

The origins of development economics in China: foreign and Chinese assessments of Zhang Peigang's theory

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Zhang Peigang (1913–2011) was a prominent figure in the history of Chinese development economics of the twentieth century. His academic experience in the Republican period combined field researches of Chinese countryside, studies in the United States and successful publication of theoretical work on agriculture and industrial development in English language. In the 1980s–1990s during the reform period he made a notable contribution to advancement of development economics in China.

In 1934 after graduating from the Department of Economics of Wuhan University Zhang Peigang joined the Institute of Social Studies of the Academia Sinica. For eight years he was engaged in surveys of agriculture in the provinces of Hubei, Zhejiang and Guangxi. This work allowed the young scholar to build his own understanding of the prospects of China's agrarian economy.

In September 1941, Zhang Peigang began his studies at Harvard University. At the end of 1943 he passed the master's exams and started preparing doctoral dissertation "Agriculture and Industrialization. The Adjustments That Take Place as an Agricultural Country Is Industrialized". He received his doctorate degree from Harvard University in December 1945.

In 1946 Zhang Peigang joined the National Resources Commission of the Nationalist government. For three months he worked in the representative office in New York and for another three months in Chinese capital in Nanjing. At that time the well-known economist Simon S. Kuznets was appointed as an adviser to the Commission. He got acquainted with the dissertation of Zhang Peigang and felt that it was too theoretical. Zhang Peigang responded to Kuznets' suggestion and moved the sections on the concept of industrialization and agriculture as an industry into the appendices of his book (Zhang Peigang [2002] 2012: F 43).

In the USA Zhang Peigang's work on agriculture and industrialization was awarded with David A. Wells prize for 1946–1947. During the civil war in autumn of 1947 he returned to China to teach at Wuhan University. In 1948 he went back to the USA to work at the UN, however in February 1949 in the eve of the victory of the Communist Party he returned to Wuhan (Zhang Peigang [2002] 2012: F 46 – F 47).

In 1949 Zhang Peigang's dissertation was published in English in the series Harvard Economic Studies (Volume LXXXV). In 1951 it was translated into Spanish, in the 1950s it was used as textbook in several universities in Latin America (see Hu Jichuang 1984: 420).

Though since the 1950s the foreigners attempted to contact Zhang Peigang, he was not known in China. For the first time his book was published in Chinese in 1984. The English version was reprinted in China in 2012 (Zhang Peigang [1949] 2012).

"Agriculture and Industrialization"

Zhang Peigang's dissertation combined his practical experience of study of Chinese agrarian economy in the 1930s with knowledge of modern Western economic theories. The book used the new concepts developed by the professors of Harvard University where Zhang Peigang studied. He referred to the ideas of Joseph Schumpeter, Edward H. Chamberlin, Gottfried Haberler, Wassily W. Leontief. He provided detailed arguments on the possibility of application of general equilibrium approach and partial equilibrium approach (he assessed the latter to be more appropriate to the study) along with localization theory to the analysis of relations between industry and agriculture. Zhang Peigang outlined the dynamic relationship between industry and

agriculture, described the contribution and the basic role of agriculture in the development of industry and the entire economy.

The book consisted of six parts: explanation of basic concepts, methods, interdependence of agriculture and industry, theory of industrialization, effects of industrialization on agricultural production and farm labor, industrialization in an agricultural country. The appendices explained concepts of an industry and agriculture as an industry.

In the 1990s Zhang Peigang noted that at the center of his book “Agriculture and Industrialization” was the problem of industrialization of agrarian countries, which later became an important topic of the new scholarly discipline – development economics. The book argued for the necessity of carrying out a comprehensive industrialization embracing the city and the countryside in all agrarian or economically backward countries (Zhang Peigang [1994] 2012: F 51).

In the contents of his doctoral dissertation Zhang Peigang put on the first place the research on the interdependence of agriculture and industry, as well as on the contribution and basic role of agriculture in industry and in the economy as a whole. Among the factors of interdependence of agriculture and industry he outlined three linking factors: food, raw materials, and labor force.

In his analysis of dualistic position of farmers as buyers in the market of production factors in agriculture and as sellers in the market of agricultural products Zhang Peigang used the theories of monopolistic competition and oligopsony that appeared shortly before the writing of his doctoral thesis. This made it possible to demonstrate that in the process of exchange with urban industrialists and traders, peasants have an unequal and disadvantageous position (Zhang Peigang [1994] 2012: F 52). Selling of agricultural products (if these are at least partially processed and exported abroad) allows agriculture to play an important role in capital accumulation for the industrialization of agrarian countries.

Chapter III of the book explained Zhang Peigang’s notion of industrialization and its essence. He defined industrialization as a “process in which changes of a series of strategic production functions are taking place” (Zhang Peigang [1949] 2012: 66). Strategic functions are generating and determining the changes of other production functions. Decades later the scholar commented that at that time he started creating his own industrialization theory.

In the 1940s Zhang Peigang noted that his definition of industrialization “was a tentative one”. It was much broader than the definitions of other researchers of that time because it embraced mechanization and modernization not only of the industry but also of agriculture. Earlier in the article “Is the third path possible?” he wrote that the concept of industrialization was very broad and included not only the formation of industrialized cities but also of industrialized countryside (Zhang Peigang 1935: 18). At the end of the twentieth century in 1994 Zhang Peigang concluded that his definition of industrialization of the 1930s surpassed the understanding of industrialization as a simple development of industry that is a one-sided point of view which ignores agriculture and even sacrifices it (Zhang Peigang [1994] 2012: F 54).

“This one-sided understanding of industrialization still exists in many developing countries with market economies; earlier it existed for a long time in the USSR under the planned economy, it created serious limitations for the development of agriculture and the entire national economy. In China in the past there was a system of centrally planned economy too, it fully copied the Soviet experience. Although later there was slogan “agriculture is the basis”, but for a long time both at the level of ideas and of the policies there was an emphasis on the development of manufacturing industry that ignored agriculture” (Zhang Peigang [1994] 2012: F 54).

Zhang Peigang’s reasoning implies that his concept of industrialization elaborated in 1945 was devoid of shortcomings of the Soviet economic development model and it had also surpassed Western economic theory of these days. He noted that two or three decades after the end of the Second World War Western scholars still used the notion of industrialization in the narrow sense, viewing it as the development of manufacturing industry and juxtaposing

industrialization with the development of agriculture. American economist Gerald M. Meier in the 4th edition of his book “Leading Issues in Economic Development” (1984) added at the beginning of the Chapter on the modernization strategy an important remark that this Chapter should be read together with the Chapter on agriculture strategy. For Zhang Peigang it indicated that Western understanding of industrialization became closer to his own concept of the 1940s (Zhang Peigang [1994] 2012: F 55).

In the book Zhang Peigang wrote about the advanced role of infrastructure and its projects. He observed that “from the experience of various industrialized countries, changes of such strategic production functions can be best illustrated in the fields of transportation, power industry, machinery industry, iron and steel industry” (Zhang Peigang [1949] 2012: 67). The concept of the advanced role of infrastructure was proved later by the experience of the “four dragons” of East Asia, China since the 1990s also paid attention to the development of infrastructure (Zhang Peigang [1994] 2012: F 56).

Two chapters from Zhang Peigang’s book were focused on the effects of industrialization on agricultural production and farm labor, especially on its effects on surplus labor in the countryside. Later in the development economics this theme was discussed within the context of adjustment and structural change, and also of migration of surplus labor force. Ability to solve this problem determines the final success or failure of industrialization (Zhang Peigang [1994] 2012: F 58 – F 59).

Zhang Peigang believed that the mutual impact of industrial development and agricultural reforms could change. In developed countries before the industrial revolution rural reforms have significantly facilitated industrial and commercial development. “The enclosure and the engrossing of farms resulted in placing the disposal of industry labor resources which made possible for the factory system to develop” (Zhang Peigang [1949] 2012: 115). However, after the industrial revolution, the influence of industrial development on agriculture increased noticeably: without industry it would be impossible to start with mechanization and motorization of agriculture. In the East Asian “dragons” of Korea and Taiwan export of agricultural products contributed to the commencement of industrialization. According to the scholar, this is a manifestation of the general trend: first agriculture supports industry and later industry contributes to agriculture.

In the 1940s Zhang Peigang believed that there were gaps in classical and neoclassical economic theory that needed to be filled. “First, the income effect was neglected. As industrialization gets under way, people’s income will rise to higher level. Products which have a greater elasticity of demand will have greater gains in an expansionist economy. Thus manufactured goods in general have advantage over agricultural products... Secondly, elasticity of supply and elasticity of production adjustments should also be taken into consideration. The greater the elasticity in home production, the more the gains in export abroad... Also the manufactured goods are generally in a more favorable condition. In a changing economy agricultural products are always in a less advantageous position than manufactured goods”. (Zhang Peigang [1949] 2012: 225–226).

Zhang Peigang claimed that “income-elasticity of the demand” concept that he used in the 1940s for analysis of trade between agrarian and industrial nations was developed later in the international trade theory. It was reflected in unequal exchange theory, Center-Periphery theory, dependency theory (Zhang Peigang [1994] 2012: F 64). He underlined that his book was based on the theories of monopolistic competition and imperfect competition, these theories were new at time and they attracted attention after publication of works J. Robinson and E. Chamberlin in 1933.

Zhang Peigang proudly noted that already in the mid-1940s he suggested that the hypothesis of perfect competition in the agricultural market is not true (Zhang Peigang [1994] 2012: F 64 – F 65). He saw his own merit in stressing in the analysis of industrialization of agricultural countries the spirit of entrepreneurship and managerial skills, treating them together with technology as generating factors of the industrialization (Zhang Peigang [1994] 2012: F 66).

Zhang Peigang on economic development of China

Problems of Chinese agriculture and industrialization in China were analyzed in the Chapter VI “Industrialization in an agricultural country” (Paragraph A. Agriculture and the industrialization of China) (Zhang Peigang [1949] 2012: 197–207). Zhang Peigang observed that industrialization in China began 30 years ago in the middle of the second decade of the twentieth century, however the effect of the rising of the Chinese standard of living was limited due to several reasons. In sphere of economy for the Western powers and later for Japan China was a market for industrial goods and a source of supply for raw materials. Similar characteristics of colonial economy were present in colonial period in Latin America and later in South Africa and India. China’s difference was in its ability to maintain political independence after the first contact with Western powers and later with Japan till the beginning of full-scale war. At the same time opening of free ports and the establishment of concessions gave foreign industrial goods advantages over Chinese products. These goods were cheaper and dumping policy worsened economic situation in China. After paying only a small amount of custom duties imported goods were able to penetrate easily into the interior market. Zhang Peigang suggested that from theoretical and historical point of view the development of infant industry needed preferential terms and protectionist policy.

Interregional barriers within China and poorly developed transport were another obstacle to the free movement of commodities and the factors of production. This for a long time hampered the industrialization of China and made it difficult to introduce agricultural improvements. For example, in big Chinese cities rice was imported from other countries while in the interior provinces there was a surplus of rice. It gave farmers no incentive to develop production, although the payments for the importation of rice could have been saved and used for importation of machinery and fertilizers.

Zhang Peigang paid attention to mutual relation of functions of agriculture and industry. As he noticed, because of the low income-elasticity of the demand for food the role of agriculture will decrease after industrialization will provide the population with a relatively decent living standard. Before that moment the demand for food increases as income grows, but later it will go down. In China that means that the relative share of agriculture in term of national income will tend to decrease. In the early stages of industrialization the demand for food from low-income people will grow and farmers will have to make efforts to increase agricultural production. In process of industrialization there will be a shift in the demand for food, the productivity of the land per unit of area as well as per man will start to increase. Zhang Peigang pointed out that under a fair system of income distribution there will be no need to be afraid of food surpluses.

The scholar called to recognize that in the process of industrialization agriculture would play only a passive role. Theoretically and historically industrial development and transport improvements are capable to create and extent the market for agriculture products. On the other hand, only modern industry can supply agricultural enterprises with the equipment necessary for scientific farming. The experience of Denmark, England and the USA substantiates this thesis. The USSR provides even more striking example, because agricultural improvements appeared there after reaching a certain level of industrial development. The conclusion was that it was important for China to coordinate the development of agriculture and industry.

Agriculture exports could help to start industrialization. In China wood-oil and tea for a long time occupied top positions among the export items. This export could discharge in part the obligation incurred by the import of machinery. Nevertheless the total amount of exports remains much lower than amount required for imports of foreign equipment. In future possibilities of increasing Chinese agricultural exports will remain limited, therefore it is necessary to search for other ways and means of initiating industrialization.

Zhang Peigang addressed the influence of the factor of technology upon the relations between agriculture and the industry. He admitted that agriculture will remain a chief source of China's food supply. The adjustments in agriculture will depend on economic changes. Part of the rural population will relocate to commercial and industrial cities, fewer agricultural workers in the countryside will produce same amount of production. The experience of other countries shows that population growth will accelerate and therefore the demand for food will also increase. Then, in the process of industrialization, there will be the stage at which people's income increase and there will be a demand for better food (e.g. the demand for meat will increase) and there will be reorientation in the types of farming.

Chapter II of the book indicated on the natural growth of population and the rise of people's incomes as the key reasons for increase in demand for food. Industrialization tends to stimulate the shift to a new type of food demand, as was the case in Europe. In China part of the land will be used for poultry raising, etc. However due to the large population there will be no fair balance between agriculture and industry in China like in England.

Agriculture together with mining and forestry will be a major source of supply for raw materials for manufacturing industries. Many types of light industries use the raw materials from agricultural sources; foodstuff industry is also dependent on agriculture. Light industries play an important role at the initial stage of industrialization, in China the cotton textiles industry will retain its great significance in future. Time is needed to develop heavy industries and chemical industries, its duration will depend on the exploitation of China's coal and iron ores. As the development of heavy industries will stimulate the development of light industries, the market for agricultural raw materials will begin to expand. Nevertheless China will depend on the USA, England and Russia. It will have to import equipment for heavy industries and transportation means (cars), to pay for these imports China will export its "speciality goods" produced mainly in light industries.

Agriculture supplies factories with a large amount of labor. This aspect of industrialization is important for China with its big amount of surplus labor that existed under the form of "disguised unemployment". According to Zhang Peigang, on some stage of industrialization the transfer of labor will be very significant, though some factors leave no room for excessive optimism. At the early stage of industrialization the transfer will not be huge, because modern factories will absorb urban handicraft labor first. Some agricultural labor will be used in construction of railways and roads, increasing mechanization of agriculture will generate surplus labor. At the initial stage of industrialization the industry will not be able to absorb effectively the whole surplus of agricultural labor, it will be even more difficult to absorb the surplus that will occur with the introduction of farm machinery.

Zhang Peigang warned that huge rural population makes the introduction of machinery in agriculture in China economically unprofitable and the small size of the farms makes it difficult to use machinery. However some types of machinery could be introduced like pumping machines in a good irrigation system (Zhang Peigang [1949] 2012: 206). Decades later the scholar admitted that in the past his basic standpoint was that agricultural China had a large surplus of rural population and human labor was much cheaper than machines. He noted that due to the low cost of labor it would be difficult to use machinery in Chinese countryside even with the high level of industrialization. Due to cautious approach to agriculture mechanization in China he foresaw the spread of small-scale mechanization, but not of tractors (Zhang Peigang [1994] 2012: F 62).

The difficulties caused by small scale of Chinese farms can be partially overcome through the consolidation program. Zhang Peigang suggested purchasing land from farmers who have no interest in cultivating them for re-distribution among peasants and agricultural laborers in the form of cooperative management. The state could establish agricultural stations and provide the cooperative farms with machines needed for basic work. He observed that the War with Japan has made land consolidation easier in the occupied areas where the size of the farm was the smallest, the boundaries of many farms have been destroyed during the war, and many

landlord and farmers have either died or have left their farms. After the end of the war it is necessary to reorganize devastated farms in China's former occupied areas. The scholar wrote that it was a proper moment to start the consolidation of farms and to extent this experience later on the unoccupied areas (Zhang Peigang [1949] 2012: 207).

Assessments of Zhang Peigang's views

In contemporary Chinese scholarly publications Zhang Peigang is usually praised as the founder of development economics in China with a significant contribution to advancement of this branch of knowledge in the West. In this light it is interesting to pay attention to Western assessments of Zhang Peigang's book that was published in English and therefore has been available to broader audience of readers.

Contemporary researcher Paul Trescott observes that the "book was not primarily about China; rather, most of the descriptive data involved the United States and other highly developed economies" (Trescott 2007: 284). This could be true because the book was influenced by stylistic constraints of doctoral thesis prepared in one of the top American universities. Trescott also commented that the book "deals only tangentially with China, and its analytical framework does not seem well adapted to provide insight into China's development" (Trescott 2007: 118). This argument misses the point because any practical advice for economic development of China should have been written in Chinese to address domestic political and economic elites. It is possible to agree that "Zhang's study seems more an academic exercise than a guide to policy" (Trescott 2007: 285). The task of Ph.D. dissertation was to demonstrate the author's knowledge of contemporary economic theory. Probably it was a smart choice to avoid deepening into particular problems of China instead of exhibiting proficiency in methodology and concepts in the paper prepared for the jury of economists from Harvard University. Trescott admitted that the review of the research tools in Zhang Peigang's book was "impressive".

Paul Trescott wrote that microeconomic theory was presented in the book "by production functions, elasticities of demand and of substitution, and, "regrettably" imperfect competition". He underlined that "there was no discussion of optimization in the design and use of capital goods – a critical issue of the Soviet system". As a matter of fact this theme was at least partly presented in the book in the context of analysis of sequence and stages of industrialization, Zhang Peigang also mentioned the "revolutionary type of industrial development in Soviet Russia" (Zhang Peigang [1949] 2012: 98–105). According to Trescott, in Zhang's book "macro-economic theory was represented by business-cycle theory and Keynes's propensity to consume, and there were substantial segments of international trade theory, history of economic thought, and economic history" (Trescott 2007: 285).

Trescott wrote that Zhang Peigang treated industrialization as a "combination of capital formation and technological innovations". Like Sun Yat-sen "whom he never mentioned" Zhang Peigang underlined the importance of developing internal transportation. Among the missing topics that were not discussed in the book he mentioned "relative roles of public and private sectors, farm credit, land tenure, marketing, research".

Trescott commented that Zhang Peigang's conviction that "war is stimulating factor for economic development" was hardly true for China, and his idea that war "helps wash away some of the institutional obstacles standing in the way of social reform" (p. 94) seems ironic in view of China's subsequent experience" (Trescott 2007: 285). Historical lesson of the First World War showed that China was in process of rapid development when the imperialist powers forgot about it being distracted by mutual confrontation. In this sense the war was a stimulating factor for China's growth. This pattern did not repeat during the Second World War because China was a target for aggression and part of its territory was occupied in Japan. Zhang's suggestion to redistribute abandoned lands in former occupied areas to promote co-operative farming was a reasonable answer to rising social tensions in the countryside. The Kuomintang failed to implement efficient land reform in the mainland, thus ceding this agenda to the Communist party.

It could be interesting to look into assessments of Zhang Peigang's dissertation in book reviews published in 1949–1951 by American scholars.

Rural sociologist Samuel Huntington Hobbs (1895–1969) from the University of North Carolina noted that “the central interest is one of speculating over the economics of China as it changes from an almost purely agricultural economy to a better balance between agriculture and industry”. He noted that Zhang Peigang prepared “the first systematic study” focused on understanding of the problem of China's industrialization at the backstage of expectations of developments in China arising out of the war. Hobbs highlighted three key questions raised in the book: Is industrial development a necessity or a sufficient condition for agricultural reform in a densely populated rural region? Is it possible to maintain a balance between agriculture and industry within a given country? Is it possible to maintain harmonies and mutually beneficial relations between countries primarily agricultural and those essentially industrial? (Hobbs 1950–1951: 97). The reviewer commented that Zhang Peigang's concept “is dynamic rather than static” and “his new approach does not rely on mathematical treatment” (Hobbs 1950–1951: 98). He praised the Chinese author for detailed bibliography that consisted mostly of the writings of European and American economists and concluded that “the volume is highly theoretical as well as empirical and historical” (Hobbs 1950–1951: 98).

Henry G. Aubrey (1906–1970) who specialized on the study of economic development called Zhang Peigang's book an “interesting addition to the literature on the industrialization of underdeveloped regions”. He observed that its general section on industrialization “retraces familiar developments previously covered by Hoffmann, Colin Clark, and others”. The reviewer praised the chapter on the effects of industrialization on agriculture as “the most valuable contribution of this book” (Aubrey 1950: 366). He lamented on the “all-too-short outline of the beginning of industrialization in China” and blamed the author for “fondness for elaborate definitions and a full exposition of quite peripheral points of theory”. Aubrey also noted that Zhang Peigang neglected the differentiation between self-sufficient subsistence farming, large-scale plantation economy, and industrialized agriculture; the book lacks an analysis of socio-political aspects of the shift of labor to the factories, and of “extra-economic” phenomena of industrialization, such as the effects of urbanization on consumption-and-saving habits.

Nevertheless “the book is more than just an exhibition of his great erudition; at this time, when development has become an issue of global politics, any such brave attempt to gather the innumerable loose ends of theory has its value” (Aubrey 1950: 367). Aubrey wrote: “We cannot blame Chang [Zhang] for not having filled the need for a complete theory of economic development. It may take a generation of economists to complete it”. He suggested that with all its imperfections such books “will be studied carefully for the information they provide”. (Aubrey 1950: 367).

Well-known American agricultural economist William H. Nicholls (1914–1978) from Vanderbilt University also praised Zhang Peigang for summarizing and synthesizing the academic literature on industrialization and economic progress. Unfortunately, this demonstration of economic knowledge led the author of the book to “an excess of superficiality and pedantry” (Nicholls 1949: 746). Nicholls commented that Zhang could have spend less effort on detailed explanations of concepts of the price and income elasticities of demand and the elasticity of substitution instead of working on integrating theoretical and practical parts of the book. He observed that the empirical data in the book was mostly familiar to American readers “because they describe well-known trends within the United States or because they are from such standard international sources as Colin Clark's investigations” (Nicholls 1949: 746).

Nicholls stressed that the most original and interesting part of the book was Chapter VI, in which Zhang Peigang “briefly applies his analysis to Chinese industrialization”. He strongly recommended the author “to devote his future research efforts to an expansion of his investigations on industrializing his own important country”. The reviewer predicted that “economists throughout the world would await his findings in this area with great interest and anticipation” (Nicholls 1949: 747).

Cultural sociologist Francis L. K. Hsu (Xu Langguang) (1909–1999) from Northwestern University also praised Zhang Peigang for his attempt to present the sociologists and anthropologists the economic literature on the subject “in one compact and readable volume” (Hsu 1950: 444). He saw one serious drawback in Zhang Peigang’s study: although the author recognized that a gap existed between economic theory and economic history, he did not try to fill this gap. While admitting that there were five fundamental factors in industrial evolution (population, resources, social institutions, technology and entrepreneurship), Zhang Peigang dismissed such important factor as social institutions “for the sake of simplicity”. According to Hsu, “even in a comparison between the industrial histories of China and Japan, any observant social scientist can see that it was not so much the population density, resources, or Western technology as it was social institutions which made the difference” (Hsu 1950: 444). Hsu criticized Zhang Peigang’s “interpretations” of Chinese industrial future that were “extensions of his arguments derived from the Western countries and Japan”. The reviewer concluded that Zhang Peigang’s work reflected the prevailing standard of economic analyses: “In many of these works the drive to scientific perfection is so great that the complicated reality has to be reduced arbitrarily and drastically “for the sake of simplicity”” (Hsu 1950: 444).

William W. Lockwood (1906–1978) from Princeton University, well-known for his studies of the economic development of Japan, noted that industrialization was one of the slogans of nationalist and revolutionary movements in Asia and the active concern of Western nations, symbolized in President Truman’s “Point Four”, but there were little comprehensive analysis of industrialization in Asian countries with vast rural population. “When a Chinese economist writes a general treatise on this subject with the case of China specifically in mind, his work is therefore of more than passing interest” (Lockwood 1950: 97).

Lockwood criticized Zhang Peigang for his preoccupation with Western experience: all the statistical evidence was drawn from the history of United States and Western Europe, “the whole case of Japan, the only Asiatic country which has industrialized on a large scale, receives little attention”, “only twenty pages or so are devoted to the present and prospective problems of Chinese industrialization” (Lockwood 1950: 98).

The reviewer commented that Zhang Peigang should not be held responsible for sales blurbs, which praised his book as “the first systematic study” of the “whole problem of China’s industrialization and the form of such industrialization in an agricultural country like China” (Lockwood 1950: 98). Zhang Peigang’s study would be more valuable if he had examined more closely the situation in his own and neighboring countries. Lockwood wrote that the impact of large-scale industry and farm mechanization on twentieth-century American agriculture had only a remote relevance to the problems and opportunities of the Chinese or Javanese peasant. Similarly, Pittsburgh and Detroit offered little practical guidance to the forms of industrial technology, occupational shifts, and business organization which would be most effective in expanding production and economic opportunity in Chinese villages and cities. More important would be a study of the process by which the Japanese after 1880 improved their farming techniques, multiplied small-scale industries, and financed a steady stream of capital-goods imports through exports of consumer goods, or the Dutch experience in fostering small industry in the Indies during the thirties (Lockwood 1950: 98–99). Lockwood disagreed with Zhang Peigang’s statement that the speed of industrialization was always greater for countries which entered the process at later stages than for those which entered earlier, on the contrary, China’s industrialization has been blocked by institutional obstacles deeply rooted in Chinese social tradition (Lockwood 1950: 99).

American historian Hyman Kublin (1919–1982), a specialist in Far Eastern history from Brooklyn College, wrote that technologically static agrarian China was standing at the threshold of industrialization. He noted that the experiences of the nations which have already made transitions from primarily agricultural economies to industrialization could be valuable to the Chinese as well as to other economically backward peoples. With this in mind Zhang Peigang has attempted to indicate the nature of some of the major problems facing China. Kublin agreed

with Zhang Peigang's conclusion that industrialization was a necessary, but not a sufficient condition for agricultural reform and improvement. Among the other conditions the more important were the elimination of institutional obstacles, such as small land holdings, the development of transportation and communication (Kublin 1950: 88).

The reviewer stressed that the speed and character of industrialization in China would depend on the availability of sufficient investment capital. He criticized Zhang Peigang for placing too great faith in the United States as the prime source of the desired capital. This conclusion was based upon the assumption that a regime considered friendly by the United States would continue in power. Kublin noted that in the light of recent Communist successes in China, the investments in China would be considered risky by the United States. Kublin assumed that Communist China's capital requirements would most likely be met by native sources, by the stimulation of production over and above actual consumption, and by loans and investments from Soviet Russia (Kublin 1950: 88).

One can see some common features in remarks of the American reviewers of the middle of the twentieth century. They pointed out that Zhang Peigang's book said too little about industrialization in China and dedicated too much effort to general presentation of Western concepts and ideas. Expectations that the author will write new books on Chinese development did not materialize because of drastic changes in Chinese economic policy and ideology after 1949. Only in the 1980s Zhang Peigang resumed writing on the problems of Chinese industrialization, none of these texts was published in English outside China thus limiting the possible impact of his works on global economic debates.

Zhang Peigang's dissertation attracted the interest not only in the United States, but also in Latin America. In 1951 prominent Mexican economist Edmundo Flores (1919–2003) published a book review in Mexican scholarly journal "El Trimestre Económico" ("The Economic Quarterly"). He stressed the importance of Zhang Peigang's study for the scholars and politicians from underdeveloped regions.

Flores recommended Zhang Peigang's book to "the economists interested in the problems of economic development". He noted that "the edition of the book in Spanish, planned to be published by Fondo de Cultura Económica would undoubtedly become an indispensable reference work for economists in Latin America" (Flores 1951: 577). The Spanish translation of Zhang Peigang's book appeared in Mexico in 1951.

Contemporary Chinese researchers assess Zhang Peigang's doctorate thesis from the angle of his role and place in the development of Chinese economic thought of Republican period. Sun Daquan observed that in the first half of the twentieth century Zhang Peigang was a young scholar, he was less influential than Dong Shijin, Liu Dajun and other famous economists of that time. He was considered an authoritative scholar only in the years of reforms when he became known as one of the founders of development economics.

Zhang Peigang strived for following strictly the academic norms (*guifan*). In the doctorate dissertation he relied on the achievements of the contemporary economics and his research methods "were more normative and international than of other Chinese scholars of that time." He was an economist of "scholarly type" (*xuezhe xing*) different from Chinese economists of "thinker type" (*sixiangjia xing*) like Ma Yinchu and Wang Yanan. He did not take part in the political struggle and was concerned about how to effectively develop the economy under the existing political system. In the intellectual environment of Republican China filled with competition of diverse ideological currents, Zhang Peigang rarely participated in major academic discussions and never initiated the debates (Ye Shichang et al. 2017: 420–421).

Concluding remarks

Contemporary Chinese researchers claim that by the middle of the twentieth century China was one of the countries which contributed to the early stage of formation of development economics. This was possible because before the Second World War China had the highest level

of education compared to other colonial and semi-colonial countries. China's education system of that time was modeled after advanced Western universities. A large number of Chinese students went to the USA and Europe to study economics, they brought back to China new theories and advanced methods of research of the problems of Chinese economy. The historical process of industrialization began in China at the end of the 1860s simultaneously with Japan. This has helped to accumulate abundant practical experience and in this regard China has also outpaced other colonial and semi-colonial countries. The complexity of agrarian China's movement towards industrialization and modernization gave Chinese scholars both intellectual stimulus and unique working atmosphere for in-depth study on the problems of development (Zou Jinwen 2014: 317).

Nowadays in China special value is attached to the thoughts on economic development of the second half of the 1940s which were formulated after the end of the Second World War and prior to the establishing of the PRC. The undisputed paramount figure is Zhang Peigang, his economic ideas are treated with exceptional reverence. In the later period of his life Zhang himself made efforts to emphasize China's contribution to development economics (see Ye Shichang ([2000] 2008: 351–352). In 1994, he acknowledged that Chinese scholarly achievements in this area were largely forgotten by Chinese and foreign economists. However, the Chinese should not improperly belittle themselves and therefore should not forget the early ideas of Chinese scholars who sought to find the path to prosperity, wealth and power for the Chinese nation (see Ye Shichang ([2000] 2008: 352).

Such a “discovery” in the sphere of history of Chinese economic thought became possible only in the period of reforms.

Well-known researcher of the history of Chinese economic thought Ye Shichang (Fudan University) explained that this change in the interpretation of the economic ideas of the Republican period was associated with the change in national priorities. In the past the focus on class struggle made “economic ideas of thirty years before the establishment of the PRC” ideologically alien and unclaimed. “Now economic construction is in the center, so we need to look at the value of the historical heritage from the point of view of economic construction” (Ye Shichang [1990] 2008: 331). Ye Shichang noted that before 1949 Chinese Marxist and non-Marxist economists had published a lot of books on economic development. Many high-level works on post-war economic construction were published after the end of the War with Japan. “These books are not only the treasure of the Chinese; these are important works in the world history of development economics. Since we do not explore them, do not pay attention to them, people mistakenly believe that development economics is an imported good” (Ye Shichang [1990] 2008: 331). Ye Shichang said that the books on industrialization and industrial development that appeared in China in the late 1940s “were not inferior to the early works of Western pioneers of development economics” (Ye Shichang [1990] 2008: 332). Since these works appeared in Chinese in the last years of the existence of the Republic of China, they remained unknown in the West, and they were very soon forgotten in China after the change of political power and drastic shift in economic policy. Only Zhang Peigang's dissertation got some fame in the international scholarly community, but China learned about this book three decades after its publication in the USA. According to Ye Shichang, the study of the history of Chinese economic thought before the establishing of the PRC will help to eliminate “national nihilism (*minzu xuwuzhuyi*)” in the field of economics. This will happen when the Chinese realize that the level of study of economics in China at that time was not lower than that of foreigners (Ye Shichang [1990] 2008: 332).

Contemporary Chinese scholarly publications tend to emphasize the achievements in the study of industrialization and development problems in China in the first half of the twentieth century. This approach looks quite natural as a reaction to the previous decades of negative attitude to this segment of national intellectual heritage. The next task is to maintain balanced and objective approach to the history of Chinese ideas of economic development.

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