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NATIONAL INTELLIGENCE SYSTEMS AS NETWORKS: BRAZIL, RUSSIA, INDIA, CHINA, AND SOUTH AFRICA

Porto Alegre
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Dissertação submetida ao Programa de Pós-Graduação em Estudos Estratégicos Internacionais da Faculdade de Ciências Econômicas da UFRGS, como requisito parcial para obtenção do título de Mestre em Estudos Estratégicos Internacionais.

Orientador: Dr. Marco Aurélio Chaves Cepik

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When the findings of the intelligence arm are regularly ignored by the consumer, and this because of consumer intuition, he should recognize that he is turning his back on the two instruments by which western man has, since Aristotele, steadily enlarged horizon and knowledge – the instruments of reason and scientific method

Sherman Kent, *Strategic Intelligence for American World Policy,* 1965, p. 206

Our final examination of trained cats [DELETED] for [DELETED] use in the [DELETED] convinced us that the program would not lend itself in a practical sense to our highly specialized needs… We have satisfied ourselves that it is indeed possible [DELETED]. This in itself is a remarkable scientific achievement. Knowing that cats can indeed be trained to move short distances [DELETED] we see no reason to believe that a [DELETED] cat can not be similarly trained to approach [DELETED]. Again, however, the environmental and security factors in using this technique in a real foreign situation force us to conclude that, for our [DELETED] purposes, it would not be practical.

Memorando (editado) da CIA sobre o uso de gatos em operações especiais, 1963

RESUMO

Nesse artigo, comparamos, por meio da Análise de Redes, a dimensão institucional dos Sistemas Nacionais de Inteligência. Com base em fontes ostensivas sobre as agências de inteligência, entrevistas com especialistas de cada país e revisão bibliográfica, foi possíel compilar uma base de dados capaz de mapear as relações (arestas) de comunicação e autoridade entre os três tipos de atores coletivos (vértices): organizações governamentais de supervisão e direção, organizações colegiadas de coordenação e agências de inteligência. Por enquanto, a base de dados é composta de informações no formato de matrizes e grafos de 34 países com centenas de dados. Como resultado, estão sendo consuzidos estudos de casos sobre os países, assim como análises comparativas com amostras pequenas. Os estudos comparados estão sendo orientados de acordo com um determiando conjunto de paises ou de variáveis de interesse (centralidade de grau, centralidade de intermediação, centralização de grau e centralização de intermediação). Neste exercício em particular, os resultados obtidos indicam a distribuição de poder e as vulnerabilidades organizacionais no nível de países, permitindo comparações dentro e entre os Sistemas Nacionai de Inteligências do Brasil, Rússia, India, China e África do Sul (BRICS).

Palavras-chave: Governo. Instituições. Sistemas Nacionais de Inteligência. Análise de Redes.

ABSTRACT

In this article we compare institutional dimensions of National Intelligence Systems using Network Analysis. Based upon open data on intelligence agencies, interviews with country expert scholars, and bibliographical review, we were able to compile a database allowing the mapping of authority and communication links (edges) between three types of collective actors (nodes), namely intelligence agencies, coordinating bodies, and central government. So far, the database comprises matrix and graph information for thirty-four countries each with hundreds of data points. As a result, case studies on specific countries, as well as small n comparative analyses are being conducted. Comparative studies are driven either by interest in clusters of countries or in variables of interest (degree centrality, betweenness centrality, degree centralization, and betweenness centralization). In this particular exercise, results obtained indicate power distributions and organizational vulnerabilities at country level, allowing for comparisons between and among the national intelligence systems of Brazil, Russia, India, China, and South Africa (BRICS).

Key words: Government. Institutions. National Intelligence Systems. Network Analysis

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1 INTRODUÇÃO GERAL[1]

A presente dissertação está organizada em três partes conforme Resolução 115/2014 da Câmara de Pós-Graduação da Universidade Federal do Rio Grande do Sul, pela qual são necessárias, além do artigo, uma parte de Introdução Geral ao tema e uma para Considerações Finais. Nesta primeira parte, a Introdução Geral, buscamos esclarecer as dinâmicas e contextualizar a discussão sobre inteligência dentro dos Estudos Estratégicos Internacionais. A segunda parte consiste do artigo propriamente dito, no qual desenvolvemos a metodologia para a comparação de Sistemas Nacionais de Inteligência – a título de teste, aplicamos essa metodologia aos países do grupo chamado Brasil, Rússia, Índia, China e África do Sul (BRICS). A heterogeneidade dos países no grupo em termos de capacidade militar, percepção de ameaça, sistema político, perfil econômico, entre outras, combinado com a importância regional de cada um, foram os critérios utilizados para a seleção. Na parte final, fazemos um balanço da pesquisa, apontando principais dificuldades e elencando o que acreditamos serem os próximos passos da agenda dos estudos comparados em inteligência.

A presente Introdução Geral esta dividida em três seções. A primeira seção contextualiza os Estudos de Inteligência nos Estudos Estratégicos e expõe alguns conceitos básicos, ao mesmo tempo em que evidencia a necessidade de estudar de maneira comparada e sistemática os sistemas de inteligência. A segunda seção faz um breve levantamento dos estudos comparados em inteligência e busca contextualizar as principais dificuldades no desenvolvimento desse tipo de pesquisa. A terceira seção, por fim, abarca uma revisão da análise de redes como técnica de pesquisa e seu potencial uso na área de Estudos de Inteligência.

1.1 Inteligência e Estudos Estratégicos

Os Estudos Estratégicos têm como objeto básico de interesse o uso da força em contextos políticos internacionais. Eles procuram analisar como, quando e por que os Estados e outros atores internacionais utilizam a força para atingir seus objetivos e de que maneira

[1] Este trabalho foi estruturado de acordo com as Resoluções nº 114/2014 e 115/2014 da Câmara de Pós-Graduação da Universidade Federal do Rio Grande do Sul. Conforme a resolução 115/2014: "a Tese, Dissertação ou Trabalho de Conclusão de Curso deverá conter, além do(s) artigo(s), os elementos identifica tórios normatizados pelo Sistema de Bibliotecas da UFRGS, Introdução ao tema ou problema, contendo descrição geral dos objetivos e uma ampla revisão bibliográfica, bem como Considerações Finais, contendo síntese dos resultados gerais que serviram de base para as conclusões, e mais Referências Bibliográficas pertinentes à Introdução e ao capítulo final, além dos Anexos".

esses confrontos podem ser modelados. De uma maneira mais direta, os Estudos Estratégicos estudam a estratégia no sentido *clausewitziano*, ou seja, a conexão entre o poder militar e os objetivos políticos, tendo como meio o combate, seja este caracterizado pelo uso da violência diretamente, seja pela ameaça de sua utilização (ECHEVARRIA II, 2007; CLAUSEWITZ, 1976).[2] Ao submeter a guerra à política, é possível aproximar o pensamento de Clausewitz às teorias realistas estruturais, no sentido de que a caraterização do ambiente internacional é propensa ao conflito potencial.

Para os realistas estruturais, os Estados se comportam condicionados por uma estrutura política internacional caracterizada pela anarquia, desigualdade de poder e incerteza quanto às intenções e capacidades dos demais atores (WALTZ, 1979; MEARSHEIMER, 2001; PHYTHIAN, 2009). A incerteza e o conflito armado potencial impõem aos Estados a necessidade de obter e analisar informações sobre ameaças e oportunidades. Além disso, na medida em que buscam descobrir quais são as capacidades e intenções dos outros Estados, enquanto protegem as suas por meio do segredo governamental, os Estados são obrigados pelos incentivos estruturais existentes a se preocuparem com as vantagens relativas de uns em relação aos outros, e não apenas com os ganhos absolutos que possam resultar de seus esforços de obtenção de segurança e desenvolvimento.

É por esses constrangimentos estruturais que surge a inteligência governamental, como um multiplicador de forças (HANDEL, 1989), a qual podemos atribuir três funções essenciais: alertar sobre futuras ameaças; prover conhecimento especializado sobre assuntos específicos, que moldam a maneira como percebemos o mundo; e dar suporte às políticas públicas de segurança nacional desde a sua decisão até a sua implementação (GEORGE, 2008). Assim, temos a inteligência governamental como um dos subsídios informacionais ao tomador de decisão, especializadas na dimensão informacional do conflito entre vontades antagônicas (inteligência e contra-inteligência), ao mesmo tempo em que se caracteriza como instrumento de poder direto em determinadas situações (ações encobertas). Devemos, porém, ter em mente que podemos pensar na inteligência de diversas maneiras: como um processo em que determinadas informações são requeridas, coletadas, analisadas e disseminadas, o que remete ao famoso ciclo de inteligência; como um produto, que seria o resultado dos diferentes processos supracitados; e como a organização, englobando todas as organizações necessárias

[2] Nesse sentido, o campo tem explorado assuntos variados, desde a maneira como se dá o processo de decisão para o uso da força, passando pela organização e gerenciamento das forças de segurança nacional, o entendimento das especificidades de determinados sistemas de armas, entre outros. De uma maneira geral, os Estudos Estratégicos buscam prover um contexto teórico para que possamos entender como o tomador de decisão pode e/ou deve proceder em determinados contextos.

para que cumpra suas funções. Essas funções se sobrepõem e a maioria das análises as utiliza de maneira concomitante (LOWENTHAL, 2009, p. 55-68).

Devemos ressaltar que, com o fim da Guerra Fria, a inteligência governamental, sua função, sua necessidade e, até mesmo, sua própria existência foram alvo de discussão em diversos países. Seja pelos imperativos de uma nova onda democrática que exigiam maior transparência e a superação de traumas que os serviços de inteligência causaram com os regimes ditatoriais de diversas vertentes ideológicas na segunda metade do século XX – como ocorre nos países latino-americanos; seja pela denunciada incompetência de alguns sistemas de cumprirem o seu papel dentro do Estado. O questionamento estava ligado essencialmente ao contexto internacional de dúvidas em relação às ameaças, à nova distribuição de poder, ao papel do Estado e a adaptação de seus aparatos de defesa.

Os ataques de 11 de setembro de 2001 nos Estados Unidos, ao mesmo tempo que consolidaram a necessidade desses sistemas, intensificaram os desafios e exigiram dos sistemas ainda mais efetividade, mais legitimidade e mais coordenação. Efetividade para evitar novas crises como a ocorrida nos Estados Unidos, conseguir perceber melhor e mais agilmente as ameaças, sendo capaz de alertar com antecedência; legitimidade para coibir abusos e autonomia excessiva; e coordenação para ampliar a capacidade de solução de crises e a sinergia dentro e entre os sistemas nacionais. Por outro lado, o processo de digitalização dos conflitos, advindo dos avanços tecnológicos e que ganhou relevância a partir da Guerra do Golfo, longe de ter causado uma "revolução dos assuntos de inteligência", deu nova dinâmica ao papel da inteligência, estratégica e tática, e afetou diretamente a distribuição de poder no sistema internacional (LONG; GREEN, 2015)

Todos esses fatores inerentes aos Sistemas Nacionais de Inteligência, aliados ainda às diferentes estruturas e evoluções específicas de cada Estado, fazem com que os Estudos de Inteligência sejam uma área em que há dificuldades adicionais no processo de formação de novas teorias. O segredo e o conflito informacional levam a uma escassez de informações que limita a evolução consistente de uma área de estudos que tenha alguma utilidade prática para a orientação de políticas públicas e a informação da população em geral. A área acaba se limitando e orientando seus estudos às diferentes crises e escândalos que inundam de informações o público em geral sobre um caso específico isolado, seja para gerar extensos relatos sobre esse casos, seja para retomar a importante, porém já extensamente analisada, questão da legitimidade e do controle democrático sobre os órgãos de inteligência. Há pouco espaço para a teorização.

Nesse contexto, as vantagens de se estudar comparativamente os sistemas de inteligência são variadas. A principal delas é o fato de que a inteligência não está conscrita a barreiras nacionais (HASTEDT, 1991). Os problemas estão sempre relacionados ao "outro", no sentido de que conhecer os demais sistemas permite não só ter uma vantagem relativa sobre o potencial inimigo, mas também averiguar de que maneira outros atores no sistema resolveram problemas semelhantes aos que podem surgir no sistema nacional brasileiro.

Outro fator é a comensurabilidade dos sistemas de inteligência, que, apesar de serem organizados de maneira diferente em diferentes países, possuem o mesmo propósito, independente de regime ou outras variáveis. Conforme Davies e Gustafson:

> Da sua maneira, a inteligência é um assunto particularmente adequado para análise comparativa. Ao contrário de outras áreas de governo, que podem depender profundamente de formas básicas de organização social diferentes, as diversas funções e principais componentes lógicos ou passos do campo inteligência tendem a proporcionar um conjunto relativamente comum de atividades que podem ser identificados e diferentes implementações que podem ser examinados metodicamente. Da sua maneira, a inteligência tem uma semelhança ao estudo processos de políticas públicas mais concretos, como construção de estradas e contas nacionais do que com questões conceitualmente mais sutis, tais como constituições ou judiciários.[3] (DAVIES; GUSTAFSON, 2013, p. 7, tradução nossa)

Por fim, o estudo comparado ajuda a evitar erros advindos de um viés etnocêntrico, relacionados à imposição de percepções nacionais a problemas de outras regiões, ou generalizações infundadas. A próxima seção tentará expor de maneira não exaustiva, mas por amostragem, os principais trabalhos desenvolvidos na área: primeiro, um breve relato das tentativas de desenvolvimento de uma metodologia consistente, ou seja, uma revisão da teoria; depois, o foco é nos estudos comparados realizados.

1.2 Estudo Comparado dos Sistemas Nacionais de Inteligência

Os Estudos Comparados em Inteligência antes da década de 1990 possuíam duas características marcantes: serem desenvolvidos quase exclusivamente no eixo anglo-saxão – o que variou pouco nos anos recentes –, e a falta de uma metodologia sistemática consistente, que permitisse a comparação de um grande número de casos, ou mesmo a replicação de

[3] Do original: *In its way, intelligence is a subject especially well suited to comparative analysis. Unlike many areas of government, which may depend on profoundly different basic forms of social organization, the various functions and principal logical components or steps of intelligence field tend to provide a relatively common set of activities that can be identified and differing implementations that can be examined methodically. In its way, intelligence bears a closer resemblance to the study of very concrete public policy tasks like road building and national accounts than to conceptually subtler issues such as constitutions or judiciaries.*

estudos. Estabelecidos entre duas tradições, de um lado, os norte-americanos, com viés normativo e foco paroquial; de outro, os ingleses, com sua tradição historiográfica. Dessa maneira, o que se tinha era um grande número de estudos de caso focados em grandes acontecimentos (transição democrática, cooperação internacional) ou assuntos específicos (falhas, surpresas estratégicas), enviesados de acordo com a origem do autor.

O trabalho pioneiro a propor uma sistemática mais ampla nos estudos comparados de inteligência foi o artigo publicado por Glenn Hastedt em 1991 (HASTEDT, 1991). Em uma tentativa de sistematizar o estudo comparado em inteligência, o autor propôs quatro prerrogativas básicas a serem resolvidas para se promover esses estudos: (1) o que comparar e com que dados, (2) qual *framework* deve ser usado para a comparação, (3) escolha entre enfatizar as semelhanças e as diferenças e (4) se o propósito deve ser analítico ou descritivo.

As respostas para a questão (1) são bastante variadas e dependentes das outras perguntas, mas se ressalta sempre a dificuldade de acesso. Para resolver a questão (3), o autor propõe que o estudo comparado pode contribuir para conciliar essas visões: estabelecendo se diferenças significativas existem e sugerir variações e semelhanças ainda não consideradas, impedindo a dicotomização, ou seja, a classificação dos sistemas em ocidentais e não-ocidentais, autoritários e democráticos, etc. Michael Herman (2001) captura bem o problema da dicotomização quando analisa a possibilidade da criação de uma tipologia dos sistemas nacionais de inteligência ao afirmar:

> Tão poucos estudos comparados foram publicados que seria perigoso classificar todos os sistemas de inteligência nacionais como "ocidentais" ou "autoritários". Classificar a inteligência é como classificar as formas de governo, mas com menos dados públicos. [4] (HERMAN, 2001, p. 18, tradução nossa).

A questão (2), por fim, levanta a proposição metodológica mais interessante, o fato de na definição do *framework* haver a necessidade de focar na inteligência como variável dependente. Nesse sentido, o autor propõe construir esse *framework* a partir de níveis de análise: o individual, o das instituições, o do contexto internacional e o do sistema internacional. O nível individual, no qual, com a burocratização dos sistemas, passa do espião para a questão de identificar as circunstâncias em que ou os produtores de inteligência, ou os consumidores são as variáveis explicativas para determinado processo. No nível das instituições, a preocupação é com a comparação de padrões operacionais e organizacionais. A

[4] Do original: *So few comparative studies have been published that it would be hazardous to categorize all national intelligence systems as either 'Western' or 'authoritarian'. Classifying intelligence is like classifying forms of government, but with less public data.*

vantagem de estudar esse nível é que dados sobre a organização dos sistemas de inteligência tendem a estar disponíveis. Um terceiro nível foca no contexto social. Neste, o foco seria na maneira como a sociedade molda a inteligência. O problema de análise tende a ser o excesso de dados, muitas variáveis e muitas conexões teórico-explicativas possíveis. O último nível é o do sistema internacional. Nele, as questões estão relacionadas ao contexto internacional e como ele influi na organização da inteligência.

Peter Gill (2009) amplia o modelo dos níveis incluindo as dimensões históricas, espaciais e o foco da pesquisa, desenvolvendo de maneira bastante clara como estudar inteligência em cada um dos níveis, adicionando técnicas de pesquisa e teorias utilizáveis para cada recorte (GILL, 2009, p. 87). Para ele, não é necessário focar em nenhum dos níveis e o estudo pode ser transversal a todos.

A partir desses questionamentos, diversos autores começaram a tentar propor critérios suficientes para uma comparação entre sistemas de inteligência. Loch Johnson, em seu livro de 1998, *Secret Agencies: US Intelligence in a Hostile World*, dá um primeiro passo propondo que as principais variáveis que diferenciam os sistemas e que deveriam ser analisadas são as seguintes:

> […] o tamanho e o escopo de suas atividades (incluindo perícia técnica), o seu grau de coesão institucional (centralização vs. fragmentação), a medida em que há supervisão interna e externa, e sua adesão a ou rejeição de considerações morais na realização de operações secretas, como o uso de evasão de assassinato. [5] (JOHNSON, 1998, p. 119-121, tradução nossa)

Kevin O`Connel, em um artigo para o Brown Journal of World Affairs em 2004, diverge dos critérios de Johnson, os quais para ele não seriam refinados o suficiente, e propõe novos critérios a partir da proposta de Hastedt (1991): (1) Contexto de segurança nacional (guerra, conflitos, percepção de ameaças); (2) estrutura de segurança nacional; (3) amplitude e diversidade dos requerimentos de inteligência; (4) tamanho organizacional e orçamento, gerenciamento e supervisão; (5) ênfase da coleta; (6) ênfase da análise; (7) relação entre inteligência e a tomada de decisão; (8) o quanto os tomadores de decisão sabem "aproveitar a inteligência"? e quão difundida ela é?; (9) ênfase operacional; (10) nível de cooperação interagências e externo; (11) ênfase da contra-inteligência (O'CONNEL, 2004, p. 195-196).

Em 2009, é lançado o livro editado por Gregory Treverton e Wilhelm Agrell, *National Intelligence Systems.* Apesar do nome, o livro trata de grandes temas com um número

[5] Do original: [...] *the size and scope of their activities (including technical prowess), the degree of their institutional cohesion (centralization versus fragmentation), the extent to which they are held accountable by internal and external overseers, and their adherence to, or rejections of, moral consideration in the conduct of covert operations, such as the use of avoidance of assassination*

reduzido de casos como amostra, não fugindo muito do anglo-centrismo. Um dos capítulos, contudo, é construído em cima dos modelos acima expostos. De autoria de Michael Warner, o capítulo tenta aproximar e melhorar o modelo proposto por O`Connel resgatando a questão essencial da definição do escopo de estudo da inteligência e da centralidade do estudo nos sistemas de maneira comparada para a compreensão e teorização da disciplina. Para ele, somente a partir da compreensão da inteligência em perspectiva é possível compreender o verdadeiro significado e propósito da inteligência. Nesse contexto, inteligência seria conhecimento e poder obtidos por meio de *surveillance*:

> Vigilância é, portanto, uma dimensão característica de ordem política que encapsula a forma como órgãos sociais (tanto democráticas e autocráticas) empregam o conhecimento dos seus constituintes e seus rivais de maneira a preservar e estender seu poder.[6] (WARNER, 2009, p. 18, tradução nossa)

A partir dessas definições, ele volta a focar nos sistemas de inteligência como variável dependente e propõe três variáveis independentes para explicá-los. A primeira seria estratégia, ou seja, orientação básica da política de segurança nacional, geopolítica, motivos, objetivos, alianças e competições, situação e cultura estratégica (WARNER, 2009, p. 27-28). Em suma, o contexto nacional e regional e a percepção de ameaça. A segunda, regime, que incluiria tipo de soberania, forma de governo, estruturas internas de supervisão e o contexto nacional como um todo. Por fim, teríamos a tecnologia, que estaria relacionada às tecnologia de informação diretamente (capacidade de coleta), aos meios de produção vigentes, à distribuição de recursos naturais, formas institucionais e sociais e à organização e capacidades do complexo militar.

Percebe-se que, apesar do embasamento mais refinado da exposição dos fatores, as variáveis elencadas como independentes resumem os mesmo preceitos já adotados por O`Connel. Além disso, nota-se claramente que os critérios escolhidos, apesar de serem relevantes, são subjetivos e tendem a tornarem-se anacrônicos de acordo com o contexto nacional. De uma certa maneira, baseados na grande experiência desses autores na área, eles são capazes de produzir bons estudos, mas que metodologicamente precisariam ainda ser refinados e testados.

No que tange o desenvolvimento de estudos comparados em inteligência *per se*, podemos ressaltar dois grandes grupos: os focados na questão da democracia e supervisão de

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[6] Do original: *Surveillance is thus a characteristic dimension of political order that encapsulates the way in which governing bodies (both democratic and autocratic) employ knowledge of their constituents and their rivals in ways to preserve and extent their power.*

inteligência e aqueles orientados por um tema ou questão mais específico e seu impacto em alguns sistemas de inteligência, sendo estes históricos ou não. No primeiro grupo, temos estudos como os desenvolvidos por Thomas Bruneau e Steven Boraz (2007), que fazem um balanço dos serviços de inteligência nos Estados Unidos, Reino Unido e nas chamadas novas democracias (Brasil, Argentina, Taiwan, Romênia, África do Sul, Rússia e Filipinas) tendo em vista os princípios da legitimidade e efetividade desses sistemas. Ele é bem definido tematicamente, com as reformas dos sistemas nas novas democracias e o controle democrático como fio condutor, sendo todos os casos bem desenvolvidos para a proposta do livro. Mesmo assim, a possibilidade de generalização desse modelo fica conscrita a um período de tempo especifico, ou seja, a consolidação democrática desses países.

Nesse mesmo sentido podemos citar alguns outros casos, como o livro "Serviços Secretos e Democracia no Cone Sul", lançado em 2010, com autoria de Priscila Brandão (BRANDAO, 2010). Ele trata do processo de reforma e consolidação dos serviços de inteligência, focado em três países da América do Sul: Argentina, Brasil e Chile. Com uma abordagem neoinstitucionalista histórica, a autora utiliza a institucionalização dos sistemas nesses três países como variável dependente e a transição como variável explicativa. De maneira similar, Eduardo Estevez desenvolve o estudo de outros três países latino-americanos: Argentina, Peru e Equador (ESTEVEZ, 2014). Ainda no tema da democratização e seu impacto na inteligência, podemos destacar o trabalho de Marina Caparini (CAPARINI, 2014), que faz um estudo comparando os países do Leste Europeu e dos Balcãs com relação a suas adaptações ao contexto pós-regimes socialistas e à ascensão da União Europeia. Por fim, ainda relacionado ao tema da legitimidade e da supervisão congressual, podemos ressaltar os trabalhos desenvolvidos por Peter Gill, dos quais gostaríamos de chamar atenção o artigo que trata da avaliação dos órgãos de controle externo nos EUA e no Reino Unido pós 11 de setembro (GILL, 2007).

Em relação ao grupo temático, temos alguns trabalhos. Primeiramente, devemos destacar o livro editado por quatro dos pesquisadores de maior destaque na área de inteligência: Stuart Farson, Peter Gill, Mark Phythian e Shlomo Shapiro (FARSON et al., 2008). Contando com um grupo variado de autores de países diferentes (32 no total), este livro tentou abranger o maior número de países possível em seus dois volumes. O livro apresenta uma sistemática de capítulos relativamente homogênea, que tenta levar em conta a percepção de ameaças, o contexto nacional, o tipo de regime e o controle externo, tendo como fio condutor o momento pós 11 de setembro de 2001. Apesar de ser um estudo bastante abrangente e de extrema relevância, a descrição individual dos casos não permitiu a análise

comparada de fato, o que pode ser atribuído à falta de uma metodologia explícita de comparação. Assim, a escolha de casos é feita de acordo com a disponibilidade de autores especialistas e de dados. No mesmo número temático da *Intelligence and National Security*, no qual foram publicados os artigos de Estevez (2014) e Caparini (2014), temos ainda o artigo de Marco Cepik e Christiano Ambros sobre a evolução dos sistemas nacionais de inteligência no Brasil, na Colômbia, na África do Sul e na Índia (CEPIK; AMBROS, 2014).

Como último exemplo, temos a abordagem desenvolvida por Philip Davies e Kristian Gustafson (DAVIES; GUSTAFSON, 2013). Com um total de 12 casos, o livro parece mais coeso no sentido de que tem na cultura política seu fio condutor e, por meio de sua abordagem culturalista histórica, busca estabelecer na relação do legado de determinadas civilizações o fator essencial para o estabelecimento de determinados padrões que moldam os Sistemas de Inteligência desses países. A maior contribuição do estudo, entretanto, parece ser o seu foco fora da anglosfera, como explicita o subtítulo do livro. Nesse sentido, a ênfase nas heranças culturais ressaltada por Gustafson e Davies ajuda a entender as origens da lógica de formação dos sistemas de inteligência em diferentes regiões. Contudo, tem poucos efeitos sobre explicações organizacionais atuais, o que dificulta uma apreciação comparativa da realidade prática desses sistemas na contemporaneidade.

De maneira nenhuma procuramos ser exaustivos na revisão dos trabalhos, mas sim expor uma amostra dos principais trabalhos desenvolvidos nas duas últimas décadas. Logo, assim como as propostas teóricas para o desenvolvimento de estudos comparados em inteligência expostas na primeira parte desta seção, as abordagens comparativas práticas mencionadas não conseguem demonstrar uma maneira viável para comparação de casos em uma escala maior, apesar de, como já ressaltado, serem consistentes com a agenda de pesquisa. A evolução dos estudos comparados é marcante e incremental como demonstra a revisão acima exposta. A possibilidade de, levando em consideração os preceitos já ressaltados, desenvolver uma metodologia comparativa aplicável em grande escala compensaria a dificuldade de obtenção de informações, facilitaria a amplitude do escopo das comparações e ainda superaria a necessidade de ter que se focar em muitos detalhes. Nesse sentido, a proposta é a utilização da análise de redes para tentar suprir essa lacuna.

1.3 Análise de Redes e Estudos de Inteligência

A análise de redes foi inicialmente desenvolvida nas ciências sociais aplicadas e data do início do século XX.[7] Marcada pela interdisciplinaridade, a grande evolução e retomada da técnica, contudo, começa com a chegada dos computadores e a possibilidade de conseguir efetuar cálculos matemáticos cada vez mais complexos de maneira mais rápida.[8] Isso faz com que a disciplina seja ampliada, mantendo a mesma base conceitual, mas expandindo seu escopo de atuação para diferentes e novas áreas além da análise de redes sociais: sistemas complexos, planejamento de projetos, análise de textos, computação, epidemiologia, pesquisa genealógica, etc. (BRANDES; ERLEBACH, 2005). Nesse sentido, podemos definir as redes como "simplesmente um conjunto de relações entre objetos que podem ser pessoas, organizações, nações, itens encontrados em uma pesquisa no Google, células cerebrais ou transformadores elétricos" (KADUSHIN, 2012, p. 3-4).[9] A expansão e utilização na áreas de humanas, exatas e da saúde, ao invés de segmentar o campo, tem permitido trocas constantes e aprimoramentos teóricos incrementais.

Dessa forma, o conjunto de relações que define a rede está ligado diretamente a estrutura de um determinado sistema independente de sua natureza. Temos sempre nas redes os vértices como sendo agentes e as arestas representando as relações entre eles. Essas relações podem ser recíprocas ou não, fazendo com que as arestas sejam direcionados ou não, respectivamente (SCOTT, 2000). Ao identificar esse sistema, é possível – por meio da utilização da teoria de grafos, modelos computacionais, entre outros – analisar a sua dinâmica, identificando padrões e comportamentos organizacionais. Considerando suas origens matemáticas, a base da análise de redes, dessa forma, é a utilização matrizes para o registro das relações, de grafos para a visualização e complementação da análise e de índices e modelos que para demonstrar determinados conceitos e inferir relações de causalidade (FREEMAN, 2014).

Nesse sentido, seguindo a proposta de Brandes e Erlebach (2005), podemos analisar as redes a partir de três níveis básicos: dos agentes (organizações), dos grupos e do sistema. No nível dos agentes (organizações), o que se procura descobrir é qual agente ou relação entre agentes é a mais importante ou, ainda, quão importante um agente e suas relações são. Para

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[7] Para um comentário detalhado do desenvolvimento da análise de redes durante o século XX ver SCOTT, 2000 e FREEMAN, 2004.

[8] Para um compilado dos principais softwares de análise de redes ver HUISMAN; VAN DUIJIN, 2014.

[9] Do original: "*simply a set of relations between objects which could be people, organizations, nations, items found in a Google search, brain cells, or electrical transformers.*"

medir essa importância, são utilizados os índices de centralidade estrutural de acordo com o propósito da análise.[10] Em um certo sentido, podemos inferir a partir desses índices a distribuição de poder na rede, uma vez que a relação entre os atores e sua posição relativa a partir disso demonstram entre outros fatores a capacidade de dominação e as vantagens relativas posicionais (HANNEMANN; RIDDLE, 2001). No nível de grupos, a principal preocupação tem sido com a análise de formação de *clusters* no sistema, buscando perceber e estabelecer aqueles que existem, além de procurar por potenciais formações novas. Por fim, no nível sistêmico, é possível estabelecer padrões relacionados à rede como um todo, desde resiliência e robustez, passando por densidade e amplitude da rede. No caso do estudo da análise de organizações, um importante fator que pode ser auferido – e que será demonstrado no artigo subsequente – é o do risco organizacional por meio de potencial de fragmentação de uma rede (BRANDES; ERLEBACH, 2005; MCCULLOH; ARMSTRONG; JOHNSON, 2013).

Nesse contexto, ao considerarmos os Sistemas Nacionais de Inteligência como redes – ou seja, uma coleção de objetos interconectados e/ou relacionados, no qual temos os diferentes órgãos de inteligência formando os vértices (agentes), enquanto as relações e conexões são representadas pelas arestas –, podemos fazer comparações de forma mais sistemática e objetiva. Como as relações podem ser direcionados ou não, podemos analisar tanto a hierarquia dentro dos sistemas, quanto as comunicações e fluxos de informação. A vantagem principal está no fato de não ser necessário um nível de acesso muito grande, podendo as relações serem inferidas a partir de documentos oficiais e outras fontes ostensivas. Além disso, a análise pode ser direcionada a qualquer um dos níveis acima expostos, dependendo do foco e do objetivo da pesquisa.

Os problemas enfrentados quando se estuda inteligência não desaparecem ao aplicarmos análise de redes para sistematizar os dados da pesquisa. Não negamos a utilidade da análise qualitativa dos casos e acreditamos que ela é essencial para complementar a análise de redes na comparação de casos, apenas cremos que a análise de redes permite desviar de certos etnocentrismos (crença na especificidade única de um caso) e dicotomizações que podem surgir de uma avaliação puramente qualitativa. Dessa forma, três são os principais objetivos ao aplicar-se a técnica da análise de redes como metodologia de pesquisa para os sistemas nacionais de inteligência: (1) ser capaz de analisar transversalmente os níveis de

[10] Existe atualmente uma relevante discussão sobre o cálculo desses índices. Não cabe ao escopo deste trabalho e ao espaço limitado que aqui dispomos entrar nos detalhes dessa discussão. Para integrar-se ao debate ver BORGATTI; EVERETT, 2006; BRANDES; FLEISCHER, 2005. Para uma visão mais ampla da origem desses índices, ver SCOTT, 2000

análise descritos acima (dos agentes/organizações, dos subgrupos/*clusters* e dos sistemas), de maneira combinada com os propostos por Hastedt em 1991 (individual, da organizações, nacional e internacional); (2) padronizar a análise nos Estudos Comparados de Inteligência, de maneira a permitir uma expansão de casos estudados de maneira sistemática; (3) dar os primeiros passos para a proposição de uma tipologia dos Sistemas Nacionais de Inteligência objetiva, exaustiva e mutuamente excludente.

2 NATIONAL INTELLIGENCE SYSTEMS AS NETWORKS[11]

Brazil, Russia, India, China, and South Africa

2.1 Introduction

This article aims to contribute to the development of comparative research in the Intelligence Studies field. Specifically, we compare authority and communication relationships among central government supervising and directing organizations (*government*), collegial organizations for coordination (*coordination*), and individual intelligence organizations (*agencies*). A fourth type of organization, namely external control bodies (*control*), were not included this time for brevity. However, we are in the process of including data about such organizations for the next round of comparisons. The selected countries for analysis in this paper are Brazil, Russia, India, China, and South Africa, members of the international group called BRICS. These five countries are part of a larger sample of 34 countries.[12] Started in 2008, the research has benefited from the cooperation of many international colleagues.[13]

The comparative study of intelligence activity has benefited from more than twenty years of research.[14] The results so far are mixed but promising. Most of the progress has been

[11] The following article was written according to the submission rules of the International Journal of Intelligence and Counterintelligence. For more details on those rules see: http://www.tandfonline.com/action/authorSubmission?journalCode=ujic20&page=instructions#.VhPBxhNVikO

[12] Angola, Argentina, Australia, Brazil, Canada, Chile, China, Colombia, Denmark, Ecuador, France, Greece, India, Iran, Israel, Japan, Mexico, Mozambique, New Zealand, Nigeria, Pakistan, Paraguay, Peru, Romania, Russian Federation, South Africa, South Korea, Spain, Sweden, Turkey, Ukraine, United Kingdom, United States of America, Venezuela.

[13] Throughout the years, a host of research assistants have kept this project alive. Asking for forgiveness in advance if we fail to mention someone, our deepest gratitude to Aline Hellmann, Pedro Romero Marques, Giovanna Kuele, Mariana Chaise, Bruno Kern, Christiano Ambros, Felipe Machado, Frederico Licks Bertol, Joana Oliveira de Oliveira, Joao Arhtur Reis, Josiane Sarti, Laura de Castro Quaglia, Luciana Brandao, Luciana Ghiggi, Marcelo Mesquita Leal, Matheus Machado Hoscheidt, Silvia Sebben. Likewise, many colleagues in different countries offered help and much valued input. Special thanks to colleagues Alpha Mamadou Diallo, Antonio Diaz, Carlos Arturi, Carolina Sancho, Cris Matei, Douglas Porch, Eduardo Estevez, Gregory Treverton, Hermenegildo Avelino, Igor Castellano, John Nomikos, Julio Rodriguez, Keneth Dombroski, Kristian Gustavson, Lauren Hutton, Manuel Ugarte, Mark Phythian, Michael Herman, Michael Warner, Peter Gill, Priscila Brandao, Russell Swenson, Shlomo Shpiro, Steven Boraz, Stuart Farson, Thomas Bruneau, Thomas Friis, and Thorsten Wetzling. The Brazilian National Research Council (CNPq) has supported our research on governmental intelligence for many years now, including this article.

[14] Glenn Hastedt, "Towards the Comparative Study of Intelligence", *Conflict Quaterly*, Vol. 11, 1991, pp. 55-72; Michael Herman, *Intelligence Power in Peace and War* (Cambridge: Cambridge. University Press, 1996); Kevin M. O'Connell, "Thinking About Intelligence Comparatively", *Brown Journal of World Affairs*, Vol. 11,

obtained on issues such as legislation, professionalization, external control, impact of terrorism, and democratization processes.[15] There are, however, two types of obstacles to the comparative study of intelligence activities. The first one is empirical, as the difficulties in gaining access, dealing with disinformation, and secrecy, are even more restrictive when it comes to researching other countries. Moreover, the informal side of institutions and cultural aspects are more complex to evaluate than formal relationships and disaggregated indicators. The second type of obstacle is theoretical, since we need to improve the link between structural and interactive explanations of National Intelligence System evolution.[16]

Hence, our research is focused on the comparison between formal organizations and the relationships among them that may be inferred from open sources. At the same time, Network Analysis can help us specify and begin to understand the working relationships between organizations in National Intelligence Systems. In descriptive terms, graphs and adjacency matrices are better than traditional organizational charts because they allow the representation of the mutual relations between the nodes of the network. These nodes can be individual or collective actors, as well as organizations. In theoretical terms, Network Analysis allows us to explain to some extent how different organizational settings of National Intelligence Systems increase or decrease the likelihood that vulnerabilities and threats (such as institutional crises) will negatively affect its institutional evolution.[17] The combination of measures associated with the actors (nodes), subgroups (clusters), and the network as a whole

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No 1, Summer/Fall 2004, pp. 189-199; Peter Gill, "Evaluating intelligence oversight committees: The UK Intelligence and Security Committee and the 'war on terror'", *Intelligence and National Security*, Vol. 22, No 1, 2007, pp. 14-37; Thomas. Bruneau and Steven Boraz, editors, *Reforming Intelligence: Obstacles to Democratic Control and Effectiveness* (Austin: University of Texas Press, 2007); Gregory F. Treverton and Wilhelm Agrell, editors, *National Intelligence Systems: Current Research and Future Prospects* (Cambridge: Cambridge University Press, 2009); Davies; K. C. Gustafson and P.H. Davies, *Intelligence Elsewhere: Spies and Espionage Outside the Anglosphere* (Washington, DC: Georgetown University Press, 2013).

[15] José Manuel Ugarte, *Legislación de Inteligencia* (Buenos Aires: Editorial Dunken, 2001); Russell G. Swenson and Susana C. Lemozy, editors, *Democratization of Intelligence: Melding Strategic Intelligence and National Discourse* (Washington, D.C.: National Defense Intelligence College, 2003); Hans Born and Ian Leigh, *Democratic Accountability of Intelligence Services* (Geneva Centre for the Democratic Control of Armed Forces - DCAF, 2007); Stuart Farson et al, editors, *PSI handbook of global security and intelligence: national approaches* (Westport, Connecticut - London: Praeger Publishers, 2008) (two volumes); Michael M. Andregg and Peter Gill, "Comparing the Democratization of Intelligence", Intelligence and National Security, Vol. 29, No. 4, , jul. 2014, 487–497.

[16] Mark Phythian, "Intelligence theory and theories of international relations: Shared world or separate worlds?", *in Intelligence Theory: Key Questions and Debates*, edited by Peter Gill, Stephen Marrin, and Mark Phythian (Londres-Nova York: Routledge, 2008), pp. 54-73; Marco Cepik and Christiano Ambros, "Intelligence, Crisis, and Democracy:Institutional Punctuations in Brazil,Colombia, South Africa, and India", *Intelligence and National Security*, Vol. 29, No. 4, 2014, 523–551; Eduardo E. Estévez, "Comparing Intelligence Democratization in Latin America: Argentina, Peru, and Ecuador Cases", *Intelligence and National Security*, Vol. 29, No. 4, 2014, pp. 552–580.

[17] According to the hypothesis proposed by Cepik and Ambros (2014), one of the variables that affect the learning capacity and the evolution of national intelligence systems is the degree of functional differentiation (division of labor) observed in each country. The other independent variable to be tested is the observed degree of external control, which can also be checked by collecting specific relational data.

(graph) favors the development of a comparative research programme on intelligence systems using Network Analysis.[18]

In this paper, we have tried to answer two questions: 1) How is power distributed in National Intelligence Systems? Notice that we have not tried in any way to establish which country has the most powerful or the best intelligence system. Instead, our goal is to compare how power is distributed among organizations that are part of a given country National Intelligence System. 2) What is the organizational risk to the institutional evolution of a National Intelligence System from a given distribution of power?

In the next section, we explain the methods used to answer the two questions, including definitions, technical choices and procedures for data collection, calculations, results verification, and analysis of discrepancies. We then present the results obtained to answer the first research question for each of the five countries (Brazil, Russia, India, China and South Africa). In the final section of the paper, we compare the results obtained for each country in order to answer the second research question. We also indicate information gaps, study limitations, and potential ways to engage in future studies from a combined quantitative and qualitative perspective.

2.2 Methods

Let us begin with some definitions. Networks are formed by nodes (also called vertices) and links (also called edges). The nodes can be people, cities, knowledge, resources, or any material or immaterial objects one chooses to analyze. In the case of National Intelligence Systems, all the nodes belong to a single class, namely, organizations. As organizations are collective actors, throughout the article the terms node, actor, and organization will be used interchangeably. For a network to exist, the nodes must be linked by means of a flow or relationship. The links between nodes can be directed (indicated by an arrow) or undirected (reciprocal). For the analysis of National Intelligence Systems, we considered both directed links (subordination) and undirected links (information flows).

By subordination, we mean the hierarchical authority exercised by an organization over another. As part of a contemporary state, even staff relationships (experts asked to provide information instead of simply being told what to do) in intelligence services happen in a bureaucratic and at least partially formal setting. In this sense, the terms subordination

[18] Ian McCulloh, Helen Armstrong, and Anthony Johnson, *Social Network Analysis with Applications* (New Jersey, John Wiley & Sons, 2013), p. 18.

and authority also will be used interchangeably. In turn, information flows were observed through communications between organizations. According to Hanneman and Riddle, the definition of power adopted in the Network Analysis area is relational.[19] The power stems from the position of an actor in the network. This position is determined by the number and the intensity of subordinate relationships that the actor experiences. Moreover, the actor's position is also determined by the number and intensity of information flows that it intermediates.

The intensity of the authority was rated on a scale of four intervals (0, 3, 6, and 9). The intensity 9 indicates relations provided for by law and effective, that is, authority to request others to collect and analyze information or act upon it is legally sanctioned and carried out without any significant insubordination. Authority relationships with intensity 6 are those provided for by law, but in which there are limitations on the observed degree of subordination, either in specific subjects or time periods. A level 3 of authority is one provided by law, but characterized by significant insubordination or leeway. It can also represent a situation where the organization is legally subject to a particular actor, but informally it is another actor who effectively subordinates it. It can also express a reversal of the direction of command. We apply 0 when no relationship exists between organizations, or when it is irrelevant to the functioning of the National Intelligence System.

The same scale was used to rate the intensity of information flow. Relations in which the intensity was classified as 9 are those where the information flow is provided by law and where there is evidence that it is effective between two nodes in the network. In turn, intensity 6 indicates an information flow provided by law, but ineffective for various reasons (low sharing, competition between agencies, administrative rules of compartmentalization, etc.). An intensity 3 was attributed to information flows that are not provided legally, but in which there is evidence of its existence between two actors. We apply 0 when there is no relevant flow of information between two nodes in the network.

The National Intelligence Systems selected for analysis in this article were the so-called BRICS group, which brings together the largest developing economies in the world.[20] The heterogeneity of the countries in the group (Brazil, Russia, India, China and South

[19] Robert A. Hanneman and Mark Riddle. *Introduction to social network methods* (Riverside: University of California, 2005), p. 60, accessed in December 09, 2014, http://faculty.ucr.edu/~hanneman/nettext).

[20] For discussion of the meaning and the various ways to classify the BRICS countries, see Andrew Cooper and Daniel Flemes, editors, "Special Edition: Foreign Policy Strategies of Emerging Powers in a Multipolar World: an introductory review", *Third World Quarterly*, Vol. 34, No. 6, 2013; Paulo F. Visentini et al, *BRICS: as potências emergentes* (Rio de Janeiro: Editora Vozes, 2013); Andrew Hurrell, "Rising Powers ans the Emerging Global Order" in *The Globalization of World Politics: An Introduction to International Relations*, edited by John Baylis, Steve Smith, and Patricia Owens (Oxford: Oxford University Press, 2014).

Africa) in terms of military capabilities, threat perceptions, political system, economic profile, and others, combined with the global and regional importance of each of them, were the criteria used for the selection of cases. The compiled data about their intelligence services are qualitative in nature and taken from open sources, such as official documents, legislation, books, articles, interviews and news. For each link (relationship) between two nodes (organizations), we have weighted the amount of information from different sources converging to a specific judgement about a certain relationship between two organizations. After careful consideration, we have atributted a numeric value to each link according to our scale.

Although it is desirable for the Intelligence Studies field that countries other than the ones in the Anglo-American sphere be studied, deciding what organizations make up the membership of an Intelligence System in the BRICS countries presents some difficulties.[21] When available, legal definitions determine which organizations are part of the National Intelligence System. When there was no legal basis to decide on the system components, we used the proximity of an organization to national security matters. Thus, many organizations dedicated to criminal intelligence activities, especially at the local level, were not included in the network. Similarly, private and non-governmental organizations were excluded, while recognizing the growing importance and the need for additional research on them.[22] Task forces, fusion centers, and working groups were also excluded from the network. We are aware of their increasing importance in many places. However, their temporary and sometimes ad hoc nature makes it difficult to even compile enough information at this point. In the case of police, military, and constabulary forces scattered throughout the territory and with very complex divisional systems, we decided to group them by functionality and subordination at the national level (see Results).

All network nodes belong to the same class (organizations), but they were classified into three major types: governmental supervision and direction organizations (*government*), collegial organizations for coordination (*coordination*), and intelligence agencies (*agencies*). As mentioned, we are in the process of including information about a fourth type of organization, namely external control bodies (*control*), into our data base. Even without that additional element of complexity, being able to establish equivalence between the types of actors in the five countries represented a research challenge. The authority relationship

[21] Andregg and Gill, *Comparing the Democratization of Intelligence*, p. 488.

[22] Patrick R. Keefe, "Privatized Spying: The Emerging Intelligence Industry", in *The Oxford Handbook of National Security Intelligence*, edited by Loch K. Johnson (Oxford, Oxford University Press, 2010), pp. 296-309.

between a collegial organization (coordination) and the other nodes of the network was classified as intensity 9 only when a organization member of the collegiate body had the power to dissolve the collegiate, combining both coordinating and commanding roles. In other cases, this type of node always had its authority relations classified as grade 6. The authority relationship of the head of state with other nodes of the governmental supervising and directing organizations (government) type were classified with intensity 9 with the exception of some cases, based on evidence and explained in the text. Finally, although task forces, fusion centers, and working groups have not been included *per se* as nodes in the network, their existence was considered in view of the intensity atributed to the information flow relations between participating nodes of the task force.

Once the components of a National Intelligence System (the network nodes) were identified and classified, relations between them were recorded in two matrices, one for the relations of authority and others for the information flows. Adjacency matrices are one way to represent a network. In them, the same actors (or network nodes) are arranged in two axes, with rows and columns forming a square. In the cells of the matrix every relationship between two actors is recorded according to their intensity scale. Obviously, diagonal cells which cut the array in half (relating each actor to itself) are filled with 0. The matrices are the basis for recording data, generating graphs, and performing calculations.[23] All work has been carried out with the help of ORA software (Organizational Analyzer) developed by the Center for Computational Analysis of Social and Organizational Systems (CASOS) of Carnegie Mellon University.[24]

To answer the first research question, on the distribution of power in the network representing the National Intelligence System, two different centrality indexes were calculated for each node. According to Brandes and Erlebach[25], different centrality indexes allow for the observation of different aspects of power relations in a network.[26]

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[23] Graphs (G) are abstract objects formed by a set V of vertices (or nodes) and a set E of edges (or links). That is, G = (V, E). Graph theory and relational algebra are the mathematical basis of the Network Analysis area. Other important methodological foundations are the Statistics and Computational Algorithms. Cf. U. Brandes and T. Elerbach, eds., *Network Analysis: Methodological Foundations* (Berlin: Springer, 2005)

[24] Cf. http://www.casos.cs.cmu.edu/projects/ora/software.php. Other network analysis software exists. For a first approximation to this subject, see Mark Huisman and Marijtje A. J. van Duijn, "A Reader's Guide to Social Network Analysis Software", in The SAGE Handbook of Social Network Analysis, edited by John Scott and Peter J. Carrington (Washington D.C.: SAGE Publications Ltd, 2011), pp. 578-597.

[25] Brandes and Elerbac, *Network Analysis: Methodological Foundations*, pp. 92-95

[26] A further critical discussion about the insufficiency of centrality indexes to measure power is in Stephen P. Borgatti, "Centrality and network flow", *Social Networks*, Vol. 27, 2005, pp. 55–71 and also in Stephen P. Borgatti and Martin G. Everett, "A Graph-theoretic perspective on centrality", *Social Networks*, Vol. 28, 2006, pp. 466–484.

The Degree Centrality index, for example, is defined as the number of links between a node and the others, i.e. how connected is a node. In directed graphs, such as those generated by the authority matrix, we have two measures of centrality, one computing relations in which the actor is being subordinated (in-degree), and other relations in which the actor is subordinating another (out-degree). Therefore, the Degree Centrality is a composite index, which can be decomposed into in-degree, out-degree, and total degree measures. The higher the relative distribution of connections a node (organization) has, the less dependent it becomes on any other specific node.[27]

In turn, the Betweenness Centrality index is obtained by computing the number of times a given node intermediates the relationship between other nodes in a geodesic path (i.e., the shortest path between two nodes). This index allows us to evaluate which nodes (actors) are in the position of stakeholders, that is, who have the power to withhold information within the network and the potential to break or prevent relations, in fact isolating other actors.[28]

Consequentely, in order to estimate the distribution of power on the network three operations were undertaken. First, each centrality index (Degree and Betweenness) was calculated separately for each node (organization) in the network. Second, the results were normalized on a scale between 0 and 100, thereby equalizing the size of different National Intelligence Systems, wich is technically called the network diameter. Normalization was achieved by adding the indexes obtained for each actor and then dividing the individual index of each actor by the value of the sum of all them. Third, the normalized indexes were compared to establish the relative position (power) of each actor in the network.

It is important to note that the method combines qualitative and quantitative steps. First, we identify, count, and register intelligence organizations in each country. Second, we analyze qualitative information to atributte a weight to each existing link between them. Such qualitative information was acquaired by the authors from public sources, such as academic books and articles, official documents, and news [29]. Third, we calculate two different centrality indexes for each node. Fourth, we normalize the indexes. Finally, we use such indexes to identify patterns and corroborate/refute previous qualitative intuitions. Qualitative steps are crucial and drive the process, although deciding upon the proper indexes and provide calculations is an important part of the methodology as well.

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[27] Linton Freeman, "Centrality in Social Networks Conceptual Clarification", Social Networks, Vo. 1, 1979, pp. 215-239.

[28] Mcculloh, Armstrong and Johnson, *Social Network Analysis with Applications*; Charles Kadushin, *Understanding Social Networks: theories, concepts and findings* (Oxford, Oxford University Press, 2012); Hanneman and Riddle. *Introduction to social network methods*.

[29] The sources for each country are referred throughout the article.

To answer the second research question concerning the organizational risk of a National Intelligence System due to a particular distribution of power, two additional indexes were used, in accordance with McCulloh, Armstrong and Johnson[30]. By organizational risk, we mean the probability that the system's internal vulnerabilities or external threats to it will adversely affect important organizational assets in the network. Unfortunatelly, the methodology cannot establish which effects will follow, but we could say that they range from mild difficulties in achieving cooperation and sluggish adaptation to environmental changes to the total fragmentation of the National Intelligence System[31]. Besides, it is important to notice that Network Analysis literature uses similar names for the additional indexes. Although it can be a bit confusing, just remember that while the previous indexes were calculated for each node of the network, these two new indexes are applied to the network as a whole (graph level analysis).

The Degree Centralization index indicates the existence of nodes (organizations) very central in the network. Such nodes, if removed, would lead to the dispersion of the others. This index is measured on a scale from 0 to 1. The closer to 0, the more resilient, i.e., less prone to fragmentation is a given network. This happens because all of its nodes have similar Degree Centrality. It is noteworthy that being more resilient can also mean being less able to adapt [32]. Therefore, the meaning of a particular index result can only be established after careful qualitative analysis of the relationships between the actors of the network and the time intervals used to consider the impact of such indexes would also matter. The calculation of Degree Centralization was applied to the authority relations graphs.

The Betweenness Centralization index indicates how evenly the information is distributed on the network. It is also measured on a 0 to 1 scale. In this case, the closer to 0, the better the information distribution. Obviously, due to security reasons, in the case of National Intelligence Systems, a totally equal dissemination of information across the network is not necessarily desirable or possible. On the other hand, the closer to 1, the higher the risk that a single node (organization) can retain all information, acting as a gatekeeper on the network. The calculation of Betweenness Centralization was applied to the information flow graphs.

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[30] Mcculloh, Armstrong and Johnson, *Social Network Analysis with Applications*, p. 205-234.

[31] According to Cepik and Ambros, *Intelligence, Crisis, and Democracy*, pp. 550-551, organizational risk in this sense is conducive to institutional crises, which tends to be recurrent in the intelligence realm.

[32] As Russell Swenson called to our attention (e-mail to the authors), "greater resiliency, in more cultural terms, could also imply that no hegemon exists among members of the system that would insist on other organizations becoming adaptive to new situations or threats. That is, each bureaucratic unit is able to maintain its old habits, even if less productive than before".

The following steps were conducted to estimate the organizational risk in National Intelligence Systems. First, we calculate each centralization index (Degree and betweenness) separately. As the two indexes are already expressed on a scale between 0 and 1, it was not necessary to perform the standardization process. Second, both indexes, calculated separately, were then contrasted with previous knowledge about the current organizational situation of the respective National Intelligence Systems of Brazil, Russia, India, China, and South Africa. Again, such knowledge was acquired by the authors from public sources. However, the Centrality indexes were important to guide our qualitative research and to indicate patterns and discrepancies requiring additional exam.

2.3 Results

This section will present the results obtained through the calculations of the Centrality indexes (Degree and Betweenness) employed in order to form a judgment on the distribution of power in the National Intelligence Systems of the five countries. A brief comment on the configuration of each system precedes the visualization of the resulting network and the presentation of the actual indexes. A more detailed view of the graphs depend of formats and software used to generate and edit them. In order to help the reader, an Annex to the article contains tables for each country detailing the names of all organizations, their types (*government, coordination, agency*) and the values of both indexes (Degree and Betweenness). In the graphs, the nodes colored in red are type 1 organizations (*government*), the nodes colored in green type 2 organizations (*coordination*), while the blue ones are type 3 organizations (*agencies*). Although it is not possible to visualize each link individually, the darker the color of the edge the more intense is the relationship of authority or communication. For each country the final section contains a brief conclusion regarding the power distribution in its National Intelligence System.

2.3.1 Brazil

Created in 1999 by Federal Law 9.883, the current Brazilian Intelligence System (SISBIN) has been characterized by organizational continuity and recurring institutional crises.[33] One reason for that is the preference in Brazilian legislation to use broad definitions

[33] About intelligence in Brazil, see Marco Cepik, *Espionagem e Democracia: agilidade e transparência como dilemas na institucionalização de serviços de inteligência* (Rio de Janeiro: FGV, 2003); Marco Cepik,

of intelligence and threats.[34] Although a broad and less than clear definition of intelligence is quite common in many countries (UK for example), two most important institutional consequences of this preference in the case of Brazil are the high inclusiveness of the Brazilian intelligence system and the difficulty in defining missions focused on the provision of national security.[35]

In total, the adjacency matrix (and the resulting graph) of Brazil's National Intelligence System included 22 governmental supervising and directing organizations (*government*), 05 collegial organizations for coordination (*coordination*), and 23 intelligence organizations (*agencies*).[36] The authority relations of the Brazilian National Intelligence System are shown in Figure I.

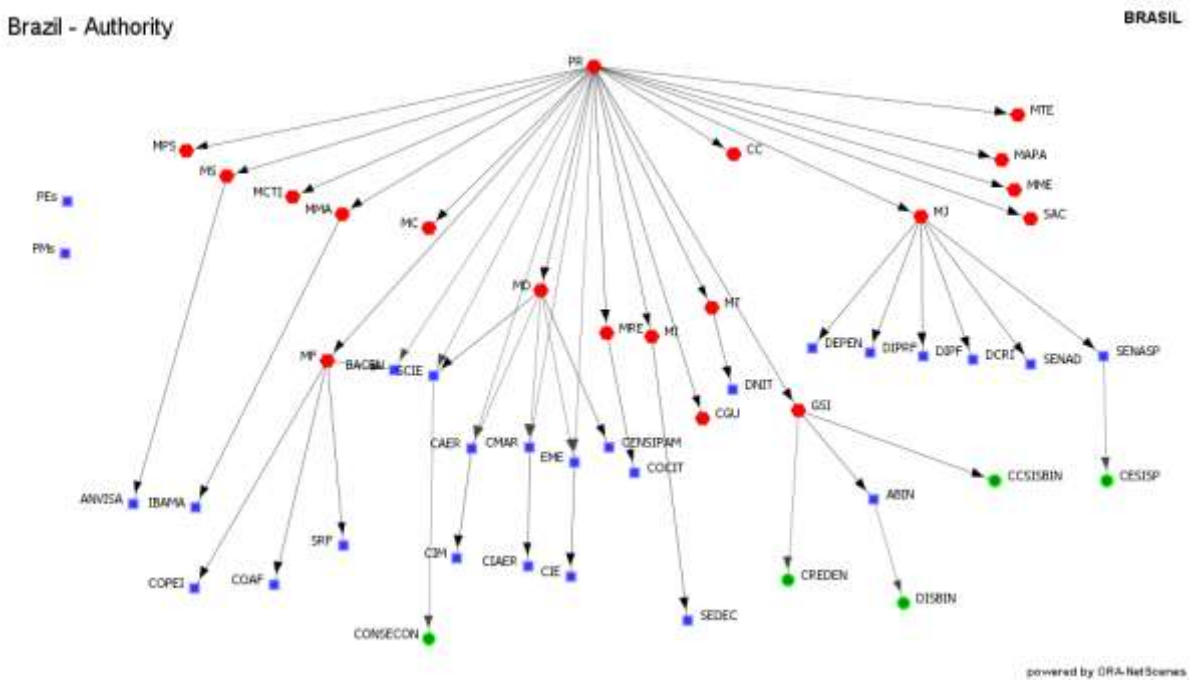
"Regime Político e Sistema de Inteligência no Brasil: Legitimidade e Efetividade como Desafios Institucionais", *DADOS – Revista de Ciências Sociais*, Vol. 48, No. 1, 2005, pp 225; Marco Cepik, editor, *Inteligência governamental: contextos nacionais e desafios contemporâneos.* (Niterói: Impetus, 2011); Marco Cepik. "Adequação e Preparo Institucional do Brasil para o Enfrentamento da Ameaça Terrorista: avaliação crítica e sugestões preliminares", *Annals of the II Encontro de Estudos: Terrorismo. Brasília : Gabinete de Segurança Institucional; Secretaria de Acompanhamento e Estudos Institucionais*, 2004. pp. 47-77; Marco Cepik, "Structural Change and Democratic Control of Intelligence in Brazil", in *Reforming Intelligence: Obstacles to Democratic Control and Effectiveness*, edited by Thomas Bruneau and Steven Boraz. (Austin-TX: University of Texas Press, 2007), pp. 149-169; Marco Cepik and Thomas Bruneau, "Brazil: national culture of intelligence", in Handbook oh Global Security and Intelligence edited by Stuart Farson et al (Praeger Security International, 2008) pp. 112-129; Luiz Carlos de Carvalho Roth, Uti Exploratoribus: Credibilidade e Controle da Atividade de Inteligência no Brasil (Niterói: Phd diss Universidade Federal Fluminense, 2009); Joanisval Brito Gonçalves, *Atividade de inteligência e legislação correlata* (Niterói : Impetus, 2009); Joanisval Brito Gonçalves, *Políticos e espiões: o controle da atividade de inteligência* (Niterói : Impetus, 2010); Prisicila C. Brandão. *Serviços secretos e democracia no Cone Sul : premissas para uma convivência legítima, eficiente e profissional* (Niterói: Impetus, 2010); Florina Cristiana Matei and Thomas Bruneau, "Intelligence reform in new democracies: factors supporting or arresting progress", *Democratization*, Vol. 18, No. 3, June 2011, pp. 602 –630; Carlos S. Arturi and Julio C. Rodriguez, "Os Serviços de Inteligência e de Segurança Interna no Brasil e em Portugal" in *Inteligência governamental: contextos nacionais e desafios contemporâneos* edited by Marco Cepik, (Niterói: Impetus, 2011). Brandao; Cepik, 2013; Túlio Marcos Santos Cerávolo, *A Integração da Atividade de Inteligência nas Operações Interagências no Brasil Contemporâneo* (Master diss Escola De Comando e Estado-Maior Do Exército, 2014); Joanisval Brito Gonçalves Goncalves, "The Spies Who Came from the Tropics: Intelligence Services and Democracy in Brazil", *Intelligence and National Security*, Vol. 29, No. 4, 2014, pp. 581–599; Cepik and Ambros, Intelligence, Crisis, and Democracy.

[34] Cf. Cepik, *Legitmidade e Democracia*, pp. 207-212.

[35] In addition to the Law 9.883 / 1999, the organization and the functioning of SISBIN are regulated by Decree 4,376 / 2002. Cf. Goncalves, *Atividade de Inteligência*.

[36] We decided not to use the Public Ministry, despite it having an informal intelligence apparatus, since it is not an official part of SISBIN.

Figure I - Authority relations in Intelligence - Brazil



Source: Authors, ORA software**.**

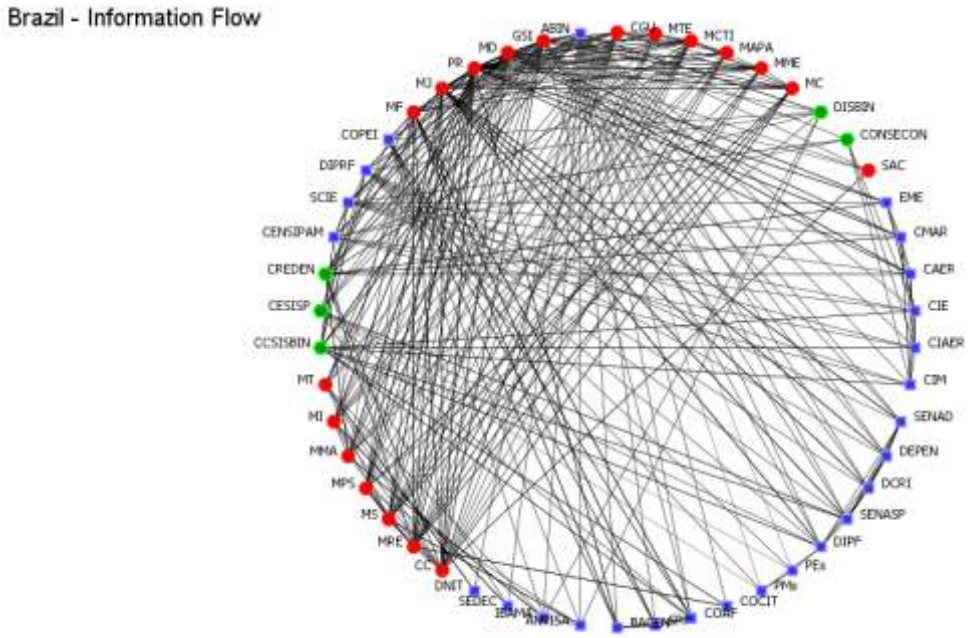
In Brazil, the President has the highest Degree Centrality (22.37). The actor with the second highest level is the Ministry of Justice (7.34). In part, this results from the fact that the President directly subordinates all other governmental supervising and directing organizations (*government*). Since the Brazilian system is very inclusive, many of these organizations do not have intelligence activities as their primary mission.

A critical node is the Brazilian Intelligence Agency (ABIN). Designated by law as the intelligence system center, its leadership in SISBIN is hindered by issues related to budget, priority and focus of the mission, as well as personnel and administrative authority. Since 2002, ABIN has been placed under the authority of the Institutional Security Cabinet (GSI) of the Presidency. As much for its intermediate position in the chain of command between the Presidency and ABIN, as for its participation in many collegial organizations for coordination (*coordination*), the GSI accumulates great power in SISBIN.[37] While the Degree Centrality of ABIN is 1.74, the same index in the case of GSI reaches 3.84.

[37] According to Arturi and Rodriguez, Serviços de Inteligência Brasil Portugal, the fact that the Director of ABIN is a civilian who has to go through confirmation hearings of his name in the Senate, while the Minister of the Institutional Security Office (GSI) has been an officer of the Armed Forces appointed by the President of Republic, indicates an additional problem for the democratic functioning of the intelligence community in Brazil.

To increase sectoral coordination, preserve autonomy, and develop specific doctrines for military intelligence and public security intelligence, new collegial organizations were created in the early 2000s for coordination (*coordination*), such as the Defense Intelligence System (SINDE) and the Subsystem of Public Security Intelligence (SISP). Respectively, the Ministry of Defence (5.24) and the Ministry of Justice (7.34) have a high degree of centrality due to their roles in these subsystems.[38] The Ministry of Finance, in turn, also has a high centrality index (4.89), which indicates a tendency for the institutionalization of a subsystem of financial intelligence in Brazil. As for the information flows in the Brazilian National Intelligence System, they are shown in Figure II.

Figure II - Information Flow in Intelligence - Brazil



Source: Authors, ORA software.

ABIN stands out with a Betweenness Centrality of 32.3. Although it has a low Degree Centrality index, this organization has links with most actors that provide links with other actors, having in fact the shortest Geodesic path and the most obvious one as shown by information flow. Therefore, ABIN has power in the system not because of the number of organizations it subordinates, but for its role in the information flow. Given the density of the

[38] Originally, ABIN exercised the SISP coordination function. One of the reasons for the transfer of responsibility to SENASP was the existence of operational problems and disputes between ABIN and MJ. Still, the SENASP itself finds resistance from the Federal Police, which, in turn, also presents difficulties in cooperation with other state police. Cf. Cepik, *Regime Político e Sistema de Inteligência no Brasil*, p. 90.

network, ABIN cannot position itself as a gatekeeper, i.e. as an actor that may impede the information flow.[39]

In sum, power is highly concentrated in the Brazilian National Intelligence System, even if the System itself is not very powerful. Although the network is quite inclusive, only a few actors hold the majority of power resources, among them the President, ABIN, and the Ministers of Institutional Security, Finance and to a lesser extent, Justice, and Defense.

2.3.2 Russia

Since the end of the USSR, the structure of the Russian National Intelligence System has oscillated in accordance with changes in State capacity, threats to national interests, and the availability of resources. Since 2000, with Vladimir Putin's election, the legacy of Boris Yeltsin has been reverted. Instead of fragmentation and weakening of the intelligence services came a period of increasing power and more resources, especially following the Second War in Chechnya (1999-2009).[40] There was a reduction in the number of intelligence organizations, replacement of several directors, and expansion of operational capabilities, both mission and technology base. More recently, despite the crisis in Ukraine and increased tension with the European Union and the United States, the expansion of the Russian intelligence system was put in check by the economic crisis.[41] The legal basis for the functioning of the Russian intelligence system is a set of laws passed in February 2006 (*On Counteraction of Terrorism; On Operational Search Activity; On Security*), which applies to all the country's intelligence organizations.[42] There are also specific laws for each organization, as well as a large number of presidential decrees.[43]

In total, the adjacency matrix (and the resulting graph) of Russia's National Intelligence System included 06 governmental supervising and directing organizations

[39] A finding that reinforces recent studies on the development of intelligence systems in Brazil is the high Betweeness Centrality (7.3) of the Operations and Management Center of the Amazonian Protection System (CENSIPAM). Created in 2002 with a focus on a critical region for the security and the development of Brazil, the Center provides joint experience for actors from different parts of the system and focuses on results, stimulating inter-agency cooperation. Cf. Ceravolo, *Operações Interagências*.

[40] See Soldatov, "Russia" in *Handbook of Global Security and Intelligence: National Approaches*, edited by Stuart Farson et al (Washington: Praeger, 2008), pp. 479-497; Mark Galeotti and Johnny Shumate, *Russian Security and Paramilitary Forces since 1991* (Oxford: Osprey Publishing. 2013).

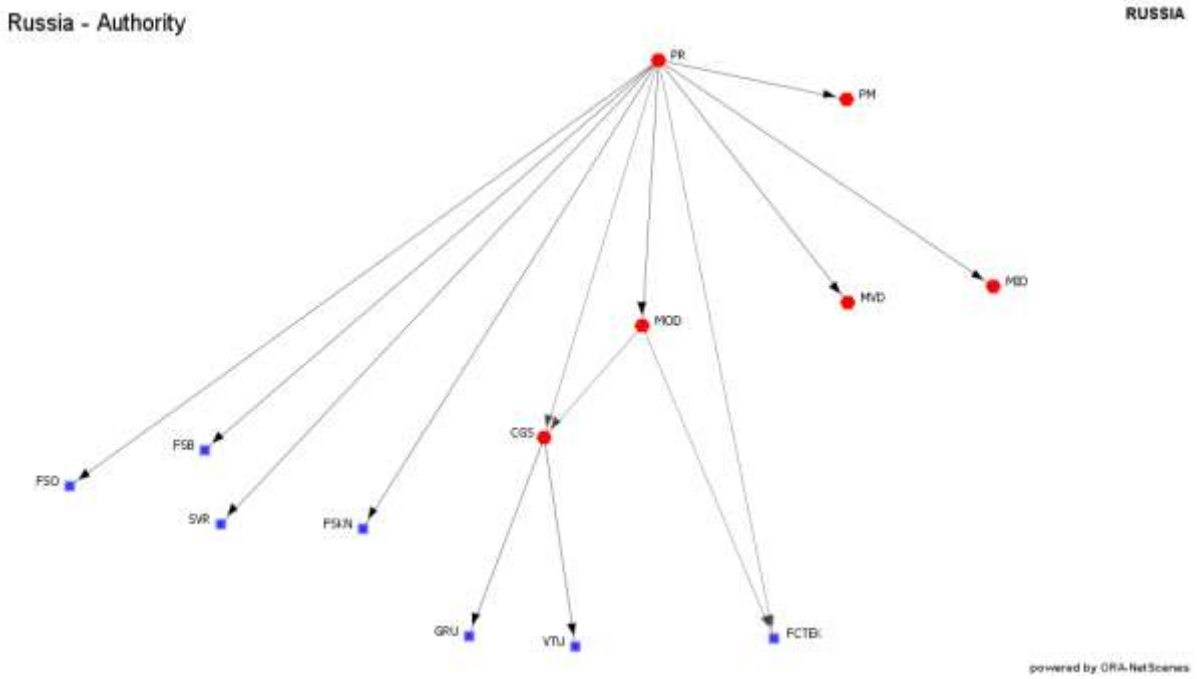
[41] Cf. http://www.themoscowtimes.com/news/article/russia-s-economic-crisis-forces-secret-service-fsb-to-downsize/515756.html. accessed in 15 fev. 2015.

[42] According to Soldatov, *Russia*, major reforms in the Russian secret services did not occur because of September 11, but from the attack of insurgents in Ingushetia in June 2004, resulting in the 2006 legislation.

[43] The main specific laws are called *On the Federal Security Service* (May 1995) and *On External Intelligence* (December 1995). There are other laws, especially decrees and presidential directives. Cf. Soldatov, *Russia*

(*government*), no collegial organizations for coordination (*coordination*) and 07 intelligence organizations (*agencies*). The authority relations in the Russian National Intelligence System are shown in Figure III.

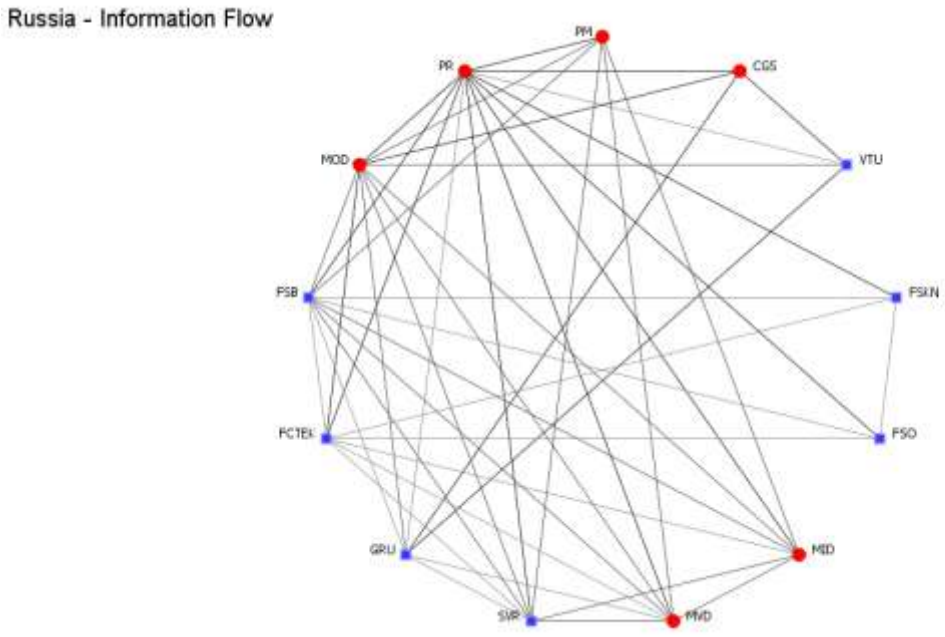
Figure III - Authority Relations in Intelligence – Russia.



Source: Authors, ORA software

In the case of authority relations within the Russian Intelligence System, the President has the highest Degree Centrality (36.84). After the 2006 reforms, the President concentrated authority, subordinating directly most organizations in the Russian network. Despite the Federal Security Service (FSB) being considered a central actor, its Degree Centrality index of 3.95 is lower than the Federal Service for Technical and Export Control (FCTEK) (5.26) and equal to organizations such as the Foreign Intelligence Service (SVR), Military Intelligence Directorate (GRU), Federal Protective Service (FSO), Directorate for Military Topography (VTU), or even the Ministry of Internal Affairs (MVD) and the Prime Minister. Besides the President, the Chief of Staff of the Armed Forces (13.16) and the Ministry of Defence (9.21) have high centrality in the Russian system. Next, the information flows in the Russian National Intelligence System are shown in Figure IV.

Figure IV - Information Flow in Intelligence – Russia



Source: Authors, ORA software.

When it comes to information flows, the GRU has the highest Betweenness Centrality (30.91) in the Russian system, higher even than the FSB (22.55). Part of the explanation lies in the fact that many information flows that pass through the FSB are informal, with intensity 3 only. In contrast, the information flows through the GRU are more formal and, therefore, more intense. Besides them, the FCTEK also has a relatively high Betweenness Centrality index significant (16.48). This can be explained by its role in information security and signals counterintelligence. This type of mission compels the FCTEK to maintain communication (data streams) with different actors of type 1 (*government*) and some important organizations of type 3 (*agencies*). Finally, the Betweenness Centrality index of the President (14.67) is explained by the fact that he directly subordinates all political authorities and all agencies, except GRU and VTU, causing the President's office to be a natural intermediator in many relationships.

The power distribution in the Russian National Intelligence System is heavily concentrated in the President. Note that type 2 organizations (*coordination*) were not included in the Russian system, given the difficulties in obtaining information about the possible role of the National Security Council in relation to the intelligence organizations (*agencies*). [44] In

[44] Coordinating organizations that do exist are the National Antiterrorist Committee (NAK), established in 2006 and subordinate to the FSB, but no ability to coordinate all system sectors; and, within the Commonwealth of

addition, it is worth noting that most agencies in the system are directly subordinated to the President. The only two agencies that are not directly subordinated are the GRU and the VTU, responsible for imagery intelligence (IMINT). Both organizations are directly subordinated to the Chief of Staff (CGS) which, although being subordinated to the Ministry of Defense, is appointed by the President. Finally, some change may be expected in the centrality of the FSB [45], the organization responsible for counterintelligence, counterterrorism, and protection of the Constitution. The concentration of power in the Russian FSB has prompted an attempt by the Russian President to promote reform in the context of the Ukrainian crisis.

2.3.3 India

The Indian National Intelligence System is strongly guided by regional security challenges, and subject to Delhi's objective to become a great power.[46] The broad range of organizations in the system stems from three main factors, namely, the combination of internal security threats (insurgency and communal violence), border conflicts (specially with Pakistan), and regional and global ambitions (positioning towards China and the United States) . As the country adopts the *Common Law* even as no legal definition exists for intelligence activity or congressional oversight mechanisms, defining the size of the intelligence system and its internal relationships becomes quite a challenge. On the other hand, as intelligence agencies in India are identified as active agents in the internal political process of the country, there is considerable debate in the media about their role. The latest configuration of the system dates from 2002, when the *Kargil Committee* Report recommended changes that were partially implemented by 2008.[47]

Independent States (CIS), The Commonwealth of Independent States Anti-Terrorism Center (CIS ATC), supranational structure established in 2000 to coordinate the exchange of information among member countries of the institution (See Soldatov, *Russia*; and also http://www.iacis.ru/eng/about/partners/partnerskie_organizatsii/antiterroristicheskiy_tsentr_sng/). In addition, there is the National Security Council (NSC), an advisory collegiate body responsible for threat assessments, doctrine formulation, and elaboration of proposals for the development of the Armed Forces. Because of insufficient information about its role in the intelligence community, for now the Russian NSC was not included in the adjacency matrix for this country.

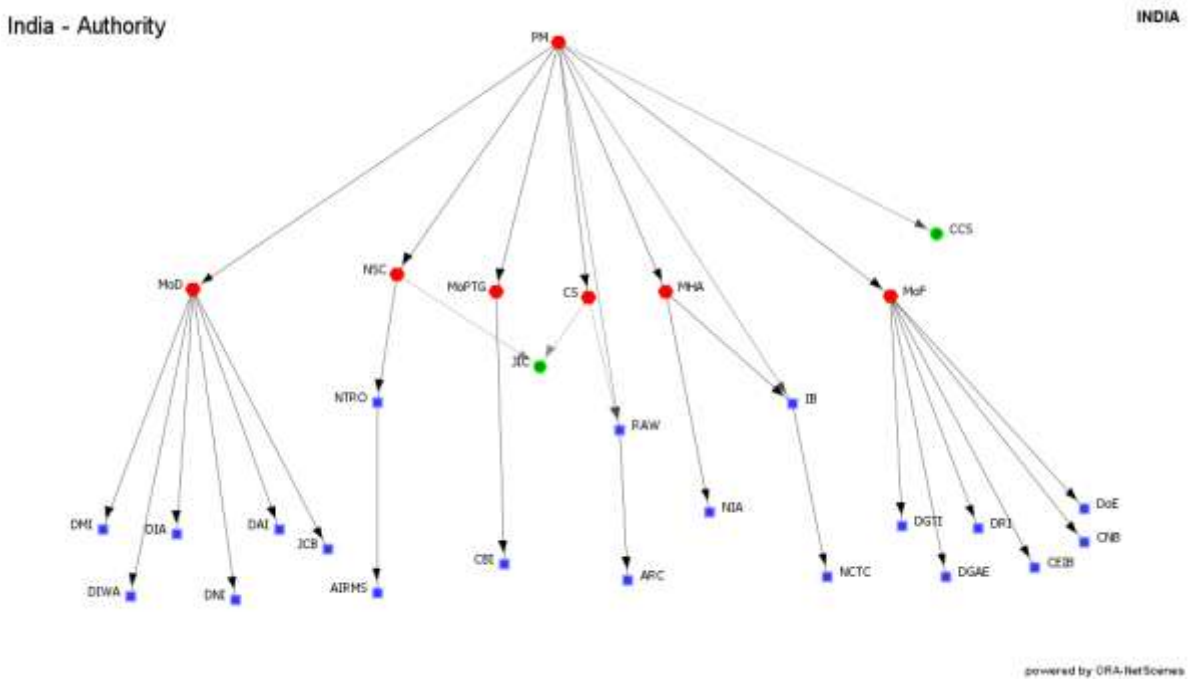
[45] Vladimir Putin was FSB director from 1998 to 1999. In addition, the FSB is the agency that has strengthened and acquired more power. FSB officers have assumed key positions in the MDV and also went on to develop intelligence activities in the fields of SVR and GRU, and take responsibility for border control. Cf. Galeotti and Shumate, *Russian Security*; Soldatov, *Russia*.

[46] See Marco Cepik, "Segurança nacional e cooperação Sul-Sul:Índia, África do Sul e Brasil", in *Brasil, Índia e África do Sul: Desafios e Oportunidades para novas parcerias*, editeb by Maria Regina Soares de Lima and Monica Hirst (São Paulo: Paz e Terra, 2009).

[47] Created after attacks on Pakistani Kargil district of Ladakh region in 1999 and discussed the course of Indo-Pakistani relations since 1947, the proxy war in Kashmir, and the nuclear issue. The committee sought to determine whether the type of aggression occurred could have been anticipated by the intelligence services and

In total, the adjacency matrix (and the resulting graph) of India's National Intelligence System included 07 governmental supervising and directing organizations (*government*), 02 collegial organizations for coordination (*coordination*) and 20 intelligence organizations (*agencies*). The authority relations in the India's National Intelligence System are shown in Figure V.

Figure V – Authority in Intelligence - India



Source: Authors, ORA software

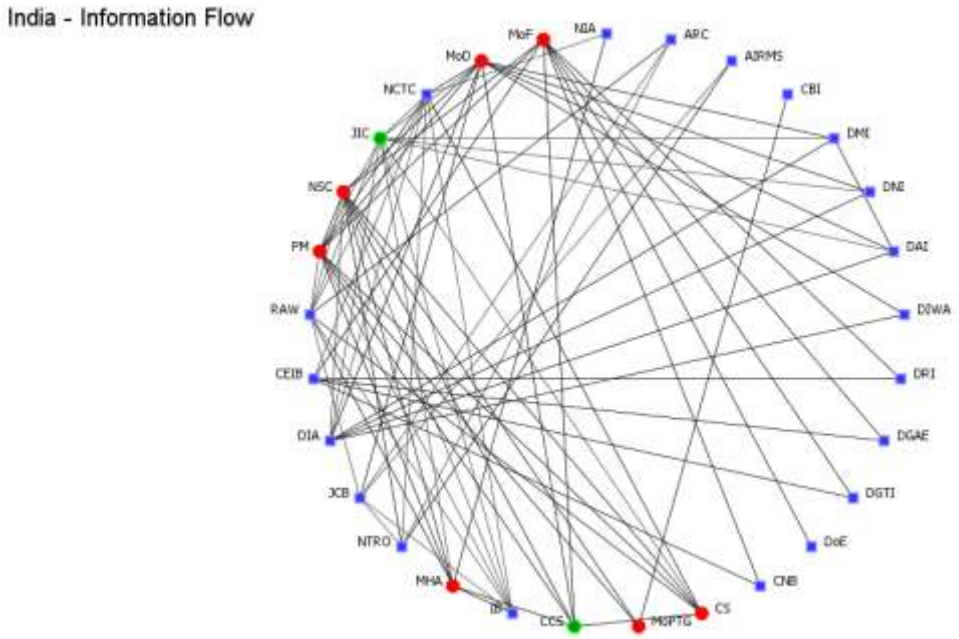
From the authority relations point of view, it is important to highlight in the Indian case the Degree Centrality index of the Prime Minister (14.29). This can be explained by the PM's close working relationship to other governmental supervisoring and directing organizations (*government*), such as the Ministry of Defence (12.50) and the Ministry of Finance (12.50). India has intelligence agencies subordinated to the Ministry of Finance, of which the most important is the Central Economic Intelligence Bureau (CEIB). [48] Similarly, the Degree Centrality of the Defense Ministry is elevated because it subordinates a number of agencies that form a military intelligence cluster. The Ministry of Interior (Home Affairs), has a Degree Centrality index of 5.3, while the Intelligence Bureau's index is 4.76. We would

what were the possible failures that allowed the surprise attack. Many of the proposals, however, were only implemented in 2008, after the attacks in Mumbai, whose authorship is still debated. Cf. Cepik and Ambros, *Intelligence, Crisis, and Democracy*.

[48] CRIMES, "Introduction", *Indian Agencies Fighting Economic*. Accessed in jan. 16, 2015: <http://www.ceib.nic.in/toc_1.htm>.

expect the index of the Ministry of Interior to be significantly higher than the of Intelligence Bureau (IB). However, the actual results reflect the double subordination of the agency to the minister and the prime minister, elevating the in-degree of IB. The most important Indian collegial organization for coordination (*coordination*) should be the Joint Intelligence Committee (JIC). It is subordinated to the National Security Council (4.79) and consists of the directors of Research and Analysis Wing (RAW) (3.57), Inteligence Bureau (IB) (4.76), Defense Intelligence Agency (DIA) (1.79), the three officers of the military intelligence, senior Ministry of Defence, and Ministry of Foreign Affairs. However, the JIC has a relatively low Degree Centrality index (1.79) and some reports indicate that the JIC has not been able to produce effective coordination, because of its reduced staff and infrequent meetings.[49] Regarding the information flows in the India's National Intelligence System, those are shown in Figure VI.

Figure VI – Information Flow in Intelligence - India



Source: Authors, ORA software.

Due to the system's size, Betweenness Centrality of the Indian network is concentrated among the system's clusters. The highest indexes are from the National Counter Terrorism Centre (NCTC), which reaches 20.50 for communicating closely with the other agencies on the specific issue of combating terrorism. Also notable are the JIC, with a 13.71

[49] Bruce Vaughn, "The Use and Abuse of Intelligence Services in India", *Intelligence And National Security*, Vol. 8, No. 1, jan. 1993, pp.1-22; IBP, 2008.

index and, again, the cluster of economic and fiscal intelligence, with Betweenness Centralities of 13.71 (CEIB) and 9.78 (Ministry of Finance), both higher than that of the Prime Minister (8.21). Betweenness Centrality of the intelligence agencies (organizations of type 3), are relatively low, but significant in the case of defense cluster agencies, RAW (4.68), DIA (3.87), JCB (3.87), and National Technical Research Organization (NTRO) (3.87).

Taken together, the distribution of authority and information flows in India's system indicate that power is distributed from governmental supervising and directing organizations (*government*) at the apex, with a relatively limited role for coordinating organizations (type 2), although well-defined clusters of power also exist in the area of defense, counter-terrorism, and finance. The financial intelligence cluster demands additional research, but its power is significant. The four major intelligence agencies of the Indian system are the IB, RAW, the NTRO, and the DIA. The Intelligence Bureau (IB), which is subordinated to the National Counter Terrorism Center (NCTC), is the agency dedicated to coping with internal security threats and also the main result of the post-Mumbai reform. The RAW is the foreign intelligence agency and its real importance stands in contrast with its relatively low indexes. These two agencies, IB and RAW, are subordinated to the Prime Minister. As they are frequentely reported as having considerable autonomy, such discrepancies between informal accounts and formal institutional arrangements need to be reconciled through additional research. Finally, the two most important military intelligence agencies are the NTRO, dedicated to technical means of collection, and the DIA, which emulates the US model of consolidating the contributions of the three armed forces.

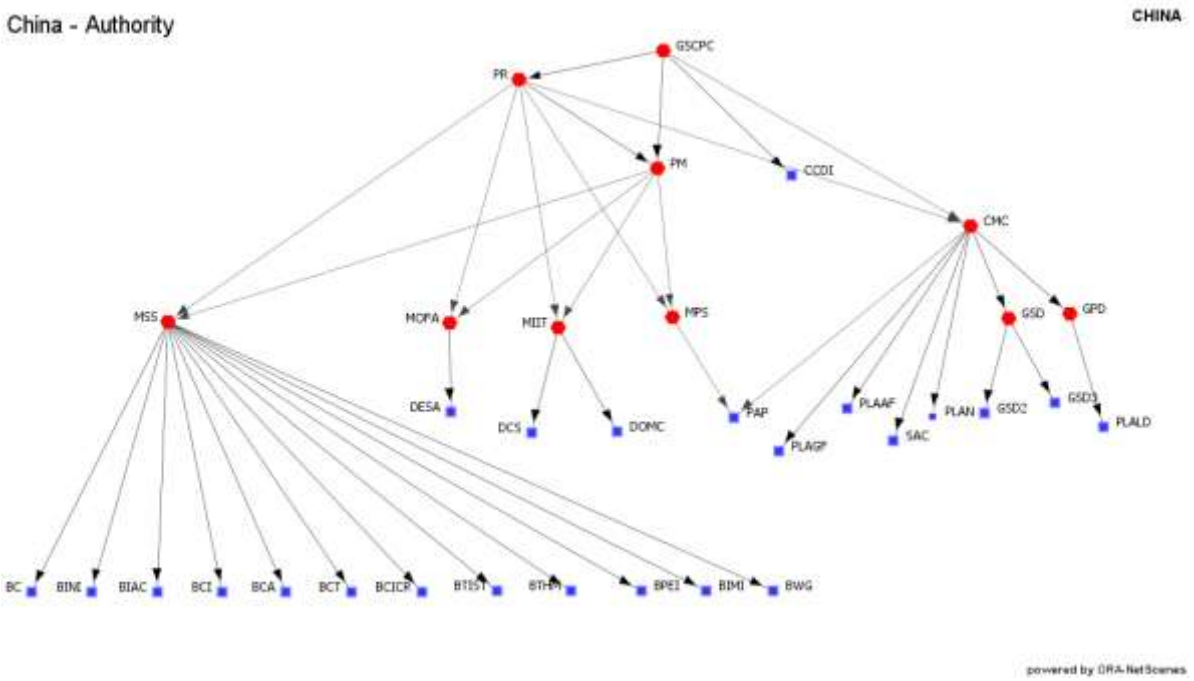
2.3.4 China

China’s National Intelligence defies classifications because of its complexity and incommensurability in relation to the Anglo-Saxon parameter of comparison used by most of the literature. One should be careful, particularly with the tendency to potentially include all organizational units of the State and the Communist Party as network nodes. It is, on the one hand, a Great Power intelligence system, focused on internal, regional, and global security issues. In addition, the role of the Communist Party of China (CPC) in the political system and in Chinese society cannot be overlooked. However, it would be wrong to attribute an internal security intelligence function to all party organs. Similarly, the ancient continuity of the State in China, its cultural characteristics, or even the Soviet influence in the twentieth century should not obscure the fact that military tasks, police, foreign policy, development,

and others demanding support from the intelligence system in China are the same found in other countries. As in the case of military modernization in progress since the 1980s, the growth of the Chinese intelligence system has accompanied the transformation of the country as a regional power to a great global power.[50]

In total, the adjacency matrix (and the resulting graph) of China's National Intelligence System included 10 governmental supervising and directing organizations (*government*), no collegial organization for coordination (*coordination*) and 24 intelligence organizations (*agencies*). The authority relations in the Chinese National Intelligence System are shown in Figure VII.

Figure VII - Authority Relation in Intelligence - China



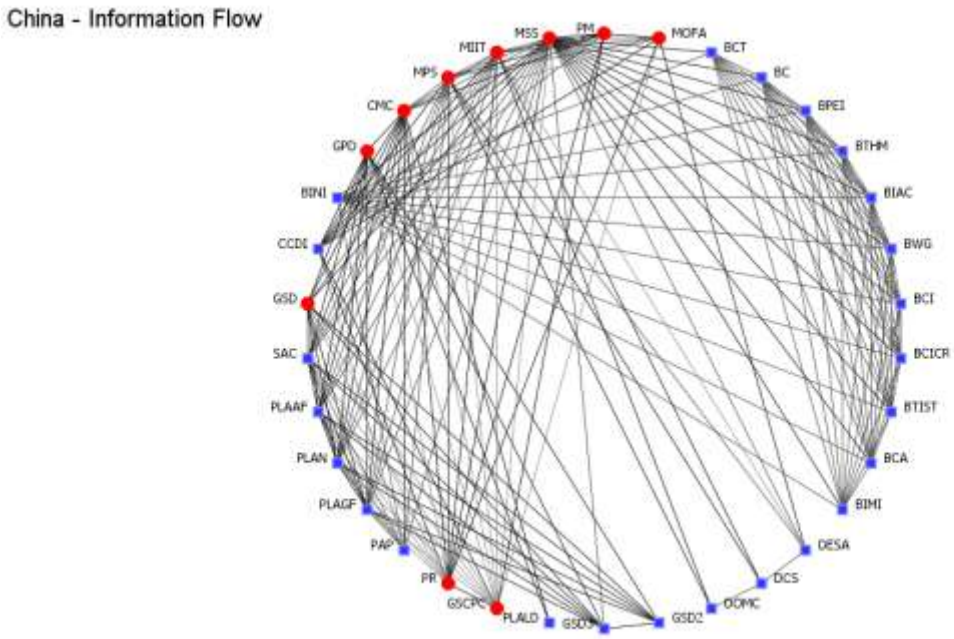
Source: Authors, ORA software

Constitutionally, the role of President of the Republic, Chairman of the Central Military Commission (CMC) and the Communist Party of China Secretary General (CPCSG) need not necessarily be held by the same person. That these roles are now held by one person represents a de facto political and institutional stabilization procedure. Given the authority relations with different network nodes, the Degree Centrality index of the President (7.41) is higher than that of the CPCGS (5.09). In addition, both have lower indexes than the CMC (11.11) and much lower than that of the Ministry of State Security (MSS) (18.52). In part, this

[50] Partial power is the precise expression used by Shambaugh (2013). Cf. Kissinger (2011).

is a consequence of the decision made to consider separately the major departments of the MSS, as in the case of South Africa's SSA. Other important ministries are the Ministry of Industry and Information Technology (MIIT) (4.63), the Ministry of Foreign Affairs (MOFA) (3.24) and the Ministry of Public Security (MPS) (2.78). As in the Russian case, type 2 organizations (*coordination*) were not identified. Given the degree of functional specialization in the network (division of labor between the nodes) and the large number of agencies, Degree Centralities indexes remain low for all type 3 organizations (*agencies*), ranging between 1.39 and 2.78 . Next, the information flows in China's National Intelligence System can be seen in Figure VIII.

Figure VIII - Information Flow in Intelligence - China



Source: Authors, ORA software.

Although it is very difficult to estimate the flow of information in Chinese intelligence, organizational system configuration indicates that most likely some organizations establish different degrees of communication with others. Especially high values obtain for the Betweenness Centrality index of the Ministry of State Security (36.62) and CPC General Secretary (27.19). All other nodes in the network have variation in their Betweenness Centrality indexes from 0 to 5.89, including the President (2.19) and the Central Military Commission (2.86).

Considering the performance of both indexes and supporting the consensus in the literature, three actors (nodes) concentrate a lot of power in China's National Intelligence System; namely, the MSS and, to a lesser extent, the President and the CMC. In the case of the CMC, the chain of command in the military intelligence cluster involves both the general departments (General Political Department – GPD; General Staff Department - GSD, GSD 2nd Department – GSD2; and GSD 3rd Department – GSD3) and also the intelligence capabilities of the four singular forces in the People Liberation Army (PLA) (PLA ground forces, PLA Navy, PLA Air Force, and PLA Second Artillery Force). Notably, the intelligence capabilities of the People's Armed Police (PAP), the main constabular force in the country, are subordinated to both the MPS and the CMC. In turn, the MSS and its various departments (bureaus) correspond to an important cluster in Chinese civil intelligence. Finally, unlike other countries where a financial or tax intelligence cluster seems to be taking institutional form, in China the GSCPC and the MIIT represent growth areas.

2.3.5 South Africa

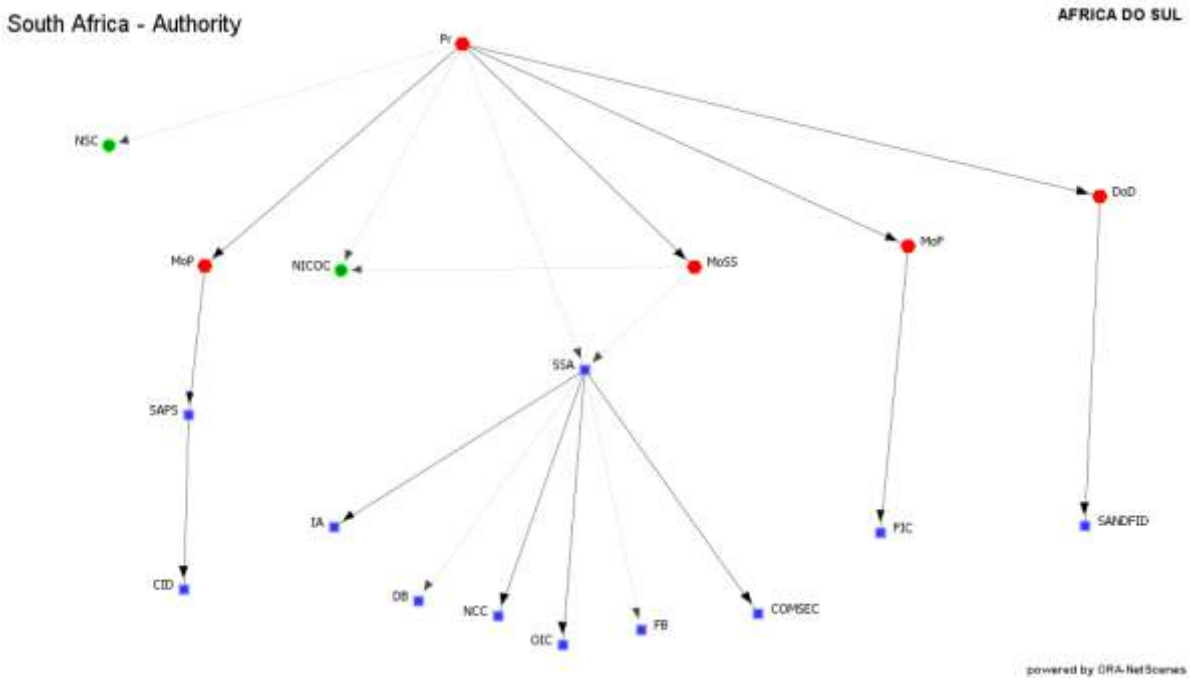
After the collapse of the apartheid regime, South Africa's National Intelligence System underwent two major reorganizations. In 1996, the new Constitution established two basic principles for the functioning of South African intelligence: coordination between agencies and civil control of their activities. In the mid-1990s context of democratization, the Intelligence Law and the White Paper on Intelligence specified the division of intelligence missions in separate agencies (internal and external), with emphasis on external control mechanisms, coordination, supervision, and use of technical means of collection. In 2005, complaints related to illegal operations to intercept opposition party parliamentarian communications have damaged the legitimacy of the intelligence services and their oversight bodies[51]. In 2009, new president Jacob Zuma announced changes in the intelligence system, which by 2013 were guided by the *General Intelligence Laws Amendment Act*. The focus of

[51] The Project Avani was an intelligence operation designed to assess the impact of the presidential Succession battle of ANC on the country's stability. As part of this project, the NIA intercepted e-mails from people in senior positions, who allegedly conspired to block the possibility of Zuma becoming the president of the ANC. The inspector general concluded that the emails were false and recommended disciplinary action against those responsible. The director of the NIA at the time (Masetlha) was dismissed by President Mbeki, as well as two senior officers. Cf. Kevin O'Brien, "Controlling the hydra: a historical analysis of South African intelligence accountability" in ***Who's Watching the Spies?:*** *Establishing Intelligence Service Accountability* edited by Hans Born, 2005.

the new structure is administrative consolidation, a reduction in the number of agencies, and a focus on issues of national security[52].

In total, the adjacency matrix (and the resulting graph) of South Africa's National Intelligence System included 05 governmental supervising and directing organizations (*government*), 02 collegial organizations for coordination (*coordination*) and 11 intelligence organizations (*agencies*) . The authority relations among nodes in the South African National Intelligence System of are shown in Figure IX.

Figure IX - Authority relations in Intelligence - South africa

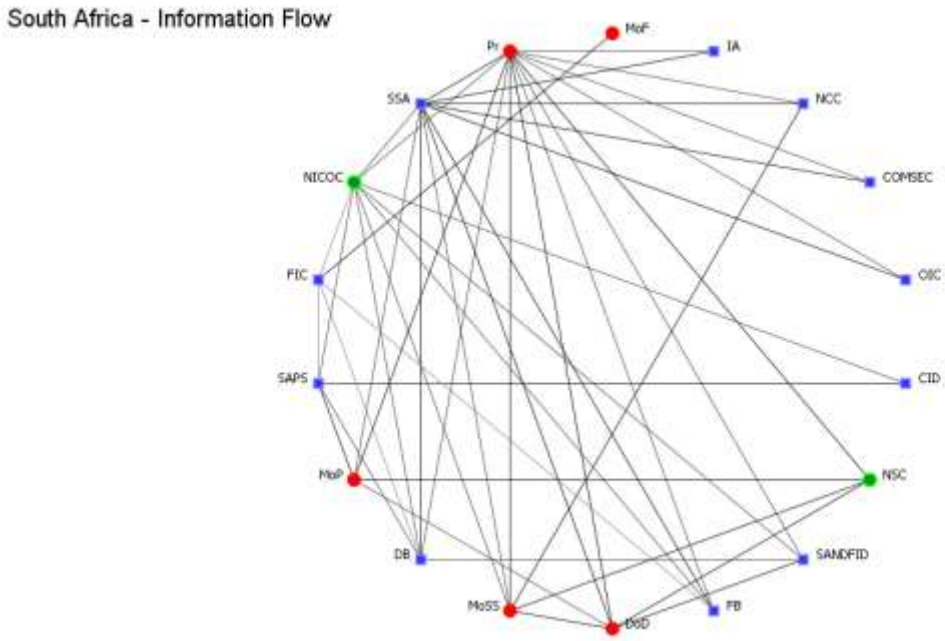


Source: Authors, ORA software.

The South African President's Degree Centrality index (18) is lower than that of the State Security Agency (SSA) (20). Although the President subordinates all ministries and is not subordinate to any other node in the network, making his out-degree higher than that of the SSA, the Total Degree is lower because the composite index considers the group authority relations in which an actor is involved. As the SSA also subordinates the six branches that it comprises after the 2009 reform, being subordinate to the President and the Ministry of State Security, its Degree Centralizaty is higher for the system. The other network nodes have Degree of Centralities indexes ranging between 2 and 7. Next, the information flows in the South African National Intelligence System are shown in Figure X.

[52] See Cepik; Ambros, *Intelligence, Crisis, and Democracy*, p. 541-545.

Figure X - Information Flow in Intelligence South Africa



Source: Authors, ORA software

The President has the largest Betweenness Degree in the South African case (38.85). This indicates that all three types of organizations communicate with the President through the Presidency. The Betweenness Centrality index is also high for the National Intelligence Coordinating Committee (22.29) and the Financial Intelligence Centre (18.17). Although the National Intelligence Coordinating Committee's (NICOC) case is relevant to support the intention of transforming the Committee into a major locus of communication between network nodes, the case of Financial Intelligence Centre (FIC) stands out as a result of the large number of informal relationships with other system components. As in other countries, the so-called financial or tax intelligence has grown in importance and demands further study.

In sum, the internal distribution of power in South Africa's National Intelligence System tilts heavily to the President and the SSA. Besides them, we highlight the NICOC and the FIC. The importance of the SSA cannot be underestimated in the current configuration (post-2009) of the South African intelligence system. This agency focuses corporate services (human resources, IT, infrastructure, logistics and finance), previously redundant in different agencies, and was responsible for ensuring unity of command and consistency of objectives for the different branches of the intelligence activity: the internal, the external, and the technical. Because of the SSA's position in the network, the President does not directly subordinate any intelligence agency.

2.4 Discussion and Conclusions

Four general conclusions emerge from the five cases examined in the previous section. First, power distribution in all of the five cases is not equal among the organizations participating in the National Intelligence Systems. As defined, power stems from the position of an actor in the network. Such position is determined by two variables: 1) the number and the intensity of subordinated relationships in which the actor takes part, 2) the number and intensity of information flows that it intermediates. As predicted by power-based theories of intelligence systems development, rulers (democratic and otherwise) create agencies to expand the surveillance and awareness capabilities of the State[53]. However, they know that creating multiple agencies helps ensure that one super-powerful agency does not usurp the ruler.[54] Therefore, one should expect government leaders to enjoy more power than intelligence agencies.[55] That seems to be the case in contemporary Brazil, Russia, India, China, and South Africa.[56] Whatever the political regime type (presidential, parliamentary, or communist), well established states are characterized by intelligence subordination to the political authorities.

Second, this is not to say that intelligence agencies are powerless. Their power comes from their Betweenness Centrality even more so than from their Degree Centrality. Besides, much of an intelligence agency's power comes from its attachment to a powerful cabinet-level sponsor. We found this feature in different countries. That seems to be the case with ABIN in Brazil, FSB in Russia, IB and RAW in India, or the various intelligence bureaus of the Ministry of State Security in China. Even the now-powerful State Security Agency in South Africa is subordinated to a Ministry of State Security (the successor of the Ministry of Intelligence Services). Whenever a particular agency seeks to concentrate too much power,

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[53] See David H. Bayley . "The Police and Political Development in Europe" in *The Formation of National States in Western Europe*, edited by Chales Tilly (Princeton-NJ: Princeton University Press, 1975, pp., 328-379; Charles Tilly, *Coerção, Capital e Estados Europeus: 990-1992* (São Paulo, EdUSP, 1996); and Cepik, *Espionagem e Democracia.*

[54] Russell Swenson has called our attention to this particular important motivation for rulers to design Intelligence Systems with more than one agency.

[55] For an institutionalist theory of intelligenge systems development, see Amy Zegart, *Flawed by Design: the evolution of the CIA, JCS, and NSC* (Stanford: Stanford University Press, 1999). Power-based and insitutionalist approaches toward national security are not mutually exclusive.

[56] See Peter Gill, *Policing Politics: Security Intelligence and the Liberal Democratic State* (New York: Routledge, 1994) and Bruneau and Matei, *Intelligence and Democratization* to show that occasionally an intelligence and security apparatus may became too powerful up to a point of usurping power to itself by forming a police state; e.g Brazil and SNI or South Africa and BOSS

the political authority starts mobilizing to avoid it, as we were able to observe in the case of Russia's FSB.

Third, we believe that collegial organizations for coordination do represent an important asset for a National Intelligence System to survive institutional crises and adapt. Such bodies aim to reduce friction between agencies, avoid overlapping missions, and provide better information flow. Institutions like South Africa's NICOC or India's JIC, with Betweenness Centralities indexes of respectively 22.29 and 13.7, might help improve the institutional design of other National Intelligence Systems, like Brazil's, where the SISBIN Council does not seem to play the same role.

Finally, we should now be able to compare the cases at graph level with respect to the organizational risk of a National Intelligence System stemming from a particular distribution of power. As a reminder, organizational risk is the probability that internal vulnerabilities or external threats will adversely affect the network. We use Degree Centralization to measure resilience and Betweenness Centralization to measure information concentration. The respective indexes for Brazil (0.206 / 0.314), Russia (0.364 / 0.208), India (0.116 / 0.26), China (0.184 / 0.428), and South Africa (0.159 / 0.394) indicate that Russia runs the highest risk of having an Intelligence System less able to adapt in the face of institutional crises, at the same time being the least resilient among the five countries. Unfortunately, one cannot say from this particular index how President Putin's reform efforts will impact Russian intelligence, or if the Ukrainian crisis will force any kind of institutional stress. Likewise, China has the highest risk of a single actor (MSS) being able to retain most of the information, acting as a gatekeeper on the network. Of course, the index itself can reveal nothing about actual tendencies or evidence of what the CMC, the President or the MSS intend to do. However, the current crackdown on corruption under Xi Jinping's rule bears watching from a Network Analysis standpoint[57].

Network Analysis has proved so far to be a useful tool to promote the comparative approach in the Intelligence Studies field. Aware of the limitations of Network Analysis, we will continue to explore its potential. Our next step is to compare authority and information flow in a larger sample of countries. We also wish to complete the collection and treatment of data on external control organizations (type 4 organizations) for the current 34 countries we have in our database. New measurements, more precise and updated data, and better interpretation of results should follow from the continued research program. Comparative

[57] Cf. http://www.ft.com/cms/s/0/84707fd8-9a37-11e4-8426-00144feabdc0.html#axzz3TLY6oDTw accessed in feb. 03, 2015

Network Analysis combined with qualitative in-depth case studies can enhance Intelligence Studies significantly.

2.5 Annexes

Table I - Degree Centrality and Betweenness Centrality - Brazil

	Acronym	Degree Centrality	Betweenness Centrality	Type
President	PR	22.38	2.17	Government
Chief of Staff	CC	1.05	1.09	Government
Institutional Security Cabinet	GSI	3.85	10.56	Government
Comptroller General of the Union	CGU	1.05	2.27	Government
Ministry of Defense	MD	5.24	7.40	Government
Ministry of Justice	MJ	7.34	1.38	Government
Ministry of Foreign Affairs	MRE	2.10	1.09	Government
Ministry of Finance	MF	4.90	1.97	Government
Ministry of Labor and Employment	MTE	1.05	0.10	Government
Ministry of Health	MS	2.10	1.18	Government
Ministry of Social Security	MPS	1.05	1.28	Government
Ministry of Science and Technology	MCTI	1.05	0.79	Government
Ministry of Environment	MMA	2.10	6.42	Government
Ministry of National Integration	MI	2.10	1.78	Government
Ministry of Agriculture. Lifestock. and Supply	MAPA	1.05	0.20	Government
Ministry of Mines and Energy	MME	1.05	0.30	Government
Ministry of Communications	MC	1.05	0.00	Government
Ministry of Transport	MT	2.10	1.68	Government
Civil Aviation Secretary	SAC	1.05	0.00	Coordination
Consultive Council of SISBIN	CCSISBIN	1.05	0.00	Coordination
SISBIN Department of Integration	DISBIN	0.70	0.89	Coordination
SISP Special Council	CESISP	0.70	2.96	Coordination
SINDE Consultive Council	CONSECO N	0.70	0.00	Coordination
Chamber of Foreign Relations and National Defense	CREDEN	0.70	5.43	Coordination
Brazilian Intelligence Agency	ABIN	1.75	32.38	Agency
Operations and Management Center of the Amazonian Protection System	CENSIPAM	1.05	7.31	Agency
Strategic Intelligence Deputy Chief	SCIE	2.45	4.05	Agency
General Staff of the Army	EME	2.45	0.00	Agency
Navy Command	CMAR	2.45	0.00	Agency
Air Force Command	CAER	2.45	0.00	Agency
Army Intelligence Center	CIE	1.05	0.10	Agency
Air Force Intelligence Center	CIAER	1.05	0.10	Agency
Navy Intelligence Center	CIM	1.05	0.10	Agency
National Policy Secretariat on Drugs	SENAD	1.05	0.00	Agency
National Penitentiary Department	DEPEN	1.05	0.00	Agency
Department of Assets Recovery and International Legal Cooperation	DCRI	1.05	0.00	Agency

	Acronym	Degree Centrality	Betweenness Centrality	Type
National Public Security Secretariat	SENASP	1.75	0.00	Agency
Intelligence Department of the Federal Highway Police	DIPRF	1.05	1.28	Agency
Intelligence Department of the Federal Police	DIPF	1.05	0.20	Agency
Civil State Police	PEs	0.00	0.49	Agency
Military State Police	PMs	0.00	0.49	Agency
General Coordination for Combating Illicit Transnational	COCIT	1.05	0.00	Agency
Council for Financial Activities Control	COAF	1.05	0.10	Agency
Federal Revenue Secretariat	SRF	1.05	0.00	Agency
General Coordination of Research and Investigation of the IRS	COPEI	1.05	0.49	Agency

Table II - Degree Centrality and Betweenness Centrality - Russia

	Acronym	Degree Centrality	Betweenness Centrality	Type
President	PR	36.84	14.67	Government
Prime-Minister	PM	3.95	0.00	Government
Chief of the General Staff	CGS	13.16	0.00	Government
Ministry of Foreign Affairs (MID)	MID	3.95	0.85	Government
Ministry of Defense	MOD	9.21	5.45	Government
Ministry of Internal Affairs	MVD	3.95	4.24	Government
Foreign Intelligence Service	SVR	3.95	4.24	Agency
Federal Security Service	FSB	3.95	22.55	Agency
Military Intelligence Directorate	GRU	3.95	30.91	Agency
Directorate for Military Topography	VTU	3.95	0.61	Agency
Federal Service on Drug Traffic Control	FSKN	3.95	0.00	Agency
Federal Protective Service	FSO	3.95	0.00	Agency
Federal Service for Technical and Export Control	FCTEK	5.26	16.48	Agency

Table III - Degree Centrality and Betweenness Centrality - India

	Acronym	Degree Centrality	Betweenness Centrality	Type
Prime Minister	PM	14.29	8.21	Government
National Security Council	NSC	4.17	7.47	Government
Cabinet Secretariat	CS	2.98	0.14	Government
Ministry of Defense	MoD	12.50	2.99	Government
Ministry of Finances	MoF	12.50	9.78	Government
Ministry of Personnel. Pension and Grievances	MoPT	3.57	4.82	Government
Ministry of Home Affairs	MHA	5.36	0.27	Government

	Acronym	Degree Centrality	Betweenness Centrality	Type
Cabinet Committee on Security	CCS	1.19	0.54	Coordination
National Counter Terrorism Centre	NCTC	1.79	20.50	Coordination
Defense Intelligence Agency	DIA	1.79	3.87	Agency
Central Economic Intelligence Bureau	CEIB	1.79	12.90	Agency
Joint Intelligence Committee	JIC	1.19	13.71	Agency
Joint Cipher Bureau	JCB	1.79	3.87	Agency
Intelligence Bureau	IB	4.76	2.38	Agency
National Investigation Agency	NIA	1.79	0.00	Agency
Research and Analysis Wing	RAW	3.57	4.68	Agency
Aviation Research Centre	ARC	1.79	0.00	Agency
National Technical Research Organization	NTRO	3.57	3.87	Agency
All India Radio Monitoring Service	AIRMS	1.79	0.00	Agency
Central Bureau of Investigation	CBI	1.79	0.00	Agency
Directorate of Military Intelligence	DMI	1.79	0.00	Agency
Directorate of Naval Intelligence	DNI	1.79	0.00	Agency
Directorate of Air Intelligence	DAI	1.79	0.00	Agency
Defense Image Processing and Analysis	DIPA	1.79	0.00	Agency
Defense Information Warfare Agency	DIWA	1.79	0.00	Agency
Directorate of Revenue Intelligence	DRI	1.79	0.00	Agency
Directorate of Enforcement	DoE	1.79	0.00	Agency
Directorate General of Anti-Evasion	DGAE	1.79	0.00	Agency
Directorate General of Tax Income Investigation	DGTII	1.79	0.00	Agency
Central Bureau of Narcotics	CNB	1.79	0.00	Agency

Table IV - Degree Centrality and Betweenness Centrality - China

	Acronym	Degree Centrality	Betweenness Centrality	Type
General Secretary of CPC	GSCPC	5.09	27.19	Government
President	PR	7.41	2.19	Government
Prime Minister	PM	6.48	0.00	Government
Central Military Commission	CMC	11.11	2.86	Government
Ministry of State Security	MSS	18.52	36.70	Government
Ministry of Public Security	MPS	2.78	3.62	Government
Ministry of Foreign Affairs	MOFA	3.24	0.00	Government

	Acronym	Degree Centrality	Betweenness Centrality	Type
Ministry of Industry and Information Technology	MIIT	4.63	5.89	Government
Bureau of Counterterrorism	BCT	1.39	0.00	Agency
People's Armed Police	PAP	1.85	4.63	Agency
Confidential Bureau (1st)	BC	1.39	0.00	Agency
International Intelligence Bureau (2nd)	BINI	1.39	3.54	Agency
Political & Economic Intelligence Bureau (3nd)	BPEI	1.39	0.00	Agency
Taiwan. HK. Macau Bureau (4th)	BTHM	1.39	0.00	Agency
Intelligence Analysis Circulation Bureau (5h)	BIAC	1.39	0.00	Agency
Work Guide / Local Coordination Bureau (6th)	BWG	1.39	0.00	Agency
Counterespionage Intelligence Bureau (7th)	BCI	1.39	0.00	Agency
CICIR / Analysis (11th)	BCICR	1.39	0.00	Agency
Bureau of TIST (13th)	BTIST	1.39	0.00	Agency
Comprehensive Analysis / OSINT (15th)	BCA	1.39	0.00	Agency
Image Intelligence (16th)	BIMI	1.39	0.00	Agency
Counterterrorism (18th)	BCT	1.39	3.03	Agency
Department of External Security Affairs	DESA	1.39	0.08	Agency
Department of Communications Security	DCS	1.39	0.00	Agency
Department of Operations. Monitoring and Coordination	DOMC	1.39	1.52	Agency
PLA Ground Force	PLAGF	1.39	1.52	Agency
PLA Navy	PLAN	1.39	1.52	Agency
PLA Air Force	PLAAF	1.39	1.52	Agency
PLA Second Artillery Force	SAC	1.39	0.00	Agency
PLA General Political Department	GPD	2.78	2.86	Agency
PLA General Staff Department	GSD	4.17	0.84	Government
GSD 2nd Department	GSD2	1.39	0.00	Agency
GSD 3rd Department	GSD3	1.39	0.17	Agency
PLA Liaison Department	PLALD	1.39	0.00	Agency
Central Commission for Discipline Inspection of the CPC	CCDI	1.39	0.34	Agency

Table V - Degree Centrality and Betweenness Centrality - South Africa

	Acronym	Degree Centrality	Betweenness Centrality	Type
President	Pr	18	38.85	Government
Department of Defense	DoD	6	0.36	Government
Minister of State Security	MoSS	7	1.79	Government
Ministry of Finances	MoF	6	0.00	Government
Ministry of Police	MoP	6	1.79	Government
National Security Council	NSC	2	0.00	Coordination

	Acronym	Degree Centrality	Betweenness Centrality	Type
State Security Agency	SSA	20	4.83	Government
Domestic Branch	DB	2	5.28	Government
Foreign Branch	FB	2	3.31	Agency
Intelligence Academy	IA	3	0.00	Agency
National Communications Centre	NCC	3	0.00	Agency
Electronic Communications Security	COMSEC	3	0.00	Agency
Office for Interception Centre	OIC	3	0.00	Agency
National Intelligence Coordinating Committee	NICOC	4	22.29	Coordination
South African Police Service	SAPS	6	2.33	Agency
Crime Intelligence Division	CID	3	0.00	Agency
South African National Defense Force	SANDFID	3	0.98	Agency
Financial Intelligence Centre	FIC	3	18.17	Agency

3 CONSIDERAÇÕES FINAIS

A análise se mostrou uma ferramenta útil como maneira de executar estudos comparados em inteligência. A possibilidade de um afastamento do objeto, ao mesmo tempo em que se padroniza a coleta de dados e a análise de casos, tende a promover um reducionismo e generalização que devem ser tratados com cuidado para não interferirem na capacidade de análise da metodologia proposta. Tendo em mente essas e outras limitações, é necessário continuar explorando o potencial da análise de redes. Nesse sentido, devemos explorar novas possibilidades analíticas e refinar a metodologia até então proposta. Para tanto, três propostas claras podem ser citadas.

Primeiro, considerando que esse foi um primeiro teste com uma amostra pequena de países, é necessário ampliar a amostra. Nesse sentido, a proposta de projeto original do projeto que deu origem a este artigo – Politica Comparada e Serviços de Inteligência: Utilizando a Análise de Redes para avaliar os desafios de coordenação na construção de capacidade governamental na área de segurança nacional em 35 países – precisa ser revista, ajustada e possivelmente ampliada para que seja uma amostra variada e grande o suficiente e que possibilite a criação de uma tipologia dos sistemas de inteligência. Nesse contexto, sugere-se que os estudos de casos qualitativos sejam aprofundados e o banco de dados sempre mais preciso.

Segundo, em sincronia com a ampliação e melhor especificação do número de casos, é necessário a inclusão de novos dados qualitativos estruturados e de uma nova categoria de organizações – tipo 4, ou seja, organizações de controle externo. Os órgãos de controle externo sempre foram uma das principais preocupações dentro da área de Ciência Política, principalmente no grupo preocupado com as relações civis-militares em um contexto de transição democrática, principalmente na América Latina a partir dos anos 1990. Esses órgãos são de extremos importância para a manutenção da democracia, mesmo fora do contexto acima citado. A inclusão desses órgãos é um dos motivadores da terceira proposta que segue abaixo.

Por fim, para abarcar tanto a inclusão de novas variáveis – como a acima descrita –, quanto para melhorar a capacidade de compreensão dos sistemas e, até mesmo, interpretar melhor os resultados obtidos, propõe-se a inclusão de novos índices nos diferentes níveis de análise e a utilização de testes estatísticos para correlacionar os casos. Quanto a primeira proposta, de incluir novos índices, deve-se explorar melhor as demais medidas de centralidade

e possivelmente customizar uma nova medida que possibilitasse abarcar os dois índices já utilizados de acordo com as necessidades do projeto; a utilização de índices de clusterização para auxiliar na medida do risco organizacional; e, por fim, o estudo aprofundado dos índices de robustez e resiliência utilizados nas Ciências da Computação para uma possível adaptação para utilização na análise de organizações governamentais.

Os Estudos de Inteligência constituem um foco de análise relevante para entender as transformações do Estado e da Política Internacional. Reconhecendo as dificuldades teóricas e as limitações práticas de pesquisa neste campo, em parte decorrentes da própria natureza secreta desta atividade governamental, procurou-se avançar nesta dissertação na busca de soluções metodológicas para o progresso e acúmulo de conhecimento nesta área dos Estudos Estratégicos Internacionais. De modo geral, os problemas de efetividade e legitimidade da atividade de inteligência governamental continuam delimitando a agenda de pesquisa na qual se insere este trabalho.

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