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Cyclical Mechanisms in the US and Russia: Why are they different?

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Initial Ideas & Hypotheses

Ideas

▸ Demand plays a crucial role in generating business cycles' waves

▸ Demand for each group of products (consumer durables & nondurables; equipment & intermediate goods) has its own peculiarity

Hypotheses (as regards output fluctuations by market groups)

▸ These groups may be different in means, variances, leads & lags structure

▸ This is true for Russia as well for the USA

Data: industrial production indexes by market groups

The USA: Board of Governors of FRS

▸ a)　materials and nonindustrial supplies, or shortly MT hereafter (sum of B53000 and B54000 time series weighted by their value added);

▸ b) equipment, EQ (B52000);

▸ c) durable consumer goods, CD (B51100)

▸ d) nondurable consumer goods, CN (B51200)

Russia: own estimations based on Rosstat

▸ 108 manufactured goods classified by its consumption type (→ the same four market groups as for the USA)

Demand peculiarities

Materials

▸ Produced in more or less 'technological' proportions to the gross industrial output;

▸ Highly sensitive to exaggerated expectations (positive as well as negative)

Equipment

▸ Whole investment projects as elementary unit for decision-making

▸ Desire to finish what was started

▸ Possibility to delay the start

▸ Decision-making lags

Demand peculiarities

Consumer Durables

▸ Consumers' extremely good flair to the changes of economic conditions;

▸ During 'bad' times acquisition can be easily put aside;

▸ Near-zero decision-making lags;

▸ The effect of "delayed demand" is possible

Consumer Non-Durables

▸ Consumers' extremely good flair to economic changes;

▸ Zero decision-making lags;

▸ No sharp drops during recessions, nor sharp rises during booms

Growth Rates: Statistical Hypotheses

	Average	Std. Deviation	Lead/Lag (+/-)
Materials	Middle	High	0
Equipment	Period dependent	High	-
Consumer Durables	Period dependent	Extremely high	+
Consumer Non-Durables	Period dependent	Extremely low	+
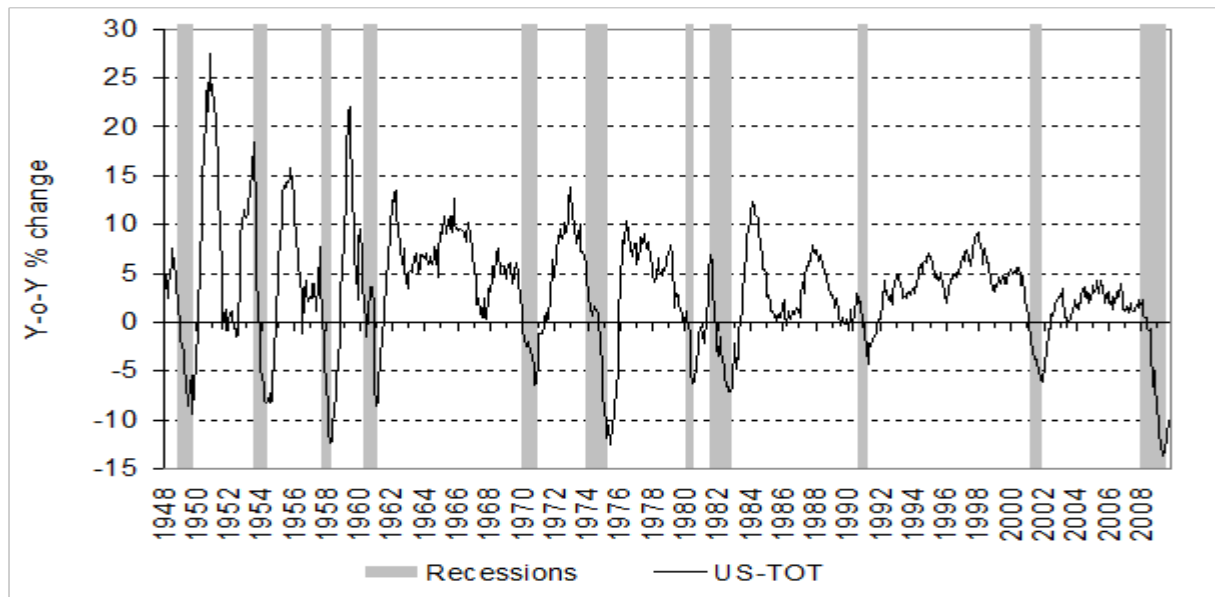
The USA: Growth Rates by Market Groups, January 1948-August 2009

|	Average	Std. Deviation	Lead/Lag (+/-)
Total industry	3.2	5.9	-
Materials	3.3	7.1	0
Equipment	4.6	9.2	-3
Consumer Durables	3.7	11.4	+1 or 2
Consumer Non-Durables	2.6	2.8	+1 or 2

Correlations between total industry and market groups with various lags
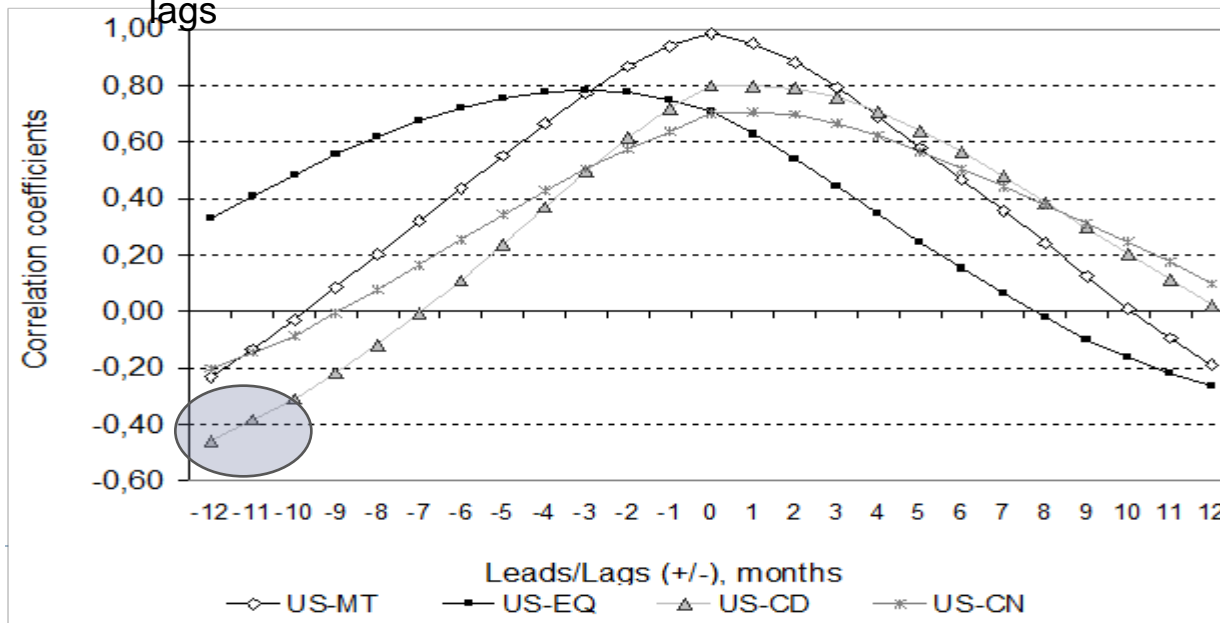
Russia: Growth Rates by Market Groups, January 1982-August 2009

	Average	Std. Deviation	Lead/Lag (+/-)
Total industry	-0.7	8.9	-
Materials	-0.8	8.4	0
Equipment	-3.9	19.1	0
Consumer Durables	0.1	17.0	0
Consumer Non-Durables	0.6	11.3	0

Correlations between total industry and market groups with various lags
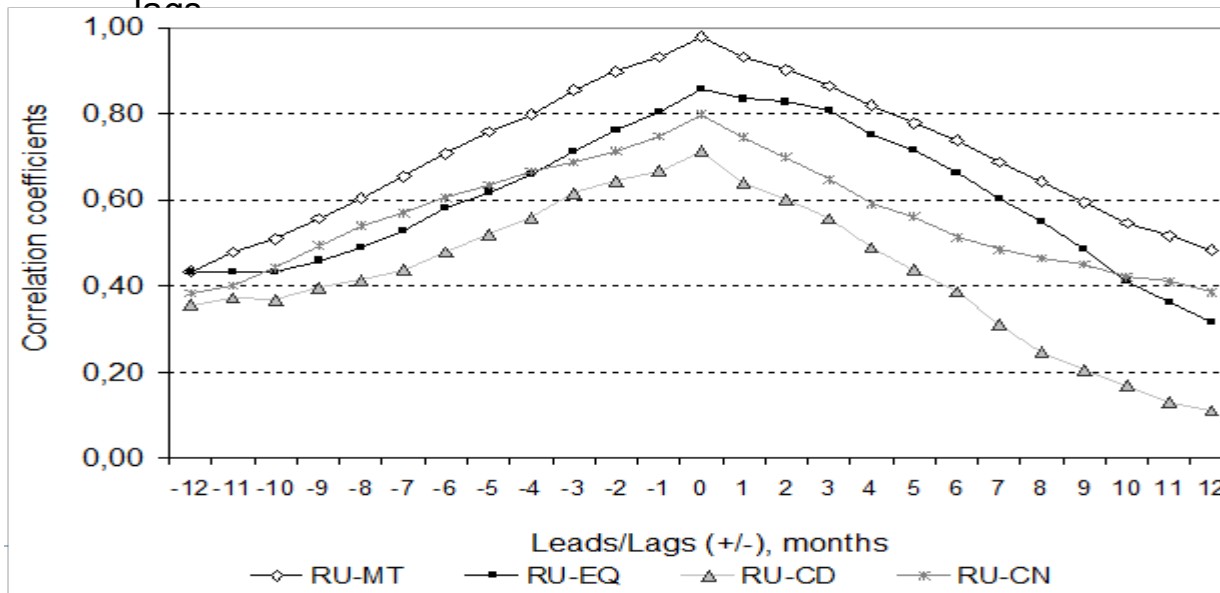
Results:

The USA: No Surprises

▸ No surprises;

▸ The 'delay demand' effect does exists for consumer durables

Russia: A Lot of Surprises

▸ Growth rates of the main market groups of around 30-40% per year is not uncommon;

▸ Materials are the most stable group (not consumer non-durables);

▸ No leads or lags

Explanations for Russia:

High positive/negative growth rates

▸ Extremely high concentration of production (local event changes macro situation);

▸ Dramatic authorities decisions and actions

Materials are the most stable group

▸ External demand for Russian oil, gas & metals is more stable than internal demand for domestics goods which hardly suffer from the import competition

No leads or lags

▸ Fluctuations of domestic output are more defined by supply than by demand

▸ There is a possibility that fluctuations of import are defined by demand and have 'proper' volatilities and 'proper' leads& lags

Main Conclusion:

Structural peculiarity of a national economy is a very important factor in determining its business cycle fluctuations

Synchronization ~~or~~ and decoupling?

Orthonormal Loadings
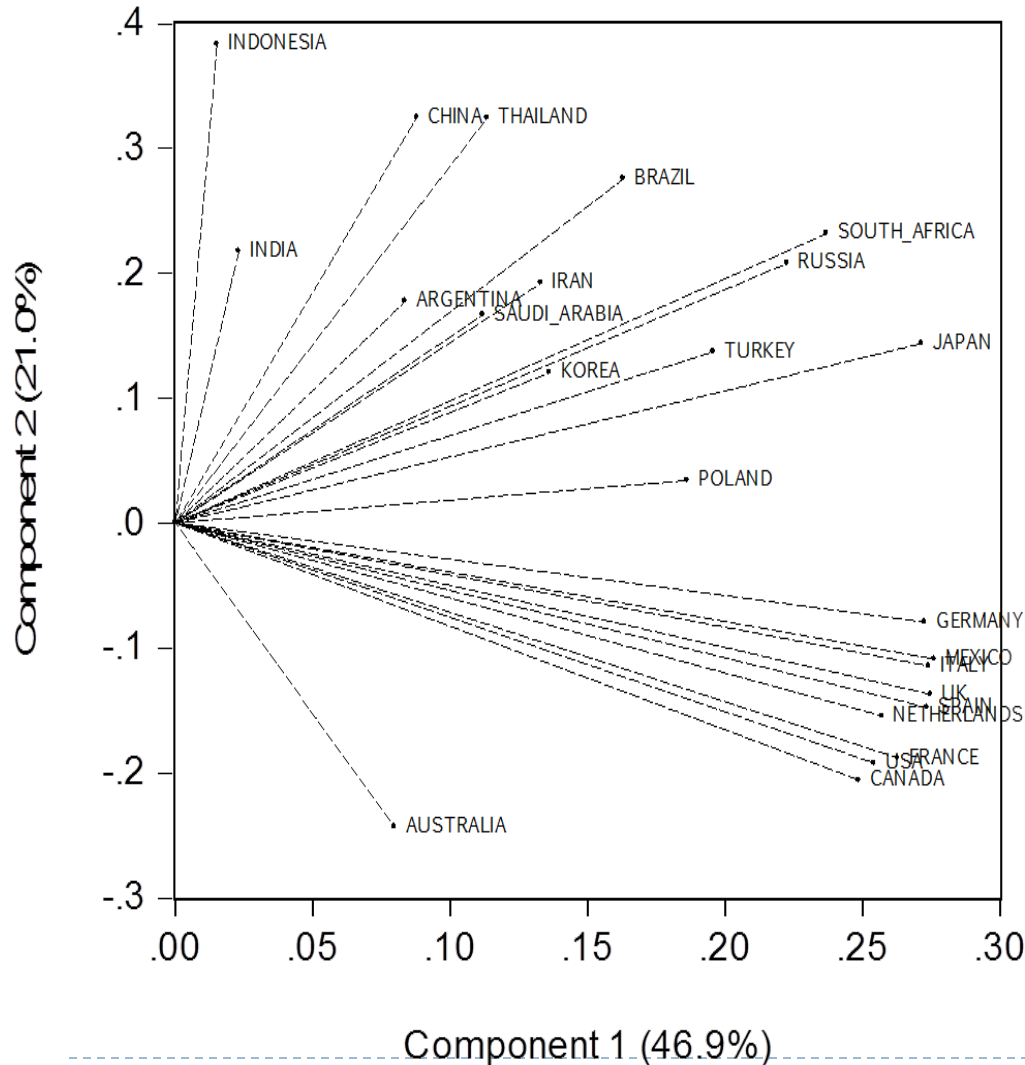
What we took...

➢ 25 largest GDP-PPP economies
➢ Real GDP growth rates
➢ Time period: 1997-2009

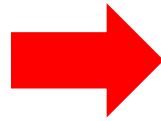*What we did...*

➢ PC method to reveal hidden factors

What we see...

➢ All 25 countries are to the right side along first PC
➢ All emerging countries are on the upper side along the second PC (ex. Mexico); all developed countries are on the lower side (ex. Japan)

What we concluded...

➢ First PC is a global factor: not a single large country could ignore it
➢ Second PC is a group factor: it could effectively distinguish the emerging countries from the developed

Globalization ➡️ More Synchronization More Decoupling

Sample	Time period	% of the total variance	
		First PC	Second PC
25 largest economics	1971-1990	31.3	16.5
	1991-2009	35.3	17.8
	1997-2009	46.9	21.0

What we took...

➢ The same but with more time-periods

What we did...

➢ Percent calculation of the total variance explained by the first & second PC's

What we see...

➢ Both PCs' importance is rising over time

What we concluded...

➢ Financial globalization causes more synchronization, more decoupling, and less countries' idiosyncrasy