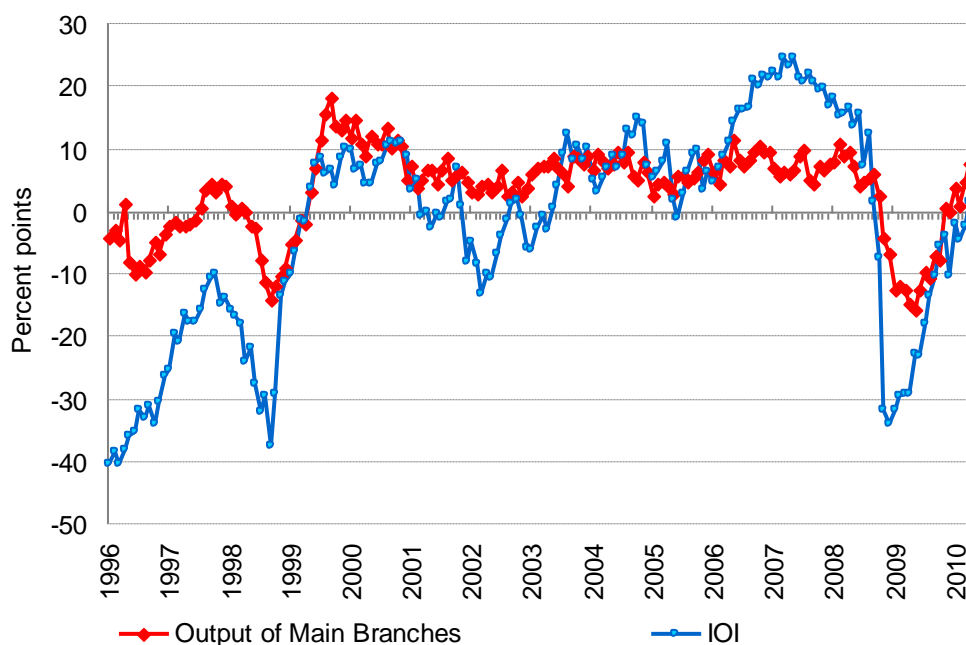
Change of demand comparing with the previous month: % growth - % decline (sa);

Demand assessments: % above normal + % normal - % below normal:

- Finished goods inventories: % above normal + % normal - % below normal (with inverted sign);
- Physical output, anticipated changes for the next 2-3 months: % growth - % decline (sa).

The IOI may vary between -100 and +100. At the moment of introduction it was calculated back up until January 1995. Ordinary figures are usually published after 25th of the current month on the IET site.¹⁸

Figure 6 Industrial Optimism Index by IET



Sources: Rosstat; The Institute for the Economy in Transition (IET)

¹⁸ See: http://www.iet.ru/index.php?option=com_bibiet&Itemid=50&catid=298&lang=en&task=showallbib.

2.4 Russian Indexes for Russia: More Exotic

2.4.1 Leading GDP Indicator by RenCap-NES

In December 2009 a new cyclical indicator for Russia was presented by Renaissance Capital (one of the largest Russian investment banks) and the New Economic School (large private university with tight connections to American and European economic science).¹⁹ This monthly leading GDP indicator has two prototypes - Eurocoin and Chicago Fed National Activity Index. Their common general purpose is to construct a business activity indicator using principal components method which is applied to the set of almost “all imaginable” financial, economic, and business surveys cyclical indicators. The basic data set for the RenCap-NES’ variable consists of 108 time-series beginning from January 1996.

The RenCap-NES indicator is not a single number for measuring economic activity (like Chicago Fed National Activity Index or even Eurocoin) but rather a forecast of real GDP percent change. Each month forecasts for the current and the next quarter are recalculated using the most recent statistics available. These figures are published around the 10th of each month.²⁰

A short life-span of this indicator coupled with its methodological features (monthly forecasts of not just a single but a pair of quarterly GDP growth rates) makes it difficult to compare its historical track with trajectories of other cyclical indicators. Although one may get some preliminary impressions for its predictive power from Table 1.

Table 1 Real GDP forecasts by RenCap-NES leading GDP indicator, Y-o-Y % changes

Date of a release	4 quarter 2009	1 quarter 2010	2 quarter 2010	3 quarter 2010
10 December 2009	-5.7	+6.4	-	-
11 January 2010	-	+6.7	-	-
10 February 2010	-	+7.4	+8.1	-
10 March 2010	-	+7.5	+7.9	-
12 April 2010	-	-	+8.3 (+8.0)**	-
11 May 2010	-2.4*	+7.0*	+8.7 (+4.9)**	+7.1 (+3.5)**
10 June 2010	-	-	+5.3	+2.8
Fact (official figure)	-3.8	+2.9	-	-

* – re-estimated in May 2010 after revisions of official statistical data; ** – the figure in brackets is taken from the next press-release.

Source: New Economic School

¹⁹ Styryn and Potapova-Krylova (2009).

²⁰ See: <http://fir.nes.ru/en/science/Pages/indicator.aspx>.

2.4.2 Business Activity Index by "Finance."

In August 2005 Russian business journal "Finance." (with a dot) published its Business Activity Index (BIF) for the first time. Since then this monthly index is published from time to time, most often once per quarter.

The BIF is a weighted average of ten basic indexes (January 1995 = 100). According to authors' idea five of them are intended to present "supply" conditions and other five – "demand" conditions.²¹ The first five are:

- Freight transportation turnover;
- Fixed capital investments, real;
- Number of unemployed (in reciprocal form);
- The ratio of enterprises in "good" and "normal" financial conditions (CEA Surveys);
- New orders.

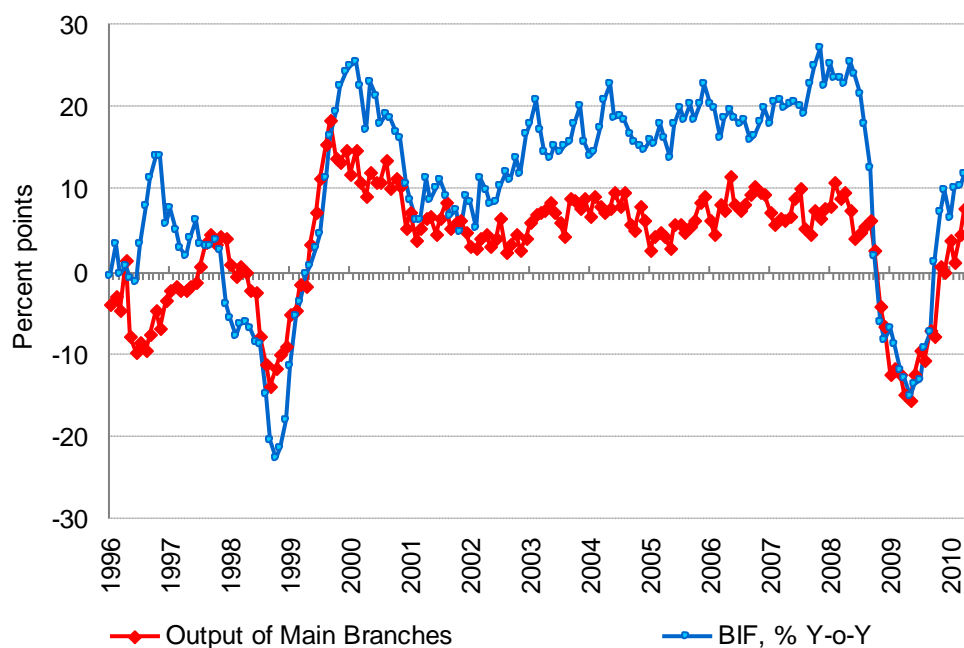
The second five are:

- Retail sales, real
- Disposable personal income, real;
- Credits outstanding;
- Households' deposits in commercial banks;
- Average monthly price of Urals brand crude oil.

The logic of this classification is not fully clear. For example, new orders are ordinarily considered as demand, not supply indicator. Also, indicators that are usually considered as coinciding or lagging are mixed along with leading indicators. That's why one shouldn't expect *a priori* a high leading quality from BIF.

²¹ See (in Russian): <http://www.finansmag.ru/kif/>.

Figure 7 Business Activity Index by “Finance.” (BIF)



Sources: Rosstat; “Finance.”

2.4.3 The Barometer by “Business Russia” (“Delovaya Rossiya”)

“Delovaya Rossiya” (“Business Russia”) is a business association which conducts some PR, charity and special research projects. The Barometer by “Business Russia” is one of the last ones. Its’ first results were published in October 2008, at the very beginning of the crisis in Russia. Since then it’s published monthly, with a two months lag.²²

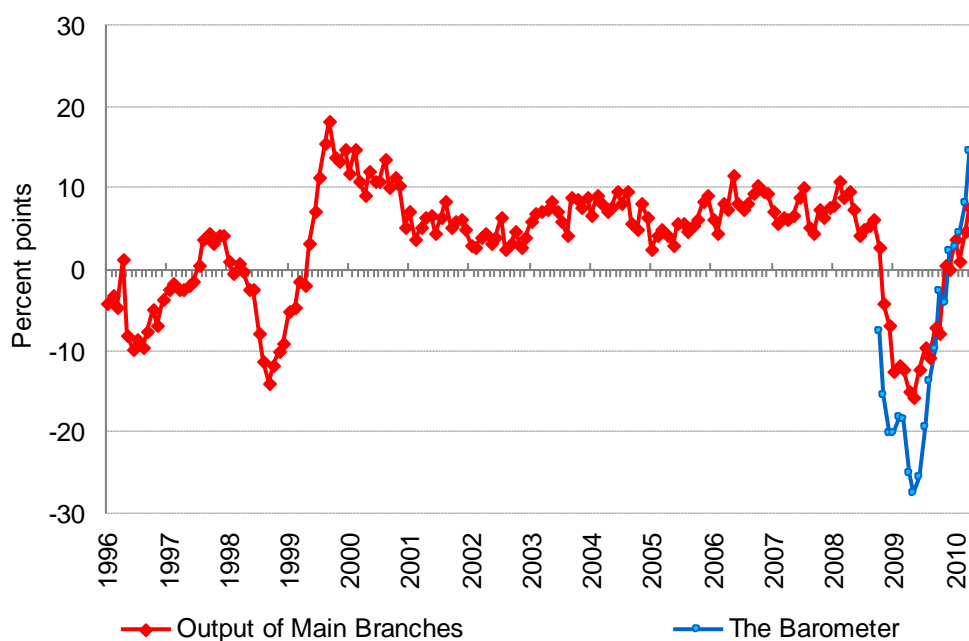
The Barometer is a compound average of seven complex indexes each consisting of several components. The complex indexes are (the number of components is in the brackets):

- Index of current situation (6);
- Index of enterprise assessments (4);
- Index of competition intensity (4);
- Index of current costs (5);
- Index of resources limitations (6);
- Index of government’s policy effectiveness (11);
- Index of “grey and black” economy development (5).

The full number of components of The Barometer is forty one and it will take too long to mention all of them.

²² See: <http://www.deloros.ru/main.php?mid=163>.

Figure 8 The Barometer by “Business Russia” Association



Sources: Rosstat; “Business Russia” Association

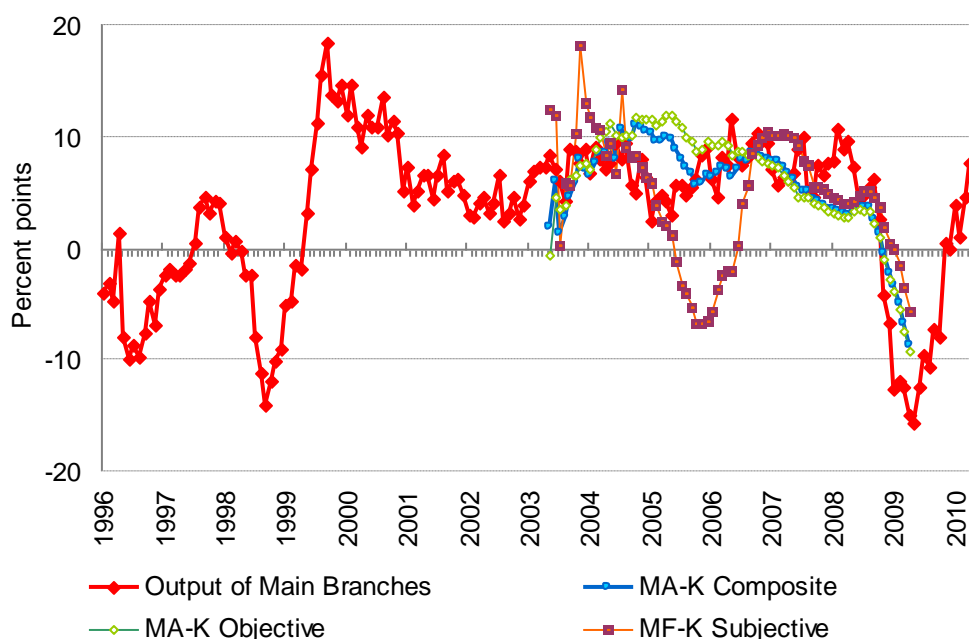
The only primary source of data for all calculations comes from a survey of industrial enterprises conducted by IET. It uses ordinary questions from IET, as well as special questions requested by “Business Russia”. The problem is that in attempts to minimize costs not all special questions are presented in the questionnaire each month; some of them are quarterly, some - semiannual. That’s why not all of The Barometers’ values for consecutive months are strictly comparable with each other.

2.4.4 Business Activity Index by The Russian Managers Association & “Kommersant” newspaper (MA-K)

For exactly seven years (from May 2002 until April 2009) one more index of business activity was published. It was a joint project by The Russian Managers Association and “Kommersant” (“Enterpriser”), influential Russian business newspaper. The methodology of this indicator was quite unusual.²³ The final index had two components. The first (“objective index”) was calculated as a weighted average of more than twenty five indicators from real, banking, financial, and household sectors as well as foreign trade. The second (“business assessments index”) came out as a result of special monthly poll of about 100 businessmen from six sectors of economy (industry, construction, trade, banking, transport and communication, agriculture). There was a separate questionnaire for each sector consisting of 5-9 special questions. Striking peculiarity of this business activity index is an inclusion of some banking indicators. Potentially it could be promising but stratification of the samples was obviously not too good. Finally, the MA-K overcomplicated procedure did not prove to be very fruitful and in April 2009 (just at the height of the crisis!) the project was discontinued.

²³ See: <http://www.kommersant.ru/doc.aspx?DocsID=322789>.

Figure 9 Business Activity Index by The Russian Managers Association & “Kommersant” newspaper (MA-K)



Sources: Rosstat; The Russian Managers Association & “Kommersant”

3 Russian Cyclical Indicators: Informal Comparisons

3.1 Some preliminary considerations

The full list of available Russian cyclical indicators is shown in Table 2.

Table 2 Russian Composite Cyclical Indicators

Indicator	Producer	Fatal Shortcomings
Purchasing Managers’ Index (PMI)	Markit Economics	No
Composite Leading Index (CLI)	OECD	No
Composite Leading Index (CLI)	Development Center (DC)	No
Composite Leading Index (CLI)	Institute of Economy (IE), Russian Academy of Science	Figures never published
Industrial Confidence Indexes (ICI)	Higher School of Economics (HSE)	No
Industrial Confidence Indexes (ICI)	Rosstat	Too short comparable time-series for comparison. Cyclical trajectory is quite similar to ICI’s by HSE

Indicator	Producer	Fatal Shortcomings
Industrial Optimism Indexes (IOI)	The Institute for the Economy in Transition (IET)	No
Leading GDP Indicator	Renaissance Capital - New Economic School (RenCap-NES)	Too short of a history. The indicator's form (GDP forecasts for a pair of quarters) rules out any ordinary comparisons with monthly cyclical indicators
Business Activity Index (BIF)	"Finance." (one of Russian business journals)	Irregular news-releases. Too large of a publication lag (up to 3 months).
Business Activity Index (The Barometer)	"Business Russia" Association ("Delovaya Rossiya")	Too tangled methodology. Incomparability of neighboring observations. Short history.
Business Activity Index	The Russian Managers Association & Kommersant Newspaper	Too tangled methodology. Discontinued in April 2009.

A brief overview of this information suggests that only five out of eleven cyclical indicators for Russia are meaningful for evaluation and comparison with each other. They are: PMI by Markit; CLI by OECD; CLI by DC; ICI by HSE; IOI by IET. All others are not fully suitable for business cycle monitoring simply because there are no available, comparable, and regularly published monthly figures for them.

3.2 What the main cyclical indicators have told about the recent crisis?

Let's look at the situation as it appeared at various moments in recent Russian crisis, namely at the end of October 2008; of February 2009; of July 2009; and of June 2010 (see Figure 10, where percent year-on-year changes of physical output of "main branches" of economy are compared with five selected cyclical indicators).

In October 2008 "an observer" could see that the macroeconomic dynamics have not yet showed clear indications of decline: percent Y-o-Y changes of basic industries' output increased for the second consecutive month. The evolution of ICI by HSE did not permit to forecast the forthcoming fall of production: although this indicator has decreased for four months (in June-September 2008) the depth of the drop in the fourth quarter of 2007 was much more prominent but wasn't followed by any output contraction. It's doubtful whether somebody could decide to forecast the crisis resting upon CLI by OECD as it had only one negative point (August 2008) after almost a year of growth.²⁴ On the contrary the IOI by IET has dropped since May 2007 and in September 2008 it almost reached zero but this long period of falling was suspicious *per se*, as it was difficult to predict that such long lags can really exist in Russian economy with its ordinary short horizons. Only two indicators showed undeniable signs of an approaching crisis: first, PMI by Markit (although the August and September figures was only slightly below the critical level, this happened for the first time in almost ten years); and second, CLI by DC which fell quickly since May 2008 and became negative in September 2008 for the first time since December 2001.

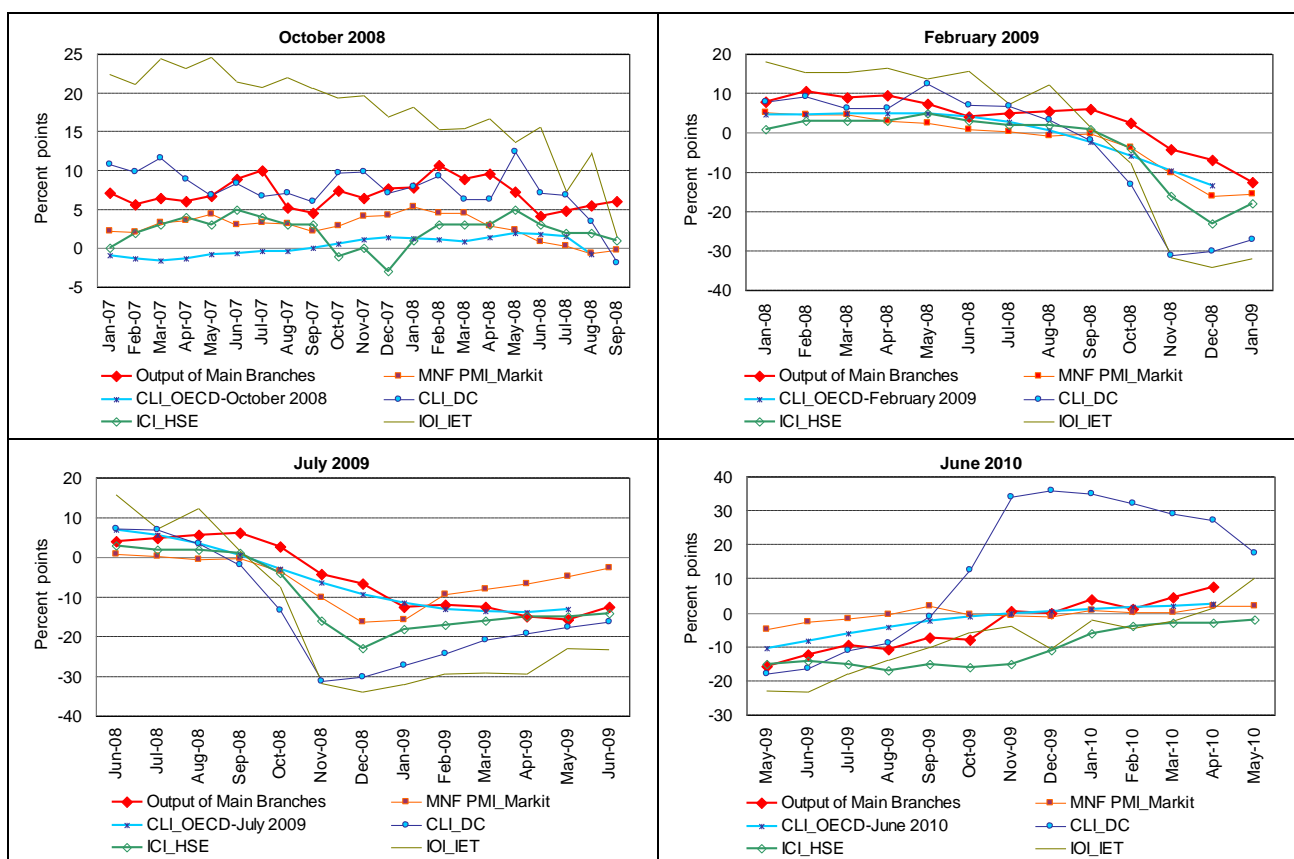
²⁴ One can notice that the OECD's indexes have one specific disadvantage: due to calculation and publication lags they fall behind other indicators for one month at any moment. For example, just now (June 2010) the OECD's figure is available only for April.

In February 2009 a decline of main branches' output looked quite definite. But CLI by DC and ICI by HSE showed a possibility of an approaching turning point (the first indicator had two months of increasing growth rates in its record to the date). PMI by Markit and IOI by IET rather pointed to stabilization of growth rates and CLI by OECD continued to fall.

In July 2009 growth rates of main branches' output continued to fall. This continued until May 2009 (the last figure known up until the end of July). At the same time, almost all leading indicators showed an ascending trend with the only exception being CLI by OECD which have stabilized up to this moment. Therefore the probability of a "trough" appeared to be high.

In June 2010 all cyclical indicators, including growth rates of main branches' output have increased. The only exception is CLI by DC which has been going down for five months since December 2009. So, there is some contradiction between this indicator and all others. If the macroeconomic situation (output growth rates) would become worse then the only "right" leading indicator between existing ones would be CLI by DC. And vice versa: if output growth rates would continue to increase, this indicator would be the only one broken-down in a "crash-test" of the crisis. At the time of the 30th CIRET conference in October 2010 it would be clear at last.

Figure 10 Cyclical Dynamics as It Appeared at Various Moments



Note: To simplify graphic comparisons we deducted 50 from PMI and 100 from OECD's amplitude adjusted CLI.

Sources: Rosstat; Markit Economics; OECD; Development Center (DC); Higher School of Economics (HSE); The Institute for the Economy in Transition (IET)

3.3 What Cyclical Indicators was Useful in Russia in 2008-2010? A resume.

Was one or the other indicator useful in forecasting approaching turning points at different phases of the crisis? The answers to this question are summarized in Table 3. It's well perceived that finally only one indicator may become an absolute winner or an absolute loser in the current "qualifying heat" – CLI by DC. One must only wait for the end results.

Table 3 Was an Indicator Useful to Forecast Approaching Turning Point?

Indicator	Oct. 2008	Febr. 2009	July 2009	June 2010
PMI by Markit	Yes	May be	Yes	Unknown, opposite to CLI by DC
CLI by OECD	Barely	No	Barely	Unknown, opposite to CLI by DC
CLI by DC	Yes	Yes	Yes	Unknown, opposite to all others
ICI by HSE	No	Yes	Yes	Unknown, opposite to CLI by DC
IOI by IET	Barely	May be	Yes	Unknown, opposite to CLI by DC

Also note that CLI by OECD has almost no predictive power. This indicator has good trajectory when you look back but it says almost nothing when you are looking for an early sign of a turning point. This is quite surprising taking into account that old traditions of OECD in the field of CLIs' construction. Maybe an "excessive" time-series smoothing is the main reason for this failure.

4 Conclusions

A year and a half have passed since the beginning of the Russian crisis and one still can't say with certainty what leading composite index is worthy enough to be trusted. This is the reason for some pessimism, isn't it? Another reason for pessimism is that during the most acute phase of crisis monthly periodicity of an indicator is too infrequent and weekly figures are surely preferable. But these weekly indicators (and to be honest, monthly indicators too) have almost no interest for private and government's experts during usually long periods of steady economic growth.²⁵

On the other hand, some composite cycle indicators do contain useful leading information. Since then more efforts must be concentrated on construction and careful calibration of various leading indexes, monthly as well as weekly. Current crisis is a very suitable period to perform this task.

²⁵ In October 2008 – November 2009 in respond to common interest IET produced its IOI figures weekly. Then it preferred mostly bi-weekly release schedule, and now gradually returns to monthly schedule. No demand, then no supply!

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