

**The Political Foundations of Inter-Firm  
Networks and Social Capital:  
A Post-Communist Lesson**

by

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A Post-Communist Lesson**

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Abstract

This essay attempts to offer an understanding of social capital and networks that accounts for both continuity and change in network structures and relationships. The *embedded politics* approach views inter-firm networks as *socially and politically* constructed. That is, while firm level actors may develop tenacious socio-economic relationships, the authority structure of a network, which governs dispute resolutions and the distribution of resources, emerges from the ways certain constituent firms align themselves with public institutions. I empirically examine this approach relative to more traditional views by analyzing the transformation of Czech industrial networks during the period of political and economic transformation in the 1990s. The Czech Republic provided apparently supporting evidence for several mainstream approaches to reform and networks. Yet on closer inspection we find instability and significant change in industrial networks. The fragility, eventual stability, and subsequent changes in networks come not from purely “intra-network” factors, but rather from the political approach of the government toward institution building. In short, this essay aims to renew our focus on the origin and evolution of social capital and networks by bringing politics back into the forefront.

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For more than a decade scholars of economic sociology, organizational theory, business strategy, and political economy have found great purchase in the related concepts of social capital and socio-economic networks.<sup>1</sup> Much of the debates have centered on the ways in which the substance and structure of certain interactions between individuals (e.g., firms and persons) constrain and enable action. The cost to this path breaking research has been the tendency for scholars give over socialized, (Granovetter 1985), static (Salancik 1995) and binary (Sabel 1993, Locke 2002) accounts of social capital and networks. Recently, several authors have argued for the need to bring more dynamic, evolutionary accounts of these entities, where forces of change and continuity are reconciled within one analytical framework (Salancik 1995, Locke 2002, Powell et al. 2002, Fligstein 2001).

This essay attempts to offer an understanding of networks that accounts for both continuity and change in network structures and relationships. The extant approaches lead to static and over socialized views of networks since they largely take socio-economic relationships as prior to and independent of the political-institutional setting. In turn, networks are largely self-governing, since the attendant norms, power structures, and resource distribution comes mainly from repeated interactions and a deep history among the member firms themselves. In contrast, the *embedded politics* approach offered here understands inter-firm networks as *socially and politically* constructed. That is, while firm level actors may develop tenacious socio-economic relationships, the authority structure of a network, which governs dispute resolutions and the distribution of resources, emerges from the ways certain constituent firms align themselves with public institutions. By arguing that firms are embedded in concrete socio-*political* networks, my approach harks back to Granovetter's call for an emphasis on ongoing relationships but draws on such authors as Sabel (1992), Piore and Sabel, (1984), Locke (1995),

Herrigel (1996), and Fligstein (2001) in linking political and institutional variables directly to the origins and evolution of networks and social capital.

Consider for a moment the debates on economic and institutional development. In emphasizing the importance of rich networks and longstanding social ties on economic performance, scholars rightly countered the anemic view of neoclassical economics but at the cost of not specifying how socio-economic fabric is created or changed. (Putnam et al. 1993, Dore 1973, Locke 2002) In the debates on emerging market democracies, especially in East Central Europe, uses of networks and path dependency often led scholars to argue that the norms and resource distribution constituent of the inherited socio-economic relationships can be stably reproduced and determine the strategies and governance rules in subsequent time periods. (Spenner et al. 1998, Chavance and Magnin 1997, Rona-Tas 1997) Indeed, by the mid 1990s scholars viewed the Czech Republic not only as a validation property rights theories but also primary supporting evidence for Durkheimian and distributional approaches (Knight 1992, Ostrom 1995) to networks and social capital. For instance, in his seminal work on post-communist transformations in East-Central Europe, David Stark and Laszlo Bruszt argued that Czech success came from the ability of firms and banks to reproduce their past norms of reciprocity via interlocking ownership ties housed in newly created investment funds. (Stark and Bruszt 1998, Stark 1996) Alio et al. (1997) argued that the now famous Czech mass privatization scheme allowed top managers to use their asymmetric control over information and resources to have disproportional influence on project approval and reproduce their positions in industry and finance. (See also Buchtikova and Capek 1993, Svejnar and Singer 1994.)

Yet the economic and organizational outcomes undercut the expectations of these approaches. By the late 1990s, the Czech capital markets had collapsed under the weight of

investment fund mismanagement and self-dealing, and economic growth and output lagged significantly behind countries like Poland and Hungary. Moreover, a close examination of Czech manufacturing reveals that while firms attempted to reproduce past industrial networks, the process was highly unstable and led to significant structural changes in networks. By the late 1990s, stable governance came to networks only through the intervention of the government.

In order to account for both continuity and change in the Czech networks, my embedded politics approach links the micro-level attempts at network reproduction with the macro-level politics of institution building during periods of transformation by focusing on the authority structure of the network. First, the power a firm or plant may have over assets and the creation of rules and norms between firms is derived from not only one's position in the value-chain, such as a critical supplier or purchaser, but also the strength of one's ties to local public actors, such as bank and party-council officials during communism. (A network may be more hierarchical or more egalitarian, depending on the mix of these two factors.) Yet during transformation as firms and plants clash over restructuring strategies and asset control, the dissolution of certain political institutions can undermine the relative authority of network members and thus much of the prior social norms for conflict resolution. Second, network stability and tipping points for change come from the way state balances two aims: maintaining insulated, centralized control over institutional policies and experimenting with new roles of conflict mediation and risk sharing to address crises and institutional short falls. (Fligstein 2001, pp. 40-43) As a country begins with the former aim, network reproduction grows unstable as old authority structures wither and no new institutional mechanisms for risk sharing and conflict mediation are in place. When and how the government reverses course and begins institutional experiments via backing negotiated restructurings will determine the structural and substantive changes of networks.

Section I analyzes the creation of Czech industrial networks during communism. Section II examines the immediate attempts by the respective firms to reproduce their network ties and embrace privatization. Section III, however, shows how both networks faced powerful internal conflicts over asset control and restructuring strategies that could not be mediated by either reference to old ties or contractual and ownership means. Section IV shows how intra-network conflict resolution required political intervention – assistance by public institutional actors to facilitate workouts and the reorganization of the network itself. Section V concludes the essay.

The essay examines in detail the evolution of two leading Czech industrial networks during and after the fall of communism. These two networks were flagships of Czech industry during the 20<sup>th</sup> Century and were viewed even by the *Wall Street Journal* (1996) as the future corporate leaders of post-communist East Europe. As all the firms involved were in mechanical engineering and subject to the same laws and unions, I am able to control for technological, unit labor cost, and legal factors. Moreover, as they respectively represent ideal-types of different dominant network forms in the former Czechoslovakia, a matched pair analysis allows one to control for the impact of traditional network factors. That is, a matched pair analysis shows not only how pre-existing social ties may lead to divergent privatization and restructuring strategies but also how political and institutional factors produce similar problems of network instability and determine change.

### **I. Networks and Social Capital Under Communism**

In the 1980s, scholars called for an effort to “bring society back” to capture the diversity among communist countries and the changes taking place within political and economic structures. (Stark and Nee, 1989) The civil society literature showed how different social groups were introducing cultural and religious traditions into overtly communist controlled organizations.

(Ekiert 1991, Ekiert and Kubik 1999, Glenn 2001, and Howard 2002) Economic sociologists examined how the failures of central planning and the shortage environment led managers and workers to develop greater flexibility via informal horizontal ties and norms of reciprocity. (Burawoy 1985, Stark 1986, Voskamp and Wittke 1991)

In communist Czechoslovakia, similar patterns of network formation could also be found, namely within industrial associations (VHJs) – meso-level planning structures that managed particular industrial sectors. (McDermott 2002) VHJs integrated firms with related production to increase technological synergies and decrease the number of unfilled interfirm orders. As VHJ directorates gained greater responsibility to guide production, member firms and plants gained greater independence from the central organs of the state. Constituent customers and suppliers, managers and work teams forged direct informal ties and rules to adapt production to the exigencies of plan failure and shortage. Firms and plants developed broad production profiles of final and intermediate products and forged tight inter-unit technical and economic links as sub-contractors and collaborators in R&D.

Further research on communist economies revealed, however, that political-institutional factors were directly shaping production methods and bargaining power.<sup>2</sup> My own research showed alliances between certain firms and central bank branches and especially regional Party councils impacted the authority structures of VHJ networks. (McDermott, Ch. 2, 2002) Communist regimes had created three parallel planning structures – one for the economy in which organizations like VHJs were crucial, a second for the management finances through which state bank regional branches provided working capital and investment credits, and a third for territorial administration, a system of subnational councils to manage political and social-welfare matters. These structures overlapped in different ways but with VHJs as the nexus

points. For instance, council officials could block the appointment of top managers. Councils and VHJ firms together administered housing, health, cultural, and training assets that were on the books of the firms but under the jurisdiction of the councils. Over time, certain VHJ managers forged alliances with their relevant regional or district councils and bank branches to gain resources without increasing central intervention and to develop informal rules of economic governance for the respective region.

The importance of the alliances becomes immediately apparent when we try to distinguish different types of networks and how they evolved during communism.<sup>3</sup> First, Figures 1 and 2 show two typologies of industrial networks, hierarchical and polycentric, represented respectively by the VHJs Skoda and TST. Within their respective VHJs, the networks differed in their production traditions, nodes of power, and distribution of decision-making rights, even though both VHJs had the same legal organizational form (*a koncern*) and were both in mechanical engineering. Within Skoda, there were several heavy engineering production programs, such as locomotives, power plant equipment, heavy machinery, forged steel parts, and gearboxes. Firms and plants were incorporated as both final producers and mutual sub-contractors. Decision making for production and finances was centralized at the level of the directorate, which set the framework for lower level bargaining among members and overtly favored certain members' production needs over those of other members. Within TST, member machine tool producers had fewer sub-contracting links between themselves, collaborating only on certain parts and the R&D conducted by two member firms. Decision-making was decentralized, with member firms keeping their own financial accounts and running the directorate largely through consensus.



A key reason for these structural differences was variation in the ways that certain member firms forged alliances directly with the administrative councils and indirectly with corresponding bank branches. For instance, the firm, Skoda Plzen, dominated the directorate of Skoda VHJ. This grew out of the alliance Skoda Plzen forged with the powerful regional council of Western Bohemia. The alliance allowed Skoda Plzen top management to control all channels outside of the VHJ to other government actors and VHJs and to the banking system, such that when even large apparently strong firms, like in nuclear power equipment, were incorporated into the VHJ, the new firm's managers took orders from a turbine plant of Skoda Plzen. In TST, most member firms developed direct links to regional bank branches and regional/district administrative-communist party councils. These linkages aided firms in managing inter-firm debts, mediated delivery disputes with non-TST firms in the region, and were sources of countervailing bargaining power vis-à-vis one another, the TST directorate, and the central state ministries.

These different patterns of firm-council alliances had a clear impact on the reproduction of network reproduction when the communist state dissolved the VHJ system in the late 1980s. The state aimed to reduce the industrial concentration and create more, smaller newly designated and independent state owned firms. Yet Skoda and TST reacted differently, not simply due to their socio-economic ties but also because of the differences in the distribution of power and patterns of alliances. Skoda's reaction was similar to VHJs in steel, trucks, and aircraft manufacturing and was reflected in the actual increase in concentration Czech engineering firms. After two large member firms in Moravia and southern Bohemia fought to become independent, the regional and city councils aided Skoda Plzen to convert the remaining member firms of the old VHJ, including a large industrial import-export firm, into its own plants, which it alone

vertically commanded. Plants would have no legal powers, no individual accounts, while the head office kept control of, among other things, foreign trade relations, R&D, and credit links to the state commercial banks. The contrasting form of network reproduction that TST pursued was also found in electronics, pump manufacturing, and chemical sectors. With the aid of their already decentralized financial accounts and their relevant regional and district councils, TST firms pushed to become separate, independent state owned firms, with all attendant rights and privileges. Yet because each firm lacked financial strength and direct foreign trade experience, the firms again called on the aid of their political ties and collectively bargained with the state to have the former directorate of TST (and with it the corresponding personnel, building and resources) become their “own” voluntary branch association, which they all would control.

The critical point here is that if one were to view the inter-firm and inter-plant networks as autonomous from their political-institutional contexts, then one might be tempted to conclude that existing patterns of intra-network resource control and norms of reciprocity would directly determine network reproduction and the new patterns of economic governance during a future period of political economic transformation. From an embedded politics view, however, the continuity of the distribution of power and group cohesion is more fragile, since both are functions of a network authority structure that grew out of the relationships certain managers had largely with subnational political actors. Alterations in the authority structure of a network emerge from both changes in the economic environment, like the relative importance of a particular product, and changes in the political-institutional environment, like the re-organization of the central and sub-national governments, privatization rules and financial regulations. The politics surrounding the way the state attempts to develop new institutional designs would force changes in industrial networks and economic governance.

## **II. Revolution and Reproduction**

By the early 1990s the Czech Republic was viewed as a crowning success of implementing a depoliticization strategy. (Boycko et al. 1995, Frydman and Rapaczynski 1994) Depoliticization is the ability of the state to eschew negotiations with economic and social actors about the initial institutional designs and their subsequent revisions by cutting off a powerful “change team” from society to impose rapidly a new set of rules that directly guide actors toward efficient resolution of restructuring conflicts. (McDermott 2002) Poland, for instance, delayed privatization, pursued conflicting policy goals, and allowed local governments to gain policy power due largely to the dual communist legacies of an unstable macro-economy and well-organized interest groups. In contrast, orthodox communist policies left the Czech Republic with a stable macro-economy, low foreign debt, poorly organized interest and political groups, and a central government with virtually complete legal control of assets. A coalition led by Vaclav Klaus used these conditions to construct a strong policy apparatus that cut itself off from potential “rent-seekers,” such as parliament and special interest groups. It immediately dissolved regional councils, blocked their re-establishment until 2000, and reduced the powers and resources of district and fragmented municipal governments. It then sought to end-run the potential hold up power of firm and bank managers by rapidly liberalizing trade and most prices, enacting conservative monetary and fiscal policies, diluting the power of worker councils, and moving quickly to impose a new legal regime for private property rights. The government quickly disciplined and strengthened the main banks. It privatized half of bank equity via vouchers, while the Central Bank and international auditors monitored adherence to new strict regulations. Moreover, the government implemented a limited, rule-based recapitalization of banks and a strict bankruptcy law based on liquidation of defaulting debtors. The crown jewel of Czech

policy was its ability to privatize over 1,800 firms in less than four years through its now famous voucher method (i.e., a mass give away method).

The immediate results were twofold. First, the voucher method gave rise to a vibrant stock market and over 400 investment funds (many of the largest of which were controlled by the main banks and state insurance company) that were the principal vehicles for corporate governance. Second, the Czechs led the region in private control over industrial and banking assets. (McDermott, 2004)

The Czech depoliticization approach, however, created strong incentives for existing industrial networks to reproduce and protect themselves from outside interference. First, the combination of new financial constraints, a collapse of stable markets, and government avoidance of directly restructuring firms allowed for the continuation of a rigid and segmented industrial structure.<sup>4</sup> Surveys showed that the lack of new sources of sales, inputs, and financing led firms and plants to work with their few existing suppliers and customers to gain resources and reorganize production.<sup>5</sup> Second, the priority of rapid privatization with limited government intervention also provided an opportunity for managers to try to maintain control over the firm. Research shows that privatization projects from incumbent management won out by far over those of outsiders.<sup>6</sup> Moreover, managers thought the use of vouchers would allow them to retain decision-making powers while their pursuit of joint ventures (JVs) would bring needed foreign capital.<sup>7</sup>

These general tendencies can be confirmed through closer analysis of the industrial networks discussed above. For members of a hierarchical network, like Skoda Plzen, the tight internal economic links and turbulent financial conditions offered good reasons to remain unified. But for many units privatization also meant an opportunity for independent control over

sales, production and revenues. During the dissolution of VHJs in 1987-88, a similar debate about fundamental organizational changes arose within the above-mentioned former VHJs, but top managers quickly consolidated the VHJs into single unified firms with the aid of conservative regional councils and their control of channels to ministerial subsidies and state bank credits. In 1990 the legal and political environment changed. Top management could no longer monopolize external channels and thus lost much of their authority. Regional councils were dissolved with no replacement, the planning system was disassembled, ministries were diluted of resources, and the new state banks were reluctant to lend. Plants and units also had the right to submit their own privatization projects to the government.

Members within the hierarchical network appeared to strike an initial compromise: to privatize the group as a whole in the form of holding, combining the use of voucher and foreign partners. (See Table 2.) The holding structure allowed a diffusion of authority and a sharing of common resources, while managers would explore further legal, organizational, and production changes. Units would become subsidiaries or divisions, with decision-making power over production changes and new independent financial accounts. The holding would become an "internal, regulated market," providing critical resources each lack on its own: financing and mutual subsidization through internal credit, strategic management for common production programs, foreign trade and partnership contacts, and shared labor and production facilities. As the holding provided medium-term financial protection, members, collectively or individually, would formulate restructuring strategies and find foreign partners to gain needed investment, market niches, and know-how.

Members of a polycentric network, like the ex-TST VHJ, chose distinctly different privatization strategies that built on their earlier efforts to further decentralization but support

group cohesion. First, the 40 firms entered the first wave of privatization as individual entities mainly via vouchers. Second, they grafted indirect equity and financial alliances onto their past social ties. They converted the directorate of their former VHJ into the headquarters of new machine tool association, SST, in which each firm was an owner. As can be seen in Figure 3, SST used its historical ties to create overlapping equity holdings with FINOP and CSOB, the Czech leaders of international trade finance, and their new private bank, Banka Bohemia, in key investment funds and foreign trade companies. SST and the new equity links would provide members with strategic sectoral information and a common coordinating structure in areas where individually they were weak, such as in foreign trade, shared trademarks, critical inputs, vocational training, and development loans.

At first glance, we can see that the old networks patterns were durable. Despite having similar technologies, aggregate employment, end markets and being subject to the same laws, policies and trade union (Kovo), the members of the ex-Skoda and the ex-TST VHJ networks chose different privatization strategies and initial organizational forms. Moreover, both groups were conscious about the importance maintaining cohesion, by using holding structures and associations that would be supported by new private external partners, such as through FDI JVs and a local investment network. To the extent that networks are more or less self-governing entities, then one would expect that any future conflicts over restructuring would be resolved by the continuity of pre-existing power distribution and norms of reciprocity. Moreover, the Czech ability to rapidly privatize and establish the requisite legal regime offered network actors the additional dispute resolution tools of contracts and ownership.

But if one fast-forwards the story a few years, one finds that although pre-existing inter-firm and inter-unit relationships would distinctively structure the ensuing patterns of

restructuring conflicts, the use of old social ties, contracts, and equity were insufficient. For holding companies like Skoda, members were unable to resolve collective decisions about how new asset boundaries would be drawn, new rights distributed, liabilities divided, and investment directed. By 1992-93, virtually all the prospective JVs between foreign partners and holdings collapsed. By 1995, the SST network had fragmented and most firms bordered on insolvency. For members of both groups the attempt to preserve their past social relationships, reinforce them with new governance mechanisms of equity and contracts, and also replace past public external partners with new private ones did little to promote cooperation and restructuring. In the end, the central government would have to step in to mediate internal disputes and provide financial support for restructuring. Indeed, by the mid to late 1990s the pre-existing network structures would be reversed for each. The previously hierarchical structure of Skoda would end up with a significantly weaker central office and fiercely independent member firms. The previously polycentric structure of TST/SST would end up with a single strong member firm that owned several others and controlled the rest via its hold over the association headquarters, subcontracting, and available credit.

### **III. The Limits of Continuity – The conflict over network restructuring**

Salancik (1995, p. 348) argued that “[a] network theory should...propose how adding or subtracting a particular interaction in an organizational network will change coordination among actors in a network.” This section and the next demonstrate how an embedded politics approach’s emphasis on the political construction of a network’s authority structure satisfies this challenge and thus accounts for both continuity and change. Czech policy allowed past economic and technical ties to be reinforced and constrain individual discretion. It also provided new contractual methods which network firms could combine with their past social ties to

resolve new conflicts over asset control and restructuring. But coordination would falter since the depoliticization approach of the Czech government not only eliminated traditional political allies of certain firms but also provided no institutional substitute to mediate disputes and share risk. (Fligstein 2001)

### *Reinforced linkages and disharmony in Skoda*

Conflicts emerged in Skoda from the contradiction between the reinforcement of inter-unit production and financial links and the multiple restructuring experiments pursued by members. If the inherited scope and flexibilities were clear sources for unit autonomy, the overlapping supply links with relatively narrow technical specifications constrained individual discretion. Intra-holding sub-contracting links remained vital for the flow of production across different common programs as well as those of individual units. The importance of these internal links, however, varied according to one's place in the network. In turn, managers held different views over production interdependencies, which provoked clashes over such critical restructuring issues as asset control, spin-offs, new sub-groups, and plant closings.

By 1989, the production profile of Skoda Plzen accounted for 91 different product groups across more than 20 plants.<sup>8</sup> While the main final production programs included transport (electric locomotives and trolleybuses), energy equipment and systems (nuclear and steam turbines), and heavy industrial machinery, upstream production included gearboxes, transmissions, engines, generators, transformers, electrical control systems, forgings and presses, and rolled steel and castings. Skoda members created a decentralized holding company to protect themselves from new uncertainties and improve coordination while each would experiment with new restructuring strategies. But the holding structure reinforced production and financial linkages. Analysis of production and supply data during 1990-93 showed that



although members strove to increase sales to non-holding customers, members turned toward one another for key inputs and parts.<sup>9</sup> At the same time, financial interdependence grew as intra-holding debt rose, and the holding cross-collateralized units to gain working capital for common production programs and subsidize loss-making units. The binding force of the economic links created three related conflicts in the reorganization of the network.

First, although many units faced strong incentives to increase their independence from the group, such actions threatened their own and joint production programs. Critical upstream suppliers, such as those for gearboxes and transmissions, large forged metal parts, industrial transformers and generators, and automated injection, rectifier, and traction control systems, all had both the experience and capability to increase their focus on external sales and split from the group. Yet attempts at greater independence only led to increased hold-up problems within the holding. As these plants focused more resources on their own priorities, common production programs mentioned above and inter-unit supplies suffered. Indeed the rapid insolvency and loss of key components by several self-liberated previously profitable members of Skoda and other holdings restrained the ambitions of holding units to spin-off.<sup>10</sup>

Second, the scope of plant level production and density of multiple production links impeded the clear definition of new divisions for the main programs. Since several units often produced key inputs for multiple programs using the same facilities and personnel, members fought over the control of these suppliers. Third, given the production interdependencies and the lack of clear outside sourcing, holding members could not reach agreement over the closing of large loss-making intra-holding suppliers.

The growing intra-holding stalemate was to a certain degree the result of high uncertainty – the uncertain returns on individual production and organizational experiments undermined the

credible guarantees that a members could give to one another or a bank to gain needed cooperation for components or financing. Yet why, despite the conscious construction of the holding company and the existence of historical social ties, could network members not overcome these gaps in credibility and coordination? The answer, from an embedded politics view, was that the Klausians' depoliticization approach toward institutional change had radically altered the authority structure of old network and not provided institutional mechanisms to resolve such disputes.

First, Czech policy efforts to centralize power effectively had eliminated a critical source of socio-political power and order. As experiments began to foster potentially conflicting strategies and change the position of units within the group, the authority structure of the network was thrown into question: how should new boundaries around assets be drawn and who had the rights to decide them? Under the former hierarchical network, a key firm supported by the regional council possessed the political and social resources to aid a resolution to conflicts -- be it by force or compromise. After 1989, no such actor was around. The dissolution of regional councils and the weakening of district and municipal councils eliminated a source of power for some members and a source of external resources and mediation for the group as a whole. Indeed, the aggregate and holdings data on privatization show that firms solicited the aid of local municipalities by offering them free transfers of significant equity stakes.<sup>11</sup> Yet the changes in the systems of territorial administration and taxes effectively left municipalities with little control over political and financial resources. (McDermott 2002)

Second, depoliticization provided networks with two private sources of capital and authority – the main Czech banks and foreign direct investors – as new substitutes for external

partners. But such new ties had to be forged via contracts and not through any form of government mediation and risk sharing.

With the highest debt to GDP ratio in the region, Czech banks and industrial firms were highly interdependent. Yet the main banks refrained from leading restructuring. Given the lack of bank restructuring experience and weak capital structures, providing large amounts of capital under high uncertainty was highly risky. At the same time, given their limited client base, liquidation was equally risky. Depoliticization viewed government supported workout institutions, such as in Chapter 11 or special agencies developed in Poland, as an anathema and simply an invitation for never ending handouts. (See McDermott, 2004)

Foreign direct investment (FDI) via JVs was a primary objective of holding strategies. Proposed JVs proliferated since voucher privatization had taken sales of whole sets of assets out of state control and since foreign investors wanted to learn more about Czech management and were interested in a sub-group of holding units. (Gulati and Gargiulo 1999) But by 1993 virtually all prominent JVs collapsed and foreign investors withdrew. (See Table 1.)

JVs were not contracts for a specific project, but rather fragile agreements about the future control and use of assets. As the foreign partner invested money into the operations over time, it demanded increased control over the assets in question, the remaining holding equity, as well as certain intra-holding restructuring steps. But because foreigners feared their investment would be used to finance the debt and restructuring of non-JV units, they sought independent commitments to isolate the JV-units from the other units.<sup>12</sup> With their inherited production and financial interdependencies and their already fractious internal relations, Czech managers saw such commitments as a threat to non-JV units and the former VHJ network itself. Unable to reach an accord to finalize the deal, both sides turned to the government for mediation and

assistance with certain financial and environmental liabilities. The first major JV of this sort was between Skoda and Siemens and was viewed at the time to be the bell weather for future FDI. With Czech privatization rules already restricting government intervention into deals that did not contain outright sales by and revenues to the state, such participation was tantamount to revising Czech privatization policy and the clear roles of government organs.<sup>13</sup> The Klausians saw this as antithetical to their designs and control over policy. As they gained increasing political power and control over policy from late 1991 through their victory in the June 1992 parliamentary elections, the Klausians blocked efforts by the Minister of Industry to allow the government to become a financial and negotiating partner. After the elections, the Minister of Industry was ousted and the talks with Siemens collapsed. In the following September, Skoda's management board resigned and the holding shut down three major units and defaulted on its loans.

#### *Fragmentation in SST*

As discussed above, SST firms were poised in 1990-91 to join the growing trend in machine tool firms becoming paradigmatic examples of SME creation and flexible specialization. (See Acs and Audretsch 1990, Acs, Audretsch and Carlsson 1991, Piore and Sabel 1984, and Herrigel 1996.) While their decades of experience, polycentric structure, embrace of privatization all pointed to ideal conditions for becoming an entrepreneurial and adaptive network (Larson 1992), SST's new supporting investment alliances would provide crucial finance and information (refer again to Figure 3). By 1995, however, the machine-tool network had fragmented and most firms bordered on insolvency. The attempt by SST members to reinforce their past social relationships with equity ties and contracts and also replace past public external partners with new private financial ones did little to promote cooperation and restructuring.

First, the uncertainties of new production experiments created restructuring conflicts between interdependent firms. Given the lack of knowledgeable suppliers and the high costs of total in-house production, SST firms turned to one another for the development or sub-contracting of certain components and the cost sharing of exporting and importing (especially for CNC electronics). Since the strategies of new product development entailed significant risks and often conflicted with one another, no firm could give the contractual guarantees to the others to forego their own plans and invest in those of the solicitor. For instance, even when the solicitor demonstrated that the trial runs were for a credible international client, the small production volumes and poorly defined future revenue streams undermined the credibility of the project. In turn, the potential SST suppliers refused to alter their own component production for the benefit of the solicitor.<sup>14</sup>

Second, the supporting equity alliances failed to provide needed financing to overcome the hold-up problems among members. Even with the government's partial recapitalization and debt-relief for the banks, CSOB, like the other "big five" Czech banks, still had weak capital bases and tight financial links with industrial and trade firms. But the big Czech banks found it too risky to lead bankruptcies or finance restructuring via the available governance mechanisms of contracts, liquidations, and ownership (debt-equity swaps). (Hoshi et al., 1998) In turn, the big banks refused to provide credit lines directly to firms or via new banks like Banka Bohemia, and SST firms languished. Indeed, in 1994, regulators closed four of the five largest de novo banks, including Banka Bohemia.

By tying network reorganization to institution building, an embedded politics approach can make sense of the failure of past social relations and new equity ties to mediate the disputes among SST firms. First, the depoliticization agenda radically altered the network authority structure that underpinned the inherited social capital between firms. A key reason for the

development of polycentric network during communism was that relevant central bank branches and regional/district administrative party councils had provided many firms of the old VHI network with political and material resources for bargaining power vis-à-vis other machine tool firms and the central state ministries. Bent on centralizing power during transformation, the Czech government literally and figuratively eliminated the traditional external partners for the firms, removing the power structure that supported the past informal decision-making rules and norms of reciprocity.

Second, to sustain its insularity, the Czech government impeded the development of new institutions for restructuring. Once mass privatization was implemented and banks were partially recapitalized, private contracts and a bankruptcy regime emphasizing liquidation would induce restructuring. Any alternative policies, such as leasing firms, selling assets with typical conditions of restructuring, or promoting workouts as part of bankruptcy, would have linked ownership change and restructuring and required government oversight. Moreover, to do so would have demanded empowering different public actors, be they ministries or sub-national governments, with the necessary discretion and resources to share some of the risks and create rules for the relevant parties to negotiate over time the restructuring of both operations and financing. Czech transformation policy, however, strongly curtailed any such delegation of power and public-private deliberations.

#### **IV. Reconstituting Order in Networks**

If depoliticization undermines network stability, then the next key issue is the identification of the political and institutional conditions that can reconstitute a new authority structure of a network. The notion that state policy and institutional rules can define and legitimize the distribution of resources and the paths of development has been a central theme of students of technological

change (Piore and Sabel 1994, Rosenkopf and Tuschman 1998), business groups (Guillen 2001), the modern corporation (Fligstein 1990), and modes of capitalist growth (Immergut 1998, Hall and Soskice 2001). But because transforming economies are developing both institutional forms and policy domains (Fligstein 2001), the distribution of political power is a prevailing factor in how state policy is formed and thus authority structures constituted. That is, any exploration of a new role for public actors demands a reconfiguration of political control. In turn, three conditions of the mode, timing, and consistency of state action toward network reorganization can be defined.

First, to the extent that the government can delegate public agencies to forge negotiated solutions to restructuring with network actors, it would have to share some financial risks and mediate intra-network disputes. Such actions would clearly favor certain network actors and alter the balance of power among them. Who those actors would be would depend on the state of disrepair in the network (timing) and the policy resources available to the public agencies at the moment of government action. Second, consistent with the work on institutional development (e.g., Dorf and Sabel 1998, Fligstein 2001), timing is often a function of moments of crisis. Third, the consistency needed for different public actors to learn and build on their institutional experiments depends on coalition politics. That is, since coherent policy change and institutional experiments demands a change in the distribution of policymaking power from the status quo (depoliticization in this case), the key political leaders needed to cede power to other political actors. To the extent they are unwilling to do this, institutional development is retarded, threatening the newly found stability of the network authority structures.

In what follows, crises would impel the Klausians to shift policy and engage members of Skoda and SST, leading to a dramatic change in the network authority structures. But coalition politics would eventually undermine steps toward regulating the market and network development.

### *Stabilizing Skoda*

The shut down and default of Skoda in September 1992 triggered an immediate response from the reluctant Klausians. Given the size of holdings and the close interdependencies between industrial firms and the few main Czech banks, Skoda's collapse threatened to bring down the banking system and damage whole sectors and regions. The Klausians had two resources at its disposal: the remaining shares of Skoda Holding (about 40%) and the existing bank debts of Skoda related to past government programs. Skoda in turn became the first case for Klausians to support negotiated restructurings and a model for its future engagement with other holdings.

This trial and error experiment started with a failed attempt to use a public tender and incentive contracts but ended with a multi-level governance structure that both limited self-dealing and altered the authority structure of the existing network. The initial tender chose two delegates: a team of ex-Skoda managers, Nero, and a consortium of Skoda's two largest creditor banks, KB and IB. The incentives were that the parties could receive the remaining equity at reduced prices and that the government would absorb some of the old large debts. But the parties failed to cooperate as the banks were unwilling to invest in Skoda projects without greater transparency and improved coordination among the Skoda members. In turn, the government remained a partner for almost three years by combining the tools of delegation and deliberation to alter the balance of power in the network and to improve multi-party monitoring.

The government delegated to Skoda's new central management team of Nero the authority to rebuild the internal organization of the firm, namely increasing the power of the newly formed subsidiaries and transparency. The banks had to finance this reorganization, but gained direct access to the subsidiaries and valuable collateral. Deliberations emerged by the government using debts and the vague pricing of shares to provoke the parties to reveal



information about their actions and monitor one another's progress in meeting their restructuring obligations. The ensuing pattern of negotiations set the foundations for two levels of interlinked structured deliberations that governed restructuring. (See Figure 4.) In the "external" triangle the government, the banks, and the central management team exchanged information and control rights in deliberating each other's contribution to debt restructuring, decentralization, and financial transparency. In the "internal" triangle Skoda's Center, the banks and the subsidiaries similarly exchanged information and control rights in negotiating debts, transfer prices, and project finance.

In many ways, the government's use of the dual monitoring triangles resembled public-private workout institutions in advanced developed nations and was an effective means of restructuring the holding companies (Hayri and McDermott 1998, McDermott 2002). By 1995, Skoda's debt had fallen to 50% of its 1992 level, revenues had increased over 50%, and employment was increasing significantly. Skoda's rebound was even recognized by independent observers such as the stock market, the international business media (*Economist*, *The Wall Street Journal*, and *Balkan News International*),<sup>15</sup> and international banks that would go on to finance new Skoda ventures.

But the combination of delegation and deliberation also forced a radical change in the authority structure of Skoda. The holding that grew out of a hierarchically commanded network was now very decentralized. Key decisions were reached through collaboration not fiat. No longer did a single member monopolize outside economic and political channels. Rather, government oversight and the monitoring triangles empowered subsidiaries by granting them greater legal rights and giving them the space to develop greater operational autonomy and stronger direct links with outside banks, clients, and suppliers.

### *Stabilization of SST through State-backed Domination*

With the SST network fragmenting and bordering on insolvency, one member firm, ZPS, would use its “brokerage” position (Burt 1992) to launch a strategy to dominate the others and control key financial institutions. Between 1992 and 1995, ZPS, more than doubled its total sales and exports by redesigning several of its final and semi-finished products and often selling them at or below cost to gain market share. ZPS had cultivated a new network of its former employees as well as those of the past regional council and big banks. This new network, referred to locally as the “Zlin Mafia,” had at its core ZPS, the independent and rapidly growing investment fund PPF, and a newly found but also rapidly growing bank, Pragobanka. Managers from all three sat on each other’s boards. As SST relationships fragmented, ZPS found it too risky to engage its initial strategy of gradually spinning off certain plants and utilizing other SST firms for sub-contracting. Instead, ZPS sought to impose its own order over the network and acquire other SST firms by mid 1995. The question, of course, was how they would obtain control of the other firms, given that the big five Czech banks and the dominant investment funds had proven useless as sources of direct financing.

The answer is that a well-placed network can be used for self-dealing and domination as easily as it can be used for collaborative production. The turning point toward domination and increased instability becomes apparent when one puts Burt’s “brokerage” concept in a political-institutional setting. ZPS generated its advantageous “brokerage” position by leveraging its participation in SST with its conscious efforts to rebuild and convert its own local socio-political network into a source of sales and financing. Yet, brokerage is a two-way profession and depends still on the integration of supporting public institutions. On the one hand, the broker needs a reasonably stable core network (SST) to put existing assets and information to new uses without taking full responsibility for them. On the other hand, as the core network collapses and total control

becomes paramount to the broker's entrepreneurial aspirations, the broker (ZPS) demands ever more resources to consolidate its position (and avoid default). Without institutionalized mechanisms to forge negotiated management of common assets and liabilities or to constrain individual ambitions, the broker's private allies (PPF et al.) must mirror the broker's domination strategy to capture any available financial resources, albeit through financial manipulation.

ZPS and its local allies, in turn, used their elaborate network of new banks and investment funds to channel financing from their depositors, notably the partially privatized Czech Insurance Company, to ZPS, gain strategic control of ZPS shares as well as manipulate share prices of ZPS and other companies. At the same time, it sought to control the SST board and its engineering investment fund mentioned above. (See Figure 3.) With its new finances, the aid of PPF, and influence over SST's fund, ZPS orchestrated a series of takeovers of four of the largest SST member firms. At the same time, PPF began to buy up stakes in the Czech Insurance Company and went public with charges that main banks had unjustly privileged positions in the privations plans for remaining shares of the company.

Ultimately, such a scheme can lead to systemic failure, when the state can no longer ignore the damage. Just as ZPS was attempting to complete its conquest with the acquisition of two more SST firms and PPF was battling the main Czech banks in 1996, regulators seized one of their allied banks, declared an emergency at the Czech Insurance Company, and placed Pragobanka on a watch list. The domination strategy for the broker had reached back into the heart of the public domain.

The Klausians were, however, much more reluctant to intervene. The government had little immediate bargaining leverage as it no equity in ZPS and virtually all SST firms. Leverage could only come from new policy initiatives and further empowerment of relevant agencies (like those previously involved in Skoda). But such changes were no longer politically viable. By early 1996

with the holdings and main banks stabilized, political infighting within the ruling coalition and the pending general elections in June led Klaus to declare an end to transformation policies and to reconsolidate his party's control over the relevant economic agencies and ministries. In turn, the Klausians sought an expeditious solution to the new crisis via appeasement. PPF and the main banks were given joint control of the Czech Insurance Company and, with ZPS, of Pragobanka. The Ministry of Industry also invited ZPS and its subservient SST directorate to participate in discussions of new export policy.

In turn, the Czech government's delayed and weak response to the crisis effectively reinforced the Zlin Mafia's control over SST. (See Figure 5.) The once polycentric structure of ex-TST firms now looked very hierarchical. Where there was once consensus decision making there was power and fiat of a much more powerful ZPS.

### *Epilogue*

Klaus's reversion to depoliticization in 1996 would show how the contentious politics of unpacking public power could impact network stability. To consolidate his hold on power, he curtailed the discretionary power of the central ministries and agencies that were under the control of other coalition parties. These were the principal public actors engaged in new initiatives that began with the Skoda intervention and responsible for correcting the abuses of firms like ZPS and PPF. Subsequently, as the government withdrew from Skoda and other holdings, it simply left them to be governed by the same capital markets and bankruptcy rules that had hindered restructuring in the first place. No new institutional policies were pursued to promote workouts, effective investor protection and accountability, FDI, and exports. In turn, firms like Nero, which was the manager-owner group running the center of Skoda, and ZPS were left in a poor governance and regulatory regime and resorted to undertaking dubious investments. Klaus's government collapsed in mid-

1997. In the wake of the 1997-98 Asian and Russian crises, both Skoda and ZPS became insolvent. Creditors of both firms tried and failed for a year to form voluntary standstill agreements to reorganize the assets. In 1999, Skoda, ZPS, several holdings, and the main banks entered into a new public-private restructuring and reprivatization agency that was created by the newly formed social-democratic government. Once again, the Czechs would embark on rebuilding their economic institutions while restructuring their industrial networks.

## **V. Concluding Remarks**

This essay has argued for a more political constructionist approach to analyzing the reproduction and change in inter-firm networks and their attendant social capital, particularly during periods institutional transformation. If one assumes that structural and relational variables as being prior to and virtually autonomous of the political-institutional environment, networks and social capital can appear largely self-governing and static. The industrial networks examined in the essay indeed were imbued with long histories, strong socio-economic ties, and specific distributions of resource control. They were also subject to the same laws and unions and similar technologies and economic shocks. Yet, as we saw, these networks were not self-governing – historical socio-economic ties, repeated interactions, and the use of contracts and ownership were insufficient to help network firms and plants resolve restructuring conflicts and gain investment.

In pointing out these deficiencies, the aim of the essay was not to discard simply socio-economic variables, but rather to show how their inter-action with political-institutional variables to help identify factors of continuity and change. On the one hand, the social and economic ties of the respective networks clearly shaped the organizational and privatization strategies during the initial period of transformation. Firms and plants within hierarchical networks, like Skoda Plzen, tended to reinforce their subcontracting and financial ties, and elected to privatize themselves together as a

holding company through the use of the vouchers and joint-ventures with foreign strategic investors. Firms and plants within polycentric networks, like TST/SST, elected to privatize themselves individually as well as build an association and set of equity alliances with new banks and investment funds to improve coordination of common needs like outsourcing of certain parts, import-export, R&D, and investment.

On the other hand, the politics of institution building had profound impacts of the authority structures of industrial networks, in turn the adaptability and reconfiguration of the networks when faced with new economic uncertainties. By advancing their depoliticization approach to institution building, the Klausians centralized political power, severely weakened subnational governments, and offered virtually no mechanisms to promote collective workouts. For firms this meant that the existing authority structures of respective networks were radically altered and members had few resources at their disposal for forging new, stable structures for internal governance. For instance, members of holding companies, like Skoda, were unable to resolve disputes about their internal organization and the development of production programs. These disputes extended to attempts to include new private external partners in the form of JVs with foreign direct investors. But the JVs failed when the government refused to become a third party guarantor of the venture. Only when the government intervened by sharing some of the risks and mediating disputes did restructuring proceed. This intervention brought stability by offering supporting a new, multi-polar authority structure that changed the configuration of the former hierarchical network. SST fragmented and firms became insolvent as members found old social ties and contracts of little use to forge new collaborative links over restructuring and to gain financing from their allied banks and investment funds. ZPS tried to take advantage of its brokerage position and impose stability over SST, but this strategy of domination only was possible by weakening the solvency of a major piece of the Czech

financial system. By the time the government intervened, its priority of limiting crisis over restructuring simply solidified the Zlin Mafia's control over the once multi-polar structure of SST.

In many ways, the argument presented here reflects a recent current in economic-sociology and political economy to show how government policy shapes the organizational forms and social capital in underdeveloped economic settings. For instance, Guillen (2001) has shown how the variation in development and industrial policy impacts the formation of business groups while empowering certain actors with control over a sector. In their analysis of Russian and Czech capital markets, Kogut and Spicer (2002) have demonstrated how government approaches to regulatory institutions can embolden or weaken the extended chains of trust that are vital for investment and governance. In his analysis of the economic revival of subnational regions in northern Brazil and southern Italy, Locke (2001) has argued that government enforcement of standards and licenses is vital to enabling inter-linked firms develop durable mechanisms of collaboration.

My embedded politics approach pushes this line of work further by making a more explicit link between the struggles over the distribution of public power and economic networks. First, the authority structure of an economic, in turn the constituent pattern of associationalism and resource distribution, is derived from the ways certain network firms gain resources and privileges from public institutions. Second, the political approaches governments take to build new institutions will alter the authority structures of networks but vary the stability and reconfiguration of networks. To the extent that political leaders are able to empower and monitor a variety of public actors to experiment with new institutional roles, network firms would appear more likely to extend their time horizons and pursue negotiated modes of reorganization. (McDermott, 2004) To the extent that political leaders seek to insulate and centralize public power, fragmentation and winner-take-all strategies are likely to prevail in the network.

In sum, this essay points to new areas of research on the origins and evolution of social capital and networks. To begin with, researchers should try to identify how the authority structures and informal rules of networks emanate from specific institutional supports and public policy. From there, one can examine network change in two ways. One is to examine how existing institutional and political variables inhibit and enhance network adaptation to external technological and economic shocks. The other is to analyze how different political approaches to institutional reform impact the stability and adaptation of the economic networks themselves.



**Table 1. Sample of Czech Holdings and their Privatization Strategies**

<b>Firm/Sector</b>	<b>Employment, Organization, 1991*</b>	<b>Original Priv'n Project and Strategy**</b>	<b>Main Foreign Partnerships</b>	<b>Government Action Taken as of 1995</b>
Škoda / Engineering	34, 231 employees (2.3%) 25 plants to be subsidiaries	48.5% - 1 <sup>st</sup> wave vouchers 42.1% - in FNM for FI 5% - City of Plzeň Create JVs with FIs for different production groups or divisions	Plan double JV with Siemens. Fails in 1992	1992 equity tenders with Czech firm and banks lead to negotiated restructuring model. MPO sits on board. Process lasts over 2½ years before equity transferred to Czech firm and banks.
ČKD / Engineering	21, 776 employees (1.5%) Holding of 18 subsidiaries (a.s.) <sup>^</sup>	49.2% - 1 <sup>st</sup> wave vouchers 41.6% - in FNM for FI Create divisions from subsidiaries. Pursue JVs with FIs.	Plan JV with AEG for transport division. Fails in 1993. Plan JV for Kompresory with DBB. Fails in 1993-94.	1994 equity tender with Czech firm leads to negotiated restructuring model. Czech banks to finance, with state loan guarantees. MPO sits on board. 1½ years before equity transferred.
Aero / Aircraft	19, 820 employees (1.4%) Holding of 11 subsidiaries (a.s.) <sup>^</sup>	49% - 1 <sup>st</sup> wave, vouchers 48% - in FNM for FI and 2 <sup>nd</sup> wave vouchers Create recreational and military divisions and pursue JVs or partial buyouts of subsidiaries or divisions.	Plan JVs with Fairchild, Pratt & Whitney, and Hamilton Std. All Fail by 1993.	By Dec. 1993 three failed attempts at financial restructuring and debt-equity swaps. 1994 plan: Government and Czech banks share ownership of holding and certain subsidiaries, while seeking FIs. MPO and banks manage holding and subsidiaries.
Poldi Kladno/ High grade steel	16, 471 employees (1.2%) Holding of 19 subsidiaries (a.s.) <sup>^</sup> . Creates two main steel subsidiaries: Poldi I & II	97% - in FNM for FIs. Plan a JV for Poldi I&II, and partial equity sales or JVs of other subsidiaries with different FIs.	Plan JV for Poldi I&II with consortium led by Maison Lazard. Fails by May 1993.	1993 equity tender of Poldi I&II to Czech firm, while FNM and Czech bank retain control of Poldi Holding. 1995-96 FNM and bank sue Czech firm for embezzlement. Poldi Holding reclaims Poldi I & II.
Tatra Kopřivnice / Heavy Trucks	14, 685 (1.0%) Holding of seven subsidiaries	97% - 1 <sup>st</sup> wave vouchers. Create JVs in assembly and parts.	Plan JVs with IVECO for assembly and Detroit Diesel for engines. Both fail by 1993.	1993-94 failed attempt to create new foreign manager-owner. MPO creates new department to help run Tatra. Orchestrates sale of Tatra to Škoda Plzeň in 1995-96. Czech banks finance.
Liaz / Medium Trucks	8, 606 employees (0.6%) Nine plants to become subsidiaries (a.s.) <sup>^</sup> of new Holding.	42.9% - 1 <sup>st</sup> wave vouchers 51.1% - in FNM for FI; Create JVs for subsidiaries. Focus on engine upgrades and modular vehicle design.	Plan simultaneous JVs for assembly and parts with Mercedes consortium. Fails by Dec. 1993.	MPO runs restructuring of Liaz along with Tatra. Orchestrates sale of Tatra to Škoda Plzeň in 1995-96. Czech banks finance.

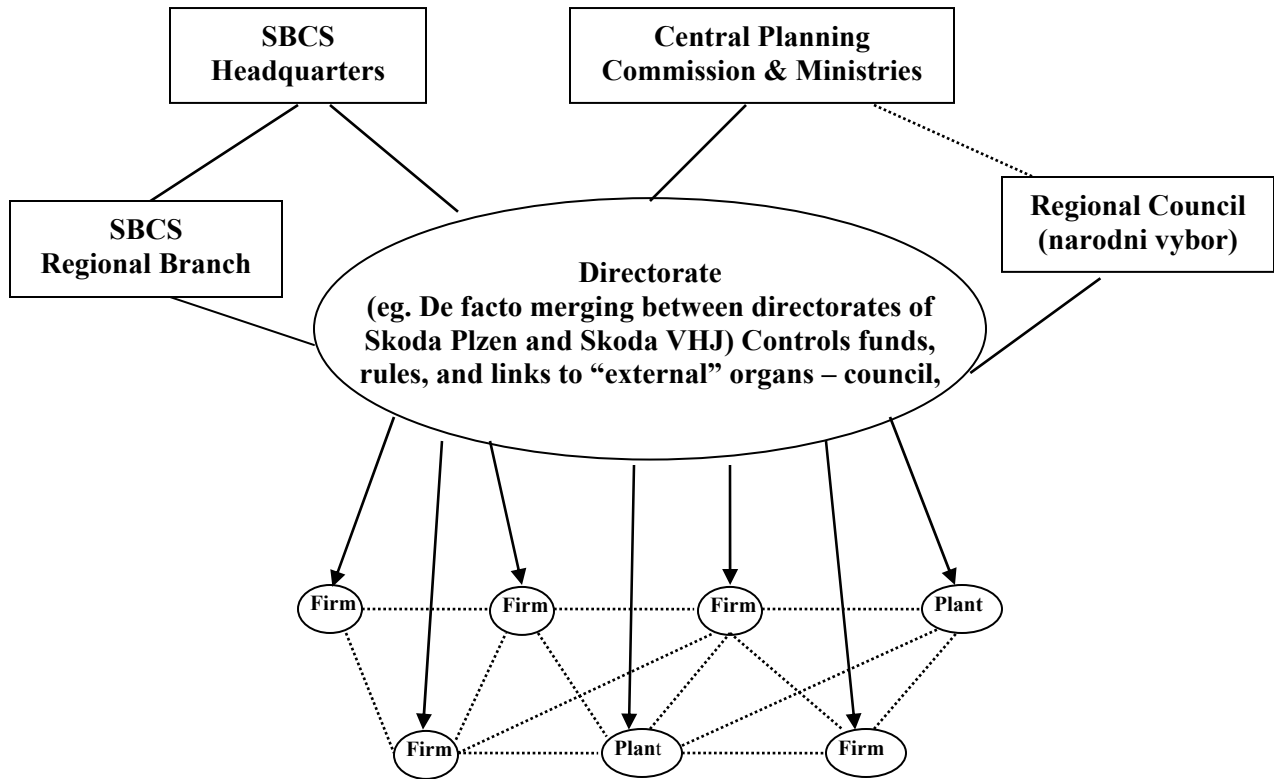
**Notes:**

\* Percentages in parentheses are firm employment as a share of total Czech industrial employment in 1991.

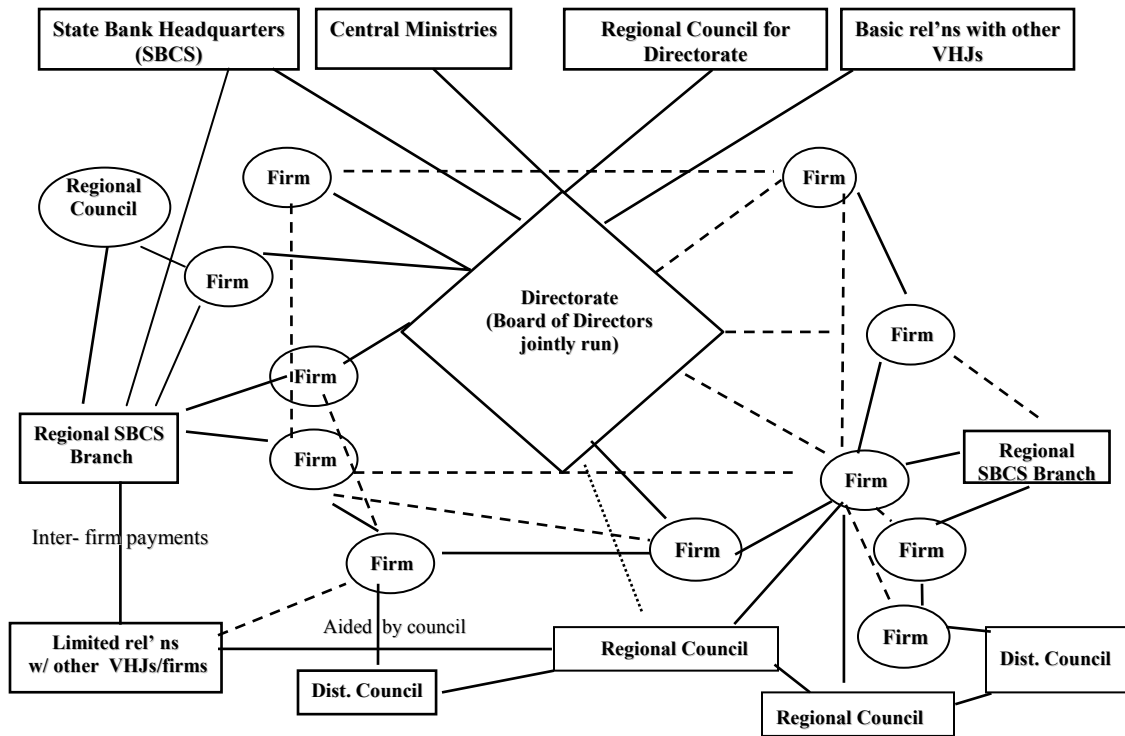
\*\* Shares left in FNM to attract a direct foreign investor (FI) via a future sale or JV. Percentage of shares not noted are those left by law in a fund for restitution compensation.

<sup>^</sup> a.s.= Czech equivalent of joint-stock company); s.r.o. = Czech equivalent of limited liability company.

**FIGURE 1: Hierarchical Network (eg. Skoda VHJ)**



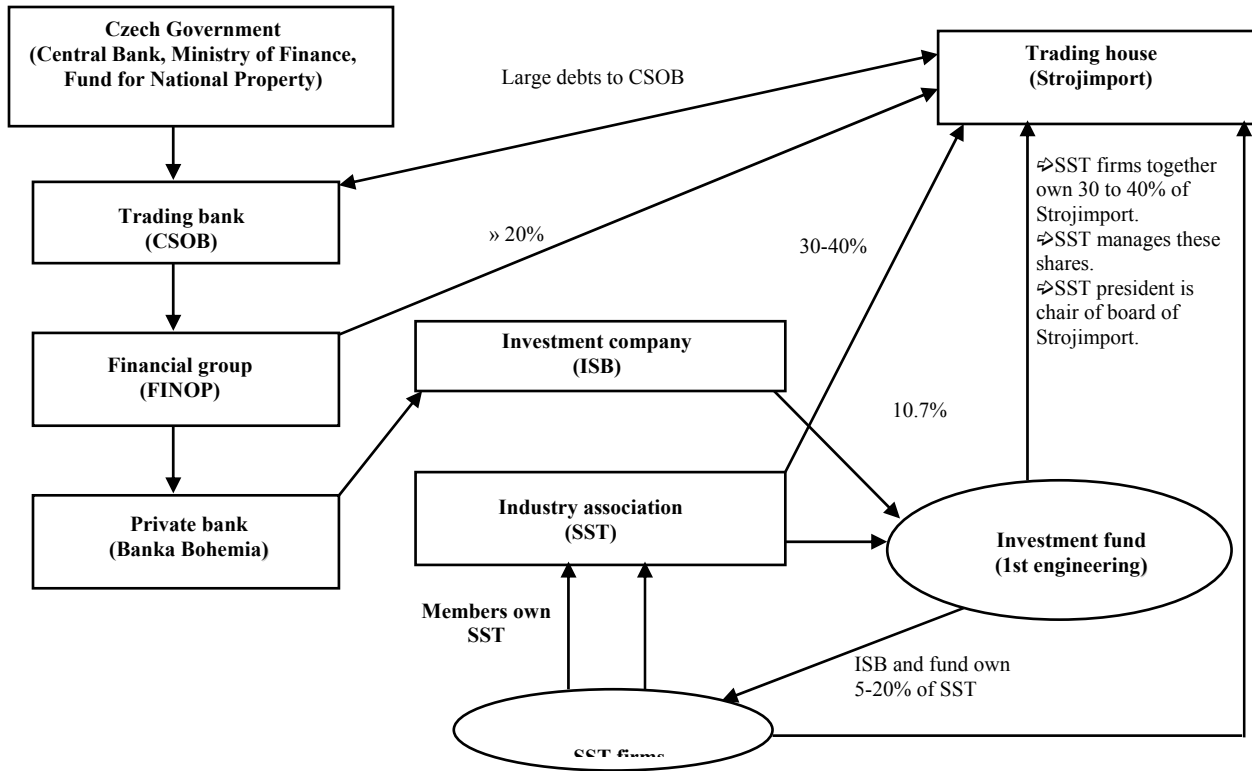
**FIGURE 2: Polycentric Network (e.g., TST VHJ)**



Source: McDermott (2002, Ch. 2)

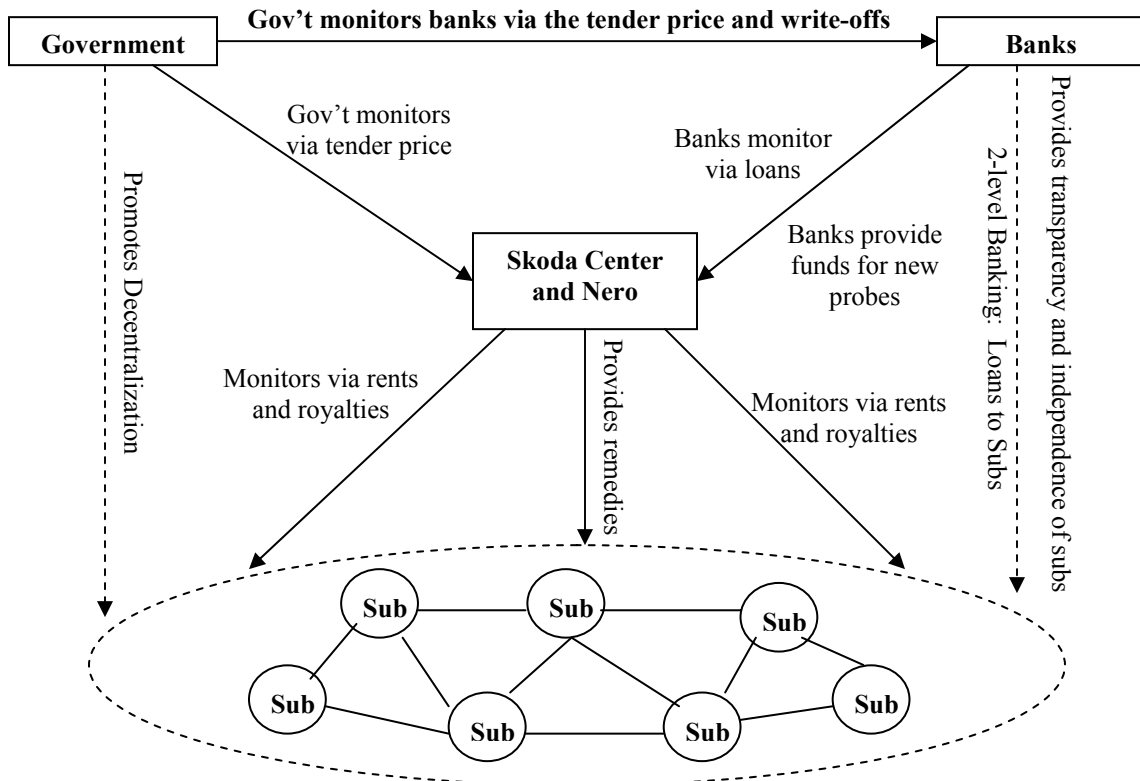
(Solid lines are stronger links than broken lines in both figures.)

**FIGURE 3. Network Ties in the Czech Machine Tool Industry, 1992-93**



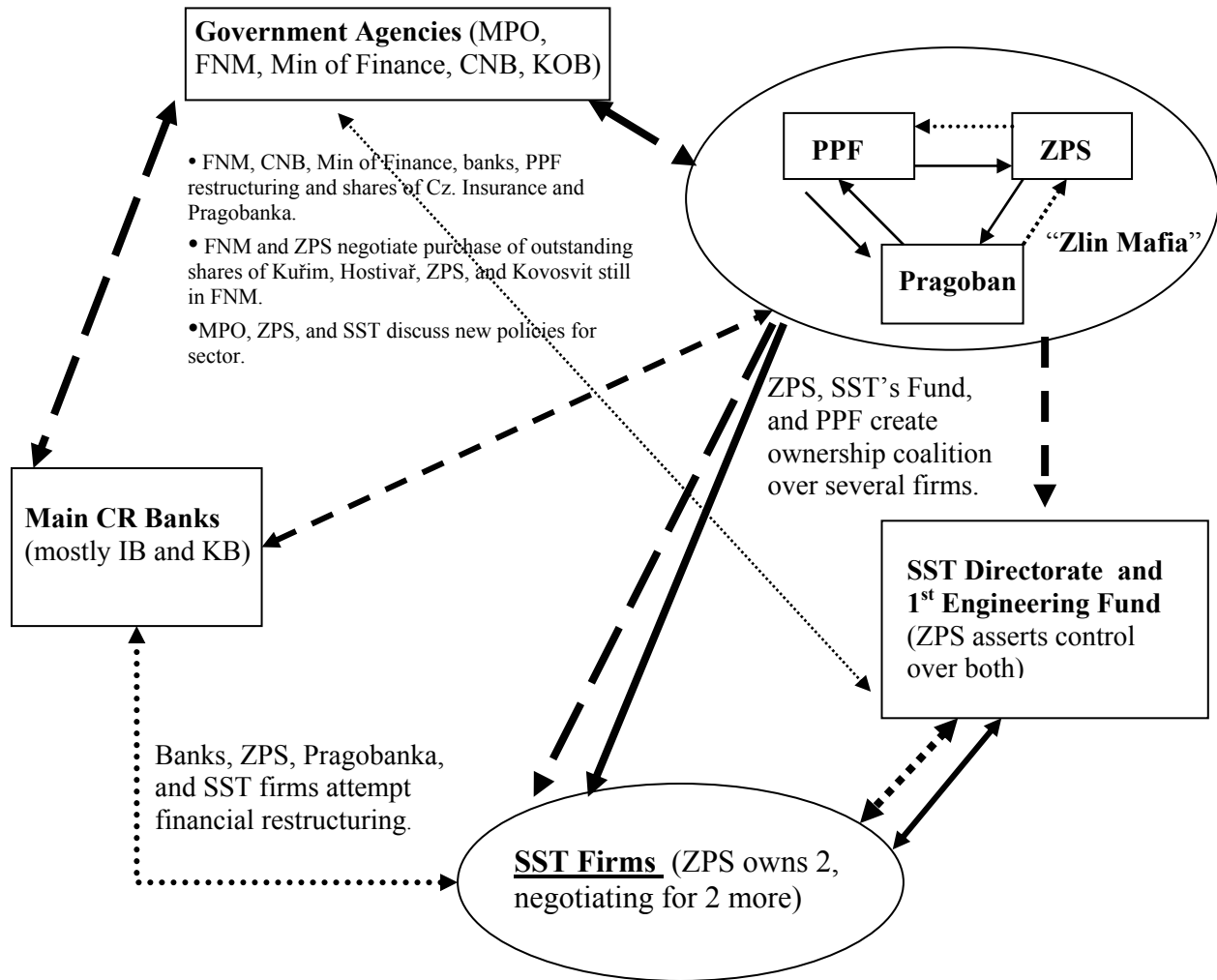
Note: Direction of arrow denotes direction of ownership. Percentages denote ownership share.  
Source: McDermott (2002, Chapter 5).

**FIGURE 4. Monitoring Triangles for Skoda Restructuring**



Source: McDermott (2002, Chapter 4)

**FIGURE 5. New Control Structure of SST, 1996**



Source: McDermott (2002, Chapter 5)

Arrows denote direction of control.

Thick, solid lines denote stronger link and control than thin, dashed lines.

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## ENDNOTES

<sup>1</sup> See, for instance, Granovetter (1985), Nohria and Eccles (1992), Powell (1990), Uzzi (1996, 1997), Rowley et al. (2000), Kogut (2000), Burt (1992), Putnam et al. (1993), Ostrom (1995), Salancik (1995), and Portes (2000).

<sup>2</sup> For work on the former USSR, Poland, GDR, and Hungary, see, for instance, Prokop (1996), Woodruff (1999), Dornisch (1997, 1999), Jacoby (2000), Seleny (1993), Szelenyi (1988), and Levitas (1993, 1999). Even within the work of Stark and Bruszt (1998), there are strong suggestions of the interconnection between local political actors and managers (see, for instance, Chapter 4).

<sup>3</sup> The data on the Czech firms and networks discussed throughout this paper comes from over 3 years of fieldwork in the former Czechoslovakia in the first half of the 1990s. Details on this work can be found in McDermott (2002).

<sup>4</sup> For instance, between 12/1989 and 12/1991 the number of Czech firms in mechanical machinery increased only from 148 to 189, in electrical machinery from 38 to 44, in steel from 35 to 43, in chemicals from 33 to 27, in rubber and plastics from 25 to 29, while the average firm size remained high. Between 12/89 and 12/91 the average number of employees per firm decreased in mechanical machinery from 1842 to 1242, in electrical machinery from 1843 to 1291, in steel from 4449 to 3223, in chemicals from 1627 to 1326, and in rubber and plastics from 1159 to 826. See Buchtikova and Flek (1993, p. 9). Analysis of the structure of Czech industrial product markets between 1989 and 1992 shows a continuation of high two and four firm sales concentration ratios at the 3-digit level. See Zemplerova and Stibal (1994).

<sup>5</sup> For instance, in a 1991-92 survey of managers in over 60 major manufacturing firms, 85% of the firms continued to produce only for their past few customers, and 25% devoted all of their production to a single customer. In addition, 80% of the firms had almost fully internalized R&D, input and parts production, and distribution and marketing activities, but could no longer support such integration. 70% said that the only alternative was to cooperate with their past customer to develop new processes and products. The survey included firms mainly from the engineering, metal working and steel sectors. Their size ranged from 500 to 20000 employees. Together the firms accounted for over 5% of industrial employment, 5% of turnover and 8% of capital assets in the CSFR. 40% of firms were located in Bohemia, 30% in Moravia, and 30% in Slovakia. See Mihola, Havlin, and Skala (1991), Mihola and Havlin (1992), Havlin (1991).

<sup>6</sup> See Buchtikova and Capek (1993), Svejnar and Singer (1994), and Mejstrik et al (1992) on the problems of information asymmetries during the approval of projects and the voucher bidding. For analyses of ownership and methods used, see Kotrba (1994) and Lastovicka et al. (1994).

<sup>7</sup> For instance, the above mentioned survey indicated that only 6.5% and 8% of managers believed that vouchers would, respectively, improve production and financial health of the firm and help generate investment capital. Over 50% of the managers surveyed asserted their primary interest was to maintain or increase their independence and decision-making rights over wages and disposal of assets vis-à-vis the center. Only 10% believed that privatization and vouchers would allow "the influence and interests of new outside owners to felt." At the same time, over 70% said they could gain needed financing and know how, which vouchers lacked, by creating partnerships with foreign firms.

<sup>8</sup> These groups roughly correspond to the 3-digit level of the SIC system. See McDermott, Chs. 2 and 4 (2002).

<sup>9</sup> For instance, between 1986 and 1993, average production for customers outside the group accounted consistently for over 70% of total output. Between 1986 and 1990 inputs from outside the group, however, accounted consistently for only 21% of production value. From 1991 through 1993 this share dropped to about 12%. See McDermott, Ch. 4 (2002) for details.

<sup>10</sup> In 1989-90, such units as Skoda Export and Skoda Praha of Skoda Plzen, Jihostroj, Jihlavan, Mikrotechnica, and Technometra of Aero, Slany, Naftovy Motor, Slavia, and Kutna Hora of CKD Praha, and Motorpal in trucks all had strong production and sales programs outside of their respective groups and decided to become independent firms. Almost were insolvent by 1993. Statistical analysis of privatization shows there were a very small number of industrial spin-offs, which also performed significantly worse than their former parents. Kotrba (1994); and Lizal, Singer, and Svejnar (1995).

<sup>11</sup> Data on the first wave of privatization projects for joint-stock companies shows that 11% of equity (on average) was proposed as free transfers to local municipalities (making it the third largest category, behind vouchers and FNP holdings). See Kotrba (1994) and Lastovicka et al. (1994). Holdings, such as Skoda Plzen and Poldi Kladno, had originally proposed 5% of equity to be transferred to their respective municipalities.

<sup>12</sup> That is, foreigners demanded isolating the JV assets in order to protect themselves from assuming the financial and

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potential environmental liabilities of the holding or other inter-linked firms. See Hayri and McDermott (1998) for thorough discussions of these problems.

<sup>13</sup> For instance, once a privatization project was approved, the FNP was simply to realize it. Government participation in a JV meant it could possibly become a negotiating arm of the government, the role previously assigned to the Ministry of Privatization and its team of investment bankers. Moreover, negotiations and any responsibilities/liabilities taken by the Ministry of Privatization on behalf of the government, could only come in the case of a direct sale of assets.

<sup>14</sup> Similar fates met efforts to clarify firm specializations, collaborate in exports and imports, and use the vocational training system. An added fear was that firms were beginning to encroach on one another's traditional product lines. See McDermott (2002, Ch. 5)

<sup>15</sup> See *The Economist* (February 18, 1995); *The Wall Street Journal* (May 8, 1996).