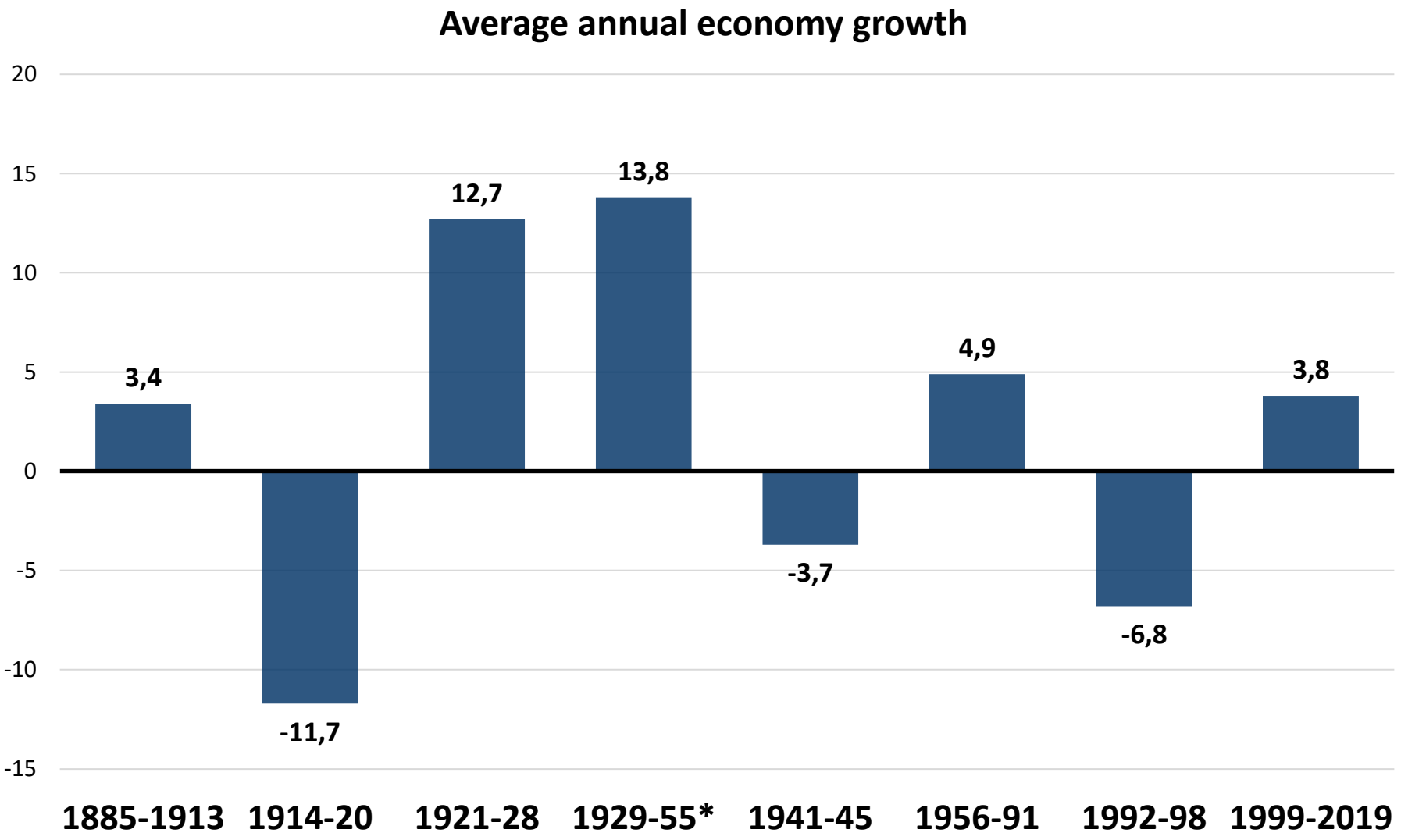
Take from the altars of the past the fire - not the ashes.
Jean Jaures

GROWTH CRYSTAL

FOR THE RUSSIAN ECONOMIC MIRACLE

Economic Growth in Russian: 1885-2019



* Excluding the four years when Russia was fighting in World War II (1941-1945)

Productivity of Economic Models in Russian History

1. **13.8%** - **advance model**
2. **12.7%** - **Recovery model (**New Economic Policy)
3. **4.9%** - **attenuation model**
4. **3.8%** - **raw materials model**
5. **3.4%** - **demand model**
6. **-3.7%** - **World War II**
7. **-6.8%** - **transformation model**
8. **-11.7%** -**World War I and Russian Civil War (1917-1922)**

The advance model ensures record-level economic growth brought about by other reasons than a low base, increased debt, or favorable global environment, despite the country being actively engaged in the bloodiest and most destructive war in world history in 1941-45. It was also accompanied by a large increase in life expectancy, population and personal income.

1929. Economic Environment

1. No low base effect: recovery growth in 1921-1928: **done**; 1913 figures **exceeded** (national income grew by 19%, industry, by 32%, agriculture, by 33%, fixed assets, by 36%.

2. Sanctions: The country had not yet been recognized by the United States, Spain, Hungary, Romania, Czechoslovakia, Bulgaria, and Yugoslavia. They refused to accept gold as an import payment. The country was suffering from a credit blockade. Anti-dumping sanctions and embargoes: USA (1930), France (1930), England (1933).

3. External public debt and reserves: more than $**350M** to U.S. private companies, while total reserves **comprised** $150M, including **138** tons' worth of gold reserves.

4. Modern industries and technologies: **no** competencies or technologies in contemporary economy sectors, including machine tool construction, non-ferrous metallurgy, chemical industry, aviation industry, automobile industry, agricultural machinery production, tractor industry.

5. Life expectancy: **43 years**. Low-level **healthcare and education** systems. Population: **154M** people.

1929-1955. Results

1. The largest economy in Europe and the second largest economy worldwide. The economy grew 14 times, by **13.8**% annually on the average (the war years excluded). The country was the world leader in terms of economic growth in the 20th century). **External public debt**: none. **Gold reserves: 2,050** tons (ranking **2nd** in the world).

2. World's **leader** in terms of the specific weight of mechanical engineering in industrial production (100% technical and economic independence has been achieved); **ranking 1st** in the world in terms of agricultural mechanization; **ranking 1st** in Europe in terms of the absolute size of industrial production, **ranking 1st** in Europe and 2nd in the world in terms of labor productivity in industry.

3. New world-class industries: nuclear, space, rocket, aircraft, professional equipment, radio, electronics, electrical equipment, chemical, machine tool construction, etc. The Russian economy has the youngest engineering and manufacturing system in the world.

4. Personnel: **world-class** engineering/technological/scientific school, education and healthcare are **high-quality and affordable.**

5. Life expectancy increased **by 26 years**. Population grew by **46M** people, reaching 200M. Real income grew **over 4 times.** People's deposits in savings banks increased **more than 5-fold**.

The history of economics, economic theory, and statistics are the main sources for those who wish to understand how economics works, and economic history is the most important one among them.
Josef Schumpeter

WHAT WERE THE SOLUTIONS THAT ALLOWED IT TO HAPPEN?

Advanced Development Model Original intent

Karl Ballod

V. I. Grinevetsky

I PLANNING

II TECHNOLOGIES

III MONEY

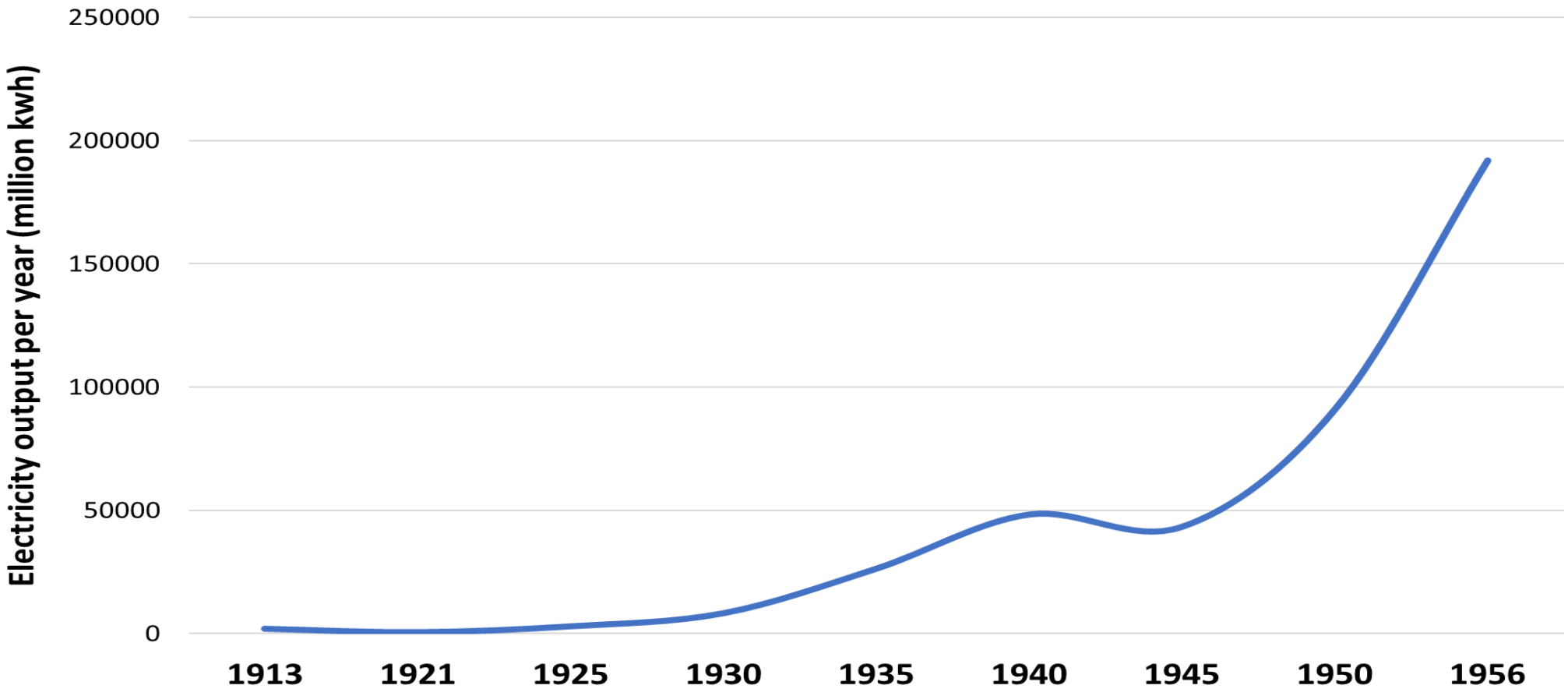
IV EFFICIENCY

V ENTREPRENEURSHIP

The concept of the model is formulated in the following works:

- **1898: "The State of the Future" by Karl Ballod** (Professor at the Universities of Berlin and Latvia, winner of the highest awards of the St. Petersburg Academy of Sciences: the Grand Gold Medal and the Dmitry Tolstoy Prize);
- **1918 Post-War Prospects of Russian Industry by V. I. Grinevetsky** (Professor, since 1914, Director of the Moscow Technical School (today, Bauman Moscow State Technical University) .

I. Planning. The first successful result is the GOELRO plan



1935: Russian energy industry ranks 3rd in the world.

1947: Russia becomes No. 1 country in Europe. In the five years between 1951 and 1955, the capacity of power plants almost doubled compared to the entire previous period.

I. Planning. Russian Experience

1. The **GOELRO Plan** (1920-1935) was the world's first macroeconomic plan for the holistic development of energy and economy. Planning **methodology, technology, and workflow** formed while the plan was being implemented, and so did a special **team** led by **Gleb Krzhizhanovsky**, who became the first head of the State Planning Committee and worked there between 1920 and 1930.

2. **Ambitious goals** and large-scale projects create "high pressure" in the economic system**.** A unified system of planning agencies, headed by the State Planning Committee, ensures a targeted high concentration of resources, significant scale effect, and no parallelism, which are the key to high economic growth rates.

3. Planning principles:

- goals set a clear hierarchy of tasks, with the planning based on physical indicators.
- integrity of planning and economic development: there is one plan,which is the core document;
- - advanced study and development of natural productive forces (natural resources), as well as basic infrastructure (energy and transport);
- permanent priorities: advanced capital investment growth, front-line implementation of modern technologies and new equipment, labor productivity growth and cost reduction;
- affordable education and healthcare, rapid development of science.

4. Well-designed, planned and organized cross-industry production and technological chains (from raw materials to the final product); **linking activities** by goals, resources, deadlines and territories**. Balance sheets** are an effective economic method of planning such chains and a reliable way to define how sufficient and interrelated are the resources for targeted planning and high economic growth. In 1973, Wassily Leontief won the **Nobel Prize for Economics** for his methodology of intersectoral balance.

I. Planning. Examples of Best International Practices

1. Economic miracle: significant (of about **10%**) and long-lasting (for more than **20 years**) growth of **all** economies, except Russia, in the 20th century. Japanese, Korean, Singaporean, Taiwanese, and Chinese economies were based on state planning, with special planning agencies, clear priorities, focused efforts, and 4-5-year plans.

2. **In Western Europe**, including France, Germany, and the Scandinavian countries, post-war reconstruction and modernization was based on state planning, with special planning agencies, clear priorities, focused efforts, rapid infrastructure design, and 5-year plans.

3. **In the United States,** successful recovery from the depression (1933) of the Tennessee macroregion, which comprises 7 states, was based on long-term state planning: federal planning and management authority (TVA), clear priorities, focused efforts, advanced infrastructure development (electrification).

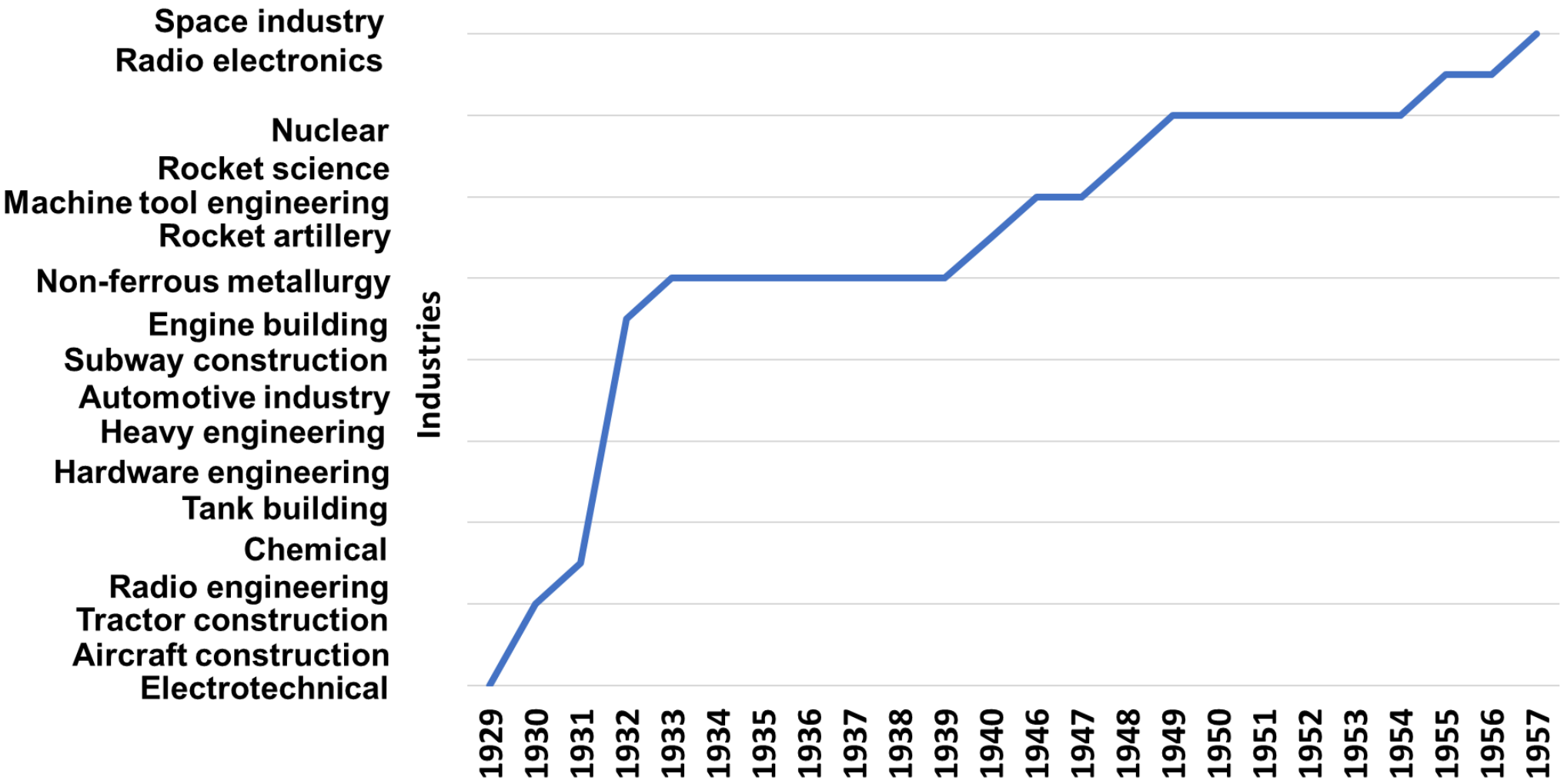
4. **In the UK**, the prioritization of improving the performance of the Tony Blair government in the areas of transport, education, health, crime reduction, and other priorities was based on the planning mechanism of the project office (planning HQ).

5. In India, the National Transformation Agency (NITI) is the governmental planning headquarters and think tank for defining and achieving development goals and priorities.

6. In the UAE, the Vision 2021 program builds all government activities based on a development plan, ambitious goals and priorities. Their main objective is to become the best country in the world by achieving national goals, implementing large-scale projects, and focusing on priorities.

7. **In China**, the core element of state planning is an interdepartmental agency, the National Development and Reform Commission, which forms strategic goals, priorities, long- and medium-term five-year plans, annual plans and development projects.

II. Technologies. Result.



Russia's economy disposes of the most recent production and technical apparatus in the world. The country ensured complete technical and economic independence.

II. Technologies. Russian Experience

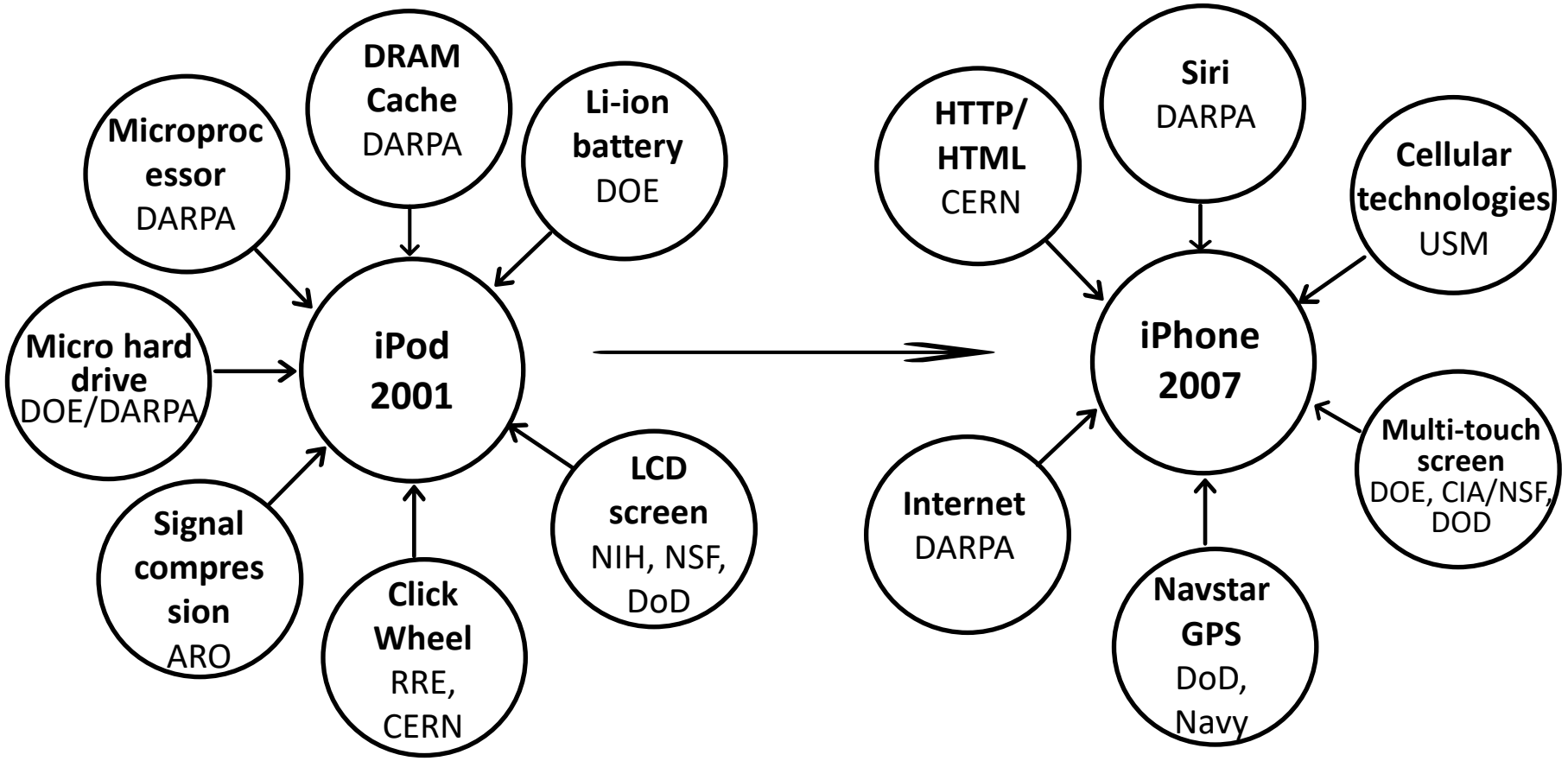
1. 1929-1932: **targeted import of technology and human capital**: technical cooperation with the world's best companies (Ford, Siemens, General Electric, etc.) and the world's leading experts, such as, Albert Kahn (USA), Ernst May (Germany). The world's best architects work in Russia to design 521 new plants (1/3 of the largest plants, the core of the first five-year plan) and 20 new cities. At the peak of cooperation (1932), more than 30 thousand highly qualified foreign experts were working in Russia.

2. 1932-1940: active technological import substitution: the development of a national system of education and science in Russia. The core of the system is the personnel trained by foreign experts. In 7-10 years, Russia was able to produce world-class advanced technologies and equipment samples independently. The share of imported equipment in agroculture: 33% in 1929 vs 0.9% in 1937.

3. 1946-1955frontal technological renewal: in January 1948, *the State Committee for the Introduction of Advanced Technology* was established to implement the "unfolding spiral" of continuous updating of the engineering and manufacturing system. Revolutionary growth in the machine tool industry: the increase in the introduction of new equipment reached 10 times. By the mid-1950s, Russian economy had the youngest engineering and manufacturing apparatus in the world.

4. 1946-1955: **breakthrough creation of cutting-edge technologies and new industries**: nuclear, rocket and space, radio-electronic projects. *Project committees* are the key mechanism that ensured the successful organization of innovative projects, *seamlessly* combining all the necessary links of the innovation chain within one organizational structure, from fundamental, applied science and administrative staff to pilot and industrial operation.

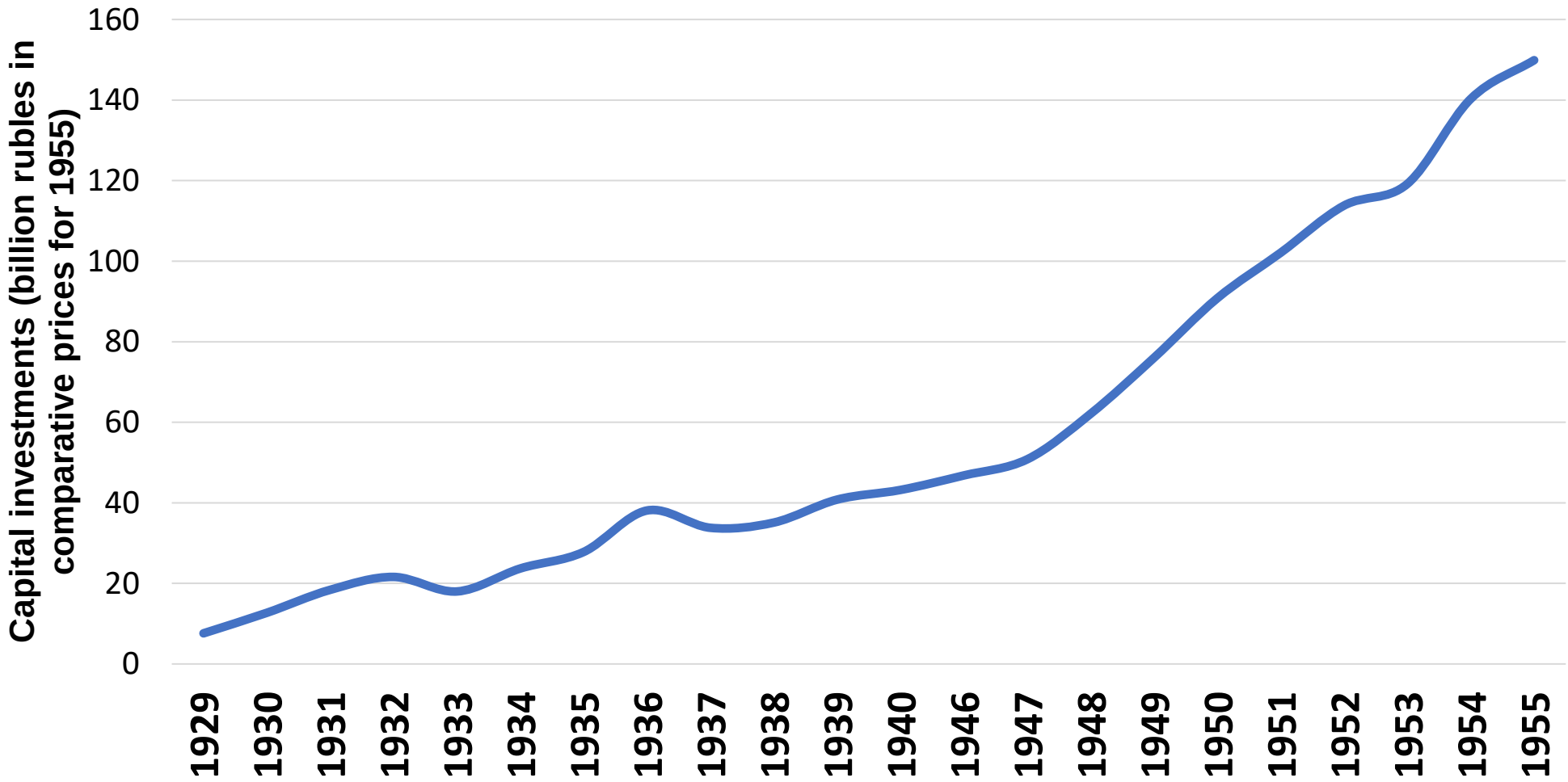
II. Technologies. Foreign best practice example



DARPA-Office of Advanced Research Projects, US Department of Defense
DOE – US Department of Energy
ARB – US Army Research Office
NIH – US National Institute of Health
NAVY – United States Navy

DoD – US Department of Defense
RRE-Venture Capital Company
CERN-European Center for Nuclear Research
USM– US Military
CIA – US Central Intelligence Agency
NSF – US National Science Foundation

III. Money to invest. Result.

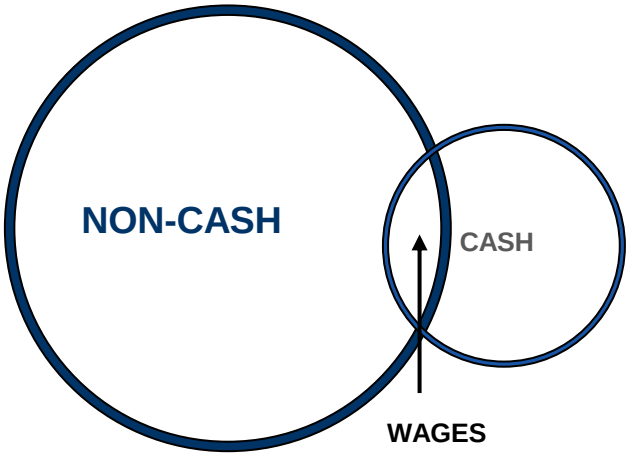


The monetary system is subordinated to the tasks of economic growth, so capital investment is growing exponentially

III. Money to invest. Russian Experience

During the 1930-1932 credit reform:

- **a targeted monetary circuit (chain) was created**: "non-cash rubles – capital investments – launch of new production facilities – production of new goods – cash issue";
- **an almost twofold increase in capital investment every 5 years was ensured**, as well as a balance of money and goods, i.e. no inflation**;**
- **specialized banks for long-term investments:** Prombank, Housing Construction Bank, Agricultural Bank, Torgbank.



Long-term investment banks finance capital investment projects upon completion of works after full control: auditing technical projects and estimates, continuous checking of prices and invoices, inspection of local construction sites and contractors. The ultimate goal of the banks is to launch new production facilities.

III. Money for development. Examples of Best International Practices

1. In 12-century China, for the first time, a special money channel for paper money ("fabi") was created in order to finance the creation of public infrastructure. Performing accounting and settlement functions, this money becomes the "energy" that drives the in-kind flows in the economy and a form of implementation of the state's emission power to create objects of public good.

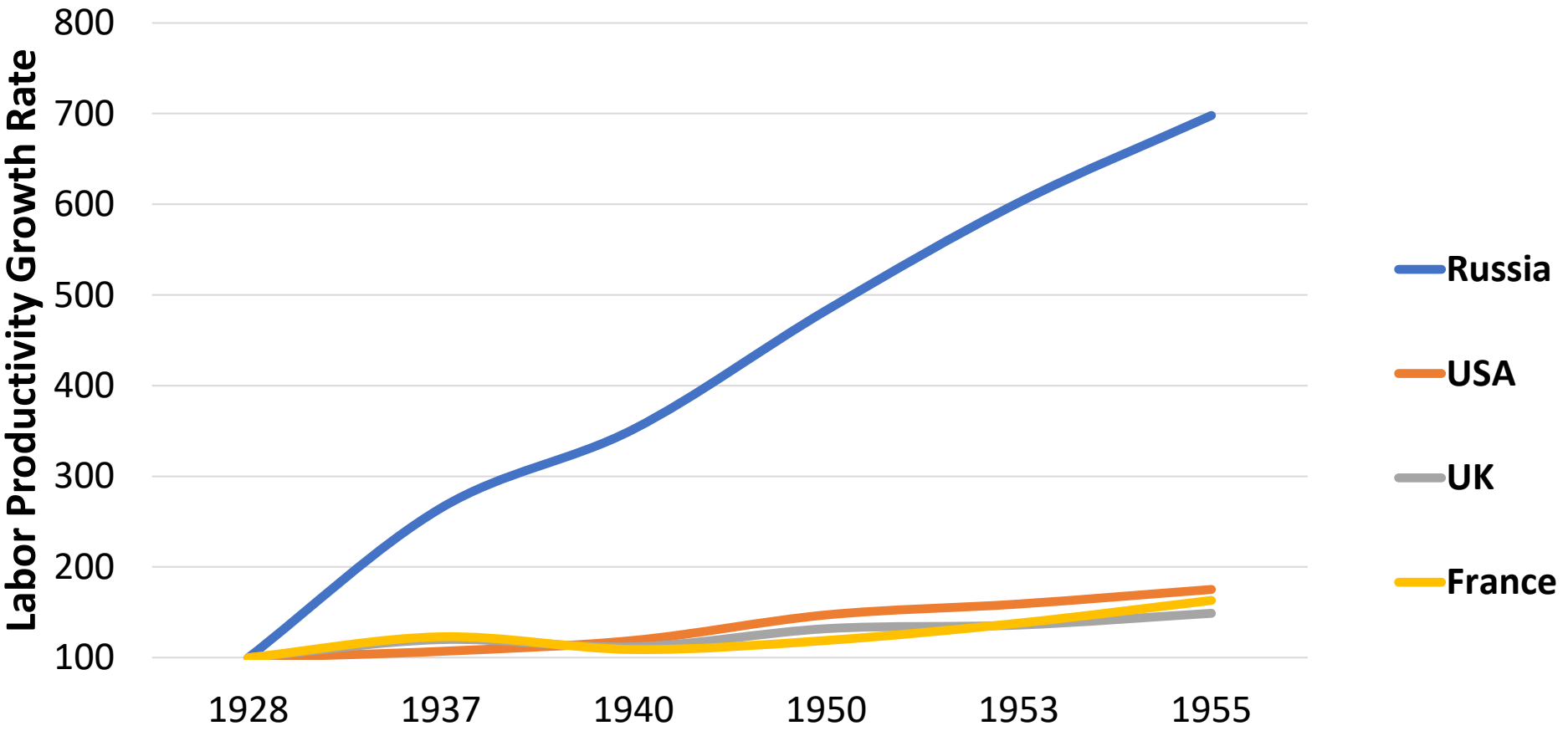
2. In Germany in the 1930s, the so-called Öffa amd Mefo bills were introduced to finance the military industry and programs that were aimed at creating new jobs. Those bills were highly trusted thanks to the governmental support of the Central Bank.

3.In the United States, the European Union, Japan, and the UK, quantitative easing (QE) is being implemented in the 21st century to overcome the economic crisis. It is a targeted non-cash issue for the purchase of long-term liabilities of financial institutions that does not enter the consumer market and thus does not boost inflation.

4. In China, close coordination between the Central Bank and the Chinese Government in the 21st century allows the Central Bank of China to work effectively for economic growth and increased capital investment, to create cheap and long-term money for the economy (a 2019 study conducted by the Central Bank of Australia as defines this practice as "the best").

5. The Statites of the US Federal Reserve, the European Central Bank, and the Bank of England stipulate a normative **responsibility for economic growth** (not only for low inflation).

IV. Efficiency. Result.



Ranked 1st in the world in terms of growth rate and in Europe, in terms of industrial productivity.

IV. Efficiency. Russian Experience

1. Increasing productivity and reducing costs: the **annual** goal of increasing workforce productivity and the annual goal of reducing costs (on average by 3-5%) through innovation, professional development, and the introduction of advacutting-edgenced technologies and equipment. The average actual cost reduction between 1947 and 1954 was of 6.4% per year and formed the basis for the regular price reduction since 1947, which in total decreased by 2.3 times over the abovementioned period.

2. Material incentives: since 1931, mass transfer of enterprises to piecework wages: a bonus of +30% if the plan has been overachieved by 5%, and +60% if it was 6 to 10%. In 1942, special rewards for inventors and innovators were introduced. Since 1947, there was the so-called "director's fund": the company received 4 to 10% of the planned and 50-75% of the overachieved cost reduction (bonuses, housing for employees, etc.). In 1953, 77% of industrial workers were on piecework wages. By 1955, there was an economically justified differentiation of wages: 7.1 million people had monthly salaries of more than 1,000 rubles, about 1 million people's salaries exceeded 2,000 rubles per month, there were official millionaires among designers, inventors, scientists, cultural figures, etc.

3. Competition: governmental support for the development of competition at all levels, including enterprises, scientific and educational institutions, healthcare and services, organizations, industries, regions, industrial teams ("Stakhanov movement"), individual employees. Even in the highly concentrated aircraft industry, there were six competing design bureaus: Tupolev, Yakovlev, Ilyushin, Antonov, Mikoyan and Gurevich (MiG), Sukhoi.

4. Feedback channel: targeted local search and mass distribution across the entire economy of the best technological solutions and practices to increase productivity, reduce costs, improve quality. This is done by the State Planning Committee, its authorized representatives in the regions, the Council of Scientific and Technical Expertise under the State Planning Committee, and industry departments.

IV. Efficiency. Foreign best practice example

1. Toyota creates a production system (TPS) after the war. It surpasses its global competitors in terms of efficiency and becomes the basis of the Lean Manufacturing model.

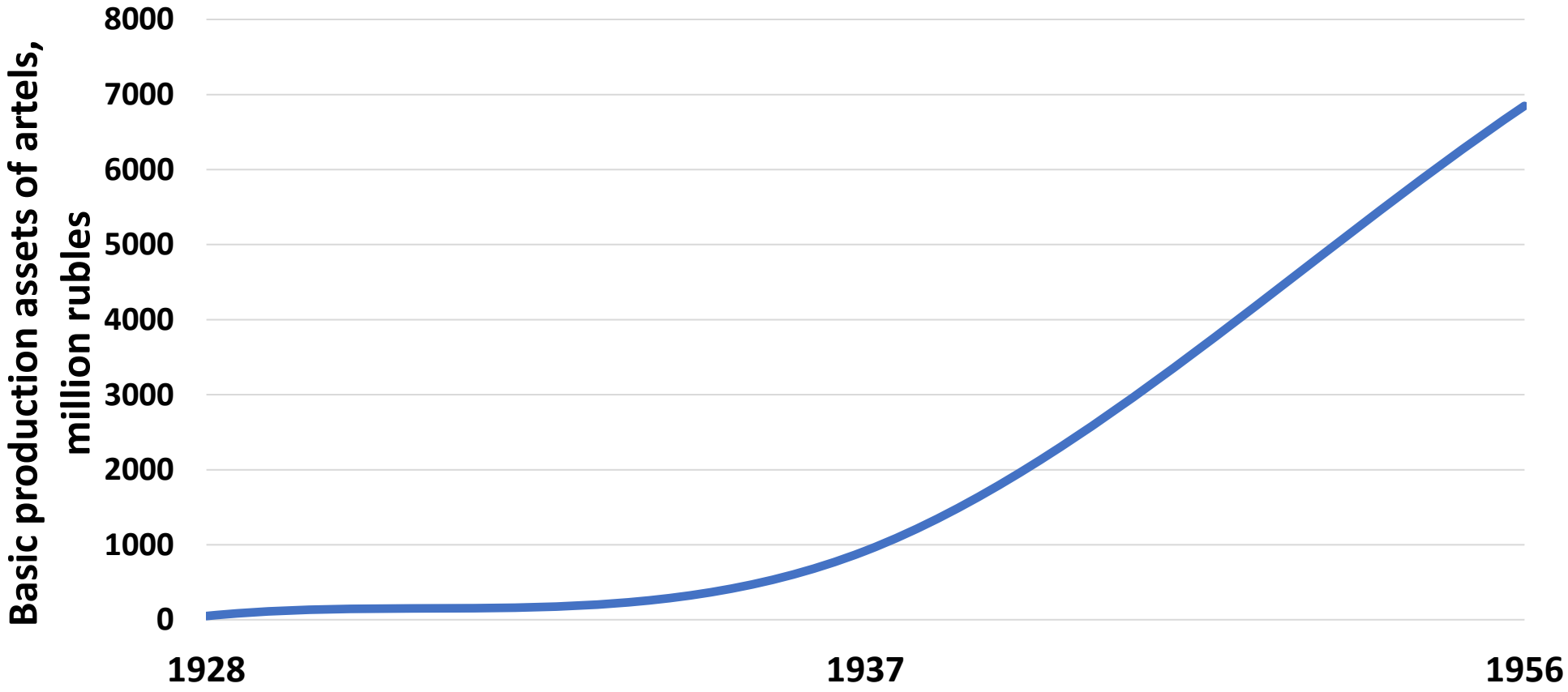
2. In Japan, more than 80% companies **use Lean Manufacturing**, more than 65%, in the U.S., and more than 50%, across the European Union, including Porsche, Alcoa, Volvo, Boeing, General Motors, United Technologies, Ford, Art Iron, Delphi, Xerox, Covidien, Lenovo, Honda, etc.

3. Lean Manufacturing Principles:
- the company's constant seeking perfection and continuous cost reduction;
- seeing each employee as the core value of the company, and the maximum disclosure of their talents as the best way to develop the company as a whole;
- the main goal of the company is to add value for the consumer, the economy, and society, and the company's profit growth is the result of better value creation.

4. "The true depth of TPS resembles a religion" - Jeffrey Liker, one of the world's leading experts on lean manufacturing, describes its principles. The West initially perceived TPS superficially, at the level of specific ways to reduce costs and losses, which affected the implementation results.

5. The way to create an excellent production system (that would be superior to its competitors) is not focusing pragmatically on eliminating specific problems, such as reducing losses and costs. It is rather value-based management focus on cultivating a constant desire for perfection among all employees. At its very core, it continuously and massively generates practical improvements that are **much more efficient** at reducing specific losses and production costs.

V. Entrepreneurship. Result.



9.490 items of the assortment are planned by the State Planning Commitee.

33,444 items of the assortment are produced by artels.

V. Entrepreneurship. Russian Experience

1. Since 1932, "local industry" artels that were not government-related, got relaunched. The main focus was the consumer goods segment. **They eliminated shortages** of consumer goods. They produced and sold furniture, dishes, clothing, refrigerators, vacuum cleaners, washing and sewing machines, radios, building materials, food, and rendered utility services. Their share in these types of activities reached 60-80% in some regions. At the national level, they produced 100% of the toys, 40% of the furniture, 40% of the upper knitwear, 35% of the sewing products, 35% of the shoes.

2. State support: registration in 1 day; tax exemption for the first 2 years; the average loan rate not exceeding 3% per annum; outsourcing: accounting, cash management, transport services; support and development of technological competencies of artels: 100 KB, 22 experimental laboratories, and 2 research institutes specialized in their development; subsidies, an additional pension system and preferential loans for artel participants.

3. At the same time, there was an agency that was in charge of the artels development and activities: the **Union of Craft Cooperation**. This created a favorable environment for the artels.

4. By 1953, there were 264,000 artels and artisans, employing 2 million people, providing 9% of industrial production, and **80%** of the goods diversity in the economy**.**

5. Since 1935, personal household farms were created: up to 1 ha of land, an unlimited number of poultry and rabbits, up to 25 sheep and goats, up to 20 beehives, 2-3 cows, 2-3 sows.

By 1953, farms of this kind produced **85%** of the eggs, **72%** of the potatoes, **67%** of the milk, **52%** of the meat, **48%** of the vegetables that were made in the country. In fact, it was the private farms that were making the most significant contribution to the food supply ("feeding the country")**.** They formed up to **80%** of the personal income of villagers.

V. Entrepreneurship. Best Foreign Practices

1. The **model employed by the German Chamber of Commerce** and Industry is the closest one to combining the functions of development, protection of business interests and control functions, including mandatory membership, in one agency. This combination is the key basic factor that creates favorable administrative conditions for the development of entrepreneurship.

2. **Government support for the development of entrepreneurship abroad** includes, as a rule**:**

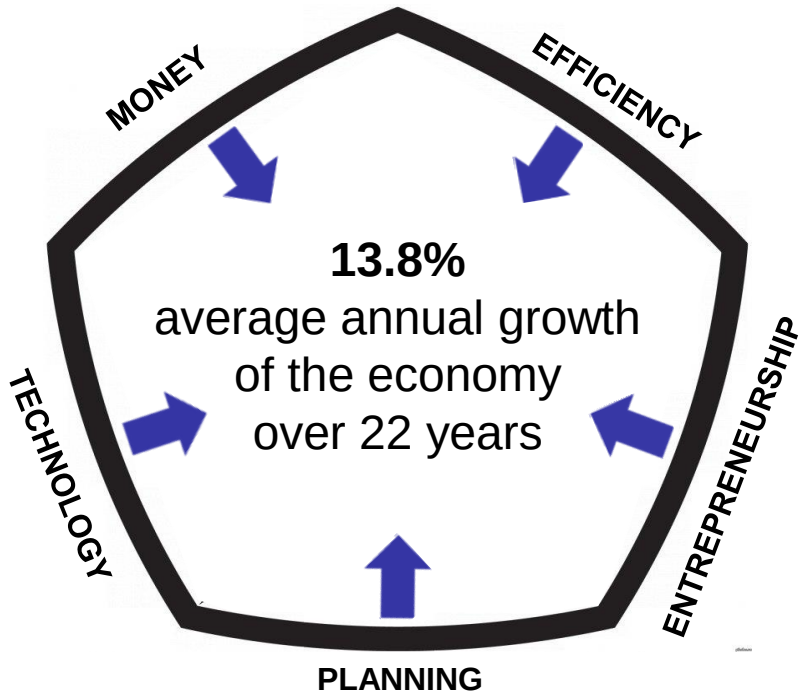
- assistance in market access, including access to government orders and export support;
- accessible infrastructure, including prepared industrial and technology parks;
- assistance in providing staff and suppliers for production;
- affordable funding, including government grants and subsidies;
- incentive taxation, especially in the initial phase of the business.

3. **Self-employed entrepreneurs and microenterprises** can enjoy the most privileged mode of operation.

4. A **well-developed and diversified economy** is the key to the development of small and medium-sized companies, determining the opportunities and niches of their development.

5. The **cultivation of entrepreneurship** as the preferred social norm of economic behavior, the awareness of how rare is the resource of entrepreneurial abilities is at the heart of successful public practices to support entrepreneurship.

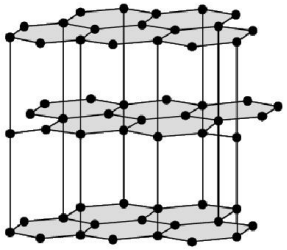
Economic growth model



Planning, technology, money, efficiency, and entrepreneurship are the key factors that are purposefully arranged ("crystallized") into the structure of a single, holistic economic model generate record economic growth. What really works is an organized, holistic economic model, which is never reduced to a disparate set of factors that it consists of.

Growth crystallization

"Economic pressure" of important goals and large-scale projects



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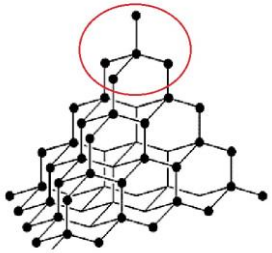
Diamond



"Economic temperature" of powerful material motivation and high-level social energy

High "economic pressure": ambitious goals, large-scale projects and **high "economic temperature"** - strong economic motivation and social energy form the **"economic crystal" of high utility** (high-growth economy). In the nature, this is similar to how loose and dark graphite transforms into a strong and shining diamond influenced by high pressure and high temperature.

The contribution of forced labor, loans from the population, and "robbing" the peasantry to the growth of the economy in 1929-1955

1. The system of forced labor, including the work of **all** prisoners and deportees, including convicted murderers, rapists, bandits, thieves, etc.:

- covers an average of **1.65%** of the total country's population;

- is inefficient, for the cost of labor of prisoners, despite being free of charge, is usually higher than the cost of labor of hired personnel;

- makes a **negative contribution** to the growth of the economy for being unprofitable. The cost of maintaining the system of forced labor is higher than its contribution to the national economy.

2. Government loans on average make up 3.9% of personal annual income and bring in 5.2% of the annual income of the state budget. Sociological studies show that 90% of the population considers loans as a form of participation in achieving national goals rather that an opportunity to make money. However, loans are liquid securities, not a kind of tax.

3. During the first five-year plan (1929-32) **peasants** bear a significant burden of the country's financial problems. By 1935, the situation started gradually improving for the rural workers : personal farms was created, ration lists were canceled. By 1954:

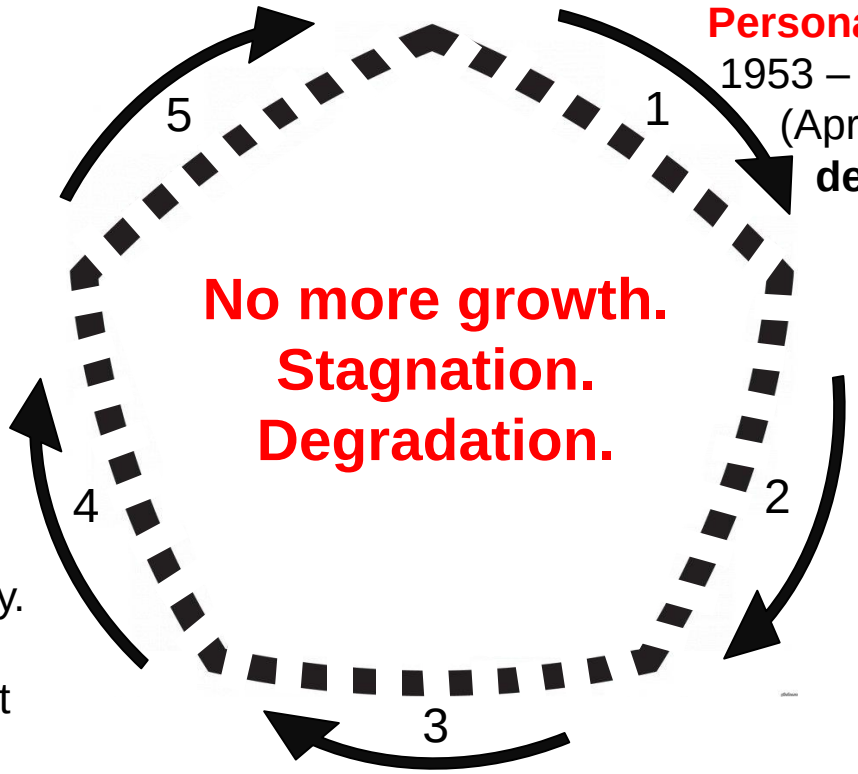
- the real incomes of the peasants increased by **550%** compared to 1913, and by **214%** compared to 1940;
- the real incomes of industrial workers iincreased by **500%** compared to 1913, and by **203%** compared to 1940;

The assumptions that forced labor, loans from the population and "robbing" the peasantry make a significant, or even crucial contribution to the rapid development of the economy in 1929-55, have not been confirmed by any facts.

Elimination of the advanced development model. Stages

Elimination of two money circuits (June 25, 1987 – 1991): **severe deficiencies, hyperinflation, the collapse of the economic system.**

Liquidation of entrepreneurship: Personal household farms (March 06, 1953 – 1960) and **artels** (April 14, 1956 – 1960): **deficiencies** of consumer goods.

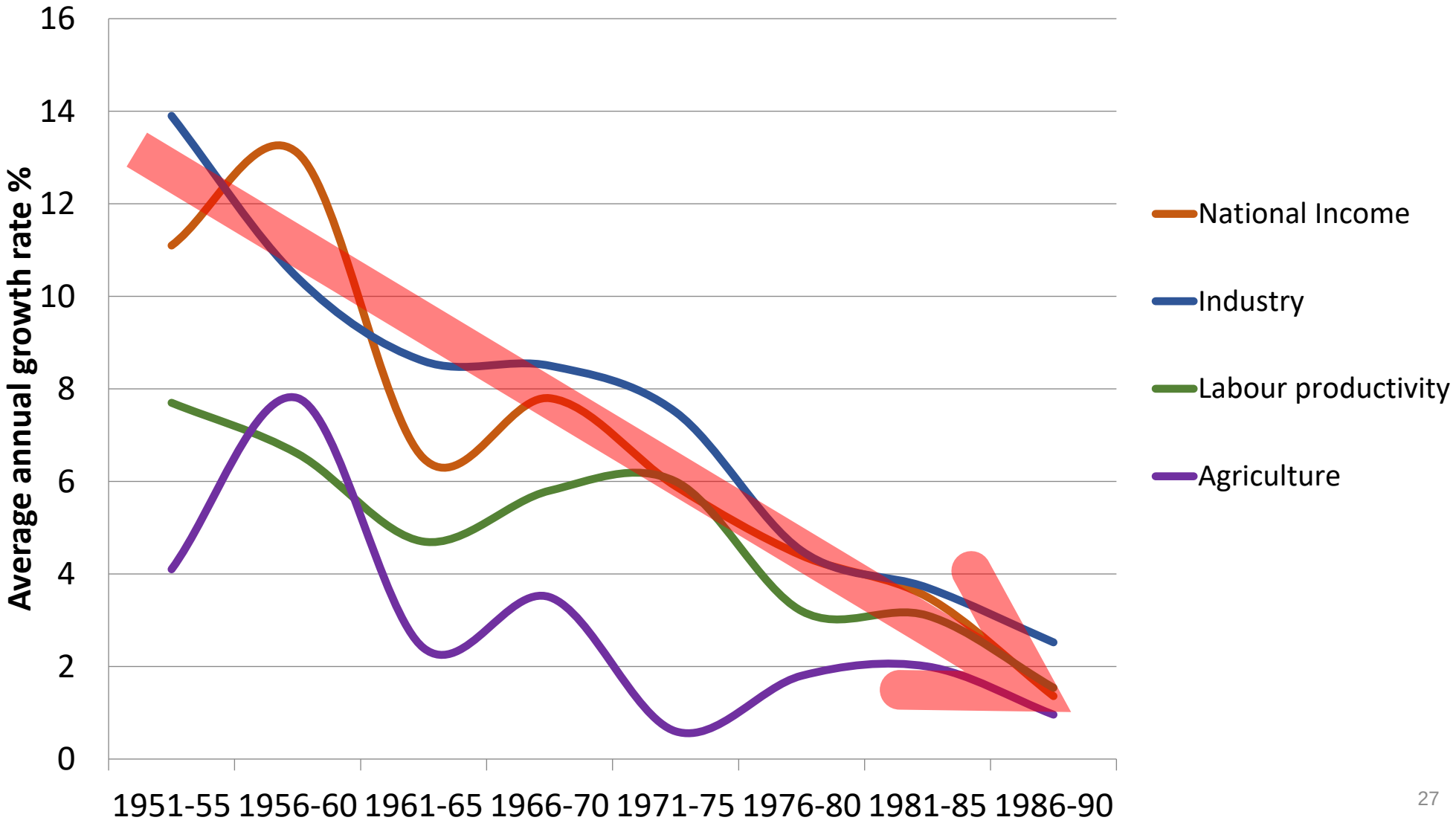


Elimination of high rates of technological growth:
1. 1956: popularizing **new equipment** instead of introducing it as a goal
2. Importing **ready-made products** instead of technology.
1963: **grain import** started
1990: **humanitarian aid** import started.

Elimination of efficiency:
1. May 18, 1956: **liquidation** of the Director's Fund system
2. August 15, 1956: **elimination** of the target **performance increaser:**
3. October 04, 1965: **elimination** of the cost reduction goal; setting target **cost-related** values in terms of gross output and profit from costs.

Elimination of the planning system:
1. 1953-1964: **administrative reshuffling.** 8 top managers change in the State Planning Committee, it undergoes 4 reorganizations
2. 1955-1965: transition to **achievement-based planning**, no more ambitious goals; **reduction** of target scores by **5.5** times (1,780 units vs. 9,990), in-kind scores **replaced** with monetary ones.
3. **Disorganization**: **dividing** the economy into 105 **Councils of National Economy** (1956), **autonomization** of the interests of hundreds of thousands of individual enterprises and the actual **refusal** to maximize the growth of the entire economy in favor of profits and the interests of individual enterprises (1965), and finally, **eliminating**the remnants of targeted organized planning (1987).

Elimination of the advanced development model. Results



Advanced development model and global economics

Russian Experience	Global Economics
Complementarity of state planning and entrepreneurship	**Convergence Theory** (J. Galbraith, J. Tinbergen, F. Perroux et al.): within the same economy, the planning and market systems are not contradictory, they complement each other efficiently and form a single economic system.
Combining the organizing role of the government and market self-organization in the economy	The **Nobel Laureates** in Economics, J. Stiglitz, L. Klein; as well as the works of Joseph Schumpeter, J. Keynes, G. Arrighi, T. Piketty, I. Wallerstein, prove the need to develop and implement an optimal combination of the organizing role of the government and market self-organization in the economy.
Planning based on the balance sheet method, including cross-industry balance sheets	In 1973, **the Nobel Prize in Economics**was awarded to the Russian economist, a US citizen W. Leontieff for his methodology of intersectoral balance (the input-output method).
A unified economic system (a holistic, organized economy) that maximizes economic growth	The **Schumpeter-Galbraith theory**, which proved the public benefit of "efficient monopolies", including their great positive impact on economic growth and innovation through the concentration of resources, economies of scale, and the reduction of parallelism.

Advanced development model and global economics

Russian Experience	Global Economics
Economic development through the development of supply (production)	The **supply-side economics theory** (R. Mundell, M. Feldstein, J. Gilder, M. Evans, A. Laffer and others): the development (stimulation) of supply, not demand is primary for economy development, i.e., supply defines demand.
Human capital and technology development	In 1992, **Nobel Prize in Economics** was awarded to G. Becker for proving that it is profitable for governments to invest in human capital. Works of T.Schulz, Nobel Laureate in Economics , J. Schumpeter, D. Galbraith, D. Stiglitz revealed a direct correlation between the level of technology, human development and economic growth.
Double-circuit monetary model	**The theory of imaginary capital by S. Sharapov:** "money can be issued for expected labor, in order to "fertilize" it, instead of being issued for actual labor. **State Theory of Money, Chartalism, Neo-Chartalism** (G. Knapp, F. Bendiksen; a strong influence on the views of J. Keynes; A. Lerner, R. Ray, S. Bell, W. Mosler, W. Mitchell): money is a special "creation of the government"; there are more than 10 types of money; the state determines the functions of each monetary instrument; resource-related issue does not lead to inflation; money is not a passive reflection of economic relations, the active creation of money by the state determines them.

Advanced development model and global economics

Russian Experience	Global Economics
EFFICIENCY	**Lean Manufacturing Theory** (W. Deming, T. Ohno, K. Ishikawa and others) is one of the pillars of the "economic miracle" in Japan. It is now widely used across the globe. The pursuit of perfection is the basis for the constant reduction of costs and losses. It takes into account not only the direct costs and losses of the economy, but also the losses from unrealized creative potential of people, from innovations that have not been implemented on time, from overloading the production facilities and the employees.
Entrepreneurship in the form of artels	**Institutional** (Gibb, Johnson, Nelson etc.), **behavioral** (W. von Sombart, M. Weber etc.), **functional** (A. Smith, R. Cantillon, J. Thünen, J.-B. Say, A. Marshall), **Innovative** (J. Schumpeter, P. Drucker, E. Chamberlin etc.), **market** (I. Kirzner, F. Hayek, L. Mises etc.) concepts of entrepreneurship.

1. The model of advanced development is eliminated as lacking theoretical meaning. In 1936, The Head of State set the task of preparing a new textbook on Economics. It took 18 years to do that but the textbook isn't good enough for the Head of State or managers and economists. It was not published until 1954 and it turned out to be inconsistent with the real-life economy.

2. The model of advanced development receives theoretical confirmation in the outstanding works of world-renowned economists.

Record growth rates of the world's economies in the twentieth century

1. **13.8%** – **Russia**– average annual growth over 22 years (1929-1955)

2. 13.5% – Botswana* – average annual growth over 22 years (1968-1989)

3. 13.2% – UAE* – average annual growth over 22 years (1959-1980)

4. **11.5%** – **Taiwan** – Average annual growth over 27 years (1947-1973)

5. **10.4%** – **China** – average annual growth over 25 years (1983-2007)

6. **10.2%** – **South Korea** – average annual growth over 23 years (1966-1988)

7. **9.7%** – **Japan**– average annual growth over 23 years (1948-70)

8. **9.2%** – **Singapore**– average annual growth over 24 years (1966-1989)

In the twentieth century, the world's largest growth of the national economy over more than 20 years was achieved in the country between 1929 and 1955 (excluding the 4 years of World War II).

**Low-evidence cases of the growth of smaller countries thanks to mineral extraction*

Record growth rates of the world's economies in the twentieth century. Common features

1. The government being the leader in an intelligent, creative, and inventive ways.

2. Synthesis of the best aspects of state planning and market self-organization, including a combination of high-quality strategic planning, establishing a government-based planning agency, defining important and reasonable goals, coordinating large-scale development projects, focusing the resources on the top priorities, rapid development of infrastructure, and creating favorable conditions for investment and business development.

3. Cheap and long-term money, widely developed project financing.

4. Meritocracy: mass use and implementation of the world's best technological, managerial, and economic practices, while simultaneously advancing the development of national technologies and human capital, science, education, innovation, as well as material and social incentives for effective work, including social mobility.

5. National traditions, history, and culture support the development of the economy. So do the most efficient ideas of the world's philosophical, political, economic and social experts and their creative application taking into account national specificity.

Economic theory is not a science
of thinking in terms of models,
but rather the skill of choosing the right models.
John Maynard Keynes

HOW TO APPLY TODAY?

Key factors of economic growth

I PLANNING

II TECHNOLOGIES

III MONEY

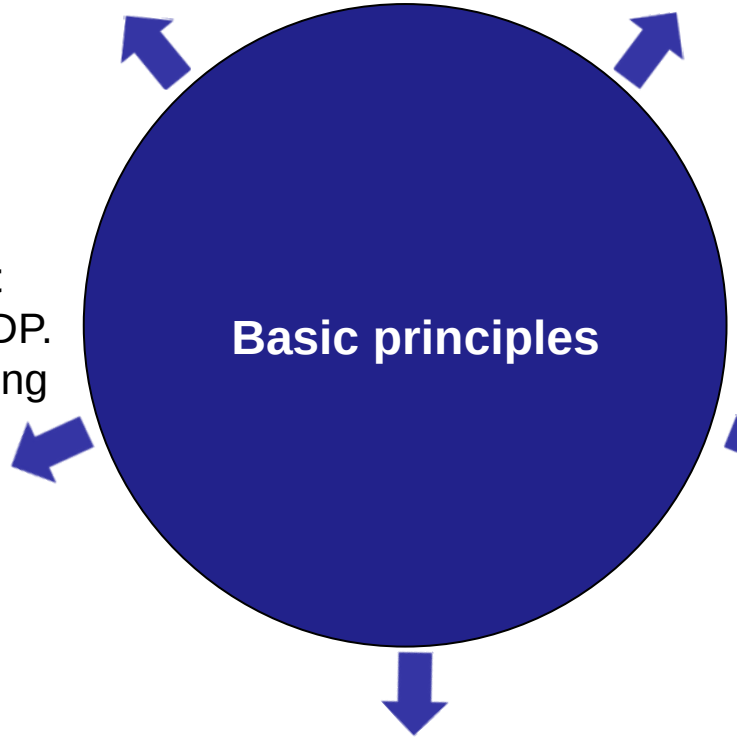
IV EFFICIENCY

V ENTREPRENEURSHIP

I. Planning. Basic principles

1. Permanent general priorities: natural population growth, satisfaction level growth, real personal income growth

2. Guaranteed satisfaction of the basic needs. Introduction of the mechanism of the guaranteed certificate ensuring the satisfaction of socially positive and useful human needs



3. Rapid capital investment growth of at least 27% of GDP. The national plan for increasing investment and its implementation on the basis of the RDIF

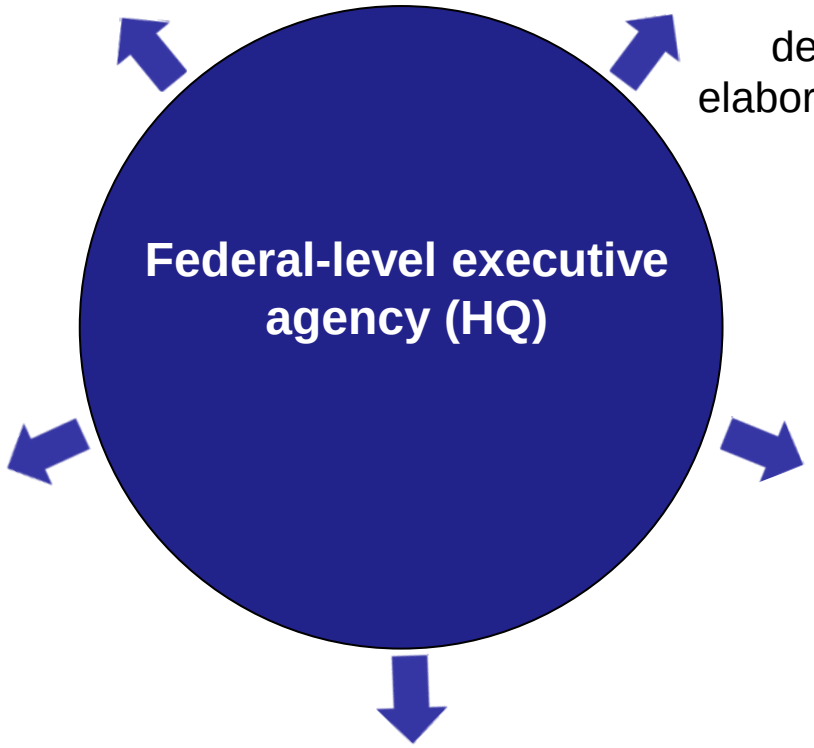
4. Rapid development of natural productive forces. Creation of the Inventory of Natural Productive Forces (INPF), which provides maximum added value to the national economy

5. Advanced development of the basic infrastructure. Formation and implementation of a permanent long-term national plan for the development of the national infrastructure framework. Implementation of the infrastructure creation and management lifecycle model

I. Planning. State project

1. Integrity of state planning, clear hierarchy and coherence of planned tasks, their compliance with the national goals, elimination of redundant requirements and documents

2. Identification of the **key aspects of development**: priority industries projects, technologies, structural changes that ensure the achievement of the development goals, as well as the elaborating strategies for each priority



3. Management by goals. Resources focused on priorities, development projects coordinated, control over the actual (not official) efficiency of the plans

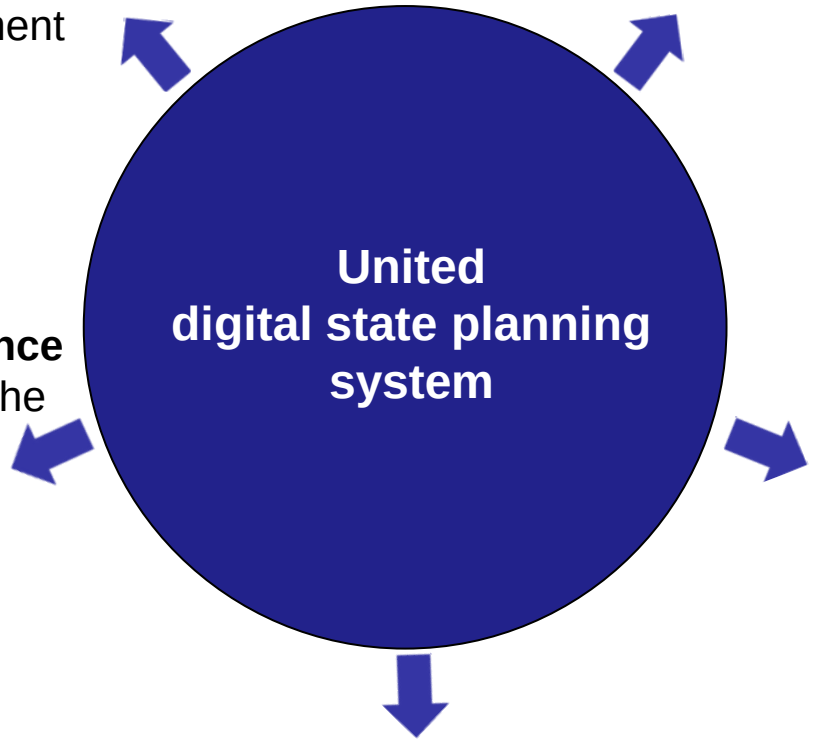
4. Well-balanced plans aligned with each other, available resources.

5. Unified system of planning agencies (from the federal to the local level)
Multi-level management and control system operating 24/7
Deputy heads of federal executive agencies included in the federal HQ to be in charge of plan elaboration

I. Planning. Unified Digital System

1. Reliable information on any plan for any level of management. Accurate assessment of the consequences of management decisions

2. Flexible and variable scenario planning, as well as rapid plan adjustment



3. Full automation of balance sheets and interrelation of the plans and calculations for capital construction

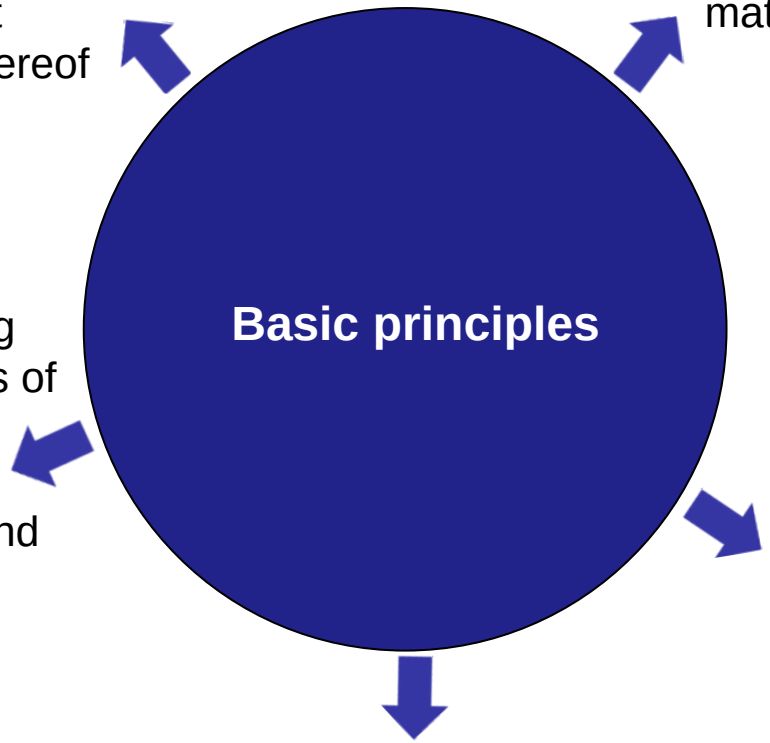
4. Solving optimization problems based on the use of advanced economic and mathematical models and methods

5. **Any citizen of Russia having access t**o the **information** about the implementation of the plans, both in general and for specific tasks in a given region. Any Russian citizen can refute the reporting data of the departments that are available in the information system (also using photo and video materials attached)

II. Technologies. Basic principles

1. Front-line and continuous implementation of the best technologies and **new equipment**, including a system of benefits, preferences, and standards that ensure mass implementation thereof

2. Breakthrough creation and implementation of the cutting-edge technologies, including new digital, intelligent, robotic, laser and additive materials and methods of construction, big data, telecommunications, transmission equipment.



3. Direct action agent in the innovation sphere, concentrating the necessary powers, functions of providing public services and development institutions that can form flexible partnerships and attract funding as a public law company

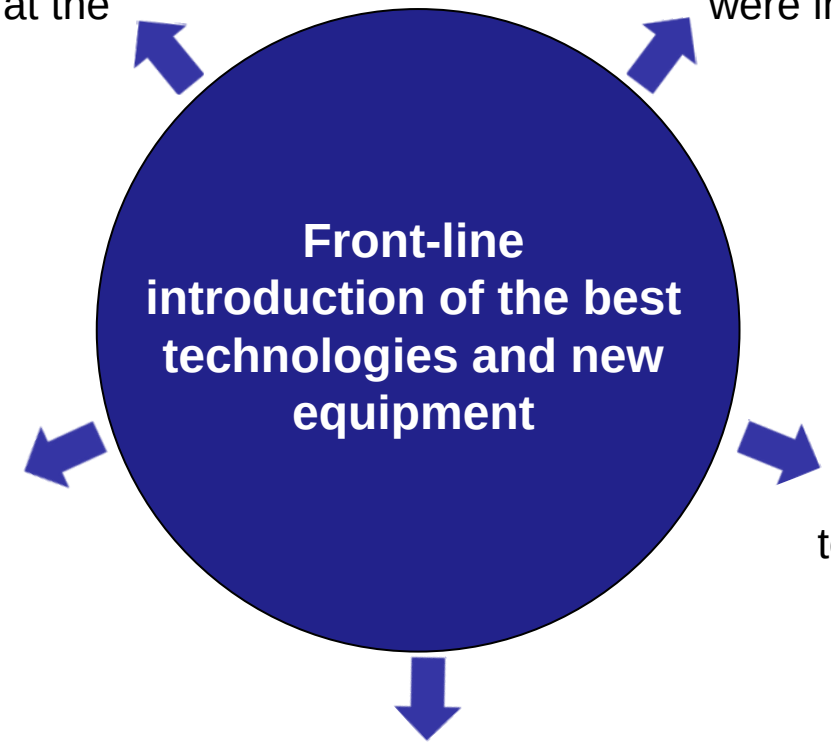
4. Full innovation cycle pilot projects, from basic research and applied development to mass production of cutting-edge national-brand high-tech products for the global market

5. The **top priority is the technology of rapid flow conveyor design and construction**, which provides multiple acceleration of the terms of design, construction and implementation of capital investments

II. Technologies. Implementation of the best technologies

1. A single open information bank for inventions, the best technologies, technological solutions, and the cutting-edge technology, including all publicly available R&D results created at the expense of the state

2. **Return 100% of the value added increase to the investor** who invests in the best technologies during the first three years since they were introduced, and 50% during the next three years



3. **Centralized government order** for the purchase of products created using new inventions, the best technologies and equipment

4. Creation of a state-owned leasing and technology company that provides investors with the opportunity to purchase advanced technologies and equipment on privileged terms

5. Implementation of the target model of the innovation infrastructure (technoparks, innovation centers, etc.), to ensure the implementation of full-cycle technological projects: from research and development to mass production of new products with a preferential accelerator for the transition between innovation cycle stages.

II. Technologies. Industry priorities

Nuclear industry, including the development of the system of nuclear cycle technologies, expanding the scope of their application

Rocket and space industry, including its comprehensive development and increasing the multiplier effect for the economy as a whole

Aircraft and **shipbuilding** industries, including active import substitution and increased exports

Energy sector, including its high-tech development and updating power plant equipment

Telecommunications, including the development of Russian communication tools, software, computer search engines, social networks and messengers

Housing, including **wooden and individual housing construction,** formation of modern urban spaces, the renewal of the appearance of existing cities and construction of new ones, the modernization of utility services

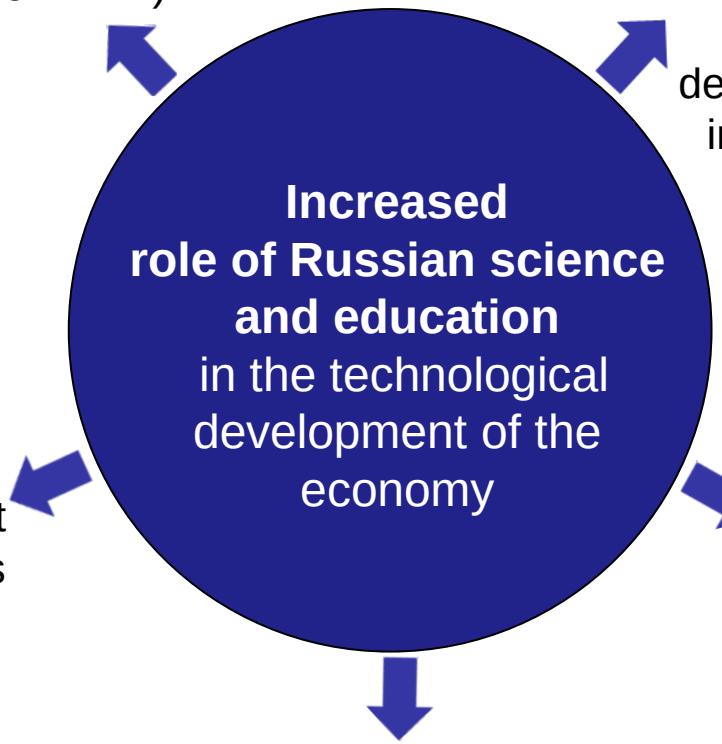
Deep processing of natural resources, including gas, oil, and wood

Small and medium-sized enterprises, including special measures for their technological development

II. Technologies. Science, education, human capital

1. Priority development of the higher education system based on the model of integration of education, science and practice (following the example of MIPT)

2. Integration of education and science into the system of public administration and economic development, including the participation of the authors and developers of advanced technologies in the management of breakthrough technological projects



3. Direct participation of the government officials in the scientific and technical councils of leading research centers that develop advanced technologies

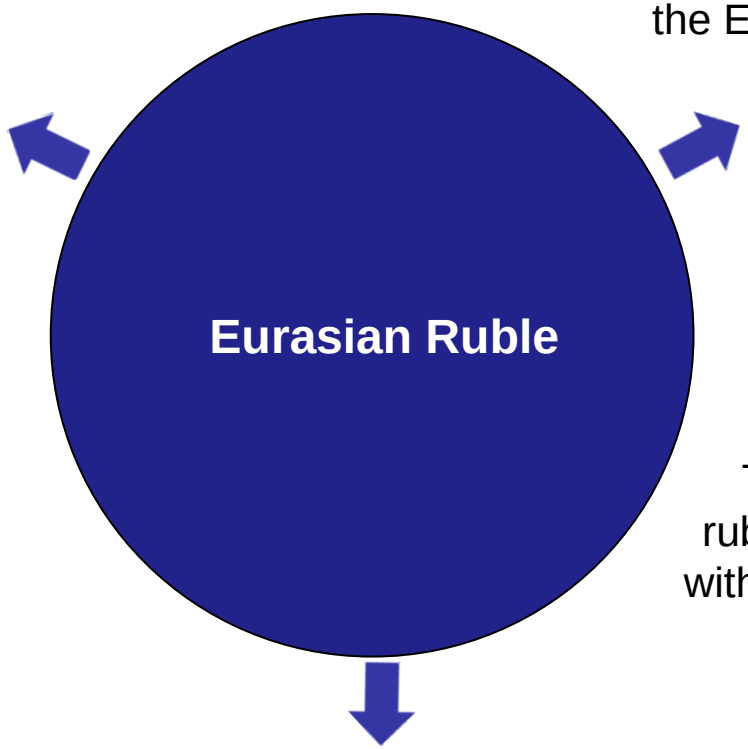
4. Forming the function of open acceptance of research results with the participation of potential users: representatives of enterprises, public authorities and corporate governance

5. Cooperation in terms of technology and economy with the business and scientific and technological communities of all countries, regardless of the foreign policy pursued by these countries. Targeted import of the best human capital and advanced technologies with simultaneous import substitution of human capital and technologies in the science and education system

III. Money. Eurasian Ruble: key stages

1. Establishing a system of bilateral clearing settlements based on intergovernmental trade agreements obliging the counterparties to make payments under the contracts only in their national currencies with the possibility of calculating the contract price formulas in US dollars.

The total balance of interstate settlements can be covered using the convertible currencies of other countries, including the US dollar, but in a smaller amount.



2. Transition to multilateral clearing settlements through the creation of the Eurasian Clearing Union (ECU). Launch of multilateral clearing settlements via the Eurasian Development Bank for the distribution of customs revenues between the countries of the Customs Union of the EAEU. Creating an international currency unit: the Eurasian ruble. Launching a single emission and settlement center. The exchange rate of the Eurasian ruble is to be adjusted in accordance with changes in the purchasing power and exchange rates of national currencies.

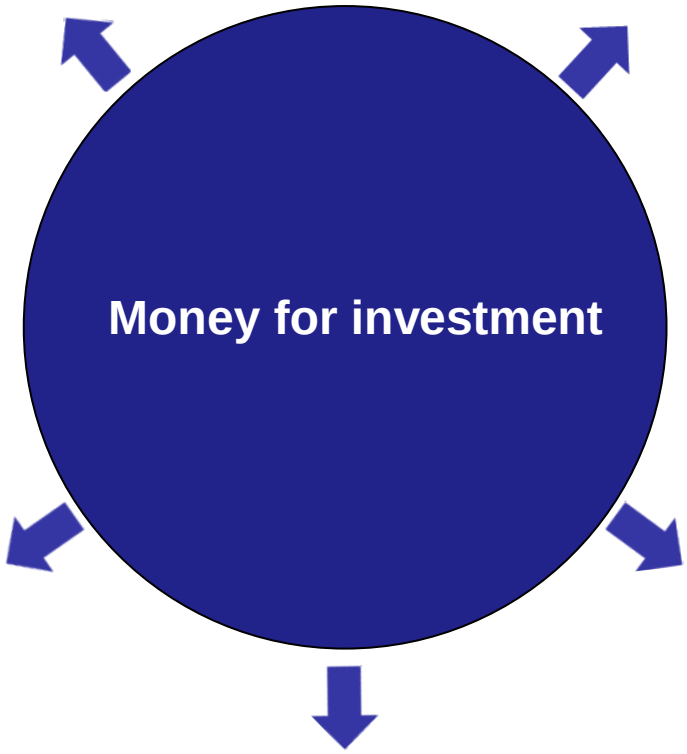
3. Transition from a clearing union to a payment union by launching a mechanism for mutual interstate lending to cover the international deficit.

At the same time, the issue of a single payment system is under discussion. It could be MIR, the Russian national payment system.

III. Money. Cheap and long-term money for investment

1. Legislative consolidation of the Bank of Russia's responsibility for the growth of national economy, the creation of new jobs, a moderate level of interest
rates in the economy. Monitoring compliance with these priorities through the National Finance Council.

2. Priority development of a long-term project financing banking system, encouraging bank industry specialization and financing of the real sector of the economy (KPI for state banks + economic motivation in the Central Bank regulations).



3. Issue of federal perpetual bonds for large-scale projects (for example, the development of the Arctic and Eastern Siberia, global transport corridors, and trunk infrastructure).

4. Implementation of a **targeted project issue** using escrow accounts (issuance of money for creating added value and economic growth).

5. Expanding the practice of financing under the TIF model: abolishing artificial restrictions (only industrial parks and SEZs, as of today), infrastructure tax deductions for private investors, and targeted investment budget loans for regions.

III. Money. Target project emission

1 **Project selection**
Projects are selected using standard risk assessment procedures. The key criterion is the ratio of the planned value added and the required financing.

2 **Investment Agreement**
An investment agreement is concluded between the investor, the commercial bank and the authorized governmental agency. A prerequisite is a certain level of added value scores.

3 **Target emission**
The Bank of Russia issues money and deposits it in the amount stipulated in the investment agreement in an escrow account with a commercial bank (no interest is accrued on the funds and no penalties are levied).

4 **Project financing**
A commercial bank, using its own deposited funds, lends an investment project at an interest rate that includes its risk premium and administrative expenses the average level is of 3-5%).

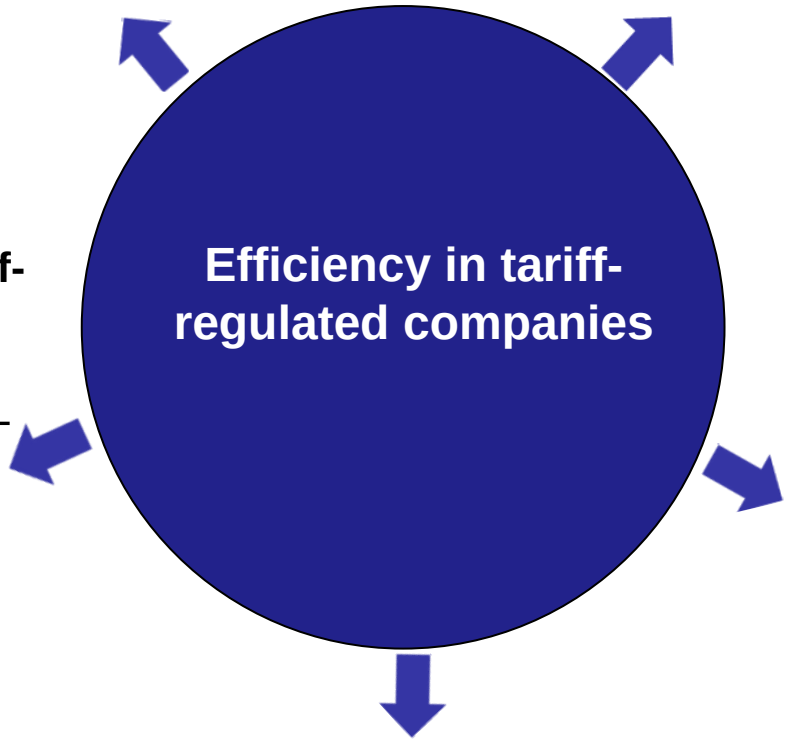
5 **Launching projects**
After the launch of a new production facility, the main debt of the investor to the bank is written off in the amount of the created added value at the expense of funds in the escrow account deposited by the Bank of Russia.

If the investor fails to perform their obligations under the investment agreement, the funds deposited by the Bank of Russia are to be withdrawn, and the relationship between the commercial bank and the investor continues on regular terms.

IV. Efficiency. Tariff-regulated sector

1. The annual goal for tariff-regulated organizations is to reduce costs by no less than **3%**

2. It is unacceptable to achieve the goal of reducing costs by reducing the quality of services, reducing investment and production programs, or cutting down the product range



3. The remuneration for tariff-regulated organizations is 10% of the planned cost reduction and 75% of the over-planned cost reduction

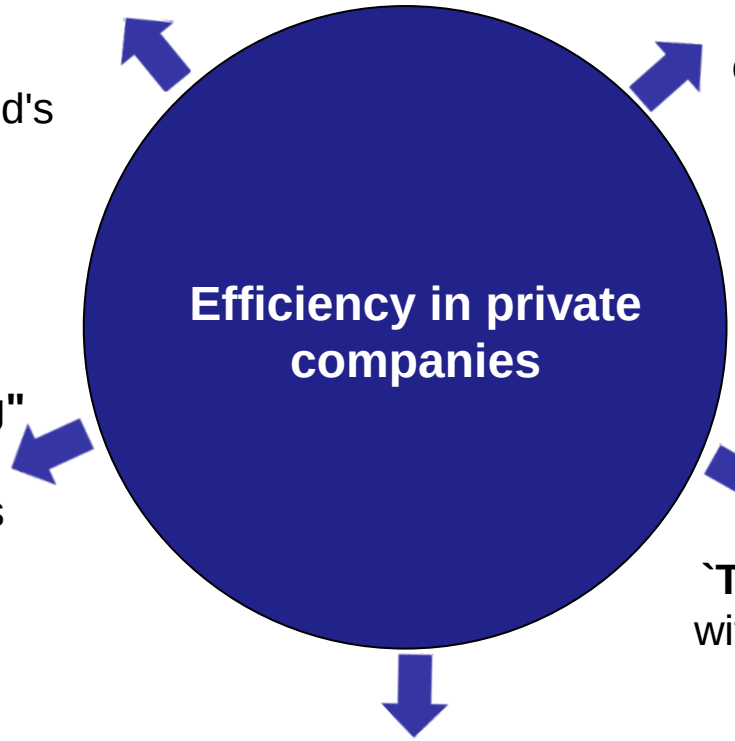
4. Organizing centralized collection and front-end implementation of the best technological, organizational and other cost reduction practices

5. Launching the national cost reduction rating. Regular awards to managers, teams, and individual innovators who have achieved the best results in terms of reducing costs.

IV. Efficiency. Private companies

1. Teaching and promoting the lean manufacturing culture. Social advertising. Development of the professional training system. Organizing executive training events, including internships in the world's best companies.

2. Organizing experience, knowledge and skills exchange on the implementation of Lean Manufacturing principles Engaging the best international experts in the audit and subsequent support of the Lean Manufacturing implementation process.



3. Promotion of the brand "Made in Lean Manufacturing" shared by all participating companies operating under this business model.

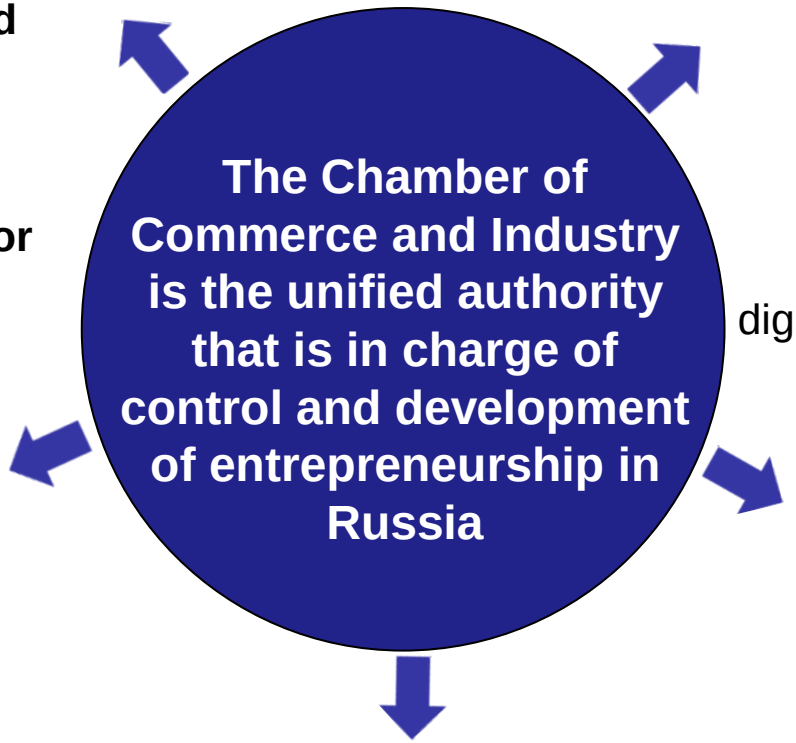
4. Review of regulatory requirements that prevent the implementation of systems and technologies of the Lean Manufacturing philosophy. `**Tax deduction** for investments made within the Lean Manufacturing system.

5. Introduction of the national rating of the program participants, establishing the Award of the Government of the Russian Federation for Best Lean Manufacturing.

V. Entrepreneurship. Chamber of Commerce and Industry of Russia

1. Implementation of individual development programs for medium-sized fast-growing companies (the so-called "gazelles**") so that they reach the level of national and world champions.**

2. Making it easy to start and keep doing business by creating a single online platform that consolidates key services for SMEs



3. Expanding opportunities for access to the Russian and international markets: using offset contracts for the national market (a private investor launching production based on state orders); targeted elimination of industry barriers for exporters

4. **Affordable funding**, including digitalization of loans, venture capital, and co-financing programs. Privileges for those who are starting out as entrepreneurs.

5. Support in the development of new technologies and the necessary technological competencies. Creation of a single center for technological development of entrepreneurship.

Growth crystallization

"Economic pressure" - ambitious goals formulated in the key Decrees of the President of Russia

Planning, technology, money, efficiency, and entrepreneurship are the key factors that are arranged into the structure of a single, holistic economic model generate record economic growth. What really works is a holistic economic growth model, which is never reduced to a disparate set of factors that it consists of.

Where to start?

1. Adopt the model of advanced development as the basis for the new Strategy of Social & Economic Development of Russia.

2. To include in the Unified Plan for the implementation of the new Strategy decisions on the holistic implementation of all interrelated factors of the advanced development **model,** some of which have already been entrusted to people in charge by the President and the Government

- **Planning**: Pr-575 dated March 24, 2020
- **Money** :Pr-1664 dated AUgust 21, 2019; MX-P13-2811 dated March 23, 2020; AO-P13-3103 dated April 09, 2020
- **Technology**: YB-P9-4255 dated April 27, 2020
- **Efficiency**: MX-P16-1710 dated March 05, 20
- **Entrepreneurship**: MX-P16-1803 dated March 07, 2020

3. Create a key agency to be in charge of holistic implementation: the **State Committee for Targeted Development and National Projects**, a federal executive HQ, which would organize full-fledged work on the actual achievement of national goals and the implementation of the new Strategy.

Ye shall know them by their fruits
Matthew 7: 16

ALL OF THIS IS FEASIBLE!

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