[679] Paper

Corruption in China and Russia compared
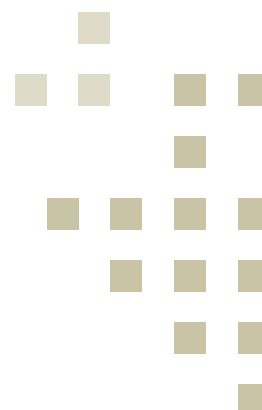
Different legacies of central planning

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[**Summary**] During the first decade after markets became the major mechanisms of economic coordination in China and the area of the former Soviet Union (FSUA), corruption was perceived to increase in both. At the same time China experienced rapid growth while most countries in FSUA experienced steep declines. In the paper I argue that this difference is difficult to explain within an n-country, cross-section econometric framework. Instead a case-oriented approach with more institutional specification is chosen. In particular, the role of the former normative and institutional framework of central planning is explored. The paper describes some of the explanations of corruption as it occurred under central planning, including its limitations and how they may be linked to (negative or positive) growth mechanisms. In addition the post-transition data on corruption and growth are linked to major political characteristics at the point of transition.

Corruption in China and Russia compared: Different legacies of central planning

1. Introduction

Corruption is a central issue in both the policy and research agendas of the countries making a transition from centrally planned to capitalist market economies. The population in most former European socialist countries and the whole former Soviet Union Area perceived that the transition from a centrally planned economy was accompanied by a large increase in corruption.[1] China and Vietnam apparently have also gone through a period early in their transitions when corruption was perceived to increase in dramatic ways.[2]

Why this increase in *perceived* corruption? Corruption implies transactions that break some prevailing rules or norms. Transitions represented massive changes in such rules. When individuals report increases in corruption, was their frame of reference the new or the old rules? Or did the juxtaposition of the relevant old and new rules create contradictions that made it sometimes impossible not to break one set, and feasible for agents to break both?

In the following I will discuss some of the research that focuses on the corruption-growth (or production declines) nexuses in the transition countries[3] of the former Soviet Union (the FSU countries), the former centrally planned or labor-managed countries of Eastern and Central Europe, and the poorer, but also formerly centrally planned countries like China and Vietnam. Most attention will be given to Russia and China, however. China and Russia differ in that although both experienced extensive expansion of the legal use of market mechanisms, the communist party lost power in Russia but not in China. I will emphasize explanations that tie the transition forms of

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[1] As reported in Rose (2002) when asked "By comparison with the former communist regime, would you say that the level of corruption and taking bribes has increased?", a large majority of respondents in all the countries with the partial exception of Poland answered it in the affirmative. In Poland only 58% answered that it had increased while 28 %, considered corruption unchanged.

[2] Cf. the title of Johnston and Hao (1995), "China's surge of corruption".

[3] I use the standard term 'transition' since it has become the standard although it has the undesirable connotation to suggest that all countries would move to the same economic and political system. So far, the actual outcomes may be quite different, and some very unpleasant. Reed's (1996) term ' transformation' might be better, but in any case its evident that we are considering major shifts in the economic-political system.

corruption and growth experiences to the properties of the old planned economies. I try to avoid simplistic explanations that view present day corruption as merely a carry over of old corrupt practices, however; rather I show how the new institutions created corrupt opportunities by destroying some of the check and balances of the old planning system.

Being considered an historical loser, economists and other social scientists are shying away from the socialist economic system, so many aspects of it are already more quickly forgotten and less well understood than the passage of time by itself would explain. The strong normative beliefs at present in the efficiency and desirability of market devices have made it difficult to understand the hold of normative systems that argued the opposite, and the normative tensions that arose when it was to be discarded. I argue that this tension was significant for the rise of *perceived* corruption, but may also have had some impact on the actual occurrence of both corruption and embezzlement in the early transition years. Moreover, the normative dislike of the system may have contributed to an underestimating of its post-transition positive (in the epistemological sense) effects. For example, it is difficult to understand the production decline in the FSU countries without understanding the economic roles in of the Communist Party in a planned economy. It is difficult to understand the decline in effective taxation and the rate of corruption in the tax administrations of the transition economies without understanding the different and subservient roles of prices in the planning system compared to in a market economy, and so on.

Our focus is somewhat controversial. Treisman (2003) argues that factors that have nothing to do either with the specifics of the planning system or the characteristics of the transitions explain most of the present perceived corruption levels in the former socialist countries in Europe and Central Asia. Most of the dramatic changes there might simply be considered some eye-catching, institutional noise. The controversy here raises the issue of the explanatory power of n-country, cross-section econometrics of governance.

At least since the publication of Mauro (1995) this approach has dominated empirical corruption research in economics. In addition to its methodological appeal it made

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strong impact by bringing corruption issues into the economic growth field at a time when growth studies again become fashionable. In particular he studied the effects of corruption on growth rates Since then n-country econometric studies of the effects of corruption on GDP levels and growth rates (and the effects of GDP levels on corruption rates) have been prominent in corruption research. One reason for bringing together the transition countries in one study is to highlight some inconsistencies between their experiences and the generally strong statistical relationship between growth and corruption. All of these countries experienced massive changes in their information, decision-making, and motivation structures as they made a transition away from central planning.[4] However, these changes were accompanied by widely diverging growth experiences. One would expect economic system changes of this size to have an impact on both corruption and growth, but why in such different directions?[5]

In the context of Mauro's n-country, cross-section econometric result that corruption has a negative impact on growth, the China and Vietnam cases appear paradoxical. They have to be explained either as random aberrations of a common tendency for corruption to have a negative impact on growth, or to be explained by bringing in other variables into the growth-corruption equation. Corruption may, for example, act as a negative drag on what would have been an even stronger underlying growth-inducing constellation of the values of the explanatory variables. For example, the low degree of industrialization (their low GDP-levels per capita) in the case of China and Vietnam compared to the former Soviet Union area at the onset of their shifts towards market economy made larger scope for growth whatever the incidence of corruption. But how come then that the rate of *decline* in the FSU countries was negatively correlated to their initial GDP levels at the starting points of their transitions (Andvig, 2002)? Given the wide variation in the rates of change in GDP, is

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[4] Sachs et al (2000) brings together the FSU and China-Vietnam experiences for similar reasons and also to note the circumscribed role (so far) for formal modeling when it comes to the key issues. They observe "the formal models are too simple to capture the complexity of institutional changes. The core of transition is a large-scale shift of constitutional rules…"

[5] According to *World Bank Development Indicators 2005* while the average growth rate in China (GDP) in the period 1990-2003 was 9.6% and for Vietnam 7.5 % for the FSU –countries it ranged between 1.0% (Estonia) to – 5.9% (Moldovia). In Russia it was – 1.8%. In the period China had gone through the first part of its transition, its growth rate (1980-1990) was 10.3 % while in the first phase of the transition of the FSU countries the steepest decline for each country ranged between –11.0% (Uzbekistan 1992) and -52.3% (Armenia, 1992). See Havrylyshyn et al., 1999.

it really reasonable to conclude that the corruption-GDP nexus is affected throughout the region by the same variables working additively in the same equations? Instead, should one not look for different mechanisms –one that ties corruption and production decline in the FSU case and one that ties growth and corruption in the China – Vietnam case? Or should one de-link the explanations of corruption from the explanations for growth? These are some of the questions that naturally arise for corruption research when the different transition experiences from central planning are brought together in a multiple case study setting (Ragin, 2000).

After a brief discussion of corruption definitions applicable in the context of transition and extensive rule change, I present a set of well-known general features of the centrally planned economies relevant for the arise of corruption within that system as well as for the arise of new forms of corruption during their transitions and their growth experiences. Then I outline what I consider the major explanations of corruption specific to a planned economy that also have some obvious implications for growth. This is followed by an overview of some general characteristics of the initial transition stage including what I consider to be the major differences between China (Vietnam) and the FSU countries. Finally I present a few of the models and empirical analyses of that have been tailor-made for transition conditions. Here I am very selective. The literature is vast. In particular, I have neglected a large amount of empirical, quantitative information about corruption and governance in the FSU and ex-socialist European countries that has been collected by the World Bank and elsewhere since I have been unable to fit it into the theoretical pictures drawn here The discussion in the following is explorative and biased towards theory that links economic growth (or contraction) and corruption.

The thrust of the analysis of corruption-growth nexuses as they evolve during transitions may be summed up by the metaphor of a ski-jump. I try to consider three different, but interlocked dynamic sub-systems: the in-run, the jump and the flight. The final outcome, the length (the post-transition conditions), hinges upon the performance in all three sub-systems.

2 . Background characteristics of China and the FSU countries

Before proceeding, I outline a few striking characteristics of China and Russia– most of them common knowledge-- that are most relevant for discussing the forms, causes and consequences of corruption prior to and during the transition.[6] Because the focus of my analysis is the transition, the ideal comparison would be between China in 1978-79 and FSU area (FSUA) or Russia in 1990-92.

Structural features: At the outset of the transition that increased the scope for market transactions the *formal* economic structures of China and the FSUA were quite *similar* -- based on central planning and public ownership of capital. However, when major changes began in China in around 1979, the planned economy had lasted only for one generation (about 25 years), while in the USSR the central planning structure had been basically unchanged for two generations in most of the country when change set in there around 1990.

When it began to reform, China was basically a poor, agriculturally based economy while most of the USSR was a middle-income (over-) industrialized economy. In 1980 was about 75% of the Chinese population employed in agriculture while only about 15% of the population of the present Russian Federation worked in agriculture in 1990. (calculated from *WTO NEWS***:** 2000 Press Releases/167_6). This had obvious implication for both the growth potential of the state and for the forms and location of potential corruption.[7] In 1980 the agricultural value added per worker in China was at the level of Chad, and it still is only 10% of the corresponding value in Russia. Somewhat less than half of the Chinese and somewhat less than a quarter of the Russian lived below the international poverty line at $2 a day at the turn of the millennium (*World Development 2004*, different tables). This difference was even more pronounced when their transitions began. Naturally, the level of GDP per capita

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[6] The presentation of data will be somewhat impressionistic since it suffices for our explorative purposes.. For example, sometimes data from other parts of the FSUA areas than Russia will be brought in, sometimes only Russian data, a few times even data from some former socialist countries that did not belong to either. The treatment here is not symmetrical since differences across China's regions are rarely presented. While for example the difference of regional growth rates in China are considerable it is interesting that they dwindle when compared to the different country outcomes of countries that formerly belonged to the same Soviet Union.

[7] While the long–run growth potential in China should be much higher, that potential should not be used in any direct way in explaining the difference in short-run growth rates between the two areas. As pointed out in Andvig (2002) inside the FSU and East European area the rate of GDP declines was negatively correlated with initial GDP levels.

of China in 1980 was much lower than for Russia in 1990.[8] However, at the outset of the transition the *income distribution* in China was at about as even as Russia.[9]

In addition to the economic structures a number of inherited cultural codes of conduct transferable across economic systems may be of significance. Historically established corruption rates are likely to have an impact. Both Russia and China are known to have had highly corrupt public administrations going back several centuries before the establishment of a socialist structure.[10]

3. *Corruption definitions and systemic change*

Many, somewhat different, definitions of corruption are current in the literature. The one most frequently used one is ascribed to Nye (1967: 416) and defines corruption as "behavior that deviates from the formal duties of a public role (elective or appointive) because of private-regarding (personal, close family, private clique) wealth or status gains." Interpreted literally this definition is too wide for most purposes, since almost every official would then behave corruptly. A more reasonable interpretation would be it to cover serious acts of bribing and extortion at its core, and depending on the context, to include various types of private-regarding activities at its edges. I have few objections to the standard definition interpreted this way, but I have found the following one – based on Rose Ackerman (1978: 6-7) somewhat more precise and useful for my purposes:

- An act is *commercially corrupt* if a member of an organization uses his position, his rights to make decisions, his access to information, or other resources of the organization, to the advantage of a third party and thereby receives money or other economically valuable goods or services where either the payment itself or the services provided are illegal and/or against the organization's own aims or rules.

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[8] Estimated in 2000$, GDP per capita for China in 1980 was 173 $ while GDP for Russia in 1990 was 2583$ (www.ers.usda.gov/data/macroeconomics/HistoricalRealPerCapitaIncomeValues.xls).
[9] The Gini coefficient (for income) was 27.8 for the Soviet Union in 1989,(Shorrocks, 1999) and 25.7 in China in 1984 (Xu and Zou, 2000). In 1984 the transition had already started in China so the income distribution in 1979 was probably even more even than in 1984.
[10] Ni and Van (2004) estimated that the higher bureaucracy's corrupt income in the Ming and Qing dynasties was more than twenty times their official income. They argue that corruption was a major factor behind China's technological stagnation after 1300.

- If the act is mainly motivated by the intangible valuables received, is given by the member serving the interests of friends or family, or his own standing in family-friendship networks, it is an act of *family-friendship corruption*.[11]

- An act represents *embezzlement* if a member of an organization uses his rights to make decisions, his labor time, his access to information or some tangible assets of the organization to his own economic advantage, eventually to the advantage of some other members of the organization, in ways that are either illegal or against the organization's own aims or rules. Embezzlement might also be motivated to achieve the individual's standing in family-friendship networks

Regarding this set of definition we observe that corrupt transactions are not a set of actions that may be observed as such. Corruption has to be related to a set of rules about the proper procedures for transactions; when a person acts corruptly, a transactional mode (Andvig, 2006) is broken. Both family-friendship and commercial corruption imply a transaction between at least two actors, one of whom has to be a non-member of the organization. In the case of regular, commercial corruption, there is an illegal or illegitimate expansion of market transactions into the fields of bureaucratic or political fields of transacting. A major question is whether the large expansion of the legal scope for market transactions that is a necessary consequence of the transition away from central planning, may have induced (or contained) the scope for illegal market transactions such as commercial corruption. It is obvious, but rarely made clear, that since the rules for the proper dividing lines between bureaucratic and market transactions change during the process, so will the scope of what should be considered corrupt.

Embezzlement, on the other hand, may be performed by a single insider, but large scale embezzlement normally involves several people. More importantly, the rules broken are different. While corruption in the narrow sense raises the question of the proper way of making transactions, embezzlement challenges the *property rights of the organization*, including the proper internal allocation of the decision-making rights. In the case of the FSU-countries and the other formerly centrally planned countries in Europe (FCPE-countries for short) massive changes in the rules and principles for determining property rights were taking place. What may be considered legal privatization from the point of view of the new norms may be considered embezzlement

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[11] This form of corruption may often be considered as too wide, and for many purposes it would be misleading. Since an important part of the empirical research into corruption in the centrally planned economies has focused on this form (called blat in Russia and guanxi in China), the commercial form may define corruption too narrowly, however.

of the people's property from the point of view of the old norms The question then reappears: Does massive legal transfers of ownership rights – according to the new laws - into private hands induce (or contain) illegal or illegitimate transfer of assets, i.e. embezzlement also according to those new laws? Even if we are uninterested in the old system as such, it leaves marks on the new one. If nothing else, the former norms may be held by the older people and influence the share of present transactions they will perceive as corrupt and the share of present private property they will consider legitimate.[12]

And most of present data on corruption are data on perceptions. Perceptions may have a direct impact on behavior, as shown for Ukraine in Cábelková (2001), but old norms and socialist law also have impact along other routes. It takes time to develop a consistent set of laws. Direct legal inconsistencies are part of the transition picture which give scope for corruption and embezzlement. Even if the laws have become clear, the existence of contradictory norms may also affect behavior, for example by reducing the ethical costs of their violation.

The precise mechanisms may prove difficult to pin-point: The ethical costs may go down because people did not believe in socialist laws and, hence, will not believe in any law including the new market-framing ones. Conversely, the agents may believe in socialist laws, in particular, but also believe in the value of being law-abiding, in general. That being the case, the costs of abiding by the market-framing laws will go down. Similarly, for those who believe in socialist law and institutions, if legitimate authorities change the economic rules, these people will believe in them too and the ethical costs of violating them will remain high.

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[12] Based on a survey with 2600 respondents from Ukraine, Cábelková (2001) in an important paper studies the interaction between their corruption experiences and corruption perceptions. One of her observations is that older people perceive state institutions to be more corrupt at the same time as they appear less willing to bribe. This might, of course, be explained as normal characteristics of age since older people engage in fewer economic transactions (including corrupt ones) and are also normally more pessimistic. But when we regard the at times dramatic difference in attitudes towards the (mostly) legal early market organizations, the cooperatives, between the different age groups in the Soviet Union as reported in different polls around 1990 (see Jones and Moskoff (1991): 94 – 109) it is reasonable to hypothesize that some forms of legal expansions of market transactions will also be considered corrupt.

Whatever the precise mechanisms were, the old system's formal norms and their cumulated violations under the old regime should be understood when trying to explain the corruption and embezzlement taking place during the transitions in their interaction with their growth experiences, both in post-socialist and post-communist transitional states.[13]

4. General characteristics of central planning and the corruption experiences of the transitions

Several features of the socialist system were important not only for the eventual rise of corruption inside the planned economies, but also as determinants for post – transition corruption. This applies for its rules of ownership, the economic roles of the ruling party, its demarcation of the proper areas for market versus bureaucratic transactions, its ethics of governance and income distribution, the missing roles of prices, its incentive structure, and so on. They are all important features of the system that made it differ from the market-led systems. They all had important consequences for the growth experiences and/or the corruption perceived and realized in the systems that followed. The main features were shared by all post-Communist states but were more clearly articulated in the Soviet Union than in China.

Central planning as an economic bureaucracy. A basic characteristic of the socialist economies is that they were organized as a single, but complex public hierarchy. Unlike standard public bureaucracies the main thing shuffled across offices (the enterprises) were not messages, but real goods and services. Like a standard bureaucracy there were no hard price charges as long as transactions were internal to the bureaucracy. The prices attached to them were mainly accounting devices to keep track of what the offices were doing, making it possible to compare the reports from different offices,

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[13]The term 'post-socialist' will be used about economic systems that have moved away from central planning as the leading ideal of economic coordination while the term 'post-communist' will be applied to the post-socialist countries where the communist parties have lost power. Hence post communist as defined here is strictly speaking a sub-class of post-socialist regimes. When used together post- socialist will also mean those post-socialist countries that are not post-communist. Note that communist here is following the traditional Cold War rhetoric. Within the socialist tradition communist designated a community where the known hierarchic, market and family transactions all have withered away. Only friendship, 'comradely' relations remain. Given the focus on communist party here the meaning of 'communist' should be unambiguous in our context.

aggregate the reports to consistent ones at the higher levels, and so on. The prices were not very important for their behavior. Only when the goods left the bureaucracy and went to the private consumers were real price charges made. Labor was the only item on the bureaucracy's ledger that represented a real cost.

At the higher levels the central problem was to coordinate the different offices so that their plans for delivery and procurement meshed. In order to do this, the specification of its transaction technology, which office to communicate with whom, was exceptionally important so that the higher levels were not overwhelmed with information. In theory the economy was coordinated by a production and delivery plan. In practice, they were more like multilateral bartering systems where the subordinate offices had to do a considerable amount of searching themselves. The lack of price charges implied that most of the search costs had to be born by the office which needed to acquire the good. There was an excess demand for most goods so only agents that wanted to acquire goods were willing to carry the search costs. The specification of the transaction technology reduced the search costs, however. Coordinating sectors, while not dealing in planning in any strict sense, had an important role by actively reducing the large search costs involved.[14]

Hicks' (1969:12-13) view that the long-run equilibria of public bureaucracies are at low - but essentially stable - activity levels is, I believe, widely shared. However, he also pointed out that if society needs to accomplish some tasks extraordinarily quickly, such as wars or large rescue operations, public organizations are needed. This suggests that public organizations, like a centrally planned economy, may operate at widely different activity levels. An important reason is that transactions inside a bureaucracy have low monetary costs, they are almost free, but at the same time forced. If superiors in a line demand hard efforts they are entitled to get it, if they make few demands, subordinates are not obliged to work hard either. Regarding agents at the same level, free riding is certainly a possibility, but difficult to perform if everyone else is working hard. To choose the same effort levels as the other agents doing the same task, is a more likely

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[14] A more appropriate starting point for a positive theory of material allocation inside a CPE than the formal planning models could be some version of Diamond's (1982) coconut island. Here we could let the central planners try to speed up production by limiting the trading space - and thereby reduce searching time at the "market". Or, we could let them force prospective climbers up into the higher trees at the gun point and thereby reduce the externality involved. In order to fit the case better a number of modifications are, of course, necessary.

strategy (Andvig and Moene, 1993). In this way the transaction technology of public organizations functions much like an assembly line (Akerlof, 1976). If we combine the two characteristics, the implication is that the activity level in a bureaucracy may be extremely sensitive to the activity levels chosen at the higher levels. If the higher levels choose to increase their activity they will experience an activity multiplier through feedbacks from the lower levels. The multiplier should also work in a downwards direction if the higher levels slacken. Traditionally the employees are receiving fixed wages and have at least semi-tenured contracts which only allow for soft economic incentives associated with the specific tasks. Ideally this may keep a task orientation[15]

Bureaucracies are, however, not only arenas for human task solving, they are also hierarchies where superiors rule, and where wages and working conditions at the top are also superior to those further down. The desire for *promotion* – that is, moving up in the hierarchical ladder - becomes the hard economic incentive. It is comparable in strength to the profit motive among owners of capital, and is often reinforced by the prospect of having increased influence on solving the tasks facing the organization. The only way to become rich and widely respected is to move up the hierarchical ladder.

Hence, the key to power in any bureaucracy is to gain control of the employment function: the ability to employ and fire, to promote and demote the employees of the organization.[16] How the probability of promotion is related to the agents' task solving behavior is a key factor in determining the activity levels in public bureaucracies. If promotions are granted to officials who work harder than the average, a rat race (Akerlof, 1976) may arise. On the other hand, if an official enters an organization accustomed to low levels of activity, he may work at a slow pace without becoming identified as lazy. If he starts out in this situation as an energetic person and tries to initiate new activity, he may not accomplish much. Other agents are accustomed to their low speed. The joint efforts usually required to improve performance will not be

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[15] Particularly in private bureaucracies short-term wage contracts and/or piece-rates have been rather frequently used, but mainly for simpler task. Particularly during the Stalin-period piece rates for manual labour was also common in the Soviet Union. Again more recently, it has become popular to try to apply harder economic incentives associated with more complex tasks, or "projects".

[16] The historically maybe most clear-cut and famous case was Stalin's takeover of the control of the Communist Party in the 1920s through his control of the employment function of the party employees, and given their increasing numbers among the representatives at Party congresses, he thereby also acquired control of the party itself.

forthcoming. Also because of spillover effects in the promotion system, the optimal activity level chosen by a single bureaucrat depends upon the activity levels adopted by the bureaucrats with whom he is in regular communication.[17]

The mechanisms for promotion, hiring and firing were also important in facilitating coordination. They represent an enormous saving in the information costs of steering compared with the physical planning of all inputs and outputs which was the formal procedures of central planning systems. Although management positions in the Soviet Union and China were numerous, the number of significant actions that should be coordinated through the planning process was much larger. It was much easier to control individuals through personnel policies than to control all their actions through extensive formal control systems. This explains why the *Nomenklatura* system became so important in the centrally planned economies, and why the communist party's control of hiring policies was so important.

The role of the communist party As emphasized by Kornai (Kornai 1992:361) the Communist Party and its ideology is the key to understand the workings of the CPEs.

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[17]Analytically the situation is identical to several multiple equilibrium models of corruption. If the principal is not lazy, organizations may control for go-slow strategies, but as pointed out in a model (of corruption) by Lui (1986), control becomes more difficult as the fraction of go-slow bureaucrats increases. Furthermore, a lazy official will have a lower propensity to report others as lazy. The relative gain of going slow increases. The model introduces overlapping generations, with officials living in two periods. A higher fraction of generations living at the end of their working life tend to be lazy. Moreover, being caught lazy by a lazy superior should normally result in lower effective punishment than when caught by a hardworking one (Andvig & Moene (1990)). If the population of officials are - on average - hardworking, it does not pay to be lazy. If they are lazy, it is better to follow the crowd. If agents obey social norms, and the norms themselves are strongly influenced by beliefs about average behavior in the group, behavior will still also cluster around different activity levels (Schlicht ,1981).

What may cause the switch between the equilibria? Here the *hierarchical* character of the organizations is important. We have argued that the bureaucrats' beliefs about what the others are doing may have strong impact on their own behavior. These again will be strongly influenced by the top leadership's behaviour and attitudes, since these normally are public knowledge. Naturally, these are fast moving variables. The same applies for definite changes in ideology which may, for example, influence the perceived promotion criteria for most members of the organization.

Public threats of harsher punishment for laziness, etc., may work in the same way - if they are credible. If internalised, ideology has the additional advantage that it can deliver certain punishment, even in the case when laziness cannot be discovered by others. Ideology, which is believed in, makes for "committed" officials (Frank, 1988). Leadership is also important in two ways. Their behavior is in some degree public knowledge, and news about shifts in leadership style with its implications for promotion criteria may travel fast. Leadership is also important along slower routes. The expected disutility for a lazy official meeting a superior who is working hard, is likely to be higher than meeting a hard worker at the same level. On average, a superior is also likely to meet more people than other officials. So, a few hardworking leaders may have fairly strong effects on the behavior of individuals directly, through what we have called the transaction technology. These direct interactions with inferiors in task solving situations give also leaders important information of the inferiors' capabilities

Its economic role has rarely been subject to precise economic analysis, however.[18] It combined the economic roles of entrepreneurship, planning and capital markets with the political functions of security, repression and participation. By determining the composition and changes of the leadership groups of the enterprises, it acted as the active owner and as capital market. By being formally outside the economic organizations, the party could push for results and urge changes in the composition of industries. Hence, it had to act somewhat like an entrepreneur. Since the cadres were interlinked in a separate hierarchy, their interaction was a key lever in determining the economic growth rates in the CPEs. The outcome in that respect has been mixed, but by emphasizing growth related promotion criteria and a sufficient number of promotions, the system appears capable of achieving fairly high growth rates, as shown recently by China and Vietnam, and the Soviet Union in part of the Stalinist period. A certain dedication and belief in the system is probably also important in order to keep the system in high-activity equilibrium.[19]

In any bureaucracy the major monitors of any difficult-to-prove corrupt transaction are other members of the same bureaucracy. Although the security police played an important role in monitoring the cadres, the key monitors were the communist party cadres themselves. Whether a corrupt transaction was discovered, exposed, and punished hinged upon other cadres' behavior. The whole party of a country or some regional partitions of it, could move towards active propagation of corruption, lenience, or active monitoring and effective punishment. Moreover, given their monitoring and directing role with respect to the economic bureaucracy, the cadres' behavior had economy-wide

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[18] The workings of the communist parties have attracted more attention among sociologists and political scientists than economists despite their important economic role. An interesting exception is Lazarev (2004), but he is unable to answer the question of why the leadership of such organizations have earned so modest economic returns if the organization is created for maximizing the economic returns of the leadership, as he argues it did.

[19] This emphasis on bureaucratic drive and the communist party role in it represents , of course, an exaggeration of the role of the motivational forces in the bureaucracies, at the expense of an emphasis on coordination issues, and the importance of market incentives. The high transaction costs involved when introducing genuine innovations were clearly an Achilles heel of the system. A somewhat more extensive elaboration of the Soviet experience is presented in Andvig (2002). From the perspective outlined here, the Chinese (and Vietnam) experience of increased reliance on market forces may be considered as a way to let the party cadres receive growth related promotion incentives, while the accepted interpretation is to consider the countries as moving towards regular market economies, and where it is the release of market forces that generate the growth. In a more general context Jones and Olken (2005) have shown that shifts of national leaders may have significant impact for national growth rates even for countries that have fewer centralized levers than a ruling Communist Party.

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effects. Summing up: given the structure of the socialist economies, a key transmission mechanism linking growth and corruption experiences went through the Communist Party.[20]

The Communist Party as a partly personalized network that criss-crossed practically all activities in the socialist countries was also of clear relevance both for how corrupt transactions became organized after the transition and for their frequency.

The role of prices. In capitalist market economies prices have at least three functions (Johansen 1978: 55 - 59): i) to aggregate different items for accounting ii) to allocate resources and iii) to generate income and income claims or debts that give rise to strong incentives. In socialist economies prices were mainly serving the first and partly the second role. The third role was rather unimportant. It is that role that makes the prices so important and hard facts in market economies, however. The point of time when that shift occurred was crucial for the shift in the economic system. During the transition more important than the determination of prices by anonymous markets forces (rather than by a price-fixing agency) emphasized in the transition literature as market 'liberalization' was their *hardening* into a basis for the enterprises' income and demand. A price is hard if it determines the supplier's command of other goods and services. The supplier as buyer is free to spend the income on any other good or service available on a market. Without sales, no income and no access to goods and services. In principle a price may be fixed and regulated and still be hard in this sense. If changed by administrative rules, it would in that case still have roughly the same effects on the supplying units demand for other goods as a similar change was the result of market prices. The distinction between hard and soft prices is important for the understanding of the central planning economies, their transition to market economies and the localization of corruption issues during that transition. Debts may also be hard or soft in the sense that it may have to be paid back in hard sales income or just be an accounting relationship.

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[20] From a different, political science perspective, Jowitt (1983) explicated the key role of the party , even making its actual behavior the defining characteristic of political corruption in the Soviet type of system. The Soviet elite became corrupt, Jowitt claimed, when the party members' informal practices rather than contributing to the party's formal goals and interests subverted them, destroying its organizational integrity.

This implied that enterprises would not spend many resources in fighting taxes under a planning system, nor would they be strongly interested in increasing prices or fighting wage increases.[21] Their positions as debtors or creditors of other enterprises were also of minor interest. During the transition process the role of prices changed everywhere, and the move from soft to hard prices was of great importance for the localization of corrupt transactions when the countries moved away from central planning. An inheritance of a different kind was that the relative price structure, even for the consumer goods, differed significantly from prices in the world market. This was most pronounced for the Soviet Union, but applied also for the other socialist countries, including China. The original difference in price structure was a source of extensive smuggling and corruption in the early years of the transition.

The legal and norm structure Although many (in some countries most) citizens in the CPEs did not believe in the official socialist codes of ethics, the ethics come to play a role for both the actual and perceived corruption during the transition. Important here was the notion that all property which involved use of labor power should be publicly owned. Only a circumscribed set of market transactions was ethically acceptable. It was morally wrong for any member of the elite to be very rich in the sense of owning large properties even for her own consumption. Equally important was the idea that enterprises should be managed by the government and, in practice, be part of the government structure, not separated from it. Moreover the lines separating the political and government spheres were thin. This normative and legal structure could not simply be abandoned by administrative fiat during a transition. That is obvious in the case of social norms that almost by definition can not be manufactured freely (Elster, 1989: 125) but even old legal structures may also possess considerable inertia. At the very least, it takes time to make a new, consistent legal structure. These old structure may have an impact in different, sometimes complex ways:

i)   A norm supporting a type of action may survive directly into the new system which prescribes a new set of actions. The new set of norms that will underpin the legal reform, may not be accepted by the population, however. Then, if the

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[21] As shown in Harrison and Kim (2001) they will have *some* interest in higher prices, but their survival would not hinge upon their levls.

new legal prescriptions are followed, the public may perceive these transactions as corrupt if they are defined as such by the old norms.[22]

ii) Old norms/legal practices may mix with new ones in ways that give scope for corruption. Of key importance here is when the norm combination '*close-cooperation-between government regulators and enterprises-soft-budget income*' is not supplanted by the new ideal norm combination '*arms-length relations between government regulators and enterprises-hard-enterprise income*', but rather with the combination '*close cooperation between government regulators and enterprises- hard- enterprise income*'.[23]

iii) The old rules may be being believed in, but together with the new rules, give rise to norm dissonance and anomie.

iv) More complex interaction between old and new norm systems may take place and be applied For example, suppose that action patterns a ,b and c were labeled by the old norm structure as inappropriate market transactions, but that a and b, but not c, are accepted in the new system. The former lack of acceptability of all three action patterns may lead agents to consider c to be appropriate as well because c is seen as normatively equal to a and b.

So far we have emphasized basic institutional characteristics of the planned economies that appear relevant for the growth-corruption nexus both inside and in the transition away from central planning. Let us end this section with the outline of a definite economic model that ties an important characteristic of central planning – the specialization of each output at as few plants as possible - with an explanation of production decline (and corruption) only valid for the early transition period:

Rigidity of the input- output matching of the planning process and its consequences for the effects of corruption. Blanchard and Kremer (1997) focus on the strong technical complementarity (simplified in a Leontiev technology) between industries and the specificity of the network structure between enterprises under central planning. It had vertical and horizontal dimensions. Looking at the vertical

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[22] Amore detailed exposition of these possibilities may bound in Andvig (2006).

[23] Yao (2002) underlines this mix as the key to recent corruption in China: "Most of the Chinese economists…have the correct observation that the cause of China's current corruption problems is the lack of separation between business and government.." In the oil industry   in Azerbaijan a similar mix was a key to that country's corruption problem in the late 1990s (Andvig, 1999). SOCAR, the state-owned oil company acted at the same time as a Ministry of Energy and was likely to be the linchpin of corrupt transactions in the country.

dimension: a given product of enterprise *n* would need inputs only supplied by enterprise *n- 1*, that needed input only supplied by *n –2*, and so on until reaching the supplier of raw materials enterprise *1*. This technology structure of central planning was then inherited by the transitional market economy. Under central planning the enterprises would normally reach binding agreements for delivery, but with weak market institutions these chains might easily unravel when the enterprises were free to contract with agents not linked to the chain. Blanchard and Kremer assume that under such conditions the suppliers were unable to sign a contract of delivery before goods were produced. Hence each producer had to pay for her inputs before she (eventually) could earn any income.

If any enterprise either withdraw its output due to new outside opportunities or refused to pay the preceding link, the chain would unravel.[24] Withdrawal of output from producer chains during transitions may sometimes be motivated by contracting difficulties, but embezzlement of variable inputs or capital assets induced by outside markets opportunities was also possible.

 Blanchard and Kremer also considered horizontal networks. Here an enterprise may need n inputs. If one did not materialize, it would produce nothing. Each supplier of inputs had an alternative use for it, but the alternative was not worth the same to each supplier. The enterprise would announce a take-it-or-leave-it price that was the same for each supplier. If the price was fixed too high, the enterprise would be unable to produce any net output. If the price was set too low, that is so low that at least one of the suppliers would not deliver at all, the enterprise would produce nothing with negative effects on the output of the supplying enterprises. During the transition at least some of the suppliers are likely to get better alternatives, increasing the likelihood of production decline in the interlocked state-enterprise system. Again, at least as long as these enterprises were state-owned, this withdrawal of supply, may be considered as embezzlement.

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[24]We have seen that similar tendencies may also evolve under central planning in areas where the authorities were weak and the underground economy's share in production substantial. A famous case happened in Uzbekistan where local units embezzled a large share of cotton harvest in the early 1980s (Radio Liberty Research Bulletin, Sept. 5, 1984).

Turning their model somewhat around, the suppliers may become the price-setters and we may move into the Shleifer-Vishny territory to be outlined in the next section. These prices may reflect bribes. If coordinated, they would adjust the bribe demand so that the enterprise may at least break even. If decentralized, their demands may exceed the enterprise's ability to pay and the production may break down for that reason. Hence, a combination of Shleifer-Vishny decentralized corruption and Blanchard- Kremer centralized input-output mechanisms may together explain the stylized fact of strong production declines and steep corruption increases in most FSU countries.

5. *Corruption characteristics of the centrally planned economies*

How might the corruption experiences in the transition countries be linked to the corruption under central planning? There are several possibilities: 1) Corrupt behavior and situations may have just been directly transferred, 2) brakes that were present under central planning may have been lifted, 3) norms, laws or situations that contained or caused corruption then may cause or contain corruption when they are mixed with new conditions, or 4) there may be no links at all - the pre-and post-change mechanisms may be completely different. Unless the last possibility is dominant, corruption mechanisms under central planning are of obvious relevance for a study of corruption in post-socialist countries.

 Only a few analyses of the specific corruption mechanisms of central planning have been formulated. A plausible reason for this situation is that at the time when the research interest in corruption increased, the interest in central planning faded.

The most influential analysis of corruption under central planning today is Shleifer and Vishny (1992, 1993). They outlined a mechanism that could explain both how corruption was deeply ingrained (in their view) in the core of central planning, but also how likely modifications of the corruption mechanism during a transition could lead to negative growth rates in the FSU countries, but not under central planning.

Corruption as a major method of allocating planned scarce goods and services. Their starting point was the all-embracing experience of shortages under central planning. Shleifer and Vishny (1992) explain it simply as caused by monopolistic behavior by the socialist industries. The ministry officials colluded with enterprise managers and became one decision-making unit.[25] The authorities taxed away all profits. Hence, it made no sense to maximize profit. Rather the ministry/enterprise maximized net bribe income. The same bribe was paid by all customers, but as the bribe increased, the demand for the good or service in question decreased. Like a normal monopolist a ministry would play on the demand curve by restricting sales/production. Unlike a regular monopolist, however, a ministry would not worry about its cost function but about the official price of the goods it was obliged to deliver. The higher the official price was fixed, the lower would the net bribe income be. If a few customers were able to acquire the good through queuing, regular lobbying, etc. and not by bribes, it would not change the model in any important way. To make sense, they would have to net out all inter-enterprise transactions and look at the whole economic apparatus as it confronted the final (private) consumers.

What happens in a transition without privatization, when the official, controlled prices are increased in order to relieve the shortages? The outcome would be as suggested: reduced output supply, hence increased shortages despite an increase in the market price although it now included reduced net bribes. The negative supply response was working through the reduction in net bribes. If the enterprise were allowed to keep (own) its profits, one would not get this negative supply effect of an increase in official prices.

A transition may, however, also cause bribe collection to become decentralized and hence, according to Shleifer and Vishny (1993), potentially become more harmful to growth. In that article they generalize their model of corruption in socialist shortage economy to apply to any official who monopolizes the delivery of a public service. They distinguish between two cases, one where the official hands over the income to the government at its official value, as the socialist ministry did, or a second one

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[25] This assumption appears fairly realistic for the Soviet Union (cf. Granick, 1980), but less so when there were markets to play on, markets that they assume by implication. The divergence between the interests of officials and managers then would become too pronounced, as later formulated in Li 's (1999) analysis of the dual-track system in China.

where she may steal it. The last case may become relevant in the post-communist case where monitoring breaks down, but the plan allocation still is law. It may also prove to have lasting effects because in a market economy setting the bribe-payers (with theft) normally pay less than their lawful competitors and tend to out-compete them, while they will pay more without theft and be out-competed. Hence, compared to bribery without theft, aggregate demand for output would increase and prices fall. This evidently was contrary to fact in the early stages of post-communist transition, however, but it nevertheless was a prediction that tied aggregate output and corruption in one model.

Shleifer and Vishny (1993) also point to another aspect of the breakdown of monitoring more compatible with stylized facts: It would not only lead to stealing, but also to a decentralization of bribe collection. The Communist Party in a centrally planned economy might be considered as a monopolistic bribe collector dealing in a system of complementary goods and services. Bribery maximization by a joint monopolist agency will take into account the effect of bribes collected for one service on the bribery collection of the other. To increase the bribe for one service or good will reduce the willingness to pay for another. Hence bribe rates will be kept lower than if bribe collection was decentralized, and the agencies would disregard the effects on other markets. The rate of bribe collection for each agency will he higher, but both aggregate bribes and aggregate output will be lower than in the centralized system. With free entry into bribe collection, this negative effect on output should be even stronger.

Summing up, if one accepts Shleifer and Vishny's conception of central planning, it is difficult to imagine any other way to organize the economy that would cause more extensive forms of corruption.[26] But corruption forms could become even more harmful when Communist Party control broke down. This theory at one stroke appears to explain the production decline of many of the FSU countries during their transitions and the better economic performance of China and Vietnam that stuck to a centralized way of collecting bribes.

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[26] Other systems will have fewer situations where demanders would have no alternative to a bribe-collecting monopolistic supplier.

A number of anomalies immediately arise, however. For, example, because the joint bribe collector – the Communist Party - in China and Vietnam would perform centralized collection gauging the effects of bribe collection in one industry on the bribe collection prospects in the other industries, the economic shortages should also be less pronounced than the individualized collection in the FSU countries. The opposite appears to be the case, since many of the FSU countries appear to experience symptoms of generalized excess supply.

But before further elaborating weaknesses in the Shleifer and Vishny explanations of corruption in the CPEs and their applications to the transition countries, I will look at another instructive model that ties corruption in the centrally planned economies with corruption phenomena that have been displayed in their transitions.

Corruption as one mode of transaction between planners and producers. As Harrison and Kim (2001, 2003) point out, one of the implications of the corrupt behavior imputed to the ministry-enterprises complexes by Shleifer and Vishny is that they should strive to get as low official prices as possible. In this way they could increase the bribe earned per unit of output. That implication violates however the well-established fact that ministries preferred higher prices. Something similar to repressed inflation, generalized excess demand, appears to have been deeply ingrained in the system.[27]

In standard descriptions of the planning process, where the ministries and enterprises responses are modeled, official prices are assumed fixed, reflecting the fact that the official price codes were determined by a separate agency. Relying on recent investigations of the Russian state archives, Harrison and Kim found that the Soviet managers had much more discretion in influencing prices than most researchers had

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[27] As mentioned, prices played a modest role in the resource allocation and individual income distribution in the classical socialist economy. Hence, repressed inflation did not imply that prices were fixed at too low levels, but rather that they would accommodate most bureaucratic forces that determined the enterprises' deliveries and procurement. At least after Stalin under most circumstances the managers in the enterprises/ministries would supply as little of output and procure as much as they were allowed to whatever the prices of inputs and outputs, hence generalized excess demand. Higher prices for output made the bureaucratic life easier, hence the efforts to increase them, but the price levels received were neither a question of survival for the enterprises nor a road to personal enrichment for the managers as long as income credited the enterprise/ministry could not be spent. One of the ways high prices made bureaucratic life easier was by making the planned profit goals easier to achieve.

believed. In the so-called material balances that specified the planned outputs and inputs to be supplied by and delivered to the enterprises, planned quantities were not quantities after all, but nominal values that, in practice, left scope for considerable price manipulation, a fact that Shleifer and Vishny were among the first to build into their modeling of the system. The major method applied by the enterprises according to Harrison and Kim was not to fix market prices through monopolistic price-setting, however, as Shleifer and Vishny have claimed, but rather to change the output mix through 'innovations'. Since the plan was fixed in nominal values, an accepted (but false) claim of a higher quality product implied a higher price and lower quantity in the actual delivery compared to the plan specification for the enterprise.

The Harrison-Kim model starts with an initial price- output combination that is accepted by the planners. They are, however, willing to accept other combinations where output may be lower and the price higher, but as the price increases (through fake innovations or other means) planners become less and less willing to accept the implied output declines. The enterprise may spend effort on this price-increasing deception, on leisure or on output. As more effort is spent on driving up the accepted price, the enterprise has to give up more output or leisure. The interaction between planners and the enterprise will generate an equilibrium output-price mix with a higher price and a lower output than the one specified in the plan.

So far there is no monetary corruption or embezzlement in the model although one may consider the resulting leisure as a form of embezzlement. Noting that there is excess demand in most 'markets', Harrison and Kim note that the customers (if they have some liquid assets available) may be able to pay a price above the official price. In the case of 'loyal' managers this unofficial income may be added to the resources of the enterprise and give less hidden inflation, more output, and more leisure. Spent this way, the bribes received by the enterprise would tend it to produce more and cheat less in the sense of delivering less output and charging higher prices than assumed by its given nominal plan delivery.[28] Harrison and Kim argue that the

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[28] The model operate with three price levels: The initial, historically given price the planners had in mind when specifying the planned nominal delivery of the enterprise, the real planned delivery price (after the output cheating), and a market price for out of plan delivery. That price is determined by a demand function. When it is above the real delivery price, the case of shortage, the enterprise will keep some output outside the plan. Harrison and Kim suggested that this demand function would only

managers' position normally would lead them to simulate loyalty. If disloyal, the transformation curve of the enterprise between hidden inflation and output would be unchanged.

In their set-up the degree of tautness, that is, the price-output combinations that the planners were willing to accept was an important policy instrument. If they were willing to accept more slack it became easier for disloyal managers not to recycle the bribes into production, output would tend to fall as the hidden inflation increased together with managers' private consumption.

Seen this way, the reduced tautness in planning may be seen as collusive behavior by the managers that caused a downwards pressure on output and upwards pressure on hidden inflation and meant that corruption had harmful effects both in this way and by increasing the share of the managers who could become disloyal.

The first part of the transition in the FSU-countries may be viewed as a process that lifted the price-output acceptance curve far out, hence giving much larger scope for output decline and corruption increase. Hence their model is also able to connect output levels and corruption and to explain falling output and increasing corruption, the stylized fact of the FSU experience

The first specified model of corruption under central planning I am aware of, Montias and Rose-Ackerman (1981)[29] also, like the Harrison-Kim model, focuses on situations inside the central apparatus which may give rise to corruption. Their starting point was the interaction between regular bonus functions and the expected value of bribes when both are functions of output, but where they both make discontinuous jumps at the plan-fulfilling output level. The bonus function is discontinuous because the

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apply for consumer goods where the prices would be hard. Consumers would bribe the enterprise which could spend the out-of plan output on out-of plan inputs which would make it easier for loyal managers to keep the plan. But then we would also have an out-of-plan market for inputs. Our enterprise would have to bribe its input suppliers. What would be the size of those bribes? Harrison and Kim apparently raises a macroeconomic question and answer it with a kind of partial equilibrium model. Moreover, bringing in a number of features of the planning process, other games internal to it may look equally convincing. Clearly, the financial plan of the enterprise, and the possibilities of manipulating it would be important. Their model appears to have several loose ends. That said, I find many of their macroeconomic conclusions intuitively sound and convincing.

[29] Their model-based analysis was only a minor part of their article that aimed for a broad comparison of corruption possibilities in a centrally planned economy.

planners have stipulated it that way (for example in order to make the enterprise to reveal its production capacity) and the expected return to corruption is discontinuous because the probability of being caught jumps up if the planned level is not achieved. Assuming the cost of effort function is quadratic, output-bribe combinations may exist that maximize the combined bonus-bribe return, but where output may be both below and above the planned output level. Hence, the effect of bribes on output may easily become ambiguous. And a shift in the degree of tautness may trigger the enterprise to move either above or below the planned level.

Note the implications drawn for the impact of reduced tautness on corruption were rather ambiguous compared to both Harrison and Kim and Shleifer and Vishny who all had the advantage of having observed the last years of the Soviet Union. Loosening of discipline in the wide sense in both these models implied decreased output and increased corruption.

Shortages and the occurrence of family-friendship corruption. Shleifer and Vishny, admit that the suppliers might not close the whole shortage gap through their bribe demands. Some direct rationing would take place. But how would the scarce goods be rationed? Regular queues were one possibility, and a common (and visible) feature of the centrally planned economies, particularly in the Soviet Union. Another obvious way of rationing – particularly of consumer goods - was for the suppliers to hand them over to family, friends or more distant acquaintances. At the same time, it was obviously of interest of individuals to look for suppliers that were able to give them preference. Hence, the more or less regular, spontaneous creation of personal networks were stimulated by trafficking in scarce consumer goods. Presumably they thereby increased in scope and carried more 'traffic' than networks based on pure friendship-family feelings. Their importance is indicated by the fact that personal-based networking have well-known names, *blat* in Russia and *guanxi* in China and have received considerable research attention. The Chinese guanxi appears to be more formalized, considered more ethically acceptable, and more based on a model of family structures.[30]

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[30] Michailova and Worm (2002) compare blat and guanxi with personal networking of the regular European type. Due to the larger number of goods available and the higher levels of perceived shortage in the Soviet Union blat was important for getting hold on scarce goods. That reason disappeared when

Many of the modifications of the formal rationing principles caused by the use of connections did not involve corruption. Lining up in a queue one could buy something extra for friends without violating any principle of socialist governance.[31] But a large share of the informal rationing involved family-friendship corruption or embezzlement. If a queue organizer (such as a shop employee) set aside some high-quality item for a friend instead of allotting it to those in the public queue, or if she was actively sought out by friends, to hand over that quality, she was performing a family-friendship corrupt act. As the transaction shades into a *quid pro quo,* it might become close to commercial corruption. If the customer applied political influence it shaded off into extortion. Networking might obviously also be used for establishing commercially corrupt transactions, for example, by reducing their transaction costs.[32]

Similarly, networking was also used in inter-industry procurement for many of the same reasons. Excess demand made the purchasing enterprises become the active net-workers, not sellers as is the case in capitalist market economies, including the post-transition countries. Given the major changes in the consumer markets, one should expect the old blat networks of the Soviet Union to become useless and, hence, lead to a decline in family-friendship forms of corruption. Ledeneva's (1998) interviews confirm that expectation for Russia. Almost by definition commercial corruption at the consumer end would disappear when shops became private and both the supply and the demand for consumer goods are determined through public market forces.[33]

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one get into capitalist excess supply situations. Then blat, using connections, would become useful for selling efforts including selling regular labor power. Ledeneva (2003) covers the same territory. They both only compare Russia and China. The parts of the Soviet Union that combined its economic scarcity characteristics with larger family structures such as in the Caucasus and Soviet Central Asia probably created the largest personal network structures.

[31] Or one might violate rules against economic middlemen activity if one lined up, bought more than one needed and resold it for an illegally high price. This was illegal profiteering, but neither embezzlement nor corruption if performed by a private individual, according to our definition.

[32] Agelasto (1996) describes in detail how guanxi relation-building facilitated corrupt transactions within a Chinese university. The novel *Wild Swans* Chang (1991) reveals movingly how under the extremes of Maoism family structures and family ideology were perceived to be so important in furthering corruption (and political rivals) that they had to be crushed.

[33] This would not by necessity contribute to a *perceived* decline. Steeped in old socialist norms the market mechanism itself might be perceived corrupt. For example, when local shops are allowed to increase prices, it may remind the public of situations where local shop employees charged higher prices, i.e. demanded bribes under the counter. Just after the transition answering a questionnaire in Czechoslovakia, the respondents now considered hairdressing as one of the most corrupt industries!

When it comes to inter-industry transactions, the need for networks remains. But as the economic system moves from a situation of generalized excess demand before the transition to a perceived excess supply situation (Weitzman, 1984) of regular monopolistic competition after, one would need networks to assist in selling output rather than just for the procurement of inputs. Whether these networks have increased in size and whether they depend more on family-friendship links, or on corrupt commercial links after the transition is not only a matter of definition. In general, however, it appears that family- friendship corruption is likely to have been more common under central planning than during the transition and afterwards.

Transaction costs of central planning as a restraint on corruption.

In order to understand the issues of day- to-day corruption in the centrally planned economies, it may be fruitful to distinguish between 'internal' and 'external' forms. Internal corruption arose in the transactions between state enterprises, planning units or other institutions inside the governmental apparatuses. Here the forms of financial control were crucial in containing corruption. The external corruption arose mainly in the interaction between enterprises and the other governmental units at one side and the consumers on the other. Where corruption was extensive, illegal private enterprises may arise.

Above these units party organizations coordinated and monitored both the internal and external transactions. When they were bribed, we are mainly dealing with political corruption. Party officials could be bribed by both consumers and government units, i.e. be involved in both external and internal forms of corruption. KGB and other police units again monitored party officials. Their role increased as the corruption of party members become more common. Since the party was decisive in the important employment decisions, it was its control of this lever that was also the key to party corruption, hence the political forms of corruption that took place.

Most of the analytical attention to corruption in the former socialist countries has focused on 'internal' corruption, corruption tied to the planning process itself. Shleifer and Vishny (1992, 1993) were an exception. As noted, they considered the Soviet economic planning simply as a form of generalized monopolistic supply confronting

consumers. Hence, it was not necessary to go into detail of its inner workings. In an earlier paper I (Andvig 1985) also argued that the corruption in the Soviet Union was connected to the interaction between the planning mechanism and the market sectors, particularly the illegal ones. The argument was not specified in a model, but traced a number of institutional links that worked backwards into the planning apparatus.

The starting point was the observation that exceptionally high transaction costs in making corrupt deals should constrain corruption in the centrally planned economies. Due to its illegality, there were always considerable transaction costs involved in order to complete any corrupt transaction whatever the kind of economic system ruling. Moreover, those transaction costs would normally be reduced if for some reason the incidence of corruption increased. In market economies the enterprises initiate and pay a large share of the total amount of bribes paid.[34] In a centrally planned economy they were likely to pay a smaller share of the total. One reason was simply that the enterprise and the corresponding ministry often in practice acted as one administrative unit. Thus, the enterprise had no incentive to pay bribes to its own regulators in the ministry.[35] Moreover, the regular transaction costs of corruption were compounded by the difficulty of finding matches for corrupt barter deals. Substantial corrupt transactions across industries demanded that a corrupt enterprise had to pay with its own output and then normally would have to get involved in large multilateral barter deals. While facilitated by blat chains, the initial transaction costs would still be much higher than in a market economy – at least for the capital goods industries.

The transaction costs would not be so high for consumer goods, however. The shops transacted with cash-using purchasers, the consumers. Moreover the consumer goods were also more liquid in the sense that they were on average more tempting to embezzle by the employees themselves. In various ways corrupt incentives would be

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[34] One indication that Russia now has become a market economy is that most bribes appear to be paid by the enterprises. Citing results from the INDEM survey (planned as a part of the World Bank's Diagnostic surveys of corruption) Ledeneva (2005) reports that today about 90% of bribes are business related while only 10% are paid by households.

[35] This feature has been one of the most important ones in making the post-socialist countries so easily exposed to corruption. The author could observe some of the problems involved in the case of the state-owned oil company in Azerbaijan, SOCAR, that for many purposes remained a government ministry of energy after the transition to a market economy had been completed.

much stronger here, everything else equal. The signs of pervasive corruption were hence most visible in some consumption industries, might spread backwards, but were then in general less visible forms, except for the areas of the former Soviet Union that had the highest incidence of corruption.

Given the context of the socialist society, many types of market transactions were illegal without being corrupt according to our definition. But regular, illegal markets stimulated corruption in a centrally planned economy along several routes. In addition to the direct demand for (corrupt) public protection, the underground economy presented an outlet for some of the state enterprises' output yielding uncontrolled income that may, if needed, be spent on bribery. Here we have a clear incidence of increasing returns to scope of illegal market transactions that also increased the motives for corrupt transactions as well as reducing their transaction costs.

The evidence for the importance of illegal consumer markets as a mechanism that reduced the transaction costs of corruption, increasing its scope and incidence has mainly to be sought in roundabout ways. No corruption perception indexes existed, but in the case of the Soviet Union we have useful regional indicators that may throw light on the importance of transaction costs: estimates of the size of the second economy, the number of newspaper stories about corruption (Holmes, 1993) or the number of people convicted of economic crimes including corruption (Clark, 1993). Many stories of a more or less anecdotal kind support the impression of an uneven distribution of corrupt transactions. If the major corruption transactions had started from the center, we would expect either the highest incidence in Russia around Moscow or, alternatively, a rather even incidence across the regions.

While anecdotal, single, well-documented stories may reveal more general features of the extensiveness of the phenomenon and its geographical distribution. For example, stories of large-scale corruption such as the famous Uzbek cotton scam, is revealing since it is almost prohibitively difficult to organize a large number of people in a network of corrupt transactions in low-corruption surroundings. That is, a single story may then have strong implications for the quantitative assessment of the situation.

Another clear quantitative indication of the increasing size of the second economy is the detailed study of it made by Treml and Alexeev (1993). They showed that the statistical correlation between official income and savings, and income and the registered sale of important consumer goods, weakened strongly in the period between 1965 and the late 1980s (even for alcohol). A reasonable interpretation is that the lack of correlation was due to the fact that a larger share of household income came from unofficial sources, and a larger share of consumer goods items was sold outside official channels. As an indication of the likely positive connection between corruption and the size of the second economy over time consider the following table which shows a rough cross-section correlation between the estimated size of pre-transition second economies and the economic crime conviction rates:

Table1 . Corruption and second economy. Regional estimates for the FSU area

Country	Conviction rates per million population 1965–1990	Control of corruption 1997/98	Unofficial economy share 1979 (%)	Unofficial economy share 1995 (%)
Armenia	7.27	-0.80	…	...
Azerbaijan	21.85	-1.00	50	70
Belarus	0.20	-0.65	43	35
Estonia	2.14		22	22
Georgia	15.00	-0.74	50	71
Kazakhstan	1.21	-0.87	50	50
Kyrgyz Republic	3.85	-0.76	…	…
Latvia	0.00	-0.26	34	41
Lithuania	1.41	0.03	34	31
Moldova	4.63	-0.39	43	48
Russia	2.81	-0.62	27	46
Tajikistan	2.00	-1.32	…	…
Turkmenistan	4.06	-1.29	…	…
Ukraine	1.70	-0.89	38	57
Uzbekistan	2.71	-0.96	50	29

Sources: Clark,(1993, Table 3.5), Kaufmann et al. (2002, Table2), Alexeev & Pyle(2001, Table 5–6).

The pre-transition conviction rates are of course a very rough corruption indicator. The high rates in Azerbaijan may, for example, reflect the effectiveness of Heydar

Aliev's anticorruption campaign in fighting *competing* corrupt networks, not his own corruption (Vaksberg, 1991), and the low rates in Tajikistan indicate ineffective economic policing, and so on.[36] The table also indicates a surprising degree of persistence in corruption and the size of the underground economy across the transition to legal market economies in the different areas.[37] This persistence may suggest the importance and the ability of family and other informal networks in undermining formal structures whether they are planning or market oriented.

The high corruption rates in such Soviet areas as Georgia and Azerbaijan were reflected in the bribe rates for entry to the universities. For example, while the bribe rate for the entry to medical studies at Moscow University was 6,000 rubles in 1979 and rising, the rate was 15,000 rubles in Georgia and 30,000 in Azerbaijan (Simis, 1982, 167). These bribe rates were likely to capture some of the capitalized value of expected bribe income of the future medical doctors in the areas, hence the capitalized value of their future stream of bribe incomes.

As observed in the Harrison\Kim model, the degree of tautness in plans may affect internal corruption. Increasing tautness 'forces' the managers to break more rules in order to achieve plan-fulfillment, which would increase the incentives to bribe input suppliers. However, if the financial side were also tightened, corrupt transactions would be restrained due to the transaction costs involved in barter corruption.

The degree of tautness would also work through the interaction between the planning process and the market side of the economy. In particular, a large reduction in tautness could change the nature of corruption as it related to the planning process. Any softening of monitoring combined with less taut planning made it easier to produce goods outside the plan. In particular, the softening of planned restrictions on the allocation of hard money to the enterprises made it easier to buy inputs through bribes. On the other side of the ledger, if it becomes easier to sell outside the plan (i.e.

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[36] An alternative interpretation alluded to, is that the size of the underground economy, corruption and corruption convictions were all expressions of political resistance and the force applied in the fighting of it. This interpretation is belied both by the low numbers of individuals caught in all areas and the indications of lower corruption rates in areas like Estonia.

[37] This is particularly surprising for the size of underground economies, since one should expect that most of the motivation for the participating in the underground should disappear with central planning. Moreover, they showed steeper production decline, another surprise since these areas should be more accustomed to market transactions.

easier to receive hard cash bribes), it would transform the soft incentive of gaining an easy life through easy plans (high input allocations and low output obligations) to the hard incentive of gaining more cash bribes through easier plans.

At the cash borders of the planned economy, the consumer goods industries, the transaction costs of making corrupt deals, had always been modest. Combined with the usual state of excess demand in the consumption goods markets, it led to bribing being a dominant way to get access to scarce goods. For example, when a sample of people in Czechoslovakia was asked in 1989 about the area in which bribery was most prevalent, 26% mentioned retail sales as the number one sector (Lizal and Kocenda, 2000). 31% mentioned services, while only 3% mentioned state administration.[38]

In times of easier income policy, excess demand for consumer goods increased and the extent of corruption to gain access to legally produced consumer goods increased. At the same time such policies tended to reduce the supply of labor without inducing any increase in the legal supply of consumer goods, worsening the excess demand. One of the paradoxes of the socialist economy was that the strengthening of democratic forces and the authorities' yielding to popular demands normally resulted in a worsening economic situation for the population with longer queues, more corruption, an expansion in the second economy, and more criminal activities. It was from this loosening of control that more elaborate schemes for creating second economy enterprises could be built.

Most observes agree that the degree of plan tautness was reduced while the incidence of corruption as well as the size of the underground economy increased during the 1970s in the Soviet Union. This indicates that the internal effects of increased tautness on corruption were weaker than the external ones and their feedback on the planned economy. The financial aspects were the most important. If loosened, the resulting excess demand for consumer goods stimulated corruption directly. Secondly, the resulting growth of the second economy increased the demand for bribes at the same time as its growth implied a gradual decrease in the transaction costs of corrupt deals. In certain areas, such as in the Caucasus, the scale of the second economy was

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[38] Other cash-close sectors like health services also scored high (21%) in 1989. In 1998 31% mentioned state administration.

sufficient to make the border and internal types of corruption merge. When an enterprise was able to keep part of its output outside the plan, one part of the cash demand came from enterprises willing to acquire input outside the plan and pay for it in order to satisfy its plan. The second part was coming from (legal) enterprises that needed extra input in order to sell output outside the plan, and a third part of the demand came from enterprises working wholly outside the plan, enterprises completely submerged in the underground economy.

Many individualized public services (or punishments) such as hospital services, schooling, jailing, which confronted the individual private consumer, had similar corruption characteristics as retailing; transaction costs were small because of the use of cash, excess demand, and so on. The demand for bribes in the police and judicial sectors became exceptionally strong due to the growth of the second economy, the weak rights of individuals, and the harsh penal codes. The lack of ideological under-pinnings for an independent judiciary and police contributed in making bribery endemic and cheap in these sectors.
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In principle, foreign trade was another sector where the socialist economies used cash. Since the customers here were not forced to buy from a socialist supplier, their incentives for bribing were in general more modest, however. Moreover, foreign trade was concentrated in large, specialized foreign trade organizations that were strictly monitored almost to the end. Because the customers were not directly linked to suppliers, foreign trade did not in general became a nucleus for expanding corrupt second-economy clusters, as in other sectors where the demand for cash was high.[39] That changed after the transition.

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[39] There might have been exceptions to this. Cross-border networks were likely to have been significant between the Caucasus and Turkey, maybe also between the Caucasus and Iran. These networks still exist, but with the exception of oil, now probably dealing in different products. Caucasian Jews probably also had wider international networks with some pre-transition impact. With impact here I mean an ability to feed goods into or out from the Soviet second economy. As far as I know little is known about these international aspects of the Soviet second economy. I have, for example, not found any reference in the social anthropological studies of Altman and Mars, cf. Altman (1989) and Altman & Mars (1983). Well-informed rumours about the origin of some of the largest recent private fortunes in Azerbaijan tell about such origins, in this case exports of embezzled oil. Due to the strong mutual monitoring among private consumers in China, foreign trade related corruption has been relatively more important.

Compared to capitalist countries with a similar incidence of corruption, corruption in the centrally planned economies was more pervasive in retailing, at least in the former Soviet Union but less so in investment and infrastructure. Bribes were paid by buyers not suppliers. An important braking mechanism was the limited role of money, not only for resource allocation within the planning process, but also for its limited ability to buy secure property rights in luxury goods. Not only was most valuable private property allocated through political channels, but once acquired, the owners needed continual political acceptance to keep control of their possessions. The ideology of the communist parties, however perverted, functioned as a real brake on the elite's ability to acquire luxuries and private properties through illegal means such as bribery.

The transaction cost perspective would predict that the laxer policies of the Breznev years should increase corruption. Since monetary policies in the Soviet Union in general was easier than in China, this also contribute to make the transaction costs of corruption be lower. Another prediction from this perspective is that the incidence of corruption may become geographically uneven if the size of the underground economy also was geographically uneven. The argument for multiple equilibria levels of corruption (Andvig and Moene, 1990) combined with some (possibly small) initial cultural differences in the ease by which informal networks may be created may explain the geographical unevenness. Moreover, it may explain how small initial differences in transaction costs (for example caused by locally more extensive family networks) may survive both through the initial imposition of central planning and its demise through the imposition of another structure of formal organizations more adapted to market conditions.

While hard evidence is missing, the difference in the incidence the retail, external forms of corruption between China (when centrally planned) and the Soviet Union in its last two decades is difficult to explain fully by softer income policies.[40] The citizen- party officials mutual monitoring that the Chinese system has become renowned for, is also likely to have played an important role also here.

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[40] Although both areas had by then moved away from classical central planning, it may be indicative of the difference that reported incidence of bribes paid by households during a year was about three times as frequent in Moscow as in Beijing in the mid 1990s (Zvekic, 1998?).

6. *The transition processes and corruption*

While the original central planning systems of the FSUA and China only varied in detail, their transition processes varied in fundamental ways. However, all of them promoted a rapid expansion of the economic fields where markets were introduced to coordinate decisions and reward agents. The key difference was political. One may distinguish between three major situations:

1) The Communist Party keeps it power. Examples: China and Vietnam

2) The Communist Party looses its power, but no alternative, established political forces wholly outside the dominant networks internal to the Communist Party (or secret police) exist at the point of transition. Examples: The FSU countries except Estonia, Latvia and Lithuania, Romania and - partly - Bulgaria.

3) The Communist Party looses its power, but alternative, established political forces exist or evolve rapidly. That is opposition activities –open or secret - had evolved during the reign of the Communist Party. Examples are the Czech Republic, Hungary, Poland.

Only in the first situation was the rate of institutional change really an action parameter from the start. Given the economic roles of the communist parties in the socialist system, when losing power, a de facto revolution of the economic system had in fact occurred and key components of the planned economy would have to unravel. In that sense both the 2)-and 3)-type of situations implied a revolution and the speed of change was not in anyone's control. Seen from that perspective, the extensive debates about the economic and political advantages of " big bang" versus "gradualism" (Roland, 2000) may appear somewhat academic. Big bangs had in fact occurred.[41]

Nevertheless, looking at the detailed change in the institutional mix of economic governance after the initial transition towards a market economy, different speeds

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[41] One may wonder why this obvious characteristic of the situation was neglected? I believe that the old and often quite legitimate tradition in economics of considering policy as exogenous here has been mixed by the particular lack of any rigorous analysis of the economic roles of the communist party. In the major economics textbook of the transition (Roland, 2000) neither the communist party nor 'nomenklatura' figures in the subject index.

evolved after each kind of initial condition.[42] In group 1 Vietnam moved fast, China, slow; in group 2 Russia had a fast transition, Ukraine, a slow process; in group 3 Poland had a fast transition, Hungary, a slow one. One may then question whether the initial distribution of transitions into three types is a fruitful one. If we look at the growth-corruption nexus, however, it appears to be important. Whether fast or slow, it is in type-2) political kick-off situations where the initial production declines were most extensive. It is also among countries that belong to this group that corruption appears to have become most serious. Whether fast or slow, type–1) kick-offs seem to result in high growth and increased (perceived) corruption, while type-3) countries have experienced more modest production declines and increases in perceived corruption whether institutional changes have evolved fast or slowly.

This does not imply that the fast-slow distinction is without interest for the growth-corruption nexus. Moreover, the reasons for why countries fell into slow or fast patterns may differ according to kick-off type. For example, it is still an open question whether the revolutions of the 2) -type were deliberately planned by insiders or not. It is difficult to believe, however, that key power-holders in such a centralized system as a communist party *before* the revolution could become so rich so fast *after* the revolution without being aware of the prospects beforehand and without trying to manufacture it. This is obviously a question for future historians to clarify. The degree of deliberate pre-planning probably varied to some extent. However, if the kick-off were premeditated in the sense described above, with basically the same agency before and after, tactical considerations may decide: Some early 'transitioners' may prefer fast privatization in order to convert as much of their pre-transition political power into economic valuable assets in a capitalist market economy. If one, for example, risked that foreigners, such as the Russians in Azerbaijan, would both have the necessary inside information – and larger stocks of liquid assets, the old Azeri party networks may prefer to hang on their old party employment levers to tax the

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[42] The notions of fast and slow change in institutional mix as the notion of market expansion itself, are , of course rather fuzzy concepts. Liberalization indexes, aggregating different type of changes, have been constructed by the European Bank of Reconstruction and Development. For our purposes a more intuitive notion would suffice. Clearly included is how fast planned allocation of goods and services were supplanted by market allocation, and how fast collective ownership forms were supplanted by private, or individualized forms of ownership. Here legal and real changes may differ. For example, inter-firm bartering in Russia continued several years after the formal multilateral bartering system, (called planning) of USSR had been dismantled.

enterprises, keep their capital values down that way, and delay privatization until they had collected sufficiently cash on their own.

One may summarize the discussion of transition types in the following table:

Table 2. A transition typology

Speed of change	Post-transition Communist Party position		
	Keep formal power	Dominant networks kept	Opposition networks dominant
Fast	Vietnam	Russia, Bulgaria	Estonia, Poland
Slow	China	Ukraine, Azerbaijan	Hungary, Slovenia

As in most typologies, there are cases of 'more or less' that may not wholly fit into categories of either-or. Uzbekistan is a mixed case of kick-off type 1) and 2), Bulgaria a mixture of all kick-off types, Albania may have more of the symptoms of a type 2) country, but may in fact formally belong to group 3), and so on.

Based on similar observations, Walder (2003) also notes the importance of initial conditions, but he divides the transition processes into four types defined along two dimensions: extensive or low degree of regime change, and high or low barriers to asset appropriation. That is, he focus on the embezzlement aspects of corruption. The countries with low barriers to asset appropriation coincide with our group 2.

This is not so surprising. As long as the Communist *Party* retains power, it is difficult for *individuals* to appropriate assets under its control. And if a large share of the population is mobilized *against* the Communist Party in workable organizations, it

becomes difficult for the former power-holders to use their initial positions to acquire individual assets, since they have lost their power, while the new, emerging power-holders have based their power on a system that make such conversions more difficult.

Walder documents the elite's opportunities before and after the new conditions arise, and studying the elite's survival rates under the regime change. Not surprisingly, the survival rate of elite membership of individuals across the transition was highest in group 1 and lowest in group3, but even in this group it was high. Group 2 was somewhat in between, and their survival rate appears to be very high.[43] Walder's main focus is on China, however. Here he shows that communist cadres also did well after the transition and were able to combine private enterprise and cadre position in areas where private entrepreneurs earned significantly more than a cadre without a private enterprise in the family.

Walder suggests – as we have - that one reason why transition occurred in the first place is that the private income of the elites of the socialist economies was severely restrained. That applies to all three kick-off types. It is difficult to imagine that the elites were completely unaware of the possibilities of becoming very rich after the move towards a capitalist market economy, but as pointed out by Walder there were different restraints in the three situations as well as different types of risks.

It was not only embezzlement that was easier to perform from type-2) initial situations. Regular corruption appears to have evolved also as a more serious problem too, despite the tactical substitution effects between embezzlement (illegitimate privatization) and bribe collection inside this position. Considering that GDP levels and perceived corruption levels are usually negatively correlated, the following table indicates support for that proposition:[44]

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[43] In a study of post-transition elites in Russia, Steen (2000:11) found that 97% of the elite members had been communist party members. 94% of private businessmen had been so, but then only 43% had been mid-level leaders and none in a top position. Among state enterprise businessmen 11% had been so.

[44] In interpreting the table, we have, of course, to make several qualifying observations. The control of corruption variable is based on a number of sub-indexes, so it is possible that it may not be able to discriminate between corrupt transactions and embezzlement. When the statistical association between GDP and corruption indicators are exposed to some econometric tests, Kaufmann and Kraay (2002) argue that the causality is one way from governance (corruption) to GDP not the other way around. If

Table 3. 'Control of corruption' values for a sample of post-socialist countries[45]

	1996	1998	2000	2002	2004
China	-0.01	-0.14	-0.34	-0.35	-0.51
Vietnam	-0.64	-0.60	-0.71	-0.67	-0.74
Russia	-0.74	-0.69	-1.02	-0.92	-0.72
Ukraine	-0.74	-0.89	-0.96	-0.97	-0.89
Poland	0.41	0.49	0.49	0.40	0.16
Hungary	0.63	0.69	0.78	0.59	0.65

 The striking difference was in growth rates of GDP, however. For China the beginning of the reform transition was 1978 –79, and in Vietnam it was 1989.[46] For both the yearly growth rates in GDP were around 8% during the first reform decade. The second group was characterized by initially strong production declines. The beginning of reform for the FSU countries was 1991-1992 and the rate of yearly GDP decline was around 5-8% for the first decade. For Russia and Ukraine positive growth two years in the row did not occur for almost a decade after the decline had begun.

Given the way socialist planning economies were organized, it is not surprising that the initial conditions at the point when the process started had a strong impact that would be difficult to change by the formal institutional mixes chosen. This follows from the fact that they all had been organized as centralized bureaucracies. As such any transition implied that some central signals were sent to the underlying bureaucratic units. In that context even a message that you were to become a private enterprise was a message sent by a central bureaucracy. Different kick-off types implied widely divergent signals from the centers. They had to affect most underlying units by the very construction of the economic system from which one departed.

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so, the higher GDP levels of Russia and Ukraine compared to China and Vietnam should not be used as an argument claiming that the observed differences in governance is an underestimate. Since the change in governance that followed the transition contributed negatively to GDP (as the decline in GDP probably contributed to corruption in these countries, (Andvig, 2002)) while the GDP levels had been built up under a different system of governance I still consider the GDP argument as supporting the proposition above.

[45] Table 3 is based on table C6 in Kaufmann et al (2005). For the table 3 I have chosen two larger or typical countries from each group. No corruption indicators existed at the outset of the various transition processes.

[46] Here we should add that industrial output declined in 1989, when the more extensive part of Vietnam's transition began (Doanh et al, 2002).

Although production declined in most of the group 2 countries the difference in the rates of decline was striking. In the case of the FSU area, regional data underline the extent and variation of the production decline and indicators of corruption rates. Since the first observations of extensive production declines were made in Poland (Blanchard, 1991), one has argued that the methods applied in their estimation tend to exaggerate the decline, however, but few argue against the proposition that the decline has been considerable, which suffices for our qualitative discussion.

Table 4. Production decline and corruption indicators in FSU[47]

Country	Cumulative output decline to lowest level (1989 = 100) in %	Control of corruption 1997/98	Capture economy index	Administrative corruption % of revenues of all firms
Armenia	65.1	-0.80	7	4.6
Azerbaijan	63.1	-1.00	41	5.7
Belarus	36.9	-0.65	8	1.3
Georgia	74.6	-0.74	24	4.3
Kazakhstan	40.0	-0.87	12	3.1
Kyrgyz Republic	50.4	-0.76	29	5.3
Moldova	66.3	-0.39	37	4.0
Russia	45.1	-0.62	32	2.8
Tajikistan	74.0	-1.32	…	…
Turkmenistan	59.5	-1.29	…	…
Ukraine	63.8	-0.89	32	4.4
Uzbekistan	14.4	-0.96	6	4.4

Sources:Fischer and Sahay(2000, Table 1), Kaufmann et al. (2002, Table2) Hellman et a.l (2000,Table 1-2)[48]

Hence, among the group-2) countries of the FSU production declines ranged from 74.6% for Georgia (i.e. at the lowest, GDP in Georgia was only 25.4% of its level in 1989) to 14.4% for Uzbekistan. In Russia proper the production decline was 45.1%. Inside group- 2) the rates of output decline appear to follow an inverse U function as a function of the rate of regime change. A high rate of change may reflect the

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[47] Note that I have deleted Estonia ,Latvia and Lithuania from the FSU area, since they rather belong to group 3) than group 2).

[48] The control of corruption variable is ranging from 2.5 to –2.5 and is heavily influenced by perceptions (explained in Kaufmann et al (2002). The capture index indicates the degree to which firms buy political or judicial decisions. Higher value means stronger tendency. (The index is explained in Hellman et al (2000). That measure, together with the indicator of petty corruption are likely to be less influenced by perceptions and more by actual occurrence of corrupt acts, but they still have strong perception components..

implementation capabilities of a country's bureaucracy (associated with its GDP-levels) while a slow rate of change may on the other hand cause less disruption.

A rough inspection of Table 4 tells us that there is likely to have been some rough correlation between the relative size of the production decline and the extent of corruption in the country. A somewhat surprising result, not evident from inspection of the table, is that the production decline appears to be inversely related to the initial size of GDP per capita.

For China we have only summary data for the key period. For the whole period 1978 – 1995 the per capita growth rates were all positive, ranging from 5.1% in Qinghai to 12.8% in Zhejiang. The average rate of growth for all China was 9.3% (Yao and Zhang, 2001). Here the regional corruption rate appears not to be related to the rate of change in GDP. The same applies for Vietnam (Khuong and Haughton, 2004: 16). Another striking difference that is likely partly to reflect differences in the transition processes, partly differences in initial structure, is the size and growth of the *underground economy*. The size of the underground economy in China is surprisingly small, only 13.1% in 2000 while it was 46.1% in Russia (Schneider and Klinglmair, 2004). In Russia the relative size had increased from 27% in 1979 (Alexeev and Pyle, 2001). The relative size of the underground economy in China has also been increasing, but only slowly so.[49]

In both areas the *income distributions* became dramatically more unequal during the transition process, although the process was faster in Russia. Today is the rate of income inequality between Russia and China quite equal when measured by Gini indexes despite their differences in economic structure.[50]

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[49] In 1994/95 it was 10.1% according to the Schneider research group. Inside the FSUA there appears to be fairly clear correlation between the relative size of the underground economy and indicators of corruption levels both before and after the transition. Evidence is provided in Andvig (2002: 38). Schneider provides cross-country evidence that indicates negative effects on growth rates.

[50] Ellman (2000) calculates the rise in the value of the Gini coefficient for Russia from 24 in 1987-88 to 48 in 1993-95. According to Xu and Zou (2000) the increase in China was from 25.7 in 1984 to 37.8 in 1992. In 2000 the Gini coefficient was 45.6 for Russia and 44.7 for China (*World Development Indicators 2004*).

Let us finally look again at some of the *comparative corruption data*. None is based on systematic observation. The most easily accessible data are based upon perceptions, mainly made by experts, journalists and businessmen. There are two major public corruption perception indexes, the Transparency International's CPI index and the World Bank Institute's (WBI) 'Control of corruption' index.[51] WBI has estimates for 1996, 1998, 2000, 2002 and 2004, as shown in table 3. TI has yearly observations since 1995. What are the main results?

With the exception of the CPI index for 1996 all observations give *higher* perceived corruption levels for Russia compared to China. For example, in 2000 the WBI index records – 1.05 for Russia and -0.34 for China; the TI index 2.1 for Russia and 3.1 for China. TI ranks China as the 63. and Russia as the 82. most corrupt (out of 90). The difference between perceived corruption levels appear significant, but as a statement about the real incidence the result should be interpreted with care. Russians may just be more worried about their corruption or an information cascade among expatriate businessmen and international aid workers may suffice. Nevertheless, this difference in perception is of interest.

Is it possible to note any trend from the perception index data? Although corruption in China appears to increase somewhat according to the WBI index, it decreases according to the TI index. Here we should note, however, that the TI index started with a very high corruption result for China in 1995, when it was estimated to be the second-most corrupt among the 62 countries then included (Russia was not included in the TI index for that year). Interpretation of changes in these indices over time is hazardous for a number of reasons[52], but at least for China Kaufmann and Kraay believe a significant worsening has occurred.

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[51] The construction of TI's index is explained in Lambsdorff (2003), the construction of WBI's index in Kaufmann et al (1999). They are constructed on the bases of the same sub-indexes, but are aggregated in different ways. WBI refuses to rank countries since rank differences in most cases are not statistically significant. The WBI index varies between - 2.5 (the most perceived corruption possible) to +2.5. Although TI has observations that go further back in time I have used the WBI results, since the aggregation methods it applies has made it possible to accommodate more sub-indexes with closer ties to experience (see Andvig, 2005).

[52] One is that a change from one year of observation to the next in one country's relative position to the least or the most corrupt country may change the index value ascribed to it without any underlying change in how corrupt it is conceived to be. Second the variance of the indexes are so large that the cases where one may find statistical significant increase or decrease in the index value is rare. For the WBI index Kaufmann et al (2005) have constructed a measure of significant change. For the period

The major impression from these perception data – that China appears to be less corrupt than Russia – is confirmed by bits and scraps of other comparative data. Here I will emphasize the results from the large international crime victimization surveys since they are both comparative and closer to experience. Alas, we have only one observation from China. 5.6% of respondents to a questionnaire on crime victimization in Beijing 1994 answered that they had been exposed to corruption the last year, while 11.8% had such an experience in Moscow in 1992 and 18.7% in 1995 (Zvekic et al, 1995, Zvekic, 1998(?)).[53]

The World Values Survey is also of some interest, although difficult to interpret. As reported in Moreno (2002), the respondents in China expressed less tolerance of corruption, and they appeared more trustful and supportive of democracy than the respondents in Russia.[54]

7. *The dual track system and corruption*

One way to introduce a market economy slowly was the so-called dual-track system. It was most systematically used in China after 1985, and was an important component of the economy till 1993, but has been more or less gradually been phased out. While 36% of industrial goods were allocated through markets in 1990, 88% were so in 2001. The great leap here was made in 1993. By now at most some regional residues appear to remain (Hope and Lau, 2004). Variations of a dual track system were independently introduced in Hungary and sought copied in Russia.[55] The system demands strong monitoring. The construction of the Chinese dual-track system consisted of three parts:

1996 – 2004 . Among the group of countries we have focused on, Bulgaria, Estonia and Latvia have become significantly less corrupt, while Moldova (kick-off type 2) country) and China have become more so. The other countries did not show any statistically significant change.

[53] In the last Transparency International's (2004) so called Global Barometer, the extent and persistence of small-scale corruption in the European group -2) is surprising. In 2004, 21% of the respondents in Russia, 25% in Ukraine and Romania reported that they had paid a bribe last year.

[54] Again , we must be careful with the interpretation. This survey report strictly on professed values and deals more with cheating and embezzlement, questions like whether it is justifiable to avoid paying on public transport, cheating on taxes and so on. It is difficult to tell how one should interpret results like India and China having lower corruption permissiveness than Norway and Finland.

[55] It is at present also applied in some public sectors of advanced capitalist market economies as in the health care system in Norway, and now also in the UK.

1)   each state-owned enterprise (SEO) was ordered to supply some plan-allocated output at plan-determined prices and were supposed to receive a corresponding amount of plan-allocated input also at plan-determined prices. A system of material balances should ensure that in-plan output and input quantities meshed.

2)   Planned output was to be handed over, and planned input was to be received from the same government organization, the Material Supply Bureau (MSB).

3)   When the output quota was satisfied, the enterprise could sell the rest of its outputs in the market, possibly using any left-over input. However most of the input needed for out-of-plan output should be bought in the new markets that had been created and legalized as part of the dual track system. The system had evolved more or less informally since 1979, but was formalized in 1985 when the market prices also were liberalized (Li, 1999).

Given the shortage situation induced by central planning, it was not surprising that the market prices for both inputs and outputs increased above the planned prices. Hence one would have expected strong pressures to arise for enterprises to get as much planned input from the procurement agencies as possible and for them to supply as little output to the plan as possible. The pressure should be stronger the larger the difference between market- and plan prices. In fact, the opposite happened: Planned output as a share of total output increased and planned inputs as share of total inputs decreased as the market prices increased compared to the planned prices in the late 1980s.

 For example, in 1984 average in-plan procurement per SOE (state owned enterprise) was 33.9 million yuan (measured in market prices) when output prices were 6% above plan prices while in- plan delivery per firm was 20.4 million and market prices for intermediate input were 24% above plan prices. (Li 2002: 20). Note that procurement and delivery was defined from the point of view of the procurement organization, not the enterprises. In 1988 the market prices for the enterprises' output were 16% above

plan prices while input market prices now were wholly 80% above plan prices. But now the enterprises could only receive plan inputs for 14.1 million yuan (in 1989 market prices) while they were forced to supply 45.2 million yuan each to the material supply organization (ibid.). The simple explanation is that the officials in the procurement organization were more powerful than the enterprise managers and could collect most of the rent created by the price divergence; they could procure goods cheaply through the plan and sell them for a higher price in the market.

One may ask what this power was based on? Given the legal existence of markets for out-of-plan goods and services it was perhaps easier to organize the illegal brokerage between in-plan and market prices this way; maybe it was considered less risky or less unethical than letting the enterprises bribe the officials directly to get low output quotas and high input quotas.[56] Whatever the detailed institutional arrangement, it is not surprising that extensive corruption evolved from a situation where two prices for the same good would have to arise in a large share of the economy.[57]

 Li (1999, 2001) constructs more precise explanations in two models where he studies the interaction between the out-of-plan markets for intermediate inputs and outputs and the corresponding plan procurement. He then applies them for estimating the size of real income diverted to corruption. The models are inspired by Shleifer and Vishny's (1993) analysis of corruption. Li 's major results fit seemingly well with theirs, but his models simulate a more complex situation. He assumes that officials are able to set output and input quotas so they may maximize their own (irregular income). They have, however to keep a given share of the procured output[58] within the plan and hand it out to final consumers at plan prices. A given, but in general different share of the procured intermediate inputs has to be handed out to the enterprises at plan prices. As mentioned, in addition to the planned allocations, markets were opened for both output and intermediate inputs. The market for output

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[56] Since MSB was allowed to sell a in-plan good to a recognized distributing agency enterprise for a small mark-up (5%) a low-risk procedure was to set up a chain of such "briefcase" enterprises (all controlled by MSB officials) where the last one sold the good at full market price. It was then registered as a market, not an in-plan input (Li 2002b).

[57]That regulating arrangements that lead to two prices for the same goods also leads to corruption is well-known from a large number of situations. Zoning policies is a striking case where corruption has been observed in most countries.

[58] The share could be made endogenous in the model without changing results, Li claims.

were partly supplied by the procurement officials – the share of quotas that they didn't have to keep within the plan – and by the enterprises – the part of output not grabbed by the officials' procurement. In one model no agent had market power. The situation regarding intermediate input was quite symmetrical except that the enterprises themselves constituted the demand side in the market. Market prices were assumed to be above plan prices, as they were in fact. Procurement officials would now seek to get as high procurement quotas with as small plan obligations as possible. However, by increasing the output quota the officials would push the market price down. This price decrease, however, also limits the profit the official may get from diversion. Hence, the competition between officials and enterprise managers both limits the size of the bribes and increases production compared to a situation where they collude. As in the Shleifer and Vishny (1993) model of bribery without theft, an increase in in-plan prices reduces diversion (bribes) but unlike it, leaves the market price undisturbed. Their collusion leads back to the Shleifer-Vishny situation as portrayed by Li. A further restraint was that larger quotas implied a higher risk of been discovered in supplying the market illegally. Without going into details of the different results, we may note that the Shleifer and Vishny result that plan officials would gain by lower in-plan prices is recaptured by Li (2001, table 2). Moreover, it is quite robust and applies in both market settings outlined in Li (2001). He argues that the total amount gained by corrupt officials would be less in the dual track system than in the pure planning system outlined by Shleifer and Vishny where enterprise managers and officials collude.

This is, as far as I can see, misleading. Under central planning officials were not in fact seeking lower prices as pointed out by Harrison and Kim. The Shleifer-Vishny assumption that market demand functions existed and that officials could play on them to gain their bribes, was simply quite unrealistic for the heydays of central planning, at least regarding for intermediate inputs. The Chinese economy when the dual track system played an important role, is another story. Here markets were a clear reality, and Li's models appear to be of obvious relevance.

Equally important, having access to detailed accounts of a set of 769 state enterprises for a number of years, Li was able to make assessments of the empirical relevance of this form of corruption (or flow of embezzlement). The information from the accounts

could be used in estimating market price –plan price ratios and their change during the 1980s. Combing this with   input-output tables for China from 1987, Li (2003) could make empirical estimates of the size of corruption gained from the state enterprises, and its movement during the 1980s. He found it increasing as the market and plan prices diverged more strongly during the 1980s. From this source, the procurement administration, estimated corruption increased from 1.9% of GDP in 1985 to 9.1% in 1989.[59]

  As mentioned, the dual-track system is at present not an important part of the Chinese economic system any longer. Bribery collected through it cannot, accordingly, be any important part of the Chinese elite's present economic rewards. But how come that the WBI index indicates that corruption is 'perceived' to have significantly (Kaufmann et al, 2005) increased since that system went down the historical drain?

While it covers only a particular historical episode in one, but important country's move away from central planning, Li's study has given quantitative precision to the impression that corruption has been an important economic phenomenon under the transition.. It contributes to the small, but increasing number of studies that study corruption empirically without relying on conceptually fuzzy index numbers otherwise applied in econometric analyses of the causes and consequences of corruption. Moreover, his model explanations tie up with Shleifer and Vishny's models of corruption and shortage. Hence it may in one sense round up my overview of some of the mechanisms at work that may have brought corruption and growth issues together in countries undergoing rapid, institutional change.

On the other hand, the question about corruption- growth nexus raises a number of unanswered questions in Li's research. He has demonstrated a mechanism that has transferred significant resources away from stagnant state enterprises at the same time as they were allowed to survive. But what did these officials do with their illegal income? Did they move into private business? And later: If Li's analysis is correct, the economic effects of the allocation officials' loss of their illegal source of income

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[59] He estimated corrupt diversion of enterprise income to be 40% of their value added and 60% of profits. If true, the question then arises whether these enterprises could have been so ineffective and unprofitable as they are generally assumed to be. Although receiving little in-plan inputs and extensive output quotas, the enterprise could borrow if profits turn negative.

should be considerable. Did they accept lower proceeds from their official positions, but then started more private business on aside? Or did they move out of government altogether? What kind of elite transition did in fact occur? - I am not aware of any follow-up of Li's research in these directions, however, directions important for a study the growth consequences of this particular mechanism of corruption. Li himself argues that since the dual track system should generate less corruption than the Shleifer- Vishny centralized corruption model, the dual track system allowed more growth.

Since I cannot see that the Shleifer-Vishny model of centralized corruption in fact was so relevant for central planning as well as for most of the transitions in the FSU-countries (but where their decentralized corruption model may well apply) I also find Li's argument about the higher growth rate in China not so convincing.

8.   *Conclusions*

The focus of this article has been on corruption – and partly growth - in former socialist countries the first years after their central planning apparatuses have been dismantled. The underlying question raised was why one in some countries could experience rapid economic growth and in other rapid decline at the same time as perceived rates of corruption appear to have increased everywhere? The difference was so dramatic that it is difficult to see how it could be explained within a regular n-country cross-section econometric approach in the manner of Treisman (2000, 2003). With this form of econometric approach one has to assume that the same mechanism is at work everywhere. An even if one reaches the conclusion that a given econometric specification also fits the transition countries as Treisman (2003) does, one may question whether one may reach a satisfactory *explanation* that way when most institutional and economic interactions are cut away. Should one not rather look for a number of different, specific mechanisms at work, some influential in all the countries concerned, but some at work in only a few? Or so I argue.

 Here I have surveyed a few such mechanisms, emphasizing mechanisms that may tie the growth - corruption experiences in the early transitions to either some of the characteristics of the planned economy or to the situation at the point of time when

markets started to rule as the major institution to supply coordination devices and incentives for the economic agents. Less attention has been given to the specifics of the post –transition change in institutions and policies, including their speed. The exception is the Chinese dual-track experience, and then mostly for no better reason than it has been exceptionally well studied.

 The impact from the rules, behavior patterns and norms that applied to the planned economy could either be through their continued presence or their absence and the subsequent adaptation. The adaptations could either consist in adaptations to their absence or as a consequence of their continued presence in the new institutional mixes. Here the situations may vary between the countries. The Communist Party was present and ruling in China after the transition point, but had lost power in the FSU countries. Adaptations to this situation had important consequences both for the subsequent growth and corruption experience in both areas. Another example: Old forms of tax official – enterprise behavior patterns established in the planned economy made it difficult to collect taxes when the income of the enterprises hardened, causing increased corruption in tax administration itself as well as corrupt, private taxation elsewhere, when the collective tax base eroded. While more pronounced in the FSU countries, the effect could also be seen in China.

Survivals of restrictive, socialist norms about the proper scope for market transactions may have caused the increase in *perceived* corruption independent of the subsequent growth – corruption experience. Norms about collective property rights may cause privatization to be perceived as embezzlement. Again we see how the old system is likely to have had strong impact on the level of corruption as perceived by the indigenous populations. And so we could go on.

The mechanisms emphasized here are only a selection. Many others have been proposed in the literature and should have been spelled out in a complete survey. This is not surprising given the myriad of changes and plausible, possible mechanisms at work during the transitions likely to have impact on such 'sponge' variables - variables that soak up so many neighborhood processes and influences - as corruption and GDP.

While maybe only a matter of language, it appears unreasonable when the leading approach to empirical governance research may claim that there appears to be no traceable effect of the socialist system on corruption in the areas which it ruled only a decade after its demise (Treisman, 2003) , but at the same time shows that the mortality rates among European settlers more than a centennial ago may be of great significance to present corruption and growth rates (Acemoglu et al, 2001), although the statistical reasons for using these mortality rates as an instrument variable are strong. The survey of mechanisms and facts presented here, should indicate, however, some of the many ways a recent past may impact the present even when most economic arrangements and normative ideas about them appear to have abruptly changed.

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