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THE MARXIST DEBATE ON PERIODIC CRISES—QUANTITATIVE AND QUALITATIVE DISPROPORTIONALITY

TOWARDS INTEGRATION OF THE ANALYSIS OF THE MILITARY SECTOR INTO CRISIS THEORY

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Dr. Peter Custers

Author of ‘Questioning Globalized Militarism. Nuclear and Military Production and Critical Economic Theory’ (Tulika, New Delhi, India/Merlin Press, London, 2007)

Email: antimil@hotmail.com

Website: www.petercusters.nl

1. Introduction

In the below chapter, I will offer an unconventional view regarding the Marxist crisis-theory, as a necessary concomitant to the schemes on simple and expanded reproduction formulated previously. Periodic crises have been a feature of the capitalist world system ever since the first part of the 19th century. Whereas crises had also occurred before the Industrial Revolution, - in the aftermath of the latter economic transformation these started to occur at such regular intervals as to demand a scientific explanation on the part of economic theoreticians (1). Karl Marx and his companion Frederic Engels early realised the fundamental significance of periodic disruptions in the accumulation process. Analysing poignant examples, such as the 1847 and the 1857 crises, they reached the conclusion that these reflected all the contradictions of

bourgeois society. Marx also initiated a discussion on the various phases in the business cycle, and concluded that of all these phases, the moment of crisis was the very most crucial one, since it laid bare the basic contradictions of capitalism as a historic production system (2).

In this chapter then I will review and re-assess the Marxist thesis on periodic crises, and take it forward in view of the system's evolution during its monopoly capitalist phase. First, it is important to note that Marxist theoreticians have, unnecessarily, been divided between different Schools of Thought, each putting forward its own view on the principal cause of periodic crises. One divide which, for instance, has for long shaped the landscape of the debate, is the divide between those who argue that periodic disruptions are primarily caused by a lack of adequate demand for basic consumer goods by the workers of capitalist countries – and those who argue that the problem lies rather in the failure of different groups of capitalist entrepreneurs, companies and corporations, to mutually coordinate the expansion in their level of production. Whereas the former school has come to be known as that of the *Underconsumptionists*, the latter group of economic thinkers has been dubbed *Disproportionals* (3).

Below, I will seek to establish, first, that it is wrong to counterpose these various interpretations of periodic crises. In fact, the various schools have each contributed towards a crucial debate on the contradictions underlying capitalism, since each school refuses to take immediate crises phenomena at their face value. A crisis can manifest itself first as a *krach* on the Stock Exchanges, in one single or in many countries combined. It can surface as a sudden refusal of banking institutions to continue to provide credit to capitalist entrepreneurs. The value of the Marxist debate on periodic crises precisely lies in the common recognition by Marxist theoreticians, that the explanation for periodic crises needs to be sought not in speculative activities or in the refusal to provide credit, but in the structure of capitalist production relations. Hence, my first argument below will be that the different arguments, in Marx's own spirit, need to be combined, so as to build a thesis that recognizes the existence of a variety of forms of disproportionality, including both *quantitative* dis-proportionality (between the size of production and the size of consumption) and *qualitative* dis-proportionality (between the growth of production in different sectors and Departments.)

My aim, further, will be to pave the way for recognition of the fact that the military sector in particular during the phase of monopoly capitalism, can and does play a role as factor detonating periodic crises in the system. Although such a recognition forces us to make a specific analysis of the relationship between the military sector as Production Department on the one hand, and the upswings and downswings in the business cycle on the other (something that will be done in the next chapter), - it need not result in interpretations of an *exclusive* kind. In fact, the history of the capitalism world system, from the era of *laissez-faire* through its monopoly capitalist phase, furnishes ample reasons to presume that reliance on the military sector for business cycle regulation itself has been the outcome of pre-existing, fundamental contradictions in the system. In this chapter then I will re-assert the validity of Marx's original thesis, that capitalism's periodic crises do lay bare a combination of contradictions, and that the role which the military sector has played in the US economy in the post-World War Two period can be analysed in terms of Marx's overall paradigm of quantitative and qualitative dis-proportionalities in the system.

2. Lack of Appropriate Supply of and/or Demand for Goods

Or: *Quantitative* and *Qualitative* Dis-proportionality

Let's, to start, briefly sum up the various explanations which have been given for periodic crises within the framework of critical economic theory. These explanations, all of which hark back to Marx's 19th century analysis, may be ranged under the two broad categories of *quantitative* and *qualitative dis-proportionality* (4). Under the first category falls the interpretation which Marx and Engels put forward to explain the great crises that erupted just when they were in the process of formulating their novel economic theory, i.e. the crises of 1847 and 1857. Seeing these crises as the concentrated expression of all the contradictions of bourgeois society, Marx and Engels nevertheless stressed that they saw them primarily as 'overproduction crises', meaning that industrialists could not sell their goods in view of an insufficient market demand (5). Since the level of production of basic commodities exceeded social demand, prices and profit levels fell, spiralling into a periodic crisis. The designation *quantitative* dis-proportionality thus refers to the lack of a match between the level of social production and the level of social demand.

The term quantitative dis-proportionality, further, can also be used to refer to a more particular mismatch, namely that between the social supply of consumer goods, primarily the supply of daily necessities, and the social demand existing for these goods, primarily by society's working population. This interpretation of the causes of periodic crises has also been named the *under-consumption* theory. The under-consumption thesis has a long history, stretching from the version put forward by Marx's precursor Sismondi, to Rosa Luxemburg's version, and more recently to Paul Sweezy's (6). In Rosa Luxemburg's interpretation it took the form of the assertion that given the low level of their wages, the working class could not absorb the surplus value part of the product brought onto the market by Department II (7). The under-consumption theory thus focuses on the presumed mismatch between the size of the produce of the Department for Production of the Means of Consumption (II – **MC**), and the size of the demand for II's commodities **C'**. Nevertheless, this interpretation of periodic crises too can be termed a case of *quantitative* dis-proportionality, resulting from the anarchic nature of capitalism.

The term *qualitative* dis-proportionality draws yet other comparisons than the above-cited two comparisons, although here too questions of supply and demand are ultimately at stake. The requirements referred to primarily are requirements of those in command of society's production, i.e. the manufacturers in the two Production Departments. The entrepreneurs, for instance, need to avail of the right amount of raw materials or auxiliary goods, in order to initiate their cycle of manufacturing. Or they need to be able to buy additional machines in order to be able to expand their production. Also, their employees need to avail of the right amount of consumer goods to rebuild their labouring strength. Here again, consumer goods need to be available to service an additional labour force, employed in consequence of the (re-)investment of a part of the surplus. All this requires a proportionate growth between Department I and II. Moreover, supply and demand must also match, between the products and the demand for products of the various industrial sectors and sub-sectors which combine to constitute a Department. Hence, qualitative dis-proportionality refers to a situation where the production growth between different Departments of Production, and between different industrial sectors combining to form those Departments, is *uneven* (8).

In the Marxist literature, it is the latter type of dis-proportionality which has most frequently been identified as the problem of dis-proportionality proper. This, one could argue, is

the logical outcome of Marx's pointed arguments around the schemes on simple and expanded reproduction, since the need for strict production equations was central to Marx's discussion on these schemes. However, from Marx's specific discussion on the thematic of crises it is evident that he himself identified both quantitative and qualitative dis-proportionality as causes of capitalism's persistent tendency towards crisis (9). Moreover, Marx was quite well aware of the fact that several causative factors generally combined to detonate any given periodic crisis. Below, I will primarily focus on the question of qualitative dis-proportionality, since the 19th century problem of qualitative dis-proportionality constitutes the background against which the 20th century problematic of uneven growth between Departments I, II and III can best be discussed. Once again, for clarity's sake it should be stressed from the start that qualitative and quantitative dis-proportionality in practice frequently coincide.

3. '*Dis-proportionality*' as a Condition of the Accumulation Process Itself

Then, let's look at '*dis-proportionality*' as a natural condition of the accumulation process. Neither the size of the various Departments, nor that of the component parts of capital employed by a Department's entrepreneurs remains constant as accumulation proceeds. This was well highlighted by Marx, who in this context employed the concept of the *organic composition* of capital. This concept refers to the fact that the capital of an individual capital-owner, as also the social capital, basically consists in two sections, namely *variable* capital (i.e. the wage-fund) and *constant* capital (all capital used for the purchase of the means of production). At various points in his own writings, Marx explained that the organic composition of capital does not remain the same over time, but is bound to change. Along with the increasing productivity of labour (stated in quantitative terms – as labour's capacity to produce an ever larger quantity of goods in the same amount of time), as changes in techniques take place, the amount of capital invested in means of production (**MP**) increases relative to the capital employed to purchase labouring power (**L**) (10).

Now, it was Rosa Luxemburg who in her *Magnum Opus* stressed that changes in the organic composition of capital cannot but have a crucial impact on the diagram of enlarged reproduction, which Marx had put forward in *Capital II*. The changes in relative size of **c** and **v**

respectively exert an influence on the whole accumulation process in capitalist society. First, the amount of capital invested in constant as compared to variable capital increases both in Department I and in Department II (and in my diagram in Department III as well). In other words, where-as the proportion between the two components of industrial capital may be 5 : 1 at the start of the process of accumulation, entrepreneurs will tend to use a relatively larger part of the surplus value allocated for re-investment to purchase means of production, i.e. constant capital **c**. Thus, in consecutive cycles of production, the proportionate relation between constant and variable capital, i.e. capital's organic composition, is bound to gradually change. It will become 5.1 : 1, then 5.2 : 1, and so on. And once again: this change will not only occur in Department I (**MP**), but will equally tend to occur in Department II (**MC**), and in Department III (**MD**) in my scheme (11).

Moreover, the same process will affect the division of the social capital between the different Departments of Production. One way of visualising the social accumulation process is to presume that the amount of capital invested in Department I as compared to Department II will remain constant over time. In this case, there will, of course, be a growth in the quantity of capital that is employed in the two respective Departments, but growth in the size of the respective Departments will be proportionate, and thus the capital of Department I will continue to stand in relation to Department II as, for instance, 5 : 2. Rosa Luxemburg argued with force that this presumption would be wrong, and stands in contradiction with Marx's fundamental view on the changing organic composition of capital. According to her, if the capital invested in means of production (**MP**) is larger than that invested in labour power (**L**), this will (also) affect the relative size of Department I *vis-à-vis* Department II, which may gradually change to become 6 : 2, then 7 : 2, etc. (12).

Dis-proportionality caused by the changing organic composition of capital thus affects the reproduction process in a *twofold* manner. The phenomenon, moreover, may further help explain the advantages of state-intervention in the whole accumulation process, since conscious state-effort evidently can facilitate a transition in the proportionate relationships between I and II, from 5 : 2, to 6 : 2, etc. The phenomenon further underlines the need for a flexible actor, helping to prevent derailment of the accumulation process. However, necessary dis-proportionality in the form discussed just now, should be differentiated clearly from dis-proportionality or dis-

complementarity between Departments, which *disrupts* the very accumulation process. Whereas the former is a necessary accompaniment of accumulation, the latter dis-proportionality or dis-complementarity is a phenomenon which policymakers seek to avoid, as it (in due course of time) results in a recession – rather than in production on a continuously enlarged scale (13).

4. The Growth of Fixed Capital:

Basis of the Cyclical Movement of Accumulation

In order to understand the complexities of the accumulation process, in particular as the process got shaped after the Industrial Revolution, we further need to refine our analysis of constant capital. Constant capital, being the composite of all those parts of commodity capital **C** which contrary to variable capital do not engender an expansion of value during the manufacturing phase of the circuit of capital, consists in a range of materials, varying from raw materials such as iron, to machinery and factory buildings. As production technology developed on the eve of and during the Industrial Revolution, it was not just the proportion of constant capital which increased in relation to variable capital, but in particular that part of constant capital that embodied these technological innovations. What was the influence exerted by the technological inventions of the late 18th and early 19th century upon the emergence of periodic crises? To this end, we need to refer to Marx's distinction between *fixed* and *circulating* capital, elaborated in *Capital II* (14).

Circulating capital, in Marx's precise terminology, refers to all those material elements of the manufacturing process which are continually renewed in kind, i.e. which wholly enter the manufacturing phase of the capital circuit as use-values. Circulating capital comprises *raw materials*, for instance pig iron when processed to become steel, but it also includes *auxiliary materials*, such as coal and other fuel elements 'used up' during the manufacturing phase ... **P** ... without bodily entering the product (15). What these different forms of circulating capital have in common is that their value entirely enters the product, and that they have to be advanced anew at the start of every new production cycle. The latter is not the case for that part of constant capital which Marx termed *fixed* capital, which too comprises a variety of goods, including buildings and machinery. This type of capital, however, retains its use-value through a series of production

cycles, even while transferring a part of its value to the new product that is created during each individual cycle of manufacturing (16).

Now, a point directly following from the above definition of fixed capital, and significantly impacting on the social accumulation process, is that this type of capital has a *turn-over* that is well differentiated from circulating capital. For the use-value of equipments and machinery being fixed in the production process, these means of production continue to function through a series of cycles of manufacturing. No matter their wear and tear, no matter the fact that they slowly loose the value which they contained when they were put in place, fixed capital remains continually in place. Hence, Marx speaks of the lengthy and slow *turn-over* of fixed capital. Moreover, even though only a small part of their value is transferred during any cycle of manufacturing, the capital owner has to allocate capital covering the full value of the fixed capital at the very beginning of the first production cycle. And in order to ultimately replace these means of production, the capital owner needs to build a reserve fund that will contain the full value of the given fixed capital (plus a surplus part *sc*) whenever the material means have to be replaced.

The question to be answered in the context of this chapter, is what bearing Marx's analysis of fixed capital has on the analysis of nineteenth century business cycles. For the moment, let's register that Marx strikingly did refer to railroad construction works in the chapter of *Capital II*, where he analysed the nature of fixed capital. Here, he mentioned for instance that such construction works included 'massive works of art', - solid structures such as bridges, tunnels and viaducts the turn-over time of which is so long as being nearly 'infinitesimal' (17). Again, Marx referred to the 'rolling stock' of railways as an example showing that the line between the maintenance and the replacement of fixed capital at times is quite difficult to draw (18). Both examples were cited as part of his analysis of the nature of fixed capital. Thus, although the *turn-over* time of much of the capital laid out towards the railway transport sector was difficult to determine with precision, Marx quite clearly considered such capital to be a key instance of fixed capital formation.

5. Railroad Construction Programmes And Nineteenth Century Business Cycles

There is, in the context of this theoretical chapter, no scope to provide a full review of the 19th century railroad construction programmes and their impact on the course of century's business cycles. There is, however, not the slightest doubt that these programmes for a long time were seen as *the main* form of fixed capital formation to be pursued. Details on the lengths of railway-tracks built in different countries, on the pattern of worldwide expansion in constructions, and on their varied economic impacts, are well recorded in the literature (19). There appears to be agreement as to the fact that the programmes were consciously used as a leverage to stimulate the business cycle, first in Great Britain, and subsequently elsewhere. Here, I will merely cite a few data underlining the point, that the railroad construction programmes did not only heralded a major shift towards investments in fixed capital, but that these programmes indeed exerted a huge impact – both on industrial sectors of Department I producing raw materials, and on sectors producing daily necessities, i.e. belonging to Department II.

Striking facts to illustrate the latter are, for instance, provided by Thomas Tooke, in his account of British railroad construction programmes during the decade of the 1840s. According to Tooke, no less than 4 thousand miles of the permanent way were built during this decade alone, against an estimated cost of 150 million pound sterling (LB). Tooke further calculated that over a period of five years' time, from 1845 to 1850, from half a million to one million of artisans and labourers were employed by the railroad construction companies. This means that the population supported by the railway works was nearly as large as the total population employed in all the factories of Great Britain combined! (20) Thus, the railroad construction programmes alone generated almost half of the social demand for daily necessities. In short, the railroad construction programmes exerted an enormously large impact on the demand for commodities manufactured by the entrepreneurs of Department II.

Further, to implement railroad construction programmes, massive amounts of coal and iron were required, signifying a broad impact on sectors of Department I producing raw materials and auxiliary goods. Glimpses into the stimulating effect of the programmes in this direction are provided by the data on the exports of iron and coal to the United States, where railroad construction in the 1860s and 1870s reached truly feverish levels. Tooke records that the value of the exports of iron and steel from Great Britain to the US more than doubled between 1868 and 1873, and that the expansion in the exports of coal was even larger in value – from 17.6 to 37.7

million LB, and from 5.4 million to 13.2 million LB respectively (21). Rosa Luxemburg too refers to the strategic significance of the iron and coal exports from Britain to the US. According to her, there was a correlation between the exports of capital and of raw materials to the US and other colonies, since 'England built railways with her own iron and coal in all these countries' as well as 'paying for them with her own capital' (22)!

Let's also note, since it shows a certain continuity in the state's economic role, that each state where railroad construction programs were carried out displayed an active interest in their implementation, - which underlines a central point in my argumentation in this book, namely that the capitalist state has never been a passive observer of the accumulation process, but has always participated in it as a third or fourth participant. Thus, the British state not only granted land concessions, as the US and other states did, but it also offered public loans, for instance to three states in Australia in the later part of the 1880s, to facilitate the construction of railways with British materials (23). The conclusion that stands out, after reviewing the data cited by Luxemburg, Tooke, Tugan-Baranovski, Mandel and other authors on the interconnections between railroad construction and 19th century business cycles, is that these programmes decidedly were used to stimulate a whole series of business cycles, stretching from the one in the 1830s until the one of the 1890s (24). These programmes, then, were the concrete method by which fixed capital formation was vigorously promoted.

6. Tugan-Baranovski's Theory - Dis-proportionality Between Production Departments

Marx's idea that qualitative dis-proportionality between Departments of Production was a causative factor behind capitalism's periodic crises in the 19th century has historically been propagated primarily by the Russian theoretician Tugan-Baranovski, who built his own theoretical views on the basis of a comprehensive review of that century's crises. Previously, I have already referred to the fact that Tugan-Baranovski put forward an original scheme on the social reproduction of capital, stipulating Three Departments (including that for Production of Luxury Goods) for Marx's Two (25). The Russian author indeed was keenly aware of the fact that Marx's methodology was relevant to the analysis of periodic crises. In his crisis theory, he combined an abstract analysis of the reproduction schemes and an overview of the formation of

fixed capital via railroad construction programmes, with a great emphasis on the problematic of dis-proportionality (26). In the literature, Tugan-Baranovski became to be known as the advocate of the thesis on dis-proportionality. His thesis exclusive referred to *qualitative* dis-proportionality.

An objective assessment of Tugan's thesis should record, first, by the fact that the data which he collected regarding railroad construction programmes were to be quoted by a variety of Marxist authors who followed him in developing their own crisis theory. Thus, Rosa Luxemburg, who was one of Tugan-Baranovski's most vociferous critics, in her *The Accumulation of Capital* cited data from Tugan-Baranovski proving the point that railroad construction programmes propelled the social accumulation process, first in Great Britain, then in Great Britain's former colony, the United States, and subsequently, towards the later part of the 19th century, also in non-capitalist regions of the world (27). Thus, in analysing the relationship between the railroad construction programmes and the upswing and downswing of the business cycles, Tugan-Baranovski contributed towards acceptance of the viewpoint that these programmes for the formation of fixed capital indeed paved the way towards the establishment of the capitalist mode of production in different parts of the world.

Further, the Russian author's theory does have some relevance for our work of assessment regarding the consequences of the use of the military sector as instrument of business cycle regulation. His theory, it appears, left scope for more than one interpretation of the meaning of qualitative dis-proportionality. The railroad construction programmes were consequential, since they did tend to enhance the organic composition of social capital, and since the constructors' massive requirements in terms of raw materials and auxiliary goods (iron and coal) and labourers (buyers of daily necessities) affected the accumulation process in both fundamental Departments of Production I (**MP**) and II (**MC**). Yet from a reading of his book on the history of periodic crises, it appears that he did not take the discussion on dis-proportionality to its culminating point. Thus, he targeted uneven growth between Production Departments, meaning that Department I grew too fast for Department II to keep pace. But he apparently did not elaborate on the case of growth versus *stagnation*, being the case where production in Department I (**MP**) is stimulated, while the lack of interest among capital speculators in investments elsewhere prevents further growth in II (**MC**) (28).

Nevertheless, the thesis on qualitative dis-proportionality, so fervently defended by Tugan-Baranovski, needs to be upheld, if we are to understand the complexities which reliance on the military sector poses for the social accumulation process. For this form of dis-proportionality not only contributed towards the crises that periodically disrupted the capitalist growth processes in the 19th century, but it also affected the social accumulation process negatively during capitalism's monopoly phase, albeit in a novel way. Below I will argue that the thesis on qualitative dis-proportionality helps to unravel the impact of manipulation of the military sector for business sector purposes. As I will show, given the unidirectional flows implied by the state's purchases of armament systems, these purchases can and have indeed been used as leverage for business cycle regulation. Yet such manipulation ultimately has decided drawbacks. And although we have to guard against repeating Tugan's mistake by singling out the military sector as the only causative factor in the recurrent crises of the post World War Two period (see below), nevertheless the thematic of uneven growth between the Production Departments I + II and III has to be posed.

7. Tugan's Basic Error: Counterposing Quantitative and Qualitative Disproportionality

It is now time to look more closely at controversial aspects of Tugan-Baranovski's theory. The Russian author's empirical investigations sufficiently bring out that railroad construction programmes contributed greatly towards the occurrence of periodic crises in the 19th century. Thus, according to Tugan's data, over-investments in fixed capital formation preceded both the crisis in 1836 and that in 1847, they preceded the first world economic crisis which erupted in 1857, and they also helped to detonate the 1873, the 1884 and 1893 crises (29). Still, Tugan's theory became a source of great annoyance, and was opposed by leading theoreticians of the international working class movement. The main reason was not that others disagreed with the crucial role which Tugan-Baranovski assigned to the railroad construction programmes in the social accumulation process, but that he falsily counterposed Marx's different interpretations of crisis, and proclaimed qualitative dis-proportionality between production in different branches and Departments to be the sole ultimate cause of crises.

Now, the Russian author did not entirely dismiss the idea that periodic crises could be triggered by general overproduction. Whereas he did defend the view that production creates its own demand, on the basis of the fact that no manufacturing process can be initiated without procurement of commodities (**MP**) and the special commodity labour power (**LP**), - he did not deny that overproduction often formed the immediate prelude to, and/or characteristic feature of capitalist crises (30). However, general overproduction should be understood to be a *secondary* cause, whereas the lack of proportionate production in the various branches and Departments, according to him, was the fundamental source of trouble. Hence, even though from a reading of Tugan's theory one may well get the impression that he skilfully interconnects a great variety of crises-elements, including over-investments in railroad construction, a fall in the prices of critical raw materials, speculative activities on the stock market, etc., - in the end Tugan turned Marx's multifarious approach to crises into a *single-factor* analysis.

Thus, in a typical commentary, Tugan argued that Marx had wrongly posed two conditions for the realisation of the social product, i.e. a proportionate division of the social product and the existence of a sufficiently large purchasing power among the masses. According to Tugan, Marx was wrong in posing the latter condition, which in his, Tugan's view, *contradicted* the analysis of the former condition. As he stated, 'The under-consumption of the popular masses can only hamper the realisation of the social product, to the extent that it complicates the maintenance of a proportionate division of the social product. The lack of proportionality, however, in this case too remains *the only cause* of defective demand.' (31) Here, Tugan explicitly rejected Marx's view that quantitative and qualitative dis-proportionality are both factors that contributed to making periodic crises inevitable. He proclaimed qualitative dis-proportionality to be the *only independent cause* of a lack of balance between production and consumption in capitalist society.

In the end, the idea of qualitative dis-proportionality can only be applied towards an understanding of periodic crises in the second half of the 20th century, by marking one's clear distance from Tugan-Baranovski's theory. Below I will argue that qualitative 'dis-proportionality', not between the production of fixed capital goods and other civilian goods, but between the production of armament systems and of civilian goods, has been a major factor in the occurrence of crises in the last forty/fifty years. However, contrary to Tugan-Baranovski, I do

not believe that such ‘dis-proportionality’ or dis-complementarity excludes the possibility of identifying under-consumption as a second fundamental cause, or even as *the principal* cause. For although the instrumental use of the military sector for business cycle purposes was to become a structural impediment for the accumulation process in the later part of the previous century (towards the end of the 1980s), it should not be forgotten that reliance on the military sector had its own pre-history, - a prehistory characterised by *defective aggregate demand*.

8. The Military Sector as Additional Cause of Crises: Along with the Negative Effect of Taxation Policies

The idea that a periodic crisis is caused by a combination of two or more factors may be illustrated with reference to an economy in which the government stimulates overall economic activity *via* the military sector. Let’s take the case of a capitalist economy in which the government relies primarily on *indirect taxation* as method to finance its purchases of armaments and other military procurements. This was, of course the case highlighted by Rosa Luxemburg in the well known final chapter of her *Magnum Opus* (32). Here I will presume like her that indirect taxes are the main leverage for creating the government’s revenue resources, but will otherwise take the scheme of expanded reproduction, outlined in the previous chapter of this book, as my starting point. That means, - the capitalist economy basically consists of Three Production Departments and the Revenue-holding State, and the revenue which via indirect taxation is drawn from the wages and salaries of society’s consumers is to be identified as a part of the production surplus, as **sr** (33).

In what manner could an economic policy as outlined result in a periodic crisis in the system? First, the collection of revenue resources **sr.1**, **sr.2**, and **sr.3** which via indirect taxation flow towards the state, heralds a shift in aggregate demand, i.e. a shift in the composition of society’s purchasing power. Through the given taxation, purchasing power is transferred, primarily from the employees of the Three Production Departments, towards the state. In the process, a new purchasing power is, of course, created. The State will use its revenues as public buyer, and will still allocate a part of its resources towards purchases of daily necessities , i.e. the commodities from Department II, which had registered a reduction in sales in consequence of the employees’ loss of purchasing power. However, in as much as a part of the revenues of the state

are allocated towards the purchases of armament systems produced by Department III (**MD**), a *relative shift* in the composition of society's purchasing power occurs, - away from purchases of **C'** (II) towards purchases of **C'** (III).

Further, the relative reduction in the demand for consumer goods may, potentially, be combined with incongruous or imbalanced growth between the Departments I and II on the one hand, and Department III on the other, a phenomenon which I identify as *dis-complementarity*, as will be explained in the next chapter. This negative impact, in terms of hampering uninterrupted capitalist growth, may at first sight seem an unlikely impact, since the manufacturing of arms and armament systems can only be carried out as long as the 'material elements' of the reproduction process, i.e. means of production, being the produce of Department I, and articles of consumption, being the produce of Department II, are available. Hence a part of **sr** flows back to I and II. Yet incongruous or dis-complementary growth is quite well possible, in particular if the state's military purchases overwhelmingly take the shape of armaments' purchases, and if, in addition, the state through its monetary policies discourages internal re-investment of the surplus by corporations and companies based in I and II. The state then favours Department III at the expense of Departments I and II.

In the sections above I have argued that it is possible, and in conformity with the thrust of Marx's own theoretical investigations, to put forward several factors at the same time as causes for nineteenth century economic crises. *Quantitative* and *qualitative* dis-proportionality both contributed towards the ceaseless re-emergence of crisis in the system. Ahead of the analysis to be made in the next chapter, of business cycles in the twentieth century hegemonic economy (the US), I wish to note here that it is possible to sketch a view of historical evolution, in which the state's policy of military procurements not only has contributed towards generating aggregate demand, and this throughout the era of monopoly capitalism, - but has unwittingly affected the balance, the proportionate relationships between Production Departments within the system, and this from well before the time when the state's reliance on armaments' production became the principal source of a renewed crisis in the capitalist system. Here, as in relation to nineteenth century crises, however, there is no need to rely on single causes as explanation for recurrent crises.

9. Combination of Quantitative and Qualitative

Dis-proportionality as Two *Consecutive* Causes of Periodic Crises

Lastly, the relationship between quantitative and qualitative dis-proportionality can also be viewed in a manner that is different from the one stated just now. Here, instead of *coinciding* to detonate one and the same periodic crisis, the two forms of dis-proportionality are two forms which over a whole stretch of time succeed each other as key causative factors. In such a view, the key problem of aggregate demand, i.e. quantitative dis-proportionality between a society's total supply of, and total demand for commodities, *initially* is the principal cause or one of the principal reasons why the social accumulation process is regularly interrupted, why an upswing in economic activity is followed by a downswing over and again. Realising that market forces of themselves are unable to break the given pattern, the government ultimately decides to intervene and formulate an economic policy entailing a major public demand for commodities, in the form of purchases of armaments and other military goods. If the latter, in time, leads to an imbalanced development of Production Departments, the outcome could be a crisis caused by *qualitative* dis-proportionality.

This kind of evolution in the nature of capitalist crises could not possibly have been foreseen by Karl Marx in the era of *laissez-faire* capitalism, yet such a view on consecutive causes can be grounded both in the history of the changed relation between the state and market forces under monopoly capitalism, and in the evolution of bourgeois economic science. When formulating his standpoint on the inevitability of periodic crises in the 19th century, Marx was up against the authority of David Ricardo, the influential British classical economist. Thus, in *Theories of Surplus Value*, where Marx appears to have offered his most systematic treatment on the subject of crises, he primarily targeted David Ricardo. According to Marx, although Ricardo had admitted the possibility of partial overproduction, he had excluded the possibility of *general overproduction* under capitalism (34). Although some 19th century bourgeois theoreticians, such as Sismondi, disagreed and contributed towards the formulation of crisis theory (35), the denial of a structural problem of aggregate demand persisted for long.

This, of course, changed radically with the rise of John Maynard Keynes to a position of pre-eminence in the field of bourgeois economics. Since some forty years after the start of the

monopoly capitalist era the problem of quantitative dis-proportionality still had not been solved, and since world capitalism now (after 1929) faced a severe and prolonged crisis, Keynes led the way towards acceptance, within bourgeois economics, of the need for government intervention to stimulate aggregate demand. The recognition of a structural tendency towards imbalanced growth of society's total production in relation to total consumption, as well known, formed the very basis of his *General Theory* (36). In his theory, Keynes nowhere drew fundamental distinctions between a government's *civilian* and *military* demand for goods, between investments which add to society's total wealth and investments which stimulate the production of waste. In practice, when Keynes was brought to the United States, his theory became a policy means, precisely justifying the manipulation of the military sector for purposes of business cycle regulation (37).

Thus, the trajectory of bourgeois economic science, which has not just accompanied but has considerably guided twentieth century changes in governmental policy, more particularly in the hegemonic economy, lends credibility to the thesis that quantitative dis-proportionality and qualitative dis-proportionality, viewed from a broad historical perspective, are problems which have shaped the nature of the business cycle *in succession*. Again, there is no need to presume that the military sector became a detonator of crisis as soon as reliance on this sector as Production Department was introduced. One can, with better justification, hypothesize that, through several business cycles of the post-World War Two period, causative factors *including* qualitative dis-proportionality combined to throw capitalism into periodic crises. However, as will be argued below, in the end, through the persistent use and re-use of the military sector as business cycle regulator, a *stalemate* was reached in policymaking, since manipulation of the sector emanated in the very opposite of what was aimed at, - a periodic crisis primarily engendered by qualitative dis-proportionality (38).

References:

(1) it should be noted at least in passing that the commercial and financial crises which had taken place in the 17th and 18th century were frequently related to intra-European wars, and that this is even true for the crises which followed in the immediate aftermath of the Industrial Revolution and the French Revolution! Fred Oelssner, in giving a brief overview of crises from 1640 onwards, relates several of the English crises to the king's policies to finance his war efforts. Thus, Charles I in 1640 appropriated the money capital of merchants, deposited in the Tower of London, so as to be able to pursue the war against his Scottish opponents. The king's step triggered a panic among London traders. Again, in 1672 a crisis erupted and commerce came to a standstill, when Charles II who was waging war against Holland, declared that the state would suspend its repayment of loans for a one year period – see Fred Oelssner, *Die Wirtschaftskrisen. Erster Band. Die Krisen im Vormonopolistischen Kapitalismus* (Dietz Verlag, Berlin, DDR, 1953), p.170/171;

(2) see eg. Fred Oelssner, op.cit., p.98;

(3) a good review of Marxist views on periodic crises is provided by Paul Sweezy, *The Theory of Capitalist Development* (Monthly Review Press/K.P.Bagchi, New York/Calcutta, 1991), Chapters VIII, IX and X, p.133, p.147 and p.156 respectively; also Ernest Mandel, *Marxist Economic Theory* (Merlin Press, London, United Kingdom, 1974), Chapter Eleven, p.342;

(4) this analytical distinction is made amongst others by Fred Oelssner (1953), op.cit., p.43;

(5) Marx and Engels' evaluation of the 1847 and 1857 crises are summarized by Oelssner – see Fred Oelssner (1953), op.cit., p.222 and p.238 respectively;

(6) Rosa Luxemburg, *The Accumulation of Capital* (Monthly Review Press, New York, USA, 1964), Chapters VI, VII and VIII, p.107, p.120 and p.139; Paul Sweezy (1991), op.cit., p.162;

(7) Rosa Luxemburg (1964), op.cit.; for a brief critique of Rosa Luxemburg's underconsumptionist theory see Paul Sweezy (1991), op.cit., p.204;

(8) Fred Oelssner (1953), op.cit., p.43;

(9) Karl Marx, *Theories of Surplus Value. Part Two* (Lawrence & Wishart, London, United Kingdom, 1969), Chapter XVII, p. 480. Here, Marx severely questions David Ricardo for his view that a general glut of the market, i.e. general overproduction of goods, is not possible under capitalism. Yet he also discusses the danger of an overproduction which results from a *disproportionate increase* in allocations towards the production of machinery specifically. ‘For if an excessive portion of the surplus value, of the additional capital, is laid out in machinery etc. in a particular branch of production, then, although the raw material would have been sufficient for the old level of production, it will be insufficient for the new. This therefore arises from *the disproportionate conversion of additional capital into its various elements.*’ – see Karl Marx (1969), op.cit., p.516;

(10) Karl Marx, *Capital. A Critique of Political Economy. Volume I* (Progress Publishers, Moscow, USSR, 1977), p.582; also Rosa Luxemburg (1964), op.cit., p.109/110;

(11) Rosa Luxemburg (1964), op.cit., Ch.VI, p.107;

(12) *ibid*;

(13) Whereas Marx considered a gradual change in the organic composition of capital a logical part of the accumulation process, he believed that the same transformation tended to lead to a fall in profit rates, under conditions where the rate of exploitation remained constant. In this chapter I will skip this question of the ‘*law of the falling rate of profit*’, which Marx identified as a *fourth* key cause of periodic crises. For Marx’s own views, see Karl Marx, *Capital. A Critique of Political Economy. Volume III* (Progress Publishers, Moscow, USSR, 1977), Chapters XIII, XIV and XV, p.211 – 266 ; for a summary and critique of Marx’s law on the falling rate of profit, see further Paul Sweezy (1991), op.cit., p.96-108;

(14) Karl Marx, *Capital. A Critique of Political Economy. Volume Two* (Progress Publishers, Moscow, USSR, 1967), Chapter VIII, p.160;

(15) *ibid*, p.161;

(16) *ibid*;

(17) *ibid*, p.184;

(18) *ibid*, p.182/183;

(19) see eg. Rosa Luxemburg (1964), op.cit., p. 420; Ernest Mandel (1974), op.cit., p.359/360;

(20) Thomas Tooke, *History of Prices and of the State of Circulation During the Nine Years 1848-1856* (Longman, Brown, Green, Longman and Roberts, 1857), p.368;

- (21) *ibid*, p.155;
- (22) Rosa Luxemburg (1964), *op.cit.*, p.425;
- (23) *ibid*;
- (24) Rosa Luxemburg (1964), *op.cit*; Thomas Tooke (1857), *op.cit*; Tugan-Baranowky (1991), *op.cit*; Ernest Mandel (1974), *op.cit*;
- (25) see Michael von Tugan-Baranowsky, *Studien zur Theorie und Geschichte der Handelskrisen in England* (Verlag von Gustav Fischer, Jena, 1901), p.18;
- (26) *ibid*;
- (27) Rosa Luxemburg (1964), *op.cit.*, Chapter XXX, ‘International Loans’, p.419; for her critique of Tugan-Baranowski’s theory see Chapter XXIII, ‘Tugan-Baranowski and His ‘Lack of Proportion’’, p.311;
- (28) in his summary, Tugan-Baranowsky put primary stress on the problem of uneven growth in different branches of production, arguing that it was overproduction of means of production that led to general overproduction – see Michael von Tugan-Baranowsky (1901), *op.cit.*, p.249/250;
- (29) Tugan-Baranowsky (1901), *op.cit.*, p.89, p.120, p.125, p.137/138, p.153, p.158, p.168;
- (30) *ibid*, p.31, p. 86, p.160, p.175, p.249/250;
- (31) *ibid*, p.203;
- (32) Rosa Luxemburg (1964), *op.cit.*, Chapter XXXII, ‘Militarism as a Province of Accumulation’, p.454; on the importance of indirect taxation as source of German government revenue in the early part of the 20th century, see also Paul Danek/Hannelore Riedel, *Die Kapitalistische Staatsfinanzen in der Krise* (Dietz Verlag, Berlin, DDR, 1987), p.20; for a analysis of German government taxation more recently, see also Willi Dickhut, *Krisen und Klassenkampf* (Verlag Neuer Weg, Essen, Germany, 1985), p.239-243;
- (33) see Chapter Fourteen above;
- (34) Karl Marx (1969), *op.cit.*, Chapter XVII, in particular sections 7, 8 and 9, p.496, p.499 and p.505;
- (35) on Sismondi’s contribution, see eg. Rosa Luxemburg (1964), *op.cit.*, Chapter X, ‘Sismondi’s Theory of Reproduction’, p.173;
- (36) John Maynard Keynes, *Allgemeine Theorie der Beschaeftigung, des Zinses und des Geldes* (Verlag von Duncker & Humblot, Munchen and Leipzig, Germany, 1938);

(37) a concrete account of the process by which Keynes's ideas were adopted by US policymakers was provided by John Kenneth Galbraith. According to Galbraith, Harvard university was the 'principal avenue' by which Keynes' ideas passed to the United States in the late 1930s. From here, young economists and officials trained notably by Keynes' disciple Alvin H. Hansen took the theory to Washington where it was incorporated into national law immediately after World War Two, in 1946. A major landmark, heralding the acceptance of Keynesianism, was reached during the recession of 1958, under President Eisenhower. The then budget deficit, of \$ 9.4 billion, was by far the largest deficit ever incurred by an American government in peace-time', exceeding *total* peacetime expenditures by the US government in any year in the late 1930s - see John Kenneth Galbraith, 'How Keynes Came to America' (in: Paul Samuelson, *Readings in Economics* – Tata McGraw-Hill Publishing Company Ltd, New Delhi, India, p.91-97);

(38) the world economic crisis which has started in the year 2001 appears to have revived the old debate on the fundamental causes of crises. According to some newspaper reports, the main reason for the downturn, are 'over-investments' made in times of overconfidence. Thus, the Dutch daily *NRC-Handelsblad* (November 15, 2001), insists that after a period of over-investments in industries related to the 'new economy', a process of contraction is noticeable, with the contraction of investments in the US amounting to 3,6 percent for the current year, and a projected 6,2 percent next year. In this interpretation, the recession appears to be a classical case of *qualitative dis-proportionality*. And whereas the upswing in the latest business cycle is ascribed to the explosive use of personal computers and mobile telephones, broadly employed as means of consumption, over-investments appear to have been made in fixed capital, i.e. means of production required to manufacture those commodities. A different interpretation of the crisis is provided in the French daily *Le Monde* on the very same day (November 15, 2001). Here, the main problem sketched is one of lagging consumer demand. The newspaper points out, amongst others, that household expenses are the motor of growth in the US economy, since these represent 67 percent of the Gross Domestic Product (GDP). Yet since many households are deeply indebted (a rate of indebtedness of 105 percent of available income is cited for the year 2001), consumer demand has inevitably fallen. Thus, the *Le Monde* article seems to suggest that the present crisis is a case of *quantitative dis-proportionality*, of an insufficient aggregate demand for goods. Hence, the urgent need for state-intervention. 'Under these conditions, only the state and the central bank can sustain economic activity', the latter by means of a reduction in interest

rates, and the former through increased budgetary allocations. And since armament purchases, although not the only is the main leverage which the Bush-Administration uses to support aggregate demand, *Le Monde* comes close to an assessment as sketched in the last section of this chapter, connecting a lack of aggregate demand and the use of the military sector as leverage to stimulate aggregate demand as two consecutive aspects of the same economic process.