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Georgi Petrov and the model of socialist market economy in Bulgaria

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The exhaustion of the Stalinist directive model and the economic reforms that began in the early 1960s in socialist countries gave rise to active discussions. These were not only practical in nature but also touched on the theoretical foundations of the socialist economic model. In all countries, in different forms and to varying degrees, independently or under the influence of Soviet economists, several camps were formed, the main ones being the group of supporters of decentralised and market socialism and the group of those who believed that planning could be improved, take new forms and use new technical procedures. Between these two extreme positions, there were various views on mixed forms of coordination through planning and the market. There is a wealth of literature on the reforms of the 1950s and 1960s[3].

In this and the next chapter, we will present the views of two Bulgarian economists who have left a lasting mark on the practice and discussions of reforms in Bulgaria, representatives of the two main models of reform: Georgi Petrov's market model and Evgeni Mateev's democratic planning.

The text that follows is organised as follows. First, we provide brief information about the context of the 1963 reform. This is followed by a presentation of the main themes and ideas in Georgi Petrov's life research project, which systematically and logically derives the need for decentralisation of the economy, a transition from directive planning to economic levers, granting full autonomy to enterprises included in market mechanisms and profit incentives.

One clarification. The text that follows presents one possible reading and interpretation of Georgi Petrov's views. Despite our efforts, it inevitably reflects the knowledge and some of the biases of the authors, who, as a whole, are not direct witnesses to the events of those years.

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[3] For example, Spulber (1956), Tosi and Vitello, Ed. (1960) (a collection of translations of leading Polish economists on the subject of reform), Montias (1962), Milenkovitch, D. (1971), Bornstein (1973), Marczewski (1973), Lavigne (1974), Seurot (1978), Asselain (1981), Dembinski (1988) and others.

1 Debates on economic reform in Bulgaria

At the beginning of the fourth five-year plan, towards the end of 1963, on the initiative of the Politburo and personally of T. Zhivkov, a working group was formed under the leadership of Grisha Filipov, chairman of the State Planning Committee. Its task was to prepare a draft that would initiate economic reforms towards decentralisation and independence of state-owned enterprises. In terms of their conception and initial results, these reforms demonstrated the ambition to change the country's economic system towards economic freedom by strengthening market mechanisms. According to the participants themselves, this was one of the first radical attempts to change the economic model in socialist countries (with the exception of Yugoslavia) (Petrov, 2016).[4]

The working group included David Davidov, Emil Hristov, Georgi Petrov, Ivan Videnov, Dimitar Badjarov, Georgi Dimov, and Alexander Manolov (Bonev, 2011, 54)[5]. According to G. Petrov, Kiril Zarev and Petko Kunin were also members of the group (Petrov, 2016, 10). Again, according to Georgi Petrov's recollections, the draft of the theses was written by him and David Davidov (with Davidov using notes from his visit to Yugoslavia[6]). The reformist economists encountered serious resistance. It came mainly from conservative supporters of the old type of directive planning, state redistribution and accumulation. Evgeni Mateev, whose specific planning model will be discussed in the next chapter, also joined the critics.

The first discussions, held on 25 and 29 November 1963 in the Council of Ministers, brought together economists and practitioners. The two opposing and extreme positions were represented by Associate Professor Georgi Petrov (in support of the reform) and Academician Evgeni Mateev, who was highly critical of the market model. The other participants took intermediate positions to varying degrees. It is interesting that Todor Zhivkov specifically emphasised the need for a free exchange of opinions:

> "Comrade Todor Zhivkov wishes the memorandum to be discussed with economists working in various sectors of the national economy and state and economic bodies before it is submitted for consideration by the party and state leadership. […] During the discussion, Comrade T. Zhivkov would very much like to hear opposing opinions, as well as opinions on individual

[4] E.g. Bornstein (1973), Asselain (1981).
[5] David Davidov (first deputy chairman of the Labour and Wages Committee), Emil Hristov (from the Higher Party School and Zhivkov's personal office, defended a "market" dissertation in the USSR), Georgi Petrov (Karl Marx Higher Institute of Economics), Ivan Videnov (Deputy Chairman of the Committee on Prices), Dimitar Bazdarov (First Deputy Minister of Finance), Georgi Dimov (Deputy Chairman of the Bulgarian National Bank) and Alexander Manolov (Secretary of the Trade Unions Committee).
[6] Petrov learned this after the reforms (Petrov, 2016).

aspects of the positions developed in the draft sent to you." (CSA[7] , 20 November 1963, 1/5/591, sheet 87)

Zhivkov summarised the objectives of the exchange of views as follows:

> "Under the old system and traditional forms of planning, enterprises are not interested in drawing up realistic plans. The organisation and method of financing and crediting enterprises do not create an interest in them to spend state funds in the most economical and expedient way. The existing system of material interest does not sufficiently ensure the necessary unity between the interests of the enterprise collectives and the interests of the people, nor does it create an incentive for enterprises to constantly increase the profitability of production. " (CSA, 20 November 1963, 1/5/591, pp. 88-89)

And further:

> “The main flaw in the economic management system is the fetishisation of the plan. The only criterion for evaluating the results of the activities of individual enterprises and industries, and the work of their management and staff, is now the fulfilment of the approved plan. […] The entire national economy is planned centrally, down to the last detail, according to all indicators of economic development. For example, the Council of Ministers, the National Assembly, the State Planning Committee, the sectoral committees and the ministries centrally approve more than 1,800 indicators in industry (and the State Planning Committee approves nearly 400 indicators), in agriculture - over 250 (of which nearly 200 are for seed production and vine and fruit planting material), in capital construction - over 20 indicators; in addition, for industry, construction, the State Agricultural Enterprises and the Ministry of Transport, the Council of Ministers approved 8 indicators, and the ministries and sectoral committees approved a further 12 to 24 indicators for labour and cost price. (CSA, 20 November 1963, 1/5/591, sheet 94)

The direction of the reform is most clearly formulated by Georgi Petrov:

> "The law of value (hereafter LV) governs exchange through price, so its impact on production is felt first and foremost through price, and therefore through profit, which is the difference between that price and the production costs paid. [...] Is it not precisely profit, in this case, that is the form in which the interests of enterprises and society become aligned? After all, an increase in profit simultaneously increases the income of the state and the income of the individual production collective, making administrative and other restrictions unnecessary, except for the economic levers for regulating profit itself! […] But there is no greater delusion than to think that you can comply with the LV by ignoring price, self-sufficiency and their objective result, profit. Life has proven this a thousand times over." (CSA, 20 November 1963, 1/5/591, pages 39, 46, 47)

[7] CSA – Central State Archives, Sofia

Georgi Petrov was one of the initiators and most active supporters of market socialism (although in those years he himself denied this definition of himself). He was born in 1929 in the town of Byala Cherkva and graduated in finance in Leningrad (1952). In the period 1952-2004 he was a long-standing professor of finance at the Karl Marx Higher Institute of Economics (later University of National and World Economy). He was director of the scientific institute at the Ministry of Finance (1963-1978) and later, during the transition period, he was a member of the management of the Bulgarian National Bank (1991-2004). Petrov participated in a number of conferences, mainly in socialist countries. He specialised in Berlin (1962) and in France (1971), where he became acquainted with the leading literature on planning and convergence, which resulted in his book *Convergence between socialism and capitalism* (Petrov, 1973). His basic biographical notes are collected in his memoir *False Reforms in Bulgaria* (Petrov, 2016).

2 An overview of Georgi Petrov's research project and its internal logic

Georgi Petrov's work until 1990 can be seen as a systematic development of various applied and theoretical aspects of the model of decentralised and market socialism. The main task was to increase the efficiency and productivity of socialist production and the income of the population by overcoming information constraints (hiding of reserves, striving for lower plans, investment hunger, etc.) and to solve the motivational problems characteristic of centralisation and administrative planning (lack of interest in innovation among producers). The model is within the framework of Marxist labour theory of value. In one of G. Petrov's first articles from 1964 (according to him, the most radical article), we read:

> "There is a sharp contradiction between the interest of enterprises in achieving lower planned indicators (and the fear of significantly exceeding them) and the interests of society in ensuring optimal rates of expanded reproduction. Having lost the only possible criteria for preliminary verification (the economic interests of the enterprises themselves), the plan in a number of cases proved to be unfounded and inaccurate, containing possibilities for disproportions." (Petrov, 1964, 90).

And in 1967, he noted:

> "In the planning process, enterprises tend to provide false and inaccurate information in order to have lower and more easily achievable plan indicators approved. Production teams are reluctant and afraid to use all opportunities. This is in order to increase production efficiency and exceed their targets, so that they do not receive a more demanding plan for the next period or even for the current period. It has been proven that without accurate and reliable source of information, it is impossible to draw up a realistic and demanding plan, and without the interest,

> initiative and creativity of the immediate producers cannot realise the endless possibilities of planned socialist production for saving time. In other words, the existing form of economic organisation of production created certain obstacles to the development of productive forces. (Petrov, 1967, 61-62).

We could claim that Petrov's intuition and views on the shortcomings of the planned economy and the use of the market were formed in the late 1950s and early 1960s and took shape during his direct participation in the economic reform of 1963–1966. His main intellectual goal became "the salvation of socialism" (Petrov, 2016, 21).

During the years surrounding the reforms, the Petrov's main articles were published in the journals *Economic Thought*, *Finance and Credit*, *Planned Economy*, as well as in *the yearbook of the Karl Marx Higher Institute of Economics* (Petrov, 1961, 1964, 1964a, 1965, 1965a, 1966, 1966a, 1966b, 1966c, 1966d, 1967, etc.). They were subsequently summarised and developed in the monograph *Commodity Relations and Price Formation under Socialism,* published in 1969[8]. This book is fundamental to understanding G. Petrov's concept. It presents almost all elements of the debate on market socialism, which the author subsequently elaborated on in a series of monographs, each devoted to a separate leading issue. These topics include (i) the similarities between market reforms in socialist countries and Western models of planning and regulation, i.e. the theory of convergence (1973), (ii) the problems of foreign trade, export premiums, customs duties and convertible exchange rates (Petrov, 1965, 1965a, 1966c, 1975), (iii) the role of different types of taxes (Petrov, 1966, 1976), (iv) sources of financing for expanded reproduction (Petrov, 1978), (v) principles of income distribution in enterprises (Petrov, 1967, 1986), etc.

The book *The Collapse of the Totalitarian System*, written between January 1987 – November 1989, and intended to analyse the distortions of all people's socialist ownership, but which turned into a systematic and categorical critique of the totalitarian economy, was published in 1990 (Petrov, 1990), i.e. after the overthrow of T. Zhivkov. To these important publications we can add the study in the collective monograph from 1990, dedicated to the development of industry in Bulgaria. In this text, G. Petrov provided a critical overview of the history and discussions on the economic accounts and self-sufficiency of enterprises during the years of socialism (Petrov, 1990a). The above publications cover the period up to the fall of the socialist regime. In 2012, Georgi Petrov published a monograph on a general sociological topic

[8] According to G. Petrov, the first draft of the book was ready in the summer of 1964, and its publication was made possible with the help and corrections of Jacques Arroyo, who wrote a relatively "critical" foreword (see Petrov, 2016). Elsewhere, Petrov wrote that the book had been prepared between 1963 and 1966, but due to censorship, it was not published until 1969 (Petrov, 2012).

– the nature of man and his economic behaviour, entitled Human Nature and Society, and in 2016 – appeared his memoirs of the attempts at reform over the years, entitled *The False Reforms in* Bulgaria[9].

What are the logical steps in its derivation of the market model?

The driving mechanism of the concept boils down to *the complete separation of enterprises* as *decentralised commodity producers*. The market becomes the main coordination mechanism, replacing the coordination of economic units within the framework of centralised state and directive planning[10]. Market coordination is complemented by planned coordination, but of a new nature - it is macroeconomic and provides only the leading proportions of distribution, some basic prices and volumes. According to Petrov, the planned and directive formation of all prices and proportions is impossible and harmful.

The separation of commodity producers under socialism is linked to the social division of labour (which has not yet become directly social). This separation is objectively existing, economic and organisational[11]. G. Petrov intuitively followed Jacques Arroyo (1962, 1964, 1966 and 1967)[12], who formulated analytically a new layer in the social division of labour, namely *economic-organisational.* This referred to organisational relations that did not coincide with production relations and were closer to the productive forces. This subsequently allowed for the derivation of the principle of "separation of property from ownership/holding/custody/use" (later to be called stewardship/management), which were present in the debates until the end of socialism. It should be noted that neither G. Petrov nor any other Bulgarian economist of those years mentioned the need for *private property* – for them it was taboo. The new decentralised model was considered within the framework of public property (which allowed for the form of state ownership in the early stages of communism; under communism, state ownership and the state would "die out"). Without exception, all scholars adhered to the principles of Marx's labour theory and spoke of equivalent exchange.

[9] Throughout the years, G. Petrov was extremely active in the press, publishing articles on leading economic issues. These are not discussed in this article.

[10] Petrov was categorical: "State-owned enterprises, under the dominance of the administrative system in its pure form or partially modified and disguised forms during the period of economic reforms, were not owners and managers of public means of production, were not self-sustaining and did not possess the qualities of commodity producers." (Petrov, 1990, 19).

[11] Petrov believed that socialist commodity production differed from both capitalist commodity production and simple commodity production, but was nevertheless closer to the former (Petrov, 1969, 188-194, 344). The law of value was a specific manifestation within commodity production of the universal law of time economy formulated by Marx (Petrov, 1969, 298-305). See also the overview of the reasons for commodity-money relations in Arroyo (1986, 20-29).

[12] Petrov himself noted the pioneering role of Jacques Arroyo (1921-2011) in clarifying a number of concepts related to the "owner-ruler/manager" model (Petrov, 1969, 56-57, 92-94, 97).

The next logical step was to clarify which variable was used to achieve coordination. Petrov suggested that it should be profit, or more precisely, not its absolute amount, but *the rate of profit* (1961, 1969)[13]. The rate of profit should become the indicator that determined the results and contribution of each commodity producer, enterprise, and its own efforts to improve the overall efficiency of the economy. As early as 1961, Petrov defined profit to advanced funds as a key variable:

> As a general economic indicator, profit can be planned as a percentage of cost price, as a percentage of labour costs (wage fund) or as a percentage of the value of fixed and circulating assets. […] The most appropriate indicator for planning and reporting the profit margin is the ratio of profit to the value of fixed and circulating production funds. This indicator expresses the level of profitability measured by the amount of production funds used. Therefore, it can be used to plan, report and stimulate not only a reduction in production costs and an increase in the volume and quality of production, but also the most economical and efficient use of the fixed and working capital provided to enterprises. Society is interested both in savings in labour and material resources through a reduction in production costs and in savings in production funds (Petrov, 1961, 38-40).

The author believed that profit and the rate of profit were much better indicators than net income and *the rate of net income* (net income included not only profit but also the wage fund). The latter was proposed, for example, by E. Mateev[14]. In fact, this is a fundamental problem of Marx's theory of value. According to this theory, surplus product, surplus value, is created solely by living labour, and under socialism, surplus product must be appropriated by society as a whole.

Petrov also explained the mechanism by which every enterprise strived to maximise profit and the rate of profit, taking into account the system of constraints. These constraints came from: (i) other enterprises (in the form of prices and volumes) with which the enterprise would negotiate, (ii) consumer demand, and (iii) the prices and volumes of certain basic strategic resources (centrally approved indicators). This was an interactive and complex process. Enterprises strived to produce at costs lower than public costs in order to obtain more

[13] This criterion was proposed by Liberman, whom G. Petrov followed. The author shared the principles of profit planning developed by E. Liberman and supported by the editorial board of the journal *Kommunist*. (Petrov, 1961, 32). References to Liberman and Kosygin are common in Petrov's works.

[14] In his latest book, Petrov noted with satisfaction that Mateev had changed his views on net income: "In the latest version of his idea of competition (contest) between projects and proposals as the basis for the central distribution of investment resources, E. Mateev proposes to use only two indicators: the degree of price reduction and the percentage of production renewal at a given maximum capital intensity (Mateev, 1987, 375-379). His views evolved and he no longer believed that enterprises should be concerned only with producing more net output, while other issues should be decided by society (Mateev, 1963, 212-213)." (Petrov, 1990, 116).

profit (Petrov, 1969, 114-116). The rate of profit reflected the productivity of the workforce, and the wages of the enterprise's workforce would be linked to them[15] .

3 New price base – not value and cost price (*sebestoymost)*, but prices of production

In order for profit to become a working criterion, the next logical step was necessary, namely the transition to *a new pricing mechanism*. The price base was the second central topic in the debate and it had also theoretical dimensions. Petrov proposed that *the price of production* should become the basis for concrete market prices. The price of production includes the cost price and the average profit margin (Petrov, 1964, 1969). These become the basis for market prices. The choice of the production price has important methodological consequences. It is the most market-oriented and radical option compared to the other two (value and cost price/*sebestoymos*t)[16] .

The choice production prices confirmed Petrov's position that value and, accordingly, price could be formed and appear first and foremost in the process of exchange itself, through the category *of exchange value*. In his 1964 article, the author wrote:

> "Such an objective verification of the economic justification of the price is carried out only within the framework of the relationship it expresses, only in the process of commodity exchange. This means nothing other than that the actual economically justified price can arise only in and on the basis of the relations between the commodity producers themselves. The internal contradictions contained in the commodity manifest themselves as a contradiction between the various commodity owners and find a relative resolution in the most developed monetary form of value, in the price. The actual price can only be the result of the clash and coordination of the economic interests of the participants in the exchange of commodities. Given the objective prerequisites of socialist commodity production, commodity producers can only accept as the basis for exchange a price that is in line with their economic interests. No state administrative body that stands outside and above commodity relations and has no direct economic interest in commodity exchange (within the state sector) is in a position to unilaterally change and quantitatively determine a social relation such as value outside that relation. (Petrov, 1964, 92)

[15] Petrov summed up: "There is perhaps no other area of economic theory and economic practice, apart from profit distribution, that has been the subject of more studies, proposals and attempts at 'improvement' and 'optimisation'. And there is probably no other area in which it is so clear and categorical that no real changes and positive results have been achieved." (Petrov, 1990, 74).

[16] See the detailed bibliography in the next chapter, the one on E. Mateev, as well as the early discussion on pricing in Tsagolov, ed. (1959), Malyshev (1960, 1964, 1966), Arroyo (1966), Kronrod (1960, 1988), as well as the overview in Manevich (1975).

Without having studied the approaches of R. Luxemburg and R. Hilferding, and without being familiar with the ideas of I. Rubin, G. Petrov made an "exchange" reading of Marx, placing exchange and reproduction at the centre of the formation of value and prices[17]. This interpretation contrasted with the traditional view, especially among Soviet economists, who believed that production played a decisive role in the formation of prices.

In this line of thinking, G. Petrov was critical of approaches that directly related specific prices to value by measuring labour costs (E. Mateev, V. Novozhilov). He considered this impossible. In fact, the problem of directly and immediately reducing specific types of labour to some abstract, socially necessary average labour became merely an averaging of specific types of labour (Petrov, 1969, 211). In the author's words:

> "In order to ensure the comparability of all types of specific labour of varying complexity, it is necessary for society to centrally determine the quality of labour required for each operation, which is not only practically but also theoretically impossible. There are many production operations – tens and hundreds of thousands. Their number and nature are constantly changing with the development of technology. Production conditions are also changing. No central authority is capable, even with the most sophisticated technical means, of accurately determining the coefficients of complexity of the labour required for each operation and of changing these coefficients when conditions change. […] Making individual specific labour comparable simply presupposes the standardisation not only of labour of different complexity, but also of labour of different intensity. The intensity of specific labour is a complex quantity. It reflects the expenditure of vital energy, the wear and tear of the organism in general. […] The labour of the modern worker involves the expenditure of both muscular and nervous energy. The ratios between the two types of expenditure in different industries and professions, as well as under different conditions, are not the same. One calorie of energy expenditure during muscular effort is not comparable to one calorie of energy expenditure during nervous tension. The calories expended do not, of course, accurately reflect the wear and tear on the body during the work process." (Petrov, 1969, 72)[18]

According to Petrov (and the "exchange Marxists"), this comparison could only be made through exchange, i.e. through market prices. In 1969 book, the author devoted a section to the eloquent title "Exchange value as the only possible form of expressing value" (Petrov, 207-227). According to him the state had to change the mechanisms of intervention:

> "As an owner, the socialist state is objectively obliged to exercise control and influence over prices as one of the main means of systematically maintaining the basic proportions of the

[17] Nenovsky (2019).
[18] The same considerations were made by V. Bazarov in the 1920s in the USSR (Magnin and Nenovsky, 2025).

> national economy and limiting elements of spontaneity. However, the state does not know the value and cannot calculate it; it cannot quantify the relationship between supply and demand outside of price. Therefore, the state cannot determine reasonable prices for all goods on its own. […] But when the prices of most goods are determined through negotiations between enterprises, the state can make more accurate calculations of costs, both in terms of controlling market prices and in terms of directly setting the prices of some goods. (Petrov, 1969, 253, 277)

Furthermore he noted:

> "Value does not manifest itself outside of price, which is why the LV cannot, in principle, operate outside of price. This fundamental principle, as we shall see below, is too often forgotten when analysing the operation of the law of value under socialism. Through prices, the law of value acts to some extent as a regulator of production." (Petrov, 1969, 296)

The price of production allows the process of "price discovery" to unfold to the maximum extent within the framework of inter-industry competition. As is well known, inter-industry competition is discussed by Marx in the third volume, where, as a result of transfers between industries, an average rate of profit is formed (with an average organic composition of capital). The latter is proportional to the total capital invested (in socialism, this is referred to as "production funds").

And while in intra-industry competition (discussed in the first volume of Capital) the main regulator is *the law of value*, in inter-industry competition it is the law of *the average rate of profit.*

> "Market prices, which recover production costs and ensure an average rate of profit in relation to production funds, are based on the production price. In the production price, the value of the added product created by living labour is redistributed among industries with different organic compositions of advanced production funds in a way that ensures the same (common) rate of profit for all spheres of production. The immediate basis of market prices is not the value of goods, but the production price. Market prices deviate depending on the ratio between supply and demand above and below the production price, and not around the value. The production price takes the place of value. The law of value is modified into the law of the average rate of profit. […] World market prices are determined by the production prices of the relevant goods in the countries with the largest share in their export. Therefore, the production price as the basis for market prices in our country would be a prerequisite for bringing domestic prices closer to world market prices in order to strengthen and deepen international trade and the specialisation of the national economy within the framework of the international division of labour (Petrov, 1969, 367-368)

And while intra-industry competition, with certain reservations, is accepted by scholars under socialism, inter-industry competition is generally rejected. It is believed that the latter

undermines the principles of centralised and planned determination of the basic proportions of the socialist economy, the industrial and territorial structure. G. Petrov's position is as follows.

> “Prices initially arise on the market as a result of negotiations between the participants in the exchange. Under these conditions, the formation of a common average rate of profit is not possible outside or independently of economic competition between enterprises from different sectors. If the need for intra-industry economic competition is recognised and conditions for its existence are created. The need for and inevitability of inter-industry competition must be recognised. […] The law of average profit fulfils its objective functions as a *direct* regulator of prices through economic competition between enterprises from different industries and between enterprises from the same industry. (Petrov, 1969, 385, 389, 392)

Georgi Petrov defended the LV and the law of average profit as averaging (not marginal) tendencies. He was adamant that the deviation of price from value was natural in every single case (subject to$\sum prices = \sum values$). The deviation of price from value was not harmful, but on the contrary, it provided opportunities for competition and innovation. Conversely, Evgeni Mateev seeked to find technical procedures to bring the price as close as possible to value (measured by total costs, i.e. total labour costs) in each specific case (Mateev, 1966, 1967). According to Petrov:

> "It is practically impossible to do this at prices equal to the value in each individual case. If such prices do exist, however, it will be necessary to take into account the impact of scarcity through approximate and inaccurate adjustments. On the individual means of production used in each capital investment option, such (and even more inaccurate) adjustments will have to be made for at least several preceding stages of production. The result will be significantly more inaccurate than if market prices deviated from value in the first place depending on supply and demand. […] Deviations of market prices from value depending on the ratio between supply and demand ensure the correct orientation of economic incentives. Enterprises are oriented towards producing larger quantities of goods in demand, while limiting the use of scarce means of production." (Petrov, 1969, 235-236)

Mateev's formulas for measuring the comparative efficiency of capital investments deviate from the stated initial equality between price and value and are adjusted for differences in capital intensity:

> "The consistent application of the principle for determining capital intensity and related (preceding) production means nothing more than including production funds in the formula for calculating efficiency at prices equal to the production price, rather than at value." (Petrov, 1969, 402)

Mateev pointed out these similarities, but believed that the production price was only effective under capitalism:

> He [Mateev] explicitly states that if, in the comparative efficiency formula, the cost price is substituted for the full price and the normative coefficient[19] - the average rate of profit - is substituted for the average rate of return, the result will be a comparison of the production costs of the products in the two options considered [for capital investments]. He accepts the opinion expressed by Novozhilov, Kantorovich and other economists that a uniform payback period when determining the efficiency of capital investments essentially means accepting the average rate of profit and the production price. (Petrov, 1969, 405)

In concrete terms, G. Petrov proposed *direct price negotiations* between commodity producers, which would form the basis for market prices and for drawing up the plan. It was also necessary to move to uniform prices, i.e. consumer market prices should be brought closer to factory prices. The price of production had a stimulating and catching-up role for lagging countries both under capitalism (as Mateev believed) and under socialism:

> "In countries with a lower level of development of productive forces, the rate of profit is usually higher than in the most developed countries. The low level of productive forces is most often expressed in an acute shortage of capital investment and the availability of significant labour resources at low wages. Under these conditions, the production price correctly guides the choice of capital investment options that ensure mainly extensive expanded production and a balance between capital investment and labour resources." (Petrov, 1969, 408)
>
> The average rate of profit is not just a unit of calculation; it is a real economic category: "The planned proportion of consumption and accumulation is subject to preliminary objective verification through the real possible rate of profit. [...] The "automatism" of the production price excludes or limits the possibility of subjective, voluntarist planning decisions that are inconsistent with the actual conditions and possibilities of socialist commodity production at the relevant stage of development." (Petrov, 1969, 414-415)

[19] Furthermore, unlike the average rate of profit, the normative efficiency coefficient was not applicable in decentralised decisions and full self-sufficiency (Petrov, 1969, 415). The Comecon methodology, as well as that of the People's Republic of Bulgaria for determining non-capital investments, and that of the Comecon for foreign trade, were similar to the production price (417 - 420). G. Petrov made a critical analysis of the pricing models used in socialist countries, which took the average industry cost as a basis and add a uniform percentage profit to it. It is believed that this model took into account the "armament of living with dead labour". However: "It is not necessary to prove that prices in which profit is proportional to cost do not approximate the value of goods and do not accurately reflect their value. The degree to which living labour is armed with means of production is expressed not by the relative value of the cost, but by the size of the advanced production funds. There is no proportional relationship between the advanced production funds and the value of the cost price due to the different relative share and turnover rate of fixed and circulating assets." (Petrov, 1969, 426)

In one of his early articles, Petrov gave an example of how production costs would stimulate specialisation, including in foreign trade (the example is within the framework of Marxist theory). The example is as follows. There is an annual demand that can be met either with commodity A or commodity B. The two commodities have different organic compositions (c is constant capital, v is variable capital, and m is surplus value):

Good A:$60c + 20v + 20m = 100$ (production funds 100)
Good B:$80c + 10v + 10m = 100$ (production funds 200)
Total:$140c + 30v + 30m = 100$ (production funds 300)

The production price of the two goods is:

Good A: $60c + 20v + 10m = 90$
Good B: $80c + 20v + 20m = 100$

If the two goods are completely interchangeable, buyers would prefer A entirely because it has a lower production cost. Then the total amount becomes:

$120c + 40v + 20m = 180$ (production funds 200)

Therefore, society satisfies the needs for A and B at a market price corresponding to the value by advancing 300 units of production funds. At a market price based on the production price, this is achieved with only 200 units of invested funds (Petrov, 1964, 102). In other words, A realised a saving of 100 units.

4 Planning, economic levers and economic growth

As a continuation, what has been outlined so far requires a reformulation of the functions and instruments of the central economic bodies. The beginning of the solution to this task was set out in 1969 book, as well as in the article *Market Relations under Socialism*, Economic Thought journal (Petrov, 1966). The main conclusion was that planning must be combined with economic levers.

First, on planning. It takes on new forms, boiling down to determining the basic proportions and setting limits on basic and strategic resources. The budget finances only strategic investment projects. The final formulation of the plan, as well as the determination of

proportions, is done through control, indicative, and non-binding figures (the so-called "indicators for calculation"). This is done on the basis of enterprise plans, formed on a decentralised and market basis, through direct negotiations and contracts between enterprises. Most prices are contractual, and they serve to determine final market prices.

The principles of planning are intertwined and interact with market mechanisms and the LV (Petrov, 1966). Information is generated in a decentralised manner, but a centralised, hierarchical element is also assumed.

> "As long as commodity production exists, the law of planned development operates in revealing and implementing the objectively necessary proportions in unity and mutual conditionality with the LV. This, as noted, means that the proportions previously revealed in the state plan are verified, refined and implemented with the economic interests of commodity producers, governed directly by the LV. […] Enterprise plans are used to pre-verify and refine the state plan. […] Therefore, under socialism, the LV is placed in a certain dependence on the law of planned development; it is actually used consciously by society, without being ignored and without making its objective manifestation impossible. Planned development is increasingly becoming a form of action of the LV, while elements of spontaneity are increasingly being restricted and disappearing. (Petrov, 1969, 309, 311, 332)

Secondly, there are the mechanisms and instruments of discretionary but indirect regulation, or as they were called at the time – "economic levers" (Bonev, 1968). They were called economic because they were supposed to be the antithesis of administrative and directive levers and coercion. Their purpose was to direct the flows of resources, income and investment in cases of significant deviations from strategic proportions, as well as to help transfer resources between sectors and objectives.

An example of economic leverage is *taxation*. Specifically, G. Petrov rejected the "turnover tax" and proposed a basic "tax on investment funds" (similar to the taxation of land rent). The latter levels out, to some extent, the differences in the capital intensity of enterprises (capital intensity led to different rates of profit). As mentioned, Petrov did not deviate from the principle that profit under socialism was solely the result of living labour (i.e. the influence of other factors, in this case production funds, had to be "cleaned up"). Taxes must be defined as general, simple and stable over time.

Economic levers also include customs duties, export premiums and *the exchange rate*. The latter must initially be fixed at a realistic level, and the lev must be convertible.

> "The realistically determined price scale is a prerequisite for establishing a real, justified exchange rate. […] When there is an unjustified price scale, establishing a real exchange rate on that basis causes serious difficulties in foreign trade and non-commodity transactions. It

> becomes necessary to introduce a separate exchange rate for non-commodity payments abroad, which more accurately reflects the actual purchasing power of the national currency. The unrealistic exchange rate for commodity payments requires the use of a complex system of price differences on imports and subsidies on exports, which in fact perform not so much their own functions as those of the exchange rate. It becomes difficult to determine the actual effectiveness of import and export operations. Financial relations between enterprises and the state are complicated and a certain danger to the stability of the state budget is created." (Petrov, 1969, 231).

Two consecutive articles in the journal *Finance and Credit*, were devoted to foreign trade finance, published in 1965, namely *"On the Question of Customs Duties and Export* Premiums" (Petrov, 1965) and *"Some Questions of the Exchange* Rate" (1965a). In them, Petrov advocated the formation of a realistic exchange rate based on purchasing power (which would determine the gold content!) and the elimination of its fiscal tasks, to be achieved by separating it as an instrument from the policy of customs duties and export premiums. According to Petrov, this would put competitive pressure on enterprises as independent producers (which under the old system were isolated from the external market) (Petrov, 1965, 26).

The exchange rate should be close to a single rate for all commercial and non-commercial flows, which would avoid two price levels. Customs duties and export premiums should also be aggregated by sector and sub-sector (not by commodity item and by enterprise) and be relatively stable over time and predictable. This will bring us closer to equivalent exchange, a fundamental principle of the LV in foreign trade.

> “The exchange rate must be the same for all commodity and non-commodity relations with other countries. This is entirely natural because, even with, the same rules apply to commodity and non-commodity payments abroad. With the existence of two price levels for consumer goods and means of production, it was possible and necessary to establish two different exchange rates – one for commodity payments and another for non-commodity payments. The exchange rate must be the same for all foreign trade relations, regardless of whether they are related to imports or exports. Violation of this requirement is equivalent to setting different prices for the buyer and seller of the same commodity. (Petrov, 1965, 29)

The interest rate and bank credit became the next important instruments, playing a central role in the financing of enterprises, especially their long-term investments (capital investments). This was followed by a strengthening of the role of the central bank, as well as the new specialised banks (e.g. the *Investment Bank*).

Bank credit brings us to the next research topic, which is the financing of growth *and expanded reproduction* (as it was commonly referred to in those years). The latter should be

financed from own funds (profits and internal reserves) and bank loans. Budget financing should be kept to a minimum, limited to only a few key strategic projects.

G. Petrov was critical of proposals for selecting investment projects through competitions comparing their effectiveness. According to the models of project competitions, they are not only unrealistic but also harmful because they remove market incentives. Overall, they are a weak alternative to the market and, in essence, an unclear imitation of market processes.

Subsequently, the financing mechanisms were discussed in the book *Financing Expanded Reproduction and Technical Progress,* published in 1978. It proposed a decentralised model of growth and the formation of the basic proportions in the socialist economy (between subdivisions I and II, between sectors A and B in the first subdivision, between accumulation and consumption, between individual industries, etc.). Petrov rejected the direct planning and budgetary determination and financing of investments, which led to their unnecessary expansion and inefficiency (Petrov, 1978, 17). Petrov noted the same phenomena defined by J. Kornai as "investment starvation/hunger".

In order to partially level out the different capital intensity in individual enterprises (different organic composition of capital, according to Marx) and to counterbalance, again partially, the "external factors" that affect profit (as claimed by opponents of the reform), Petrov proposed the introduction of *a "tax on production funds*". This is a specific economic lever, similar to V. Novozhilov's idea of a "rent on the means of production". However, the tax is only a palliative measure:

> "The differentiated income of enterprises with different technical levels of production is the main incentive and an indispensable economic compulsion to optimise the planned proportions for the fastest possible introduction of scientific and technical progress into production. Freeing enterprises from the influence of this 'external' factor effectively means removing the link between the assessment and remuneration of labour and the degree of compliance with the objective requirements of the law of time saving, the law of increasing social labour productivity and the law of value." (Petrov, 1978, 39-40)

Petrov also proposed a proportional tax on total profits in order to preserve budget revenues. The optimal structure for financing enterprises was defined as follows:

> "The optimal structure of sources of accumulation is one that maximises the pace of our expanded reproduction and technical progress and fully manifests the incentives and responsibility of socialist enterprises to use all opportunities to increase efficiency and rationally distribute income. More precisely, the optimal structure is one in which normally operating enterprises have committed all their own sources (depreciation allowances and profits remaining

after payment of budgetary obligations and the creation of investment funds) and use bank loans, repaid with interest within the specified time limits. The state regulates the volume and structure of investment resources through its pricing, tax and credit policy, both for the country as a whole and for enterprises operating in average conditions. (Petrov, 1978, 84)

According to Petrov, the optimal structure in those years was as follows, from: (i) own funds (40-60%), including depreciation allowances (20-40%), (ii) bank loans (30-50%), (iii) budget funds (5-15%), (Petrov, 1978, 85). Petrov suggested strengthening bank lending and reducing budget financing. The actual figures from that time are similar, for example in the table compiled by Marczewski (table 1)[20].

Table 1 Sources of investment financing in %

	Budget financing		**Own funds**		**Bank lending**	
	1965	1969	1965	1969	1965	1969
Bulgaria	70	32	24	38	6	30
Czechoslovakia	69	…	23	…	8	…
GDR	11	16	64	61	25	23
Poland	46	28	45	36	9	36
Romania	61	44	37	41	2	15
Hungary	76	51	23	37	1	12
USSR	61	50	39	49.5	0	0
Yugoslavia	8	18	40	32	52	50

Source: Marczewski (1983), p.88. The table has been compiled from official sources and consultations between the author and representatives of the official socialist authorities.

The growth in bank credit and the active interest rate policy (rather than quantitative limits) were the leading factors. The interest rate should not be low:

"When interest rates are unreasonably low, enterprises exert strong pressure to include larger capital investments in the plan than the country can afford. Enterprises have the opportunity to realise their interest in planning larger capital investments to some extent by providing inaccurate initial information. […] If the interest rate is set at a sufficiently high level, only viable enterprises will be economically forced to abandon capital investment projects with lower efficiency (profit margin), because the implementation of such projects will lead to a reduction in their income and labour costs. They will propose for inclusion in the plan only those projects for expansion, reconstruction and modernisation of production that will allow them, after paying the high interest rate and taxes to the budget, to maintain and even increase the level of their remaining income and wages. Accurate initial information will serve as the basis for creating a version of the plan that is more reasonable and closer to the optimal plan. (Petrov, 1978, 140)

According to the author, the experience of the two years of reform from 1964 to 1966 confirmed that modernisation and technical progress could be developed in a decentralised

[20] See also Dalbokov (1974, 297).

manner, within the framework of full economic accounting and genuine self-sufficiency (Petrov, 1978, 19).

Thus, what has been presented so far shows that Petrov's model is systematically constructed and thought out, not only in practical but also in theoretical terms. The theoretical limits of the proposals come from preserving the basic postulates of Marxist labour theory of value, as well as the barrier of denying private property. Despite these limitations, many of G. Petrov's propositions, in understanding the shortcomings of the planned socialist economy and in defending the market economy, are reminiscent of the formulations of the Austrian school and that of János Kornai (in the case of the neoclassical school and the school of disequilibrium). Let us examine them in a little more detail.

Theoretical problems of the planned economy and socialist property

The Marxist boundaries of Georgi Petrov's model are clearly defined. Marx's labour theory, albeit in its "exchanged" version, is intact and defended with exceptional zeal and remarkable mastery of its subtleties. The model of market and decentralised socialism is argued and defended by the author with Marx's concept, developed in the first volume of Capital (the law of value and prices) and modified in the third volume (the law of the average rate of profit and the cost of production). The principle of equivalence in exchange (equivalence of labour costs) is considered unshakeable (as is well known, it is criticised by neoclassical marginal theory). In fact, until his last books, G. Petrov considered this principle to be leading[21].

> "Indeed, individual enterprises do not have such a broad view of economic processes; they cannot reflect the mutual influences of price changes. However, they have an advantage which in itself is already a sufficient condition for the emergence of reasonable market prices. This is the economic interest of production collectives in carrying out *equivalent exchanges,* as well as the opportunity to protect and realise this interest in the process of equal production relations. Enterprises will not accept as a basis for exchange prices that essentially harm their interests and reduce their income. They will limit or cease the production of goods whose market prices are below value over a longer period. (Petrov, 1969, 286)

In 2012, in *Human Nature and Society*, G. Petrov once again presented his view of a market economy based on the principles of Marx's theory of value. In the chapter "*Equivalent Exchange – a Condition for* Survival," he wrote:

[21] Despite his many years of work and teaching corporate finance, after the collapse of socialism, G. Petrov continued to use the term *stoymost*, rather than *cennost*, as the Bulgarian translation for *value*.

> "Insofar as every commodity owner is economically independent and supports and reproduces himself from the products of his labour, he agrees to exchange them for foreign products only on an equivalent basis. [...] Marx's analysis of value and the development of its forms (as a continuation of the research of Smith and Ricardo) is ignored by contemporary economic science. It was also not understood by economists in the former "socialist" countries, who proclaimed themselves to be the only authentic followers and interpreters of Marx's economic theory. Until the collapse of the so-called socialist system, they maintained the dogma that under socialism there is commodity production, but prices as a monetary expression of value, as well as the quantity and quality of goods produced and the direction of their sale, are determined systematically by the state, not by the market and competition. They took as the basis for prices the value calculated by reducing complex concrete labour to the same simple, average socially necessary labour. I attempted to explain the absurdity of these ideas and practices in the book *Commodity Relations and Price Formation under Socialism,* written in 1963-1966 and published after difficult procedures at the end of 1969. […] Commodity-equivalent relations correspond to the instinct for self-preservation, the interests of people with irreconcilable differences between them and the stochastic nature of their actions and decisions. Through them, private property and its subjects – people – are preserved and reproduced. (Petrov, 2012, 135, 137-138, 143)[22]

Petrov did not accept the theory of marginal utility in different market forms as free competition and monopolistic structure, etc.

> "Authors who expound the theory of marginal utility in conditions of perfect competition usually note that the assumptions and premises on which it is based do not exist in the real economy. […] Scepticism about the theory of marginal utility is also fuelled by the fact that consumers do not calculate marginal utility and the marginal rate of transformation and substitution when buying one good or another. Their preferences are also infinitely diverse and changing" (Petrov, 2012, 146-147).

Secondly, according to the author, the market discovers, collects, transforms and transmits information to thousands of decentralised commodity producers through the movement of relative prices. Their movement, and the difference between the prices of what you have sold and what you have spent (i.e. equal to the profit), send a strong signal for correction and strengthen the incentives (interests) of commodity producers. Information and motivation problems cannot be solved either with the help of the state or by resorting to original

[22] Interestingly, Petrov explained the mechanism of the "average rate of profit on advanced capital" and found similarities with the concept of "required rate of return on investment" in contemporary financial theory (Petrov, 2012, 159-163).

mathematical and computer algorithms (decentralised automated control systems, etc.), such as those proposed by E. Mateev and a number of Soviet economists.

> "True and consistent proportionality cannot be achieved due to the impossibility of gathering, processing and forwarding to manufacturers information about the enormous variety of constantly changing needs in a single centre. As has been established, this information is inaccurate even at the primary level, where it is collected in relations with buyers of consumer goods. Inaccuracies and errors in the transmission of information through all other levels and in its processing and summarisation are not usually reduced. […] No plan can foresee all changes in needs and all possibilities that the development of science and technology and the creativity of millions of producers will create to increase production and reduce costs. (Petrov, 1969, 38, 318)
>
> "In this case, Marx's theory finds practical proof, according to which value is directly elusive and only in market prices is it expressed quantitatively and qualitatively. Mathematical models for state management of the economy, built on a false theoretical basis and ignoring the objectively existing commodity market relations, are also practically unusable. In this regard, it is appropriate to recall the words of M. V. Kolganov: "Their attempt to present scientific planning in the form of an automatic, almost self-regulating system of computing centres is untenable. In my opinion, their other attempt to present the national economic plan as an extreme task is also untenable. All this belongs to the realm of utopia. And the sooner this is understood, the sooner the application of mathematical methods will shift from solving fruitless utopian tasks to solving actual economic problems." (Petrov, 1969, 434-435)

We suppose G. Petrov independently arrived at the positions he expounded in the 1960s without being familiar with the discussion on the possibilities of calculating socialism (the Austrian school, O. Lange, etc.[23]). Later, during his visit to France, Petrov carefully studied the debate, as evidenced by his 1973 book on convergence. In it, he is critical of Western concepts of socialism. However, given the heavy censorship in those years, one might assume the opposite, that he sympathised with them because they were in line with the formulations in his own books[24].

Petrov (again in our opinion) was not familiar with the other leading author of critical political economy of socialism János Kornai (1928-1921), although the basic themes and

[23] See Lavoie (1985).

[24] The book on the convergence of systems (capitalism and socialism) is associated mainly in socialist countries with the name of J. K. Galbraith. It is extremely well documented, drawing on leading (mainly) French authors (R. Aron, F. Perroux, J. Marshall, J. Fourastié, C. Bettelheim, E. Chambre, L. Stoleru, R. Barre), German (W. Eucken, A. Weber), and partly English-language authors such as A. Burley, P. Sorokin, J. Tinbergen, W. Rostow, and J. Schumpeter. In Paris, G. Petrov met R. Aron in person. We will not dwell on this book. Subsequently, Western literature on convergence was arely mobilised by the author.

formulations in Petrov's publications are similar to those of Kornai. These include - informational phenomena of the planned economy, soft and hard budget constraints, investment starvation, the economy of shortage, etc.[25] Unlike Kornai, who is well versed in Western theory, G. Petrov's criticisms and intuitions are mainly driven by pragmatic considerations and following Marx's theory (which Marx applies to the capitalist system). Both theories, Kornai's and Petrov's, are microeconomic in their foundations, as they start from the behaviour of enterprises and consumers.

What are the author's views on *property*? Here, it should be noted that in his last book from the socialist era, written in the "frenzy" of perestroika and the democratic Soviet press, which provides a comprehensive assessment of the years of economic socialism in Bulgaria, Petrov significantly changed some of his views, sharply intensifying his criticism of the dying system. The focus is on *the deformations,* as the author puts it, in property, which inevitably lead to deformations and difficulties in the entire economic and power system.

> "The deepest and most common cause of the contradictions and difficulties of socialist production, of its gradual degradation, lies in the distortions of socialist public ownership and its transformation into de facto non-labour property." (Petrov, 1990, 109)

Commented [U1]: Сложих ownership на мястото на property, което мисля е коректно на английски

Let us focus on the main points.

First, in 1990, the topic of property was taken seriously, and without approaching Western theories of "property rights"[26], was realised a methodological step forward. The diversity of elements in the set of property rights developed in Roman law was reflected. Petrov noted:

> "Ownership can be viewed as a relationship between people established by custom or law regarding the appropriation of property, whereby the subject has unconditional, unlimited power over it. In its most general and complete form, ownership includes the possession, disposal, management and use of property by its owner. Management (holding) is also a relationship of ownership, but it is incomplete, limited and conditional. […]. The disregard of economic theory for all these diverse relations of appropriation is usually motivated by the fact that they are legal rather than economic relations. What is forgotten here is that in contemporary society, every real

[25] The only reference to Kornai is in the 1990 book, which cites Kornai's translated article in *Voprosy Ekonomiki* (Kornai, 1988). The Russian translation of Kornai's book *The Economics of Deficit was in* 1990, with a preface by Academician O. Bogomolov.

[26] This topic again shows the disconnect between socialist scholars and the development of theory in the West, and even in Yugoslavia. Institutional economics and property rights, law and economics, and other areas are in full swing. Svetozar Pejović and other scholars, drawing on Yugoslav economic practice, developed the "theory of property rights." These developments were unknown to Bulgarian economists (except for a small group working on a critique of Western and revisionist theories of socialism).

> economic relationship has its own legal form, which regulates it and within which it is usually carried out. The fact that actual property relations often go beyond their legal forms and regulations and differ from them to some extent does not negate the validity of this conclusion and does not remove the obligation of economic theory to analyse them in all their richness and diversity. (Petrov, 1990, p. 6, 8)[27]

In practice, "the concept of the state as owner and enterprises as managers" has never been in force, and "with its decision to be the sole monopoly owner of all means of production, the state simultaneously establishes itself as their owner and manager." (Petrov, 1990, 14).

Hence, following Marx's methodology, Petrov makes the radical for his time claims that the state, in the person of its leadership and party apparatus, is forming itself as *an* independent *ruling class* and as such exploits the working people by appropriating the predominant part of the surplus product, surplus value. According to him, this is a form of state capitalism and even feudalism, in which surplus value is appropriated in the form of forced labour. It is interesting that in many respects these statements are close to the widespread interpretations of Western and other Marxists (e.g. Leszek Kolakowski and Milovan Djilas), as well as to the Marxist concept of the Asiatic mode of production. Petrov and Arroyo mobilised similar quotations from Marx when they wanted to justify the possibility of separating enterprises within the framework of state ownership.

> "And so, when the ownership, possession and management of the public means of production are in the hands of the state, democracy is inevitably abolished, the state apparatus acquires unlimited economic, administrative and political power over the immediate producers, and the ruling class emerges as an independent class opposed to the working class. […]. The surplus product created is rightfully owned by the state of the ruling class and is used in its interest. Relations of exploitation, domination and subordination arise. (Petrov, 1990, 46).

Petrov went on to elaborate on the mechanisms of exploitation by the new class and the appropriation of surplus value through investment (irresponsible pressure for investment, gigantism, etc.), and above all consumption ("parasitic") through income and the distribution of public funds for consumption. The reasons for the distortions also lie in the theory that rejects market mechanisms for value formation and seeks methods to measure it directly through labour costs.

> “The vast number of studies and publications by leading economists, using complex mathematical models and electronic machines, have only proven the insolubility of this task and the correctness of Marx's basic theoretical conclusion, namely that while the commodity form

[27] Petrov actively used the publications on Roman law by the prominent jurists P. Venedikov and M. Andreev, more precisely Venedikov and Andreev (1949) and Andreev (1975).

is objective and an indispensable necessity, value (abstract equal human labour) cannot be measured by its immanent measure – working time – but only by means of exchange value and monetary equivalent. […] Long ago, the most serious researchers of the economic system, such as V. Novozhilov, for example, came to the conclusion that even the most powerful electronic computer is not capable of performing such calculations. The very mathematical description and modelling of these specific processes is an unsolvable task, a utopia". (Petrov, 1990, 59, 156).

In 1990, G. Petrov still did not accept private property, denied the genetic link between commodity-money and market relations and capitalism, and believed that they could flourish in a *labour-based public ownership s*ystem as a transitional form to the future socialist/communist society. This is also the ideal environment in which the complete separation of commodity producers, the complete self-sufficiency of enterprises, and the mechanism of the law of value and equivalence can manifest themselves. Labour collectives must become owners of the means of production. Without stating it explicitly, G. Petrov was moving towards the Yugoslav model[28].

"The strangest thing is that there are no numerous and proven facts from the history of human civilisation when public ownership was the basis for the economic independence of producers, and private ownership was conditioned by the elimination of this economic independence. […] Public, state ownership can be the basis for the economic independence of producers, and therefore for commodity market relations between them, only if the means of production (public capital) are provided on equal terms for the temporary possession and management of the labour collectives that use them. […] It is only natural that the person who has actual power (possession) over the conditions of production and uses them appropriately and productively will appropriate and dispose of the products produced as if they were his own. They will be their actual owner (as per customary and written Roman law), of course, ceding the portion of them that belongs to the true owner of the means of production. However, the purpose of possession itself is to acquire products and income that are the ownership of the possessor and can be used to satisfy his needs, whether productive or personal. (Petrov, 1990, 161, 164, 166).

In 1990, Georgi Petrov still believed that there was a worthy alternative to the private capitalist form of society[29]:

"Real socialism turned out to be an authoritarian and totalitarian economic and social system based on non-labour public ownership, which was effectively controlled by a group of people

[28] It is interesting to note that in the 1960s, Petrov rejected the possibility of labour collectives becoming owners of the means of production and was critical of Ivan Nikolov (1967).

[29] In the same book, elsewhere, Petrov outlined three scenarios for post-communist development, namely (i) a transition from absolute state capitalism and feudalism to a mixed private-state system with elements of labour ownership, (ii) preservation of the command-administrative system, and (iii) a transition to labour (public, group, cooperative, private, etc.) ownership (Petrov, 1990, 121-122).

> or a single person at the top of the pyramid of state and party power. […] There is a real prospect that Bulgaria, like a number of other Eastern European countries, will make the transition from an administrative to a market economy primarily on the basis of non-labour private and public (state and cooperative) share ownership. Labour-related ownership, both individual and cooperative, will play a significant role in certain sectors such as agriculture, services and trade. On such an economic basis, which can be defined as a "mixed economy" with a predominance of capitalist - private and state - enterprise, a liberal democratic political superstructure will probably be necessary. It may not differ significantly from the bourgeois democratic states of most developed Western countries. […] **Such an alternative exists. It is labour-based public and private (individual and cooperative) ownership, which does not exclude capitalist ownership, but is objectively capable of proving its advantages in competition with it and establishing itself as the dominant and defining feature of the social system.** A number of objective factors of decisive importance favour this path of development. (Petrov, 1990, 189-192).

The author concluded in the following eloquent manner:

> "**Socialism is public ownership, the ownership of free people united in a state or other social organisation, over the conditions for the application of their labour, which they, as collectives, families and individuals, own and use in their own name and for their own account**. In this respect, socialism is clearly distinguished from communism, capitalism, feudalism and slave society. **Socialism is therefore real freedom, democracy, people's power and self-government.** […] From this point of view, the new society that will objectively take shape under the actually existing material conditions, classes and political forces will not be a socialist society, **but it will contain at its core the initial prerequisites and mechanisms for self-movement towards socialism and communism.** These will be labour, public, collective and private property and ownership, as well as the corresponding democracy, freedom and relative social equality organically included in it. This real society will not yet be free from the remnants of old classical capitalism, from exploitation, inequality and elements of economic dependence. (Petrov, 1990, 200-201)[30] .

Summary notes

Georgi Petrov was the most prominent supporter and active advocate of democratisation, decentralisation and the introduction of market principles into the socialist

[30] And further: "In fact, in the new society, representing a transition from capitalist to communist social formation, there will be competition between different forms of ownership, classes, parties and social movements to prove their advantages. Those who provide better working and living conditions for the people, preserve and restore their living environment, and guarantee the peaceful and progressive development of human civilisation will be successful" (Petrov, 1990, 199).

economy. Although Marxist in nature, his knowledge of how the market works made him extremely modern for his time. His criticism of the centrally planned economy and his theoretical principles resembled in many respects the theoretical principles and philosophy of Hungarian and Polish economists (J. Kornai, W. Brus, L. Kolakowski, etc.), as well as the models of O. Šik and M. Djilas. Georgi Petrov's memoirs, published in 2016, bore witness to his active civic stance and his genuine scientific concerns about the failures of socialism and its deformations.

As early as 1969, the author was well aware not only of the control over science, thinking and economic ideas, but also of the inertia in accepting new ideas and practical measures. We conclude with a quote from the sociology of the political economy of socialism (a quote hidden under the line on p. 222):

> "In science, and even more so in the social sciences, the different stages of development and the various theories are associated with specific individuals and groups of people. It is difficult for those who have developed and maintained certain theoretical positions over many years to abandon them completely. This process was even more difficult and slow when, with the power of the state and the authority of a cult leader, the relevant theoretical positions were imposed as "generally accepted" truths that were inviolable and not subject to critical examination. Some people probably harbour the secret hope that socialist production is developing anyway and that, while the disputes and gradual improvement of existing forms of economic management continue, the transition to non-commodity communist production will take place. It must be said unequivocally that such hopes are unfounded and dangerous." (Petrov, 1969, 222, footnote)

One of the authors of this text (N. Nenovsky) has personal impressions and meetings with Georgi Petrov. According to Nenovsky, Georgi Petrov was well aware of the relativity and temporal determinism of his theoretical struggles during the years of socialism. In September 1999, he offered his main book, the one from 1969, as well as the 1973 book on *Convergence*, with the dedication "*To Nikolay Nenovsky, for his interest in economic theory, I present this book, which is a testimony to the quests and delusions of 'critical', 'revisionist' thought under 'socialism'.*

Georgi Petrov's 1969 book, although unknown to today's generation of economists, for whom the period of socialism was a meaningless waste of time, can be considered an achievement. This book is not only a historical testimony to the struggle within the political economy of socialism, but it is also extremely relevant today. It is the best that has been achieved in terms of arguing for the necessity of market relations, as are the two books by Academician Evgeni Mateev (the book on planning and cybernetics from 1967 and on the

economic system from 1987), which have been the most interesting things that have been offered by supporters of planning.

The problem of the two methods of coordinating decentralised economic entities - coordination through the market or through planning - is taking on new radical forms today. They are determined by the rapid development of information technology, digitalisation and artificial intelligence, which allow large databases to be processed almost instantly and at minimal cost. E. Mateev's original proposals will be discussed in the next chapter.

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