



JOINT RESEARCH PROJECTS SPIN 2012-2016

Part I:

1. Title of the Joint Research Programme

Local and regional dimensions in Indonesia's social and economic development: a governance approach

2. Applicants

a. Main applicant in the Netherlands

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b. Co-applicant in Indonesia

Name / Title(s): Prof. dr. Ari Kuncoro

University/ Institute: Universitas Indonesia; Institute of Economic and Social Research (LPEM_FEUI)

c. Additional project partners in The Netherlands (minimum of one)

Name / Title(s): Dr. Ing. Karst T. Geurs

University/ Institute: Centre for Transport Studies, Fac. of Engineering Technology, University of Twente

d. Additional project partners in Indonesia (minimum of one)

Name / Title(s): Dr. Ibnu Syabri

University/ Institute: Dept. of Urban and Regional Planning, Institut Teknologi Bandung, Program Studi Perencanaan Wilayah dan Kota SAPPK ITB

Research Proposal

3. Summary of the Joint Research Project Proposal (*Max. 800 words*)

Word count: 674

Over the last decades Indonesia faced dramatic changes in the economic, political and spatial landscape. These changes are interrelated in various ways.

Considering the economic landscape, Indonesia experienced strongly uneven economic development between regions, resulting in a wide gap in income per capita between various regions, and also between urban and rural areas. The levels of private and public services vary widely across space. Large metropolitan areas (especially greater Jakarta) remain strong attractors of investments, including foreign direct investments, and migration flows, resulting in persistent or even widening regional imbalances. Our understanding of the generic forces that lead to clustering of economic activity has improved theoretically as well as empirically. It is generally appreciated that clustering brings efficiency gains in terms of agglomeration benefits, but at the same time can also raise equity concerns, especially in terms of the distribution of economic activity across regions. But the specific mechanisms may vary considerably between countries and regions, partly depending on the institutional context within which they take place.

Looking at the political landscape, the fall of Suharto in 1998 signified the beginning of a transformation from an authoritarian regime towards a more democratic society. Top priority on the agenda of socioeconomic reform is decentralization, which changes the relationship between the political center and local governments. Increasingly, greater autonomy is delegated to about 500 districts in various areas of governance, including public works, health, education, agriculture, industry, trade and environment. The quality of governance and the success of implementation of democracy at local levels vary widely and improving it is a costly process. Consequently, it is not yet clear how further fragmentation of government



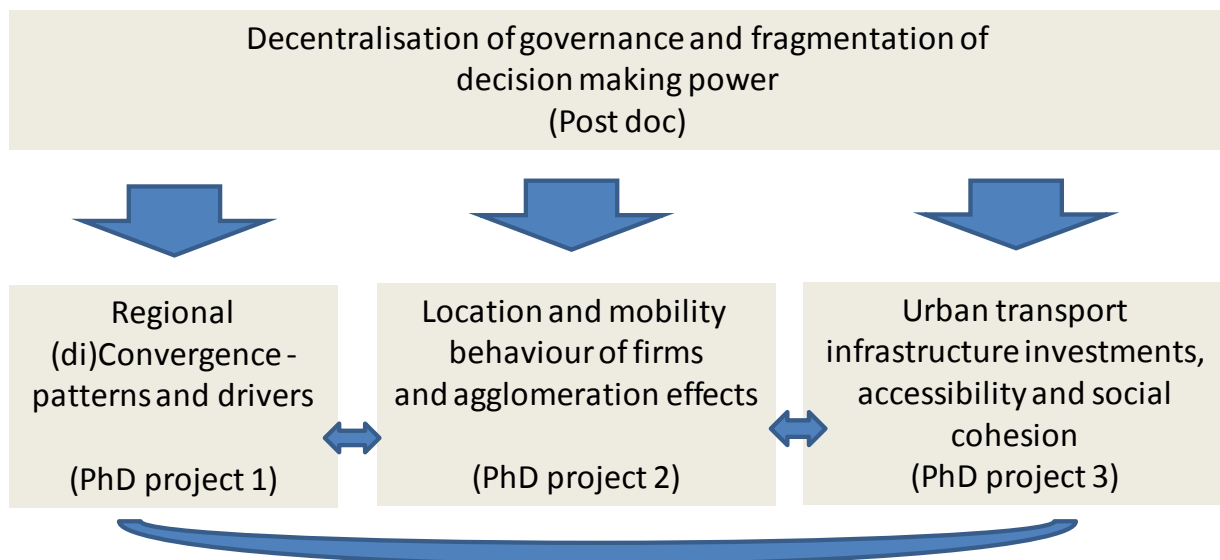
decision making power will affect the quality of governance across Indonesia and the associated economic development potential of regions.

At the spatial level, metropolitan areas in Indonesia such as Jakarta, Surabaya, Medan, Semarang and Makassar are increasingly facing challenges due to rapid urbanization and motorization, which in combination with insufficient investment in transport infrastructure, are linked to urban poverty and social exclusion. In recent years, major investments have been made in Bus Rapid Transit systems in Jakarta and Bandung. It is not yet clear how changes in the political landscape have affected transport investment decisions in rapidly growing metropolitan areas, and how investments in transport infrastructure or the lack of it influenced urban poverty and social exclusion.

These developments take place against a background in which the importance of the quality of governance as a key driver is increasingly acknowledged. Furthermore, there is increased awareness – both theoretically as well as empirically – of the enhanced core periphery structures that can result in a rapidly globalizing world. These developments raise complicated questions as regards fundamental equity efficiency trade-offs. Developing robust policies in such a world is complicated as exemplified by, for example, the recent intense debate on place versus people based policies. These debates underline the fact that one size fits all policies are an illusion and that the impact and effectiveness of policies is crucially dependent on governance structures that are in place.

In three closely interrelated PhD trajectories, the aim of this project is to contribute to our understanding of the complex interrelationships between governance and economic and regional development. The governance perspective is the overarching research topic of the three PhD projects and the post-doc researcher is fully devoted to this issue. The first project will take a macro-perspective focusing on (i) regional (di-)convergence patterns within Indonesia and its drivers, (ii) the development of Indonesia in the world economy, (iii) the role of Indonesia in international networks. The second project takes a micro-perspective and will use detailed micro-data on Indonesian firms and workers to enhance our understanding of the location and mobility behavior of economic actors, and the size and nature of agglomeration externalities. The third project will take a slightly more case study oriented approach and will focus on inter- and intra-regional transport infrastructure investments and their impact on urban poverty and social inclusion. The structure of the program is illustrated in Figure 1.

Figure 1. Schematic overview of program





a. Scientific Background (shared research question(s) or mutual research theme, problem definition)

Indonesia is characterized by a strongly uneven economic development between regions. Not in the least because of its particular geography, a wide gap in income per capita exists between various regions, and also between urban and rural areas. Within the country, the levels of private and public services as well as the quality of governance vary widely across space.

Against this background, over the last decade Indonesia faced dramatic changes in the political landscape. The fall of Suharto in 1998 signified the beginning of a transformation from an authoritarian regime towards a more democratic society. Top priority on the agenda of socio-economic reform is decentralization, which changes the relationship between the political center and local governments. Increasingly, greater autonomy is delegated to about 500 districts in various areas of governance, including public works, health, education, agriculture, industry, trade and environment. Before 2001, a district head (regency or municipality) was a part of the central government hierarchy (bureaucracy). But the regional decentralization law in 2001 abolished the hierarchy between the center, provinces and districts. Instead, district heads are to be elected by local (district) parliaments (legislative). Starting in 2004, a district head has been elected directly by the people through a general election. Potentially this would give a district head more freedom from the local assembly.

It is not yet clear how increasing fragmentation of government decision making power will affect the quality of governance across Indonesia. On the one hand, the literature suggests that it may lead to excess rent extraction, poor public service delivery and higher corruption levels (e.g., Shleifer and Vishny 1993). Amongst others, this effect may be due to low capacity of local bureaucrats (Prud'home 1995, Tanzi 1996), 'overgrazing' among different levels of government entities (Treisman 2000), or weaker accountability because voters will have more troubles differentiating between successful and unsuccessful politicians (Fisman and Gatti 2002). On the other hand, the literature also presents evidence that decentralization may have a moderating impact on corruption and could bring better quality of public service, by increasing the accountability of the local government and accentuating the forces of inter-jurisdictional and political competition (Fisman and Gatti 2002, Huther and Shah 1998, Persson and Tabellini 2000, Tiebout 1956).

Indonesia follows what is often called a 'big bang' approach in decentralization. Within a short span of time, it has pursued a big socio-political experiment, moving away from a formerly more unitary, authoritarian regime to a more decentralized system with some degree of local democracy. This provides a rare scientific opportunity to study how the above theories play out in an unfolding social experiment – how the national reform of decentralization and local democratization will influence local governance.

Of course, the quality of local governance has a large impact on local economic development, which implies that decentralization is likely to affect the evolution of local-regional socio-economic disparity across Indonesia. There is increasing empirical support for an institutional approach to explain (differences in) economic performance and interaction across countries and regions. The amount of social capital – being an (informal) expression of a society's institutional legacy – is found to be unequally distributed across countries and regions and positively related to economic development (Beugelsdijk and Van Schaik 2005, Knack and Keefer 1997, Temple and Johnson 1998). In addition, differences in institutional quality across space also appear to be an important determinant of volume and patterns of economic interaction, including trade (Anderson and Marcouiller 2002, De Groot et al. 2004, Linders 2006) and foreign direct investments (e.g. Lankhuizen et al., 2011). Obviously, this bears potentially important implications for a geographically fragmented country like Indonesia, where interregional and international trade and the potential to attract foreign direct investments are important determinants of national and regional economic development. Finally, institutional quality can be an important conditioning factor of the effectiveness of (regional) policies, as has been argued in several papers (e.g., Burnside and Dollar, 2001, and Ederveen et al., 2005).

The quality of governance may thus impact regional economic development in Indonesia through various channels. First, large metropolitan areas (especially greater Jakarta) are potentially strong attractors of investments, including foreign direct investments, and migration flows, resulting in persistent or even



widening regional imbalances. During the past decades our understanding of the generic forces that lead to clustering of economic activity has improved, but the specific mechanisms may vary considerably between countries and regions, partly depending on the institutional context within which they take place. To what extent can we expect that the implementation of democracy at local levels is able to influence patterns of clustering? Will it contribute to a more even distribution of investments across regions, or will it rather reinforce current points of attraction such as the capital city – because that is the place where deals with business and national government bureaucrats can be made. From an efficiency perspective, the chosen route of decentralization in Indonesia would have potential advantages. At the same time, it creates challenges in addressing equity concerns that may arise, and that may become particularly relevant when mobility of people is limited.

Second, the effects of government regulation on the inter-island transport markets directly influence opportunities for peripheral regions to trade with central regions. The financing of infrastructural projects with inter-regional spill-overs is complicated and requires careful insights in the costs and benefits of the partners that are involved to solve collective action problems. Analyzing the impacts of governance related factors such as corruption is not easy, but Henderson and Kuncoro (2011) have demonstrated for Indonesia that it can be done in a solid way. Since infrastructure planning and construction is one of the fields where corruption and other governance dimensions play a large role, this is a promising and novel dimension in an analysis of Indonesia's regional development.

Third, regional development may be directly impacted by the devolution that took place around the year 2000 on regional development. Decentralization will change the dynamic of interactions between various players in the country which includes the national bureaucracy, local governments, political parties and interest groups in the society. We identify two major constraints that hampered the decentralization reform in Indonesia. First, after years of politicization by the Suharto regime, the civil performance is plagued by poor morale and low performance. At the local government level, the corruption of the central government grants had been tolerated as a way to compensate for low incomes. This problem was exacerbated by the relatively low capacity of the local bureaucracy. Second, the central administration has been ambivalent about the transfer of discretionary power and resources to the local level. The devolution of power takes place without adequate authority to collect taxes – it is limited to property taxes and other relatively unimportant local taxes and levies such as tax on advertising board, garbage dump etc., but so far excludes the sharing of more lucrative income and corporate taxes. The impact of all these developments of impact the regional growth in Indonesia is hard to predict. Some regions will learn fast and adopt the best practice of governance but other regions may lag behind, trapped by local politics and rent-seeking behavior.

b. Objective(s)

The objective of this program is to contribute to our understanding of the complex interrelationships between governance and economic and regional development. More specifically, our objectives are to analyze the impacts of governance on (1) regional convergence, (2) location decisions of economic actors at the micro level, and (3) accessibility and social exclusion within metropolitan areas.

This is done in three interrelated projects. The first project will take a macro-perspective focusing on (i) regional (di-)convergence patterns within Indonesia and its drivers, (ii) the development of Indonesia in the world economy, (iii) the role of Indonesia in international networks. The second project takes a micro-perspective and will use detailed micro-data on Indonesian firms and workers to enhance our understanding of the location and mobility behavior of economic actors, and the size and nature of agglomeration externalities. The final project will take a slightly more case study oriented approach and will focus on inter- and intra-regional transport infrastructure investments and their impact on urban poverty and social inclusion.

c. Workplan (approach, methods, deliverables, management)



The three PhD trajectories that form the core of this proposal all apply an empirical approach that is well embedded in theoretical developments within, for example, the new economic geography literature the new trade theory and the new economic growth theory. Distinguishing features of the approach are

- the use of meta-analysis as a tool to build on the insights gained from an existing body of research and to obtain new insights on location- and time specificities of economic relationships (particularly applied to the economic convergence literature and the agglomeration literature);
- the emphasis on convergence patterns at both the national as well as the regional level;
- the use of micro-data to generate insights into the driving forces behind observed aggregate dynamic processes;
- the use of unique information on variation in quality of governance at the sub-national level which allows for the investigation of the role of governance factors in driving within country economic dynamics. Here we build on recent developments in this domain, i.e., that governance data become more widely available (for example, through dedicated efforts at the Worldbank). This also holds true for Indonesia (see recent work by one of the main applicants, Ari Kuncoro);
- the use of GIS data combined with transport network data for an in-depth analysis of accessibility and social exclusion within metropolitan areas.

The three PhD students and the post-doc researcher will work on the programme simultaneously for a period of four years (the PhD students full-time and the post-doc researcher part-time). All three PhD students will start with literature reviews (where possible using meta-analysis techniques) that will result in positioning papers towards the end of the first year. The second and third year will be devoted to the core of the research projects and will result in papers that are to be presented at international workshops at annual conferences of transport and / or regional science associations. It is our explicit intention to submit these papers to international peer reviewed journals already during the course of the PhD trajectories. The ultimate milestone is evidently the publication and defense of the PhD theses.

The post-doc researcher will play a key coordinating role in the project during the entire duration of the project. He will also be responsible for organization of the annual meetings, the organization of an international conference at the end of the project to be held in Indonesia, the organization of special sessions at international conferences where the fruits of the project can be presented, and the editing of a volume with the proceedings from the closing conference of the project.

All results including data (to the extent allowed) will be made available through a website to be launched late 2012 / early 2013.

d. Scientific Relevance (including relevance of anticipated results)

This research proposal builds on two important developments in this research domain: the intensive use of micro data, and the incorporation of governance dimensions. Improved data-availability increasingly allows us to study processes of economic development at relatively low spatial levels of aggregation and oftentimes also at the level of individual actors. Evidence for developed countries has shown that convergence processes at the national level may well be accompanied with divergence at the sub-national level. Furthermore, there is ample evidence that regional productivity differences are driven by two simultaneously operating forces, viz. agglomeration externalities and sorting of individuals in space. Micro-data allow us to separate these two with profound implications for policy. Evidence on the relevance of these processes for less developed countries is still rather scarce. This project can make a scientifically relevant contribution to this literature. Furthermore, the focus on governance as a key conditioning factor neatly fits within very recent contributions acknowledging the critical role of governance factors. Also here the implications of these factors are predominantly studied at the country level, whereas this study aims to study this phenomena also at the regional level.

5. Projects within the programme (include project title and reference number, names of Project Leaders and abstracts) (*Max. 400 words per project*)

Word count: 606



Project 1 (VU and UI).

Regional dimensions in Indonesia's social and economic development; a macro-oriented approach

This project takes a macroeconomic perspective at the complex interrelationships between governance and economic and regional development. It will focus on (i) regional (di-)convergence patterns within Indonesia and its drivers, (ii) the development of Indonesia in the world economy, (iii) the role of Indonesia in international networks. More specifically, we will describe and explain the Indonesian regional dynamics, focusing on convergence with a specific focus on the regional dimension of interpersonal income inequality, the positioning of the Indonesian economy in the global economy and capacity to attract foreign direct investment. The research will consist of primary research exploiting available regional data as well as meta-analyses that allow us to transfer insights from the literature on the complex process of convergence at the regional level to the specific case of Indonesia and the role of multiple dimensions of distance in explaining inter- and intra-regional trade patterns.

Project 2 (VU and UI).

Regional dimensions in Indonesia's social and economic development; a micro-oriented approach

This project is strongly complementary to Project 1. It aims to unravel the underlying drivers that give rise to the aggregate patterns that were central in the first project. In doing so, it takes a micro-perspective and will use detailed micro-data on Indonesian firms and workers to enhance our understanding of the location and mobility behavior of economic actors, and the size and nature of agglomeration externalities. An important aim of the project is to separate agglomeration externalities (effects on productivity of firms or workers caused by proximity of firms or workers) from sorting effects (generating situations where different types of firms or workers with different productivity levels sort themselves into different spatial units). In both cases, an interesting challenge is to identify how variation in the quality of governance affects both the strength of agglomeration externalities as well as the nature of sorting processes and the resulting allocation of firms and people across space. This distinction is crucial for policy purposes (in that the implications for desirable policies in the presence of agglomeration externalities depend strongly on whether or not sorting takes place).

Project 3 (UTwente and ITB).

Urban Transport, Accessibility, Social Exclusion and Governance in Metropolitan Areas in Indonesia

Metropolitan areas in Indonesia are increasingly facing challenges due to rapid urbanization and motorization, which in combination with insufficient investment in transport infrastructure, are linked to urban poverty, unemployment and social exclusion. The linkages between transport and social exclusion are complex and have to date not been studied in the Indonesian context. This project aims to contribute to the understanding of the long run dynamics in metropolitan transport systems, accessibility and social exclusion in Indonesia. The project will focus on the Jakarta and Bandung metropolitan area where rapid urbanization and major transport developments have taken place in the past 20 years. The study will firstly include an operationalization of the concepts of accessibility and social exclusion within an Indonesian metropolitan. It will secondly involve GIS analysis to estimate changes in accessibility levels arising from changes in metropolitan transport networks (road and public transport) and urbanization patterns in Jakarta and Bandung in the period 1990-2010. Thirdly, an in-depth empirical analysis will be conducted, based on a survey, to causally link accessibility disadvantages of population groups to social exclusion. In particular, we will examine the effects of major investments in Bus Rapid Transit in Jakarta and Bandung on reducing social exclusion. Finally, the effects of decentralization and increased fragmentation in governance on the decision making of urban transport investments will be examined, and its consequences for transport related social exclusion.

6. Relevant publications by members of the research group(s) (as defined under 2)

(a limit of 25 publications applies for each research group member referred to. Only list those publications most pertinent to this application.

International (refereed) journals

(include journal impact factors. Mandatory if your proposal is entered in the themes: Infectious diseases and Health or Food, Non-Food and Water Research. Optional for Social and Economic Development



Karst Geurs

- Anselin L., I. Syabri, and Y. Kho, 2006. GeoDa: An Introduction to Spatial Data Analysis, *Geographical Analysis* 6, pp. 211-231. Impact factor 1.5
- Anselin L., Y-W Kim, I. Syabri, 2005. Web-Based Spatial Analysis Tools for the Exploration of Spatial Data. *Journal of Geographical Systems* 6 (2), pp.197-218. Impact factor 1.289
- Geurs, K., Zondag, B., De Jong, G. , Bok, M. de, 2010. Accessibility appraisal of integrated land-use/transport policy strategies: more than just adding up travel time savings. *Transportation Research Part D* 15, 382-393. Impact factor 1.589
- Geurs, K.T., W. Boon , B. van Wee (2009). Social impacts of transport: literature review and state-of-the-practice transport appraisal in the Netherlands and the United Kingdom. *Transport Reviews* 29(1): 69-90. Impact factor 1.722
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Henri L.F. de Groot

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- Growth Effects of Government Policies: A Comparative Analysis in a Multi-Country Context, *Growth and Change*, 31 (4), pp. 547-572, 2000 (with M.R.E. Brons and P. Nijkamp). Impact factor 1.182
- The Macroeconomic Consequences of Outsourcing, *De Economist*, 149 (1), pp. 53-79, 2001.
- Unemployment, Growth and Trade Unions, *Growth and Change*, 32 (1), pp. 69-91, 2001. Impact factor 1.182
- Trust and Economic Growth, *Oxford Economic Papers*, 56 (1), pp. 118-134, 2004 (with S. Beugelsdijk and A.B.T.M. van Schaik). Impact factor 1.518
- The Institutional Determinants of Bilateral Trade Patterns, *Kyklos*, 57 (1), pp. 103-123, 2004 (with G.M. Linders, P. Rietveld and U. Subramanian). Impact factor 0.993
- The Dynamics of China's Regional Development and Pollution: An Empirical Investigation into the Existence of an Environmental Kuznets Curve for China, *Environment and Development Economics*, 9, pp. 507-537, 2004 (with Zhou Minliang and C.A. Withagen). Impact factor 0.938
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- A Meta-Analysis of the Investment-Uncertainty Relationship, *Southern Economic Journal*, 76 (1), pp. 283-306, 2009 (with M.J. Koetse and R.J.G.M. Florax). Impact factor 0.717
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- The Trade-Off between Foreign Direct Investment and Exports: The role of multiple dimensions of distance, *World Economy*, 34 (8), pp. 1395-1416, 2011 (with M. Lankhuizen and G.J.M. Linders). Impact factor 1.283
- Productivity and Internationalization: A Micro-Data Approach, *De Economist*, 159 (4), pp. 381-388, 2011 (with P.A.G. van Bergeijk, F. Fortanier, J.H. Garretsen and S.J.V. Moons).
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Ari Kuncoro

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- Corruption and Business Uncertainty in Indonesia, *ASEAN Bulletin of Economic*, vol. 23(1), 2006.
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- Ibnu Syabri (2011) "The Influence of Railway Station on Residential Property Values - Spatial Hedonic Approach", *Jurnal Teknik Sipil*, Vol. 18 No. 3
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Ari Kuncoro

- Scale Externalities in Indonesia, *Economics and Finance in Indonesia*, December, 2007
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Books or contributions to books

Karst Geurs

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- Geurs, K.T., Wee, B. van, forthcoming, *Accessibility: perspectives, measures and applications*, In: B. van Wee, J. A. Annema, D. Banister (Ed.), *The Transport System and Transport Policy: An Introduction*. Edward Elgar.

Henri L.F. de Groot

- *Growth, Unemployment and Deindustrialization*, Edward Elgar, Cheltenham, 2000.
- *Entrepreneurship and Regional Economic Development*, Edward Elgar, Cheltenham, 2004 (edited volume with P. Nijkamp and R.R. Stough).
- *Integrating Evidence on Determinants of Productivity*, in: G. Gelauff, L. Klomp, S. Raes and T. Roelandt (eds), *Fostering Productivity: Patterns, Determinants and Policy Implications*, Elsevier, pp. 159-183, 2004 (with E.J. Bartelsman).
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Ari Kuncoro

- *Spatial Agglomeration, Firm Productivity and Government Policies in Indonesia: Concentration and Deconcentration in Manufacturing Sector*, in Yukon Huang et.al. *Reshaping Economic Geography in East Asia*, a companion to the *World Development Report 2009*
- *Understanding Economic Reform in Indonesia*, in J.M. Fanelli and G. McMahon (eds), *Understanding Market Reforms; volume 2: Motivation, Implementation and Sustainability*, Palgrave Macmillan, December, 2006

Other

Ari Kuncoro

- *Corruption in Indonesia*, with J.V. Henderson, NBER Working Paper no. w10674, August 2004

Ibnu Syabri

- Ibnu Syabri, Pradono, Budhy T. Soegijanto (2011) "Embracing Paratransit in Bandung Metropolitan Areas" in *Sustainable Urban Mobility: Global Report on Human Settlement 2013* (forthcoming)
- Ibnu Syabri (2011), "The Urgency of Road Infrastructure Development on the Isolated Areas", Paper presented at the 14th FSTPT International Symposium Pekanbaru
- Ibnu Syabri (2011), "Iskandar Malaysia: The Economic Multiplier of Manufacturing and Service Sectors", Paper presented at the 7th International Conference on Multinational Joint Venture for



- Construction Work, Bandung 28-29 September 2011
- Muiz Tohir, Ofyar Z. Tamin, Ibnu Syabri (2011), "Transit Oriented Development in Perspective Sustainable development", Paper presented at the 14th FSTPT International Symposium Pekanbaru, 11-14 November 2011
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Added Value and Cooperation

8. Added value of the integrated approach (including scientific disciplines involved)

(Max. 500 words)

Word count: 319

The focus on governance dimensions underlying regional convergence, regional inequality, and social exclusion themes can claim a high degree of originality and innovation. Research results will shed light on the effects of changing governance regimes to promote regional development and counter inequality. These issues are at the heart of recent developments in the fields of regional and urban economics, the new growth theory, the new economic geography literature, political economy, international trade and also transport economics. Important contributions in these various fields, especially in the new economic geography literature and the new economic growth theories are from the last two decades. It is only very recently that these fields are getting integrated shedding important new lights on the determinants of economic development. Also the empirical applications are of a very recent date, where especially micro-data are being explored increasingly. The implications of these new theoretical and empirical insights are, for example, central in recent discussions on reformulation of the European Cohesion Policy. This policy which was intended to foster convergence in the European Union has very recently been challenged for its lack of effectiveness. Poor governance in receiving regions, fundamental forces enhancing core periphery patterns (that are oftentimes further strengthened by the explicit focus on interregional transport), and lack of attention for location specific factors in determining the effectiveness of policies are at the heart of explanations for the lack of effectiveness. This has prompted a strong response that has resulted in a place based approach strongly advocated in, for example, the Barca Report (Barca, 2009). The debate on the value added of such a place based approach (as opposed to people based approaches) is flourishing in the Western world and has potentially huge implications for less developed countries such as Indonesia that have hitherto received relatively limited attention, especially with regards to accumulating empirical evidence. In view of these developments, publications are foreseen in outstanding international scientific journals.

9. Relevance of the programme for development issues in Indonesia

(Max. 1000 words)

Word count: 703

a. Societal relevance;

From an efficiency perspective, the chosen route of decentralization in Indonesia has potential advantages. At the same time, it creates challenges in addressing equity concerns that may arise, and that may become particularly relevant when mobility of people (migration) is limited. Moreover, the new law of regional decentralization does not automatically ensure the emergence of good governance on the part of local governments. The transition from the centralized regime to more decentralized one requires political maturity of both the central and local governments. The process will not be easy, it requires time and patience because the public and bureaucrats need to be educated in order to create a healthy system with checks and balances leading to greater transparency and accountability. This research is a small initial step toward achieving that goal. In a more practical term, for Indonesia, still recovering from the worst economic crisis in the 60 years of its existence, a successful decentralization is a must. A failure could have a destabilizing effect – in terms of economics, politics and society – not only to Indonesia itself, but also to other countries in the Southeast Asia region.

b. Scientific capacity / institution building;

The scientific partners have already achieved considerable reputation in their fields of specialization. The proposed research program will lead to a reinforcement of these capacities, to stronger institutions and stronger linkages in the long run. For example, the sharing of knowledge and data on institutions and governance by UI with VU and UT will reinforce the quality of quality of research on these themes within VU and UT. The same holds true for the contribution by ITB in terms of GIS based approaches to accessibility



problems in metropolitan areas. On the other hand UI and ITB will benefit from the theoretical and methodological competences provided by VU and UTB in the fields of regional convergence, the use of micro data in studies on agglomeration processes and the measurement and analysis of spatial dimensions in social exclusion processes. The research cooperation is promising for all partners given the complementary competences. It is fair to expect that the successful execution of the program will create a platform for continued research cooperation between the partners generating mutual benefits in the far future.

c. Dissemination and knowledge sharing;

Dissemination will be conducted through regular events (workshops and conferences) and training courses. There are three annual events which could be representative to disseminate the results. First is at the Working Group on Investment Climate (WGIC). This event is regularly held in Jakarta by Coordinating Ministry of Economic Affairs and LPEM is invited to present the economic brief. The participants are not only high ranked central government officials but also chamber of commerce from various countries. The second venue is the annual conference of Indonesian Economist Association (ISEI). This event is usually held outside Jakarta and attended by academicians, high ranked local government officials and local-district politicians. Finally is the annual meeting of Indonesian Regional Science Association (IRSA), which is the opportunity to present the result to local universities and academicians, to bring back the ideas to their localities. This venue is also held outside Jakarta. Budget will be allocated to finance the speaker from LPEM such as airfare, accommodation and per diem. Other costs will be borne by the institutions which conducted those events.

Furthermore, a website will be established through which all data and publications will be made available. This website can function as an important point of reference for interested researchers and policy makers and should also serve as a discussion platform to which interested researchers and policy makers can contribute.

A large international conference is planned at the end of the program to be held in Indonesia. At the conference, the fruits of the research will be presented along with presentations by leading scholars in the field. Policy sessions will be scheduled for the benefit of local and national policy makers. And dedicated sessions for young researchers will be organized to strengthen networks and enhance future research cooperation. An outgrowth of the conference will be a high-quality edited volume bringing together key contributions in the field which can serve as an important reference work for future generations of researchers.

10. Embedding and additional support (science policy and activities of participating research groups)

(Max. 500 words)

Word count: 223

The proposal fits into VU research on agglomeration economies and globalisation (strongly exploiting the potential of micro-data), transport and regional development, foreign direct investment, and migration. The researchers that will start working on the project can benefit from a network of around 25 PhD students that are hosted by the Department of Spatial Economics all working on empirical and theoretical research projects in these areas. These projects are financed by, for example, NWO-DBR, NICIS and NORFACE, also guaranteeing some additional institutional embedding and spinoffs. The proposal fits within the University of Twente's research on accessibility and land use-transport interactions financed by NWO-DBR. Furthermore, both research groups are active in the respective graduate schools guaranteeing a rich menu of courses that can be followed, high-quality seminar series that the students can attend and where they can also present their work, etc.

For the UI research group, this proposal has strong links with its ongoing research activities in the domain of decentralization, corruption and the associated effects on the costs of doing business in Indonesia. This research is linked to the activities of other international organizations such as NBER. The proposal is also in the heart of the ITB research group that has built strong expertise in linking GIS based approaches with transportation networks leading to advanced analysis of the accessibility theme in metropolitan areas.



11. International co-operation and network building (Max. 2000 words)

Word count: 1085

a. Report on joint programme development

The four participating research groups have been active in the fields of urban development, transport and institutions, with applications in various countries. The SPIN program has triggered the four groups to join forces with a focus on Indonesia. A joint meeting in February 2012 in Amsterdam led to intensive and fruitful discussions on a well integrated joint research program, resulting in the present proposal. The partners have high expectations on the research opportunities and are glad that the various research groups strongly support the present proposal.

Worth mentioning is also that VU University Amsterdam and the Faculty of Economics of the University of Indonesia also have established a double-degree program in the Master program in Economics specializing in economic development.

b. Level of co-operation

The core of the network will comprise UI and ITB in Indonesia, and VU and UTwente in the Netherlands. An extended group of institutions includes Worldbank, DGSP, UKSW, and a group of academic partners elsewhere in Asia. We consider the possibility to develop broader bilateral cooperation between the Regional Science Associations of Indonesia and Netherlands by means of joint workshops. Visits from Dutch partners to Indonesia and from Indonesian partners to the Netherlands will be exploited to contribute to existing teaching programs in terms of guest lectures, research seminars and summer schools.

Furthermore, an international advisory board will be established for the program. The members of the advisory board will be invited to attend the workshop in Indonesia in 2014 and in which the first results of the project will be presented. The members will also be invited to attend the final closing conference of the program in Indonesia in 2016. Their travel expenses will be paid for.

The advisory board will comprise the following members:

I F Poernomosidhi Poerwo, Ph.D
Advisory for Institute of Road Engineering - IRE, Agency for Research and Development of Public Works
Jl.A.H.Nasution no 264, Bandung, Indonesia

Henry Sandee, PhD
Senior Trade Specialist
Multi Donor Facility Trade and Investment Climate
World Bank Office

Marthen L. Ndoen, PhD
Development Studies Post Graduate Program, Satya Wacana Christian University.

Dr. Ir. B. Zondag (Developer of the Java Spatial Model)
Netherlands Environmental Assessment Agency

Prof. Dr. Atsushi KOIKE
Kobe University, Department of Civil Engineering

Dr. Yoshiro HIGANO (Professor at the organization)
Graduate School of Life and Environmental Sciences, University of Tsukuba



Prof. Dr. Yoshitsugu HAYASHI
Chair of Scientific Committee of the World Conference on Transportation Research Society -WCTRS
Dept. of Civil Engineering, Nagoya University

Prof. Kenji Doi
Faculty of Engineering, Kagawa University, Japan
Chair of WCTR Special Interest Group Land use and Transport Policy

c. Prior scientific collaboration between the research groups

At the VU University Amsterdam, collaboration with Indonesian partners has taken place for 30 years, including a three year stay of Dr Piet Rietveld at UKSW in Indonesia as a research coordinator, leading to a continuous flow of Indonesian PhD students from various Indonesian institutions to VU in subjects like entrepreneurship and regional development, regional dimensions of monetary policy, small scale industry and regional development, etc. Several of these PhD projects were supervised by Piet Rietveld and Henri de Groot. Piet Rietveld has been a member of the advisory board of the leading journal on the Indonesian Economy (Bulletin of Indonesian Economic Studies, BIES) for many years. VU Amsterdam also has attracted a constant flow of Indonesian students from UI who do a MSc in Economics or in Spatial, Transport and Environmental Economics.

Researchers at the VU University Amsterdam and UTwente have collaborated with each other in various occasions. Geurs and Rietveld have a joint publication on accessibility benefit measurement in 2006. They also collaborate in a research programme - coordinated by Geurs – on Transit Oriented Development in the Randstad Southwing funded by the National Science Foundation (NWO). Rietveld and Geurs are also both active members and research cluster coordinators in the Network on European Communications and Transport Activities Research (NECTAR).

ITB and the University of Twente, in particular the Faculty of Electrical Engineering, Mathematics and Computer Science, have a history of collaboration. This SPIN project will however result in a new collaboration between the Centre for Transport studies and ITB. On a regular basis, Dutch students of the Centre for Transport Master Track 'Transport Engineering and Management' conduct their MSc thesis work in Indonesia, in collaboration with Faculty of ITC of the University of Twente and Indonesian Universities or other research organizations.

d. Linkages with other national, regional and international research initiatives or research groups

The four participating research groups have strong experience with international research cooperation. For example, the Department of Spatial Economics of VU University Amsterdam is a key player in European projects in the domains of urban/regional development and transport. It also was the coordinator of a EU-USA joint multidisciplinary research program on transport and institutions (STELLA).

In relation to governance issues, LPEM has started to perform a study on developing Cost of Doing Business Index in 2001, and then followed by Corruption Study in 2004 financed by National Bureau of Economic Research (NBER). This study assessed the impact of local democratization on small business that occurred after the fall of Suharto presidency. LPEM also conducts national and international seminars sponsored by various agencies such as United States Agency for International Development (USAID), Japan Bank for International Cooperation (JBIC), The Asia Foundation (TAF), etc.

The subsequent research studies on measuring bribe on government activities, in particular on taxation, customs and issuing licenses, have been carried out in the five metropolitan areas in Indonesia from 2005 to present through monitoring investment climate survey with the support from the World Bank. The coordinating minister of Economic Affairs utilized the results to improve investment climate.



12. Stakeholder participation (communication and dissemination)

(Max. 500 words)

Word count: 222

The study aims to inform policy-makers, local-district politicians and the concerned public about the importance of improving governance in the era of regional decentralization and democratization. The intention is to create awareness that districts with bad governance face the risk of losing business and population to those with relative good reputation, which means the loss of tax base and ultimately resulting the deterioration of quality of public service delivery. It is interesting to see whether the good example from 'good' districts will be transmitted to others through meetings and conferences. These effects may also be termed as 'social norm,' 'conformity,' 'contagion,' 'bandwagon,' 'herd behavior,' or 'social interaction.' If this social learning of good behavior does exist, the next question is then – whether there is any role for the central government to play to strengthen this process – assuming that the center has better governance.

The Indonesian partners have a strong network that can be used to communicate and disseminate results of research to broader groups of users at the various levels in the public sector (national, provincial, regencies). For example, Ari Kuncuro and Ibnu Shyabri are frequently involved in training courses of government officials in the regions and metropolitan areas. These courses provide an excellent platform to disseminate research results. Other platforms for dissemination have been mentioned under 9.c: dissemination and knowledge sharing.



13. Joint activities *(Max. 1000 words)*

Word count: 240

The post-doc researcher will play a key role as coordinator of research activities. He will play a role as co-supervisor in the three PhD trajectories that are part of this proposal. There will be two-monthly meetings at which all three PhD students will present their progress. The main applicants will meet for project meetings at least once a year to discuss progress. These meetings will also be used to contribute to summer schools and existing courses. It is the ambition to organise a special session in two international conferences on the theme of this program during the coming years. Contributions by participants of this program will be a major core of these special sessions. Depending on the quality of the contributions to these special sessions a decision will be taken on proposing a special issue on the theme for an international peer reviewed journal. This is one of the ways to produce a visible joint output. Further, the team members will commit themselves to producing a joint integrated publication on the overall theme, to be coordinated by the post-doc researcher.

In terms of data collection, a joint data base will be developed so that all participants will have easy access to data collected and processed by colleagues. This database (and all publications) will be made available through a project website that will be made publicly accessible (to the extent that privacy and contractual regulations regarding micro data allow, of course).

Management and Administration

14. Information on the managing capacities of the Programme Coordinator

(Max. 250 words)

Word count: 89

Henri de Groot has extensive experience in managing national as well as international research projects and teaching programs. He has, amongst others, coordinated a European project (METRON) on sustainable urban water use, an NWO-subsidized programme on the promotion of energy efficiency in small and medium sized enterprises. He has supervised PhD theses of more than 10 PhD students (both national as well as international, including Indonesian students). He is program coordinator of the Bachelor program Economics and Business Administration and of the Master Program Spatial, Transport and Environmental Economics.

Duration and Planning

15. Time table of the programme and Milestones

The three PhD students and the post doc researcher will work on the programme simultaneously for a period of four years (the PhD students full-time and the post-doc researcher part time).

At the end of 2012 / early 2013 a website will be launched through which data and publications will be made available. This website will also create a platform for discussion and cooperation with interested researchers and stakeholders.

During the project, four international meetings with the entire research group are scheduled. In 2013 and 2015 these will take place in the Netherlands (hosted by the VU in 2013 and hosted by the University of Twente in 2015). In 2014 and 2016 the meetings will take place in Indonesia.

The 'Dutch' meetings will be intensive five-day meetings in which progress of the projects is discussed and presented and in which one or two days will be scheduled for presentations from students from other SPIN projects that will be awarded. Details will evidently have to be worked out once the projects have been selected.



The Indonesian meetings will also last for one week. In 2014, a one day event will be organized with local and national policy makers in which the first results of the project will be presented, and further options for collaboration will be explored. In 2016, the program will conclude with a three day conference in which the results of the program will be presented and also other researchers will be invited. One day will be reserved for panel discussions with local policy makers.

All three PhD students will start with literature reviews (where possible using meta-analysis techniques) that will result in positioning papers towards the end of the first year. The second and third year will be devoted to the core of the research projects and will result in papers that are to be presented at international workshops at annual conferences of transport and / or regional science associations. These papers will also be submitted to peer reviewed international scientific journals. The ultimate milestone is evidently the publication and defense of the PhD theses.

Part II:

JRP Sub-Projects

1. Project title

Regional dimensions in Indonesia's social and economic development; a macro-oriented approach.

2. Research Group

a. Project Leader in the Netherlands

Name / Title(s): Prof. dr. Henri L.F. de Groot
University/ Institute: VU University Amsterdam and Tinbergen Institute

b. Project Leader in Indonesia

Name / Title(s): Prof. dr. Ari Kuncoro
University/ Institute: Universitas Indonesia; Institute of Economic and Social Research (LPEM_FEUI)

c. Proposed Researcher: SPIN PhD fellow. As explained in Part I, the post-doc researcher that will coordinate the entire program and who will be located at VU University will also make a contribution to this project.

d. Other participants

Name / Title(s): Dr. Henry Sandee
University/ Institute: Multi Donor Facility Trade and Investment Climate; World Bank Office

Name / Title(s): Dr. Marthen L. Ndoen
University/ Institute: Development Studies Post Graduate Program, Satya Wacana Christian University



Research Proposal

3. Summary of the Project Proposal (*Max. 400 words*)

Word count: 145

This project takes a macroeconomic perspective at the complex interrelationships between governance and economic and regional development. It will focus on (i) regional (di-)convergence patterns within Indonesia and its drivers, (ii) the development of Indonesia in the world economy, (iii) the role of Indonesia in international networks. More specifically, we will describe and explain the Indonesian regional dynamics, focusing on convergence with a specific focus on the regional dimension of interpersonal income inequality, the positioning of the Indonesian economy in the global economy and capacity to attract foreign direct investment. The research will consist of primary research exploiting available regional data as well as meta-analyses that allow us to transfer insights from the literature on the complex process of convergence at the regional level to the specific case of Indonesia and the role of multiple dimensions of distance in explaining inter- and intra-regional trade patterns.

4. Detailed description of the Project (*Max. 2000 words*)

Word count: 1635

a. Scientific Background

Over the last decade, developments within the so-called Endogenous Growth Theory, the New International Trade Theory and the New Economic Geography have brought about some sort of synthesis to the historically fairly separated fields of economics that deal with growth, trade, and space. This has resulted in an enhanced understanding of the complex interplay of various forces that shape the spatial distribution of economic activity. Furthermore, it has underlined the relevance of location specific factors as key conditioning factors for economic development. Among the conditioning factors that are deemed relevant, the quality of governance features prominently. However, research at the nexus of these fields in economics is predominantly theoretical by nature. Therefore, we propose to complement existing theoretical research with empirical analyses, facilitated by the increasing availability of data, with a special focus on Indonesia which is interesting for reasons of size, rapid transformation of its governance structure and its huge and rapidly changing economic structure which creates a very interesting environment for empirical research.

Because of conceptual and (thus) operational difficulties inherent to studying the role of governance (proxied by concepts such as the quality of institutions, social capital), considerable time and effort has to be spent on collecting data as well as the development of methodology and classification. This work should be regarded as an integral part of the research to be done, given the empirical nature of this project. Research on institutional determinants of economic development goes back to at least Max Weber and currently experiences a revival in the economic growth literature (cf. Acemoglu et al. 2001; 2002, Boisso and Ferrantino 1997, Glaeser et al. 2004). In short, economists see institutions as the 'rules of the game', including formal entities like property rights and political institutes, as well as informal arrangements like values and beliefs such as trust. The idea that quality of the rules determines the outcome of the economic game is not new (North and Thomas 1973, Olson 1965). What is new, however, is the ever increasing empirical support for an institutional approach to explain (differences in) economic performance and interaction. Following social scientists like Bourdieu (1986) and Putnam (2000) many economists have embraced the concept of social capital as an (informal) expression of a society's institutional legacy. The amount of social capital is found to be unequally distributed across countries and regions and positively related to economic development (Beugelsdijk and Van Schaik 2005, Knack and Keefer 1997, Temple and Johnson 1998).

Influential research in this area suggests that institutional quality has a positive effect on economic development through various channels. Examples are the trade channel (Anderson and Marcouiller 2002, De Groot et al. 2004, Linders 2006), the FDI channel (Lankhuizen et al., 2011), the human capital channel, and the physical capital channel. At the same time, since the emergence of the so-called Endogenous Growth Theory and the New Economic Geography in the 1980s and 1990s, economists pay increasing attention to



the role that creation, accumulation and diffusion of knowledge plays in explaining economic growth differentials over time and over space (for overviews see Aghion and Howitt 1998, Fujita et al. 1999, Neary 2001). A key issue here is the importance of some sort of technological or human capital 'spillover' across borders (between nations, regions or even firms) in determining economic performance as well as patterns of trade and agglomeration. So far, empirical research in this area has generally confirmed the existence and role of local spillovers as well as the positive impact of geographical proximity on the diffusion of knowledge (cf. Anselin et al. 1997, Audretsch and Feldman 1996, Jaffe 1989, Paci and Usai 2007). However, these studies also indicate that the spatial dimension of knowledge diffusion is barely understood: spill-overs most likely require technological proximity, interpersonal relationships and mobility of workers and thus some sort of networks to materialize (Autant-Bernard et al. 2007), while these networks often seem to be related to cultural and institutional features (LeSage et al. 2007). Yet much needs to be done to unravel the mechanisms underlying and explaining geographical knowledge spill-overs.

Indonesia is an interesting case to study because it is characterized by a strongly uneven economic development between regions. Not in the least because of its particular geography, a wide gap in income per capita exists between various regions, and also between urban and rural areas. The aim of this research project is to analyse how the national reform of decentralization and local democratization will influence regional economic development in Indonesia, through its impact on the quality of local governance.

b. Specific Objective(s)

The objective of this subproject is to examine how the change of governance has affected the pattern of spatial development, especially its impact on growth, distribution of economic activity, the trade position in the global economy and the possibilities to attract Foreign Direct Investments. The huge political transformation both within the country as well as relative to other countries in the region (and the rest of the world) allows us to identify the impact on economic development of one of the biggest 'political experiments' that a large country has ever experienced.

One scenario predicts that districts with good governance to begin with would continue to do well providing decent jobs and public goods for their population by maintaining a viable business environment for private firms both domestic and foreign direct investment to thrive. Others may not perform that well - the immediate effect of the decentralization was the race to create new regulations and taxes levied at the private sector. The risk was that these districts might lose businesses to other localities or foreign countries, while few of new businesses want to locate in these areas. Through labor market these districts may also lose jobs in the formal which would make them poorer. In the end tax bases would shrink. Eventually this would make these districts less able to provide good quality infrastructure as well as good public service delivery which would make them less attractive places to stay for businesses (because it would be less productive) as well as for population (because few decent jobs are available), so the downward spiraling effect would begin again. In the end the divergence path of governance taken by these districts may exacerbate regional inequality.

c. Workplan

To be able to answer the research questions above, our approach is to combine field work of interviewing real players in the real world with an analysis of secondary data using economic and econometric modeling. The field work is designed as "a fact findings mission." To gain a better insight of the problems, the primary data gathered in the field work are used for the quantitative modeling of the relationship between local governance and the above outcomes.

Aggregate and regional data are available through regular institutions such as the Worldbank, IMF, and Statistics Indonesia. Rich and detailed sources on international trade are, amongst others, available from the Feenstra database on international trade. These will be collected and analyzed in the second and third year of the project.



Population data can be examined from Population Census and the inter-census population survey (SUPAS). With a common spatial/location identifier it is possible to link in-migration with socio-economic and industrial agglomeration characteristics of the sending and receiving district. The welfare and poverty aspects of local population can be measured from SUSENAS – basically a national consumption-household expenditure survey. Finally the labor statistic (SAKERNAS) could complement SUSENAS to examine individual income according to sector. Again the availability of location identifiers would permit to link it with other data sets described above.

Given the central role of the governance dimension it is essential to incorporate reliable and valid indicators of governance quality. For this purpose we can make use of data sets from KPPOD (watch dog for the decentralization) which contain information on several governance indicators of districts like the number of licenses required to establish a new business. Compared with other countries, these data are strong and of high relevance for our theme since they are available at the level of regencies, a rather exceptional feature.

d. Scientific Relevance

From a theoretical standpoint, the impact of decentralization on economic development is ambiguous. The first view suggests that decentralization leads to greater fragmentation of government decision making power. The breakdown of coordination among bureaucrats may lead to excess rent extraction and poor public service delivery (Shleifer and Vishny [1993]). In line with this argument, in the case of corruption, Treisman (2000) found that federalist country have higher rate of corruption due to the problem of ‘overgrazing’ among different levels of government entities over the same targets. Furthermore, Prud’home (1995) and Tanzi (1996) argued that the low capacity of local bureaucrats in delivering public goods and services may prevent the realization of benefits from decentralization. The opposite view on the other hand suggests that decentralization is expected to have moderating impact on corruption and would bring better quality of public service, by increasing the role of the local government and accentuating the forces of inter-jurisdictional and political competition (Tiebout [1956, Huther and Shah [1998]], Fisman and Gatti [2002]). The theoretical work of Persson and Tabellini (2000) provides an insight into how political accountability may affect bureaucrats’ performances. With democratization, a government agent is responsible for a certain task that is specific to the respective jurisdiction, thus, logically a more direct accountability should improve the agent’s performance, and hence a better governance is expected. The opposite view of this matter, on the other hand, argues that decentralization would also create multiple tiers of governments. Potentially it could have the opposing effect – to weaken accountability, since voters would have more troubles differentiating, those who were ‘successful, from those who were not (Fisman and Gatti [2002]). This project aims to contribute empirical evidence from the Indonesian case to this ongoing scientific debate.

5. Participation in a graduate School ('onderzoeksschool'):

The VU research group participates in the Tinbergen Institute, a joint initiative of EUR, UvA and VU. It is one of the most renowned European graduate schools at the moment. With about 10 senior fellows, and some 25 PhD students the department of Spatial Economics of the VU University Amsterdam is a dominant player in the Tinbergen Institute’s theme of Regional and Environmental Economics. The PhD in the spatial economics group of VU will take courses in the context of the MPhil programme provided by the Tinbergen Institute. The Tinbergen Institute also offers a couple of high-quality seminar series from which the PhD student can strongly benefit.

6. Scientific performance of members of the research group(s) (as defined under 2)

(a limit of 25 publications applies for each research group member referred to. Only list those publications most pertinent to this application.



International (refereed) journals

(include journal impact factors. Mandatory if your proposal is entered in the themes: Infectious diseases and Health or Food, Non-Food and Water Research. Optional for Social and Economic Development)

Henri L.F. de Groot

- Unemployment and Catching Up: Europe *vis-à-vis* the USA, *De Economist*, 145 (2), pp. 179-201, 1997 (with A.B.T.M. van Schaik). Unemployment and Endogenous Growth, *Labour*, 12, pp. 189-219, 1998 (with A.B.T.M. van Schaik).
- Growth Effects of Government Policies: A Comparative Analysis in a Multi-Country Context, *Growth and Change*, 31 (4), pp. 547-572, 2000 (with M.R.E. Brons and P. Nijkamp). Impact factor 1.182
- The Macroeconomic Consequences of Outsourcing, *De Economist*, 149 (1), pp. 53-79, 2001.
- Unemployment, Growth and Trade Unions, *Growth and Change*, 32 (1), pp. 69-91, 2001. Impact factor 1.182
- Trust and Economic Growth, *Oxford Economic Papers*, 56 (1), pp. 118-134, 2004 (with S. Beugelsdijk and A.B.T.M. van Schaik). Impact factor 1.518
- The Institutional Determinants of Bilateral Trade Patterns, *Kyklos*, 57 (1), pp. 103-123, 2004 (with G.M. Linders, P. Rietveld and U. Subramanian). Impact factor 0.993
- The Dynamics of China's Regional Development and Pollution: An Empirical Investigation into the Existence of an Environmental Kuznets Curve for China, *Environment and Development Economics*, 9, pp. 507-537, 2004 (with Zhou Minliang and C.A. Withagen). Impact factor 0.938
- Space and Growth: A Survey of Empirical Evidence and Methods, *Région et Développement*, 21, pp. 13-44, 2005 (with M. Abreu and R.J.G.M. Florax).
- Fertile Soil for Structural Funds? A Panel Data Analysis of the Conditional Effectiveness of European Cohesion Policy, *Kyklos*, 59 (1), pp. 17-42, 2006 (with S. Ederveen and R. Nahuis). Impact factor 0.993
- The Impact of Perceived Expectations and Uncertainty on Firm Investment, *Small Business Economics*, 26, pp. 365-376, 2006 (with M.J. Koetse and A.J. van der Vlist). Impact factor 1.710
- Growth and Inequality: A Meta-Analysis, *Scottish Journal of Political Economy*, 55 (5), pp. 654-682, 2008 (with L. de Dominicis and R.J.G.M. Florax). Impact factor 0.635
- Technological Leadership, Human Capital and Economic Growth: A Spatial Econometric Analysis for U.S. Counties, 1969-2003, *Annals of Economics and Statistics*, no. 87/88, pp. 103-124, 2008 (with R.J.G.M. Florax and V.O. Pede).
- A Meta-Analysis of the Investment-Uncertainty Relationship, *Southern Economic Journal*, 76 (1), pp. 283-306, 2009 (with M.J. Koetse and R.J.G.M. Florax). Impact factor 0.717
- Agglomeration Externalities and Localized Employment Growth: The Performance of Industrial Sites in Amsterdam, *Annals of Regional Science*, 44(3), pp. 409-431, 2010 (with F. de Vor).
- The Trade-Off between Foreign Direct Investment and Exports: The role of multiple dimensions of distance, *World Economy*, 34 (8), pp. 1395-1416, 2011 (with M. Lankhuizen and G.J.M. Linders). Impact factor 1.283
- Productivity and Internationalization: A Micro-Data Approach, *De Economist*, 159 (4), pp. 381-388, 2011 (with P.A.G. van Bergeijk, F. Fortanier, J.H. Garretsen and S.J.V. Moons).
- The Crisis Sensitivity of European Countries and Regions: Stylized Facts and Spatial Heterogeneity, *Cambridge Journal of Regions, Economy and Society*, 4 (3), pp. 437-456, 2011 (with S.P.T. Groot, J. Möhlmann and J.H. Garretsen).

Ari Kuncoro

- Corruption and Local Democratization in Indonesia, with J.V. Henderson, *Journal of Development Economics*, March 2011. Impact factor 1.861
- Corruption and Business Uncertainty in Indonesia, *ASEAN Bulletin of Economic*, vol. 23(1), 2006.
- The Political Economy of Indonesian Economic Reforms: 1983-2000, *Oxford Development Studies*, December 2005.
- Determinants of Bribery in Indonesia: Evidence from Micro Data, *Bulletin of Indonesian Economic Studies*, December, 2004.
- Industrial Concentration in Indonesia, World Bank Economic Review, September, 1996. Impact factor 2.192



- Industrial Development in the Cities, 1995, *Journal of Political Economy*, Vol. 103 No. 5, with J.V. Henderson and M. Turner Impact factor 5.742

National (refereed) journals

Ari Kuncoro

- Scale Externalities in Indonesia, *Economics and Finance in Indonesia*, December, 2007
- Corruption and Economic Growth in Indonesia, *Economics and Finance in Indonesia*, March, 2002.

Books or contributions to books

Henri L.F. de Groot

- *Growth, Unemployment and Deindustrialization*, Edward Elgar, Cheltenham, 2000.
- *Entrepreneurship and Regional Economic Development*, Edward Elgar, Cheltenham, 2004 (edited volume with P. Nijkamp and R.R. Stough).
- Integrating Evidence on Determinants of Productivity, in: G. Gelauff, L. Klomp, S. Raes and T. Roelandt (eds), *Fostering Productivity: Patterns, Determinants and Policy Implications*, Elsevier, pp. 159-183, 2004 (with E.J. Bartelsman).
- Locality Matters: Myths and Facts on the New Economy, in: J. Poot (ed.), *On the Edge of the Global Economy*, Edward Elgar, Cheltenham, pp. 27-48, 2004 (with G.M. Linders and P. Nijkamp).
- Agglomeration, Innovation and Regional Development: Theoretical Perspectives and Meta-Analysis, in: R. Capello and P. Nijkamp, *Handbook of Regional Growth and Development Theories*, Edward Elgar, Cheltenham, pp. 256-281, 2009 (with M.J. Smit and J. Poot).
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- The Role of Monetary and Financial Factors in Regional Development: An Overview, in: A. Frankel, P. Nijkamp and P. McCann (eds), *Societies in Motion: Innovation, Migration and Regional Development*, Edward Elgar, Cheltenham, pp. 45-68, forthcoming (with M.A. Ridhwan, P. Nijkamp and P. Rietveld).

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- Spatial Agglomeration, Firm Productivity and Government Policies in Indonesia: Concentration and Deconcentration in Manufacturing Sector, in Yukon Huang et.al. *Reshaping Economic Geography in East Asia*, a companion to the *World Development Report 2009*
- Understanding Economic Reform in Indonesia, in J.M. Fanelli and G. McMahon (eds), *Understanding Market Reforms; volume 2: Motivation, Implementation and Sustainability*, Palgrave Macmillan, December, 2006

Other

Ari Kuncoro

- Corruption in Indonesia, with J.V. Henderson, NBER Working Paper no. w10674, August 2004

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Integration and Cooperation

8. Integration of research and scientific results in the JRP

(Max. 1000 words)

Word count: 211

This project contributes to the overall aims of the JRP in various ways. Its extensive analysis of economic developments within Indonesia and also the identification of the economic dynamics in Indonesia relative to



other countries worldwide provides crucial stylized facts that are central in the project. It establishes the aggregate outcomes that the second and third project will study further by focusing on underlying mechanisms that give rise to these aggregate outcomes focusing on agglomeration externalities, sorting of workers and firms, and the dynamics generated by infrastructural developments.

This project is closely linked to projects 2 and 3 in the programme. By its macro-regional orientation it provides an important frame of reference for the analysis at the micro level (project 2) and the metropolitan level (project 3). For example, the overall convergence and divergence tendencies analysed in project 1 will be used in project 2 where detailed analyses will be carried out of location behaviour, and in project 3 where transport related themes will be analysed for some metropolitan regions. It is for example important to know for the analysis of transport infrastructure in congested metropolitan areas such as Jakarta to what extent the current concentration of economic growth will continue to exist or whether strong countervailing forces may be expected.

Management and Administration

9. Information on the managing capacities of the Project Leader(s)

(Max. 250 words)

Word count: 89

Henri de Groot has extensive experience in managing national as well as international research projects and teaching programs. He has, amongst others, coordinated a European project (METRON) on sustainable urban water use, an NWO-subsidized programme on the promotion of energy efficiency in small and medium sized enterprises. He has supervised PhD theses of more than 10 PhD students (both national as well as international, including Indonesian students). He is program coordinator of the Bachelor program Economics and Business Administration and of the Master Program Spatial, Transport and Environmental Economics.

Duration and Planning

10. Time table of the project and Milestones

The project consists of five phases:

Phase 1: Preparation phase (September 2012-May 2013)

- Literature review
- Meta-analysis updating existing meta-analyses on convergence (Abreu et al., Dobson et al.)
- Writing and defending a detailed research plan

Phase 2: Governance analysis (September 2012-December 2013)

- Data collection and construction building on earlier work by Ari Kuncoro
- This phase will be conducted by the Post-doc researcher in close cooperation with Ari Kuncoro
- Writing of paper illustrating regional variation in governance in Indonesia

Phase 3: Within-country (di-)convergence and its determinants (May 2013-May 2014)

- Growth and convergence analysis employing state of the art spatial econometric techniques and focusing on conditioning factors, with special focus on governance.
- Writing of paper

Phase 4: Indonesia in International context (May 2014-January 2016)

- Analysis of economic development and quality of governance in Indonesia relative to other countries
- Indepth analysis of dynamics of trade and foreign direct investments (focusing on both regional as well as cross-country dimension)
- Writing of two papers to be presented at conferences

Phase 5: Writing of the thesis (January-September 2016)



11. Research location(s)

The plan is that the PhD student spend his/her first year in the Netherlands (VU University Amsterdam) to work on the literature review and the meta-analysis under supervision of and in close cooperation with the Post-doc and the supervisor(s). Large parts of the second and third year will be spent in Indonesia at UI, in part for data-collection and the in-depth research (under supervision of Ari Kuncoro). The final year will be spent again in the Netherlands to complete and defend the PhD thesis.

The coordinating post-doc will visit the PhD student during the second and third year when the PhD student is in Indonesia. This will help to achieve a high level of coherence between the various subprojects.

PROJECT 2

1. Project title

Regional dimensions in Indonesia's social and economic development; a micro-oriented approach.

2. Research Group

a. Project Leader in the Netherlands

Name / Title(s): Prof. dr. Henri L.F. de Groot

University/ Institute: VU University Amsterdam and Tinbergen Institute

b. Project Leader in Indonesia

Name / Title(s): Prof. dr. Ari Kuncoro

University/ Institute: Universitas Indonesia; Institute of Economic and Social Research (LPEM_FEUI)

c. Proposed Researcher

SPIN PhD fellow. As explained in Part I, the post-doc researcher that will coordinate the entire program and who will be located at VU University will also make a contribution to this project.

d. Other participants

Name / Title(s): Dr. Henry Sandee

University/ Institute: Multi Donor Facility Trade and Investment Climate; World Bank Office

Name / Title(s): Dr. Marthen L. Ndoen

University/ Institute: Development Studies Post Graduate Program, Satya Wacana Christian University

Research Proposal

3. Summary of the Project Proposal (*Max. 400 words*)

Word count: 184

This project is strongly complementary to Project 1. It aims to unravel the underlying drivers that give rise to the aggregate patterns that were central in the first project. In doing so, it takes a micro-perspective and will use detailed micro-data on Indonesian firms and workers to enhance our understanding of the location and mobility behavior of economic actors, and the size and nature of agglomeration externalities. An important aim of the project is to separate agglomeration externalities (effects on productivity of firms or workers caused by proximity of firms or workers) from sorting effects (generating situations where different types of firms or workers with different productivity levels sort themselves into different spatial units). In both cases, an interesting challenge is to identify how variation in the quality of governance affects both the strength of agglomeration externalities as well as the nature of sorting processes and the resulting allocation of firms and people across space. This distinction is crucial for policy purposes (in that the implications for desirable policies in the presence of agglomeration externalities depend strongly on whether or not sorting takes place).



4. Detailed description of the Project (*Max. 2000 words*)

Word count: 1135

a. Scientific Background

The quality of governance may impact regional economic development in Indonesia through various channels.

First, large metropolitan areas (especially greater Jakarta) are strong attractors of investments, including foreign direct investments, and migration flows, resulting in persistent or even widening regional imbalances. During the past decades our understanding of the generic forces that lead to clustering of economic activity has improved, but the specific mechanisms may vary considerably between countries and regions, partly depending on the institutional context within which they take place. To what extent can we expect that the implementation of democracy at local levels is able to influence patterns of clustering? Will it contribute to a more even distribution of investments across regions, or will it rather reinforce current points of attraction such as the capital city – because that is the place where deals with business and national government bureaucrats can be made. From an efficiency perspective, the chosen route of decentralization in Indonesia would have potential advantages. At the same time, it creates challenges in addressing equity concerns that may arise, and that may become particularly relevant when mobility of people is limited.

Second, the effects of government regulation on the inter-island transport markets directly influencing opportunities for peripheral regions to trade with central regions. The financing of infrastructural projects with inter-regional spillovers is complicated and requires careful insights in the costs and benefits of the partners that are involved to solve collective action problems. The analysis of impacts of governance related factors such as corruption is not easy, but Henderson and Kuncoro (2011) have demonstrated that it can be done in a solid way. Since infrastructure planning and construction is one of the fields where corruption and other governance dimensions play a large role, this is a promising and novel dimension in an analysis of Indonesia's regional development.

b. Specific Objective(s)

The objective of the project is to examine how the change of governance has affected the pattern of spatial development, especially its impact on growth, agglomeration of economic activity, productivity, population mobility and poverty with a focus on regional disparity. The change of the rule of the game implied by decentralization described above would change the dynamic of interactions between various players in the country which includes the national bureaucracy, local governments, political parties and interest groups in the society. How this new environment impacts regional inequality is unclear. One scenario predicts that districts with good governance to begin with would continue to do well providing decent jobs and public goods for their population by maintaining a viable business environment for private firms both domestic and foreign direct investment to thrive. Others may not perform that well - the immediate effect of the decentralization was the race to create new regulations and taxes levied at the private sector.

The risk was that these districts might lose businesses to other localities or foreign countries, while few of new businesses want to locate in these areas. Through various labor market adjustments these districts may lose jobs in the formal sector which would make them poorer. In the end tax bases would shrink. Eventually this would make these districts less able to provide good quality infrastructure as well as good public service delivery which would make them less attractive places to stay for businesses (because it would be less productive) as well as for population (because few decent jobs are available), so the downward spiraling effect would begin again. In the end the divergence path of governance taken by these districts may exacerbate regional inequality.

c. Workplan

To be able to answer the research questions above, our approach is to combine a field work of interviewing



real players in the real world with an analysis of secondary micro-data using economic and econometric modeling. The field work is designed as “a fact findings mission.” To gain a better insight of the problems, the primary data gathered in the field work are used for the quantitative modeling of the relationship between local governance and the above outcomes.

In the case of secondary data collection, the first step is to measure productivity at the firm level and to link it with its environment at a specific spatial level i.e. district. The information will come from the annual surveys of manufacturing firms. The surveys cover all industries in the large and medium manufacturing and the series are long. They also contain location identifiers down to sub-district so spatial analysis i.e. agglomeration can be performed. It also has a firm identifier so potentially we can construct a long panel data to study firm and spatial dynamic of agglomeration.

Another data set is Survey of villages (PODES) which contains information on public goods like hospital, school, bridges, bus terminal, basic infrastructure, socio-demographic as well as information on topography and geography of a spatial unit. These data are useful to examine the stock of public goods already on the ground and in some respect represents a district preference or priority or social choice in a public service delivery. A district social preference over public goods can also be examined from its budget – routine versus capital expenditures – and within capital expenditures a priority over different types of public goods.

Population mobility can be examined from Population Census and the inter-census population survey (SUPAS). With a common spatial/location identifier it is possible to link in-migration with socio-economic and industrial agglomeration characteristics of the sending and receiving district. The welfare and poverty aspects of local population can be measured from SUSENAS – basically a national consumption-household expenditure survey. Finally the labor statistic (SAKERNAS) could complement SUSENAS to examine individual income according to sector. Again the availability of location identifiers would permit to link it with other data sets described above.

Given the central role of the governance dimension it is essential to incorporate reliable and valid indicators of governance quality. For this purpose we can make use of data sets from KPPOD (watch dog for the decentralization) which contain information on several governance indicators of districts like the number of licenses required to establish a new business. Compared with other countries, these data are strong and of high relevance for our theme since they are available at the level of regencies, a rather exceptional feature.

d. Scientific Relevance

The use of micro-data is gaining ground, but applications in especially developing countries are still limited. Combined with the unique regional variation in governance that we can identify in Indonesia, this project allows us to identify the impact of variation in quality of governance on agglomeration externalities and sorting processes. For example, this approach is promising for the understanding of the impact of governance on the location choice of foreign direct investments (FDI) in core versus peripheral regions, a major theme in the analysis of spatial convergence processes in developing and developed countries.

5. Participation in a graduate School ('onderzoeksschool'):

The VU research group participates in the Tinbergen Institute, a joint initiative of EUR, UvA and VU. It is one of the most renowned European graduate schools at the moment. With about 10 senior fellows, and some 25 PhD students the department of Spatial Economics of the VU University Amsterdam is a dominant player in the Tinbergen Institute's theme of Regional and Environmental Economics. The PhD in the spatial economics group of VU will take courses in the context of the MPhil programme provided by the Tinbergen Institute. The Tinbergen Institute also offers a couple of high-quality seminar series from which the PhD student can strongly benefit.

6. Scientific performance of members of the research group(s) (as defined under 2)

(a limit of 25 publications applies for each research group member referred to. Only list those publications most pertinent to this application.



International (refereed) journals

(include journal impact factors. Mandatory if your proposal is entered in the themes: Infectious diseases and Health or Food, Non-Food and Water Research. Optional for Social and Economic Development)

Henri L.F. de Groot

- Unemployment and Catching Up: Europe *vis-à-vis* the USA, *De Economist*, 145 (2), pp. 179-201, 1997 (with A.B.T.M. van Schaik). Unemployment and Endogenous Growth, *Labour*, 12, pp. 189-219, 1998 (with A.B.T.M. van Schaik).
- Growth Effects of Government Policies: A Comparative Analysis in a Multi-Country Context, *Growth and Change*, 31 (4), pp. 547-572, 2000 (with M.R.E. Brons and P. Nijkamp). Impact factor 1.182
- The Macroeconomic Consequences of Outsourcing, *De Economist*, 149 (1), pp. 53-79, 2001.
- Unemployment, Growth and Trade Unions, *Growth and Change*, 32 (1), pp. 69-91, 2001. Impact factor 1.182
- Trust and Economic Growth, *Oxford Economic Papers*, 56 (1), pp. 118-134, 2004 (with S. Beugelsdijk and A.B.T.M. van Schaik). Impact factor 1.518
- The Institutional Determinants of Bilateral Trade Patterns, *Kyklos*, 57 (1), pp. 103-123, 2004 (with G.M. Linders, P. Rietveld and U. Subramanian). Impact factor 0.993
- The Dynamics of China's Regional Development and Pollution: An Empirical Investigation into the Existence of an Environmental Kuznets Curve for China, *Environment and Development Economics*, 9, pp. 507-537, 2004 (with Zhou Minliang and C.A. Withagen). Impact factor 0.938
- Space and Growth: A Survey of Empirical Evidence and Methods, *Région et Développement*, 21, pp. 13-44, 2005 (with M. Abreu and R.J.G.M. Florax).
- Fertile Soil for Structural Funds? A Panel Data Analysis of the Conditional Effectiveness of European Cohesion Policy, *Kyklos*, 59 (1), pp. 17-42, 2006 (with S. Ederveen and R. Nahuis). Impact factor 0.993
- The Impact of Perceived Expectations and Uncertainty on Firm Investment, *Small Business Economics*, 26, pp. 365-376, 2006 (with M.J. Koetse and A.J. van der Vlist). Impact factor 1.710
- Growth and Inequality: A Meta-Analysis, *Scottish Journal of Political Economy*, 55 (5), pp. 654-682, 2008 (with L. de Dominicis and R.J.G.M. Florax). Impact factor 0.635
- Technological Leadership, Human Capital and Economic Growth: A Spatial Econometric Analysis for U.S. Counties, 1969-2003, *Annals of Economics and Statistics*, no. 87/88, pp. 103-124, 2008 (with R.J.G.M. Florax and V.O. Pede).
- A Meta-Analysis of the Investment-Uncertainty Relationship, *Southern Economic Journal*, 76 (1), pp. 283-306, 2009 (with M.J. Koetse and R.J.G.M. Florax). Impact factor 0.717
- Agglomeration Externalities and Localized Employment Growth: The Performance of Industrial Sites in Amsterdam, *Annals of Regional Science*, 44(3), pp. 409-431, 2010 (with F. de Vor).
- The Trade-Off between Foreign Direct Investment and Exports: The role of multiple dimensions of distance, *World Economy*, 34 (8), pp. 1395-1416, 2011 (with M. Lankhuizen and G.J.M. Linders). Impact factor 1.283
- Productivity and Internationalization: A Micro-Data Approach, *De Economist*, 159 (4), pp. 381-388, 2011 (with P.A.G. van Bergeijk, F. Fortanier, J.H. Garretsen and S.J.V. Moons).
- The Crisis Sensitivity of European Countries and Regions: Stylized Facts and Spatial Heterogeneity, *Cambridge Journal of Regions, Economy and Society*, 4 (3), pp. 437-456, 2011 (with S.P.T. Groot, J. Möhlmann and J.H. Garretsen).

Ari Kuncoro

- Corruption and Local Democratization in Indonesia, with J.V. Henderson, *Journal of Development Economics*, March 2011. Impact factor 1.861
- Corruption and Business Uncertainty in Indonesia, *ASEAN Bulletin of Economic*, vol. 23(1), 2006.
- The Political Economy of Indonesian Economic Reforms: 1983-2000, *Oxford Development Studies*, December 2005.
- Determinants of Bribery in Indonesia: Evidence from Micro Data, *Bulletin of Indonesian Economic Studies*, December, 2004.
- Industrial Concentration in Indonesia, *World Bank Economic Review*, September, 1996. Impact



- factor 2.192
- Industrial Development in the Cities, 1995, *Journal of Political Economy*, Vol. 103 No. 5, with J.V. Henderson and M. Turner Impact factor 5.742

National (refereed) journals

Ari Kuncoro

- Scale Externalities in Indonesia, *Economics and Finance in Indonesia*, December, 2007
- Corruption and Economic Growth in Indonesia, *Economics and Finance in Indonesia*, March, 2002.

Books or contributions to books

Henri L.F. de Groot

- *Growth, Unemployment and Deindustrialization*, Edward Elgar, Cheltenham, 2000.
- *Entrepreneurship and Regional Economic Development*, Edward Elgar, Cheltenham, 2004 (edited volume with P. Nijkamp and R.R. Stough).
- Integrating Evidence on Determinants of Productivity, in: G. Gelauff, L. Klomp, S. Raes and T. Roelandt (eds), *Fostering Productivity: Patterns, Determinants and Policy Implications*, Elsevier, pp. 159-183, 2004 (with E.J. Bartelsman).
- Locality Matters: Myths and Facts on the New Economy, in: J. Poot (ed.), *On the Edge of the Global Economy*, Edward Elgar, Cheltenham, pp. 27-48, 2004 (with G.M. Linders and P. Nijkamp).
- Agglomeration, Innovation and Regional Development: Theoretical Perspectives and Meta-Analysis, in: R. Capello and P. Nijkamp, *Handbook of Regional Growth and Development Theories*, Edward Elgar, Cheltenham, pp. 256-281, 2009 (with M.J. Smit and J. Poot).
- Intangible Barriers to International Trade: A Sectoral Approach, in: P. van Bergeijk and S. Brakman (eds), *The Gravity Model in International Trade: Advances and Applications*, Cambridge University Press, Cambridge, pp. 224-251, 2010 (with J. Mohlmann, S. Ederveen and G.J.M. Linders).
- The Role of Monetary and Financial Factors in Regional Development: An Overview, in: A. Frankel, P. Nijkamp and P. McCann (eds), *Societies in Motion: Innovation, Migration and Regional Development*, Edward Elgar, Cheltenham, pp. 45-68, forthcoming (with M.A. Ridhwan, P. Nijkamp and P. Rietveld).

Ari Kuncoro

- Spatial Agglomeration, Firm Productivity and Government Policies in Indonesia: Concentration and Deconcentration in Manufacturing Sector, in Yukon Huang et.al. *Reshaping Economic Geography in East Asia*, a companion to the *World Development Report 2009*
- Understanding Economic Reform in Indonesia, in J.M. Fanelli and G. McMahon (eds), *Understanding Market Reforms; volume 2: Motivation, Implementation and Sustainability*, Palgrave Macmillan, December, 2006

Other

Ari Kuncoro

- Corruption in Indonesia, with J.V. Henderson, NBER Working Paper no. w10674, August 2004

7. Literature references (Max. 1 page)

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Integration and Cooperation

8. Integration of research and scientific results in the JRP

(Max. 1000 words)

Word count: 192

This project contributes to the overall aims of the JRP in various ways. Its extensive analysis of economic developments within Indonesia and also the identification of the economic dynamics in Indonesia relative to other countries worldwide provides crucial stylized facts that are central in the project. It establishes the



aggregate outcomes that the second and third project will study further by focusing on underlying mechanisms that give rise to these aggregate outcomes focusing on agglomeration externalities, sorting of workers and firms, and the dynamics generated by infrastructural developments.

Project 2 is closely related to projects 1 and 3. Project 2 receives important inputs from project 1 in terms of results on the overall tendencies in convergence and divergence in regional development. Also, data collected in project 1 on institutional and governance dimensions will be used for the analysis of micro behaviour in project 2. Project 2 also provides important inputs for project 3 as far as metropolitan areas are concerned. These projects address strongly related themes, although from a different angle: agglomeration advantages in project 2, and transport dimensions including congestion and lack of supply of public transport services in project 3.

Management and Administration

9. Information on the managing capacities of the Project Leader(s)

(Max. 250 words)

Word count: 89

Henri de Groot has extensive experience in managing national as well as international research projects and teaching programs. He has, amongst others, coordinated a European project (METRON) on sustainable urban water use, an NWO-subsidized programme on the promotion of energy efficiency in small and medium sized enterprises. He has supervised PhD theses of more than 10 PhD students (both national as well as international, including Indonesian students). He is program coordinator of the Bachelor program Economics and Business Administration and of the Master Program Spatial, Transport and Environmental Economics.

Duration and Planning

10. Time table of the project and Milestones

The project consists of five phases:

Phase 1: Preparation phase (September 2012-May 2013)

- Literature review
- Meta-analysis updating existing meta-analyses on agglomeration (De Groot et al. and Melo et al.)
- Writing of papers with updated meta-analyses
- Writing and defending a detailed research plan

Phase 2: Sorting versus agglomeration – workers (May 2013-December 2014)

- Empirical analysis on worker data describing mobility / migration, sorting and spatial earnings differentials and their determinants
- Writing of paper to be presented at conference

Phase 3: Sorting versus agglomeration – firms (January 2015-December 2015)

- Empirical analysis on worker data describing mobility / migration, sorting and spatial earnings differentials and their determinants
- Writing of paper

Phase 4: Writing of the thesis (January-September 2016)

11. Research location(s)

The plan is that the PhD student spends his/her first year in the Netherlands (VU University Amsterdam) to work on the literature review and the meta-analysis under supervision of and in close cooperation with the Post-doc and the supervisor(s). Large parts of the second and third year will be spent in Indonesia at UI, in part for data-collection and the in-depth research (under supervision of Ari Kuncoro). The final year will be spent again in the Netherlands to complete and defend the PhD thesis.



The coordinating post-doc will visit the PhD student during the second and third year when the PhD student is in Indonesia. This will help to achieve a high level of coherence between the various subprojects.

PROJECT 3

1. Project title

Urban Transport, Accessibility, Social Exclusion and Governance in Metropolitan Areas in Indonesia

2. Research Group

a. Project Leader in the Netherlands

Name / Title(s): Dr. Ing. Karst T. Geurs

University/ Institute: Centre for Transport Studies, Fac. of Engineering Technology, University of Twente

b. Project Leader in Indonesia

Name / Title(s): Dr. Ibnu Syabri

University/ Institute: Dept. of Urban and Regional Planning, Institut Teknologi Bandung, Program Studi Perencanaan Wilayah dan Kota SAPPK ITB

c. Proposed Researcher

SPIN PhD fellow. As explained in Part I, the post-doc researcher that will coordinate the entire program and who will be located at VU University will also make a contribution to this project.

d. Other participants

Name / Title(s): Dr. Ir. B. Zondag

University/ Institute: Netherlands Environmental Assessment Agency

Name / Title(s): Prof. Dr. Atsushi KOIKE

University/ Institute: Kobe University, Department of Civil Engineering

Name / Title(s): Prof. Dr. Yoshiro HIGANO

University/ Institute: Graduate School of Life and Environmental Sciences, University of Tsukuba

Name / Title(s): Prof. Dr. Yoshitsugu HAYASHI

University/ Institute: Chair of Scientific Committee of the World Conference on Transportation Research Society –WCTRS; Dept. of Civil Engineering, Nagoya University

Name / Title(s): Prof. Kenji Doi

University/ Institute: Faculty of Engineering, Kagawa University, Japan

Chair of WCTR Special Interest Group Land use and Transport Policy

Research Proposal

3. Summary of the Project Proposal (Max. 400 words)

Word count: 228

Metropolitan areas in Indonesia are increasingly facing challenges due to rapid urbanization and motorization, which in combination with insufficient investment in transport infrastructure, are linked to urban poverty, unemployment and social exclusion. The linkages between transport and social exclusion are complex and have to date not been studied in an Indonesian context. This project aims to contribute to the understanding of the long run dynamics in metropolitan transport systems, accessibility and social exclusion in Indonesia. The project will focus on the Jakarta and Bandung metropolitan area where rapid urbanization and major transport developments have taken place in the past 20 years. The study will firstly include an



operationalization of the concepts of accessibility and social exclusion within an Indonesian metropolitan. It will secondly involve GIS analysis to estimate changes in accessibility levels arising from changes in metropolitan transport networks (road and public transport) and urbanization patterns in Jakarta and Bandung in the period 1990-2010. Thirdly, an in-depth empirical analysis will be conducted, based on a survey, to causally link accessibility disadvantages of population groups to social exclusion. In particular, we will examine the effects of major investments in Bus Rapid Transit in Jakarta and Bandung on reducing social exclusion. Finally, the effects of decentralization and increased fragmentation in governance on the decision making of urban transport investments will be examined, and its consequences for transport related social exclusion.

4. Detailed description of the Project (*Max. 2000 words*)

Word count: 1989

a. Scientific Background

Metropolitan in Indonesia such as Jakarta, Surabaya, Medan, Semarang and Makassar are increasingly facing challenges due to rapid urbanization and motorization in the last 15 years, in combination with insufficient investment in transport infrastructure and are linked to urban poverty, unemployment and social exclusion. The links between urban transport, accessibility and social exclusion are a growing field of research. Existing research efforts have, however, several methodological flaws and few efforts have been made to study this within an Asian, or more specific, Indonesian context. This project aims to contribute to the understanding of the link between changes in urban transport systems, accessibility and social exclusion in Indonesian metropolitan areas.

Van Wee and Geurs (2011) define social exclusion as the fact that some people or population groups are excluded from a certain minimum level of participation in location based activities, in which they wish to participate. In the words of Rajé (2003), who presents an overview of definitions and concepts related to social exclusion: "it is a process, which is understood to be multi-dimensional, and prevents individuals or groups from participating in normal activities of their society. It is linked to inaccessibility of goods and services, which contributes to a feeling of not belonging". In this and many other definitions, a citizen's ability to access to services is seen as one of the central, although not primary aspects of social exclusion. It also includes access to work and participation on the labor market.

To date, the majority of studies which consider transport from a social exclusion perspective have been conducted in the context of the developed world (Lucas, 2011). A range of research suggests that transport disadvantage can contribute to social exclusion or a poor quality of life. (e.g., see Hine, 2004; Social Exclusion Unit, 2003). The links between transport and social exclusion are however complex and are not always demonstrated (e.g., see Delbosc and Currie, 2011). Some studies on urban transport and social exclusion have been conducted in developing countries, e.g. focusing on low-income groups in urban slums in Africa (e.g., Lucas, 2011; Salon and Gulyani, 2010). Results from existing studies cannot be easily transferred to the Indonesian situation.

A limitation of research in this field is the methodological approach to identifying the association between urban transport, equity and social exclusion. In general methodologies typically involve the use of comparative analyses whereby the characteristics of groups are compared based on contrasting spatial, mobility, access or socio-demographic qualities (e.g., Church et al., 2000). In particular, researchers have explicitly studied the link between social exclusion and levels of accessibility. For example, Scott and Horner (2008) calculated accessibility indices to investigate whether cities are designed in such a way that the locations of opportunities vary between socio-economic groups. They found that accessibility levels of those groups that are generally considered to be at risk of social exclusion, are not lower than average, people living in rural areas being the exception. This approach has many practical benefits in terms of data collection but can be simplistic in assuming that contrasts in behavior identified are caused by differences in access and mobility quality shown. When causal links are explored in more depth in this research they are often based on qualitative and anecdotal evidence based on limited samples of interview or focus group data (Lucas, 2011; Rajé, 2003). What is lacking is a quantified measure of both accessibility and social exclusion



with a demonstrated empirical measure of the causal links between these constructs. Currie and Delbosch (2010) provide an example of in-depth empirical analysis causally linking transport disadvantage to social exclusion. We will widen the scope of *transport* disadvantage to *accessibility* disadvantage, incorporating the spatial distribution of activities.

In addition, we will examine to what extent changes in governance in Indonesia, i.e. decentralization, affected decision making on metropolitan transport investments and as a result transport related social exclusion. The major components of the project include an in-depth secondary analysis of existing data sources to explore transport related social exclusion and a primary data collection household survey.

b. Specific Objective(s)

This project will contribute to the understanding of the link between changes in urban transport systems, accessibility and social exclusion in Indonesian metropolitan areas. The main research objective is to demonstrate how the dynamics in urbanization patterns and urban transport systems and changes in local and regional governance in the past decade have impacted accessibility levels and transport related social exclusion in Indonesian metropolitan areas. The project will focus on two metropolitan areas with rapid urbanization and where major transport developments have taken place in the past decade in Indonesia, i.e. Jakarta and Bandung. The development of the Trans Jakarta Bus Rapid Transit System (BRT) Jakarta started in 2004, and is now the largest BRT network worldwide. The Trans Metro Bandung (TMB) rapid mass transportation service was introduced in 2009.

The following research questions that will be addressed in the project:

1. How should the concepts of accessibility and social exclusion be defined, operationalized and measured for different population segments (e.g., by income group, gender, location) within an Indonesian metropolitan context?
2. What were changes in accessibility levels arising from changes in transport networks (road and public transport) and urbanization changes in the period 1990-2010 in Jakarta and Bandung.
3. What is the potential impact of changes in accessibility levels on transport related social inclusion, and to what degree have major investments in public transport impacted the level of social exclusion of relevant population groups?
4. How did decentralization and increased fragmentation in governance in the past decade affect transport investments decisions in the metropolitan areas of Jakarta and Bandung?

c. Workplan

The four research questions will be addressed as follows.

Defining and operationalizing accessibility and transport related social exclusion

The concepts of accessibility, transport disadvantages and social exclusion have been measured in many different ways. This research question will be based on a literature review and build upon earlier work on accessibility and social exclusion (Geurs et al., 2009; Geurs and Van Wee, 2004; van Wee and Geurs, 2011). There are essentially four key components of accessibility within the transportation literatures which can be identified as highly relevant to research on transport related social exclusion : (1) a physical component (availability and physical access to transport facilities); (2) the level of service provided by transport systems (in terms of travel time, cost, and comfort); (3) the spatial distribution of transport services and activities and their spatial and temporal constraints, including the option value of preserving accessibility to public transport, irrespective of use; and (4) individual characteristics and safety aspects (Geurs et al., 2009).

Dynamics in accessibility levels arising from land use and transport network changes

This research question will involve secondary data analysis and GIS analysis. We will use land use data readily available at ITB for Bandung Metropolitan Area (1990, 2004, and 2010) and Jakarta Metropolitan Area (1990, 2000, 2010), census data (1990, 2000, 2010), socio-economic data from village level (PODES:



POTensi DESa) and transport network data for the period 2000-2010. GIS analysis will be conducted to examine spatial distribution of accessibility the different basic services by different transport modes. This will be examined for different population groups (e.g., by income level, gender, location). In addition, we will examine if major investments in public transport in Jakarta and Bandung in the past decade (e.g., Trans Jakarta BRT) have impacted accessibility levels for different population segments.

Dynamics in transport related social exclusion

To examine causal links between transport, accessibility and social exclusion a large primary data collection household survey will be conducted in Jakarta and Bandung. The sample size will be 500 at the minimum to allow robust statistical analysis.

Currie and Delbosc (2010) and Currie et al. (2010) provide an example of in-depth empirical analysis causally linking transport disadvantage to social exclusion in Melbourne, Australia. The concept of transport disadvantage was measured through self-reported difficulties with transport, and principal components analysis of responses identified four statistically significant sub-scales of disadvantage (transit disadvantage, transport disadvantage, factor analysis was used to derive main factors of transport disadvantage (transport disadvantage, transit disadvantage, vulnerable/impaired and rely on others). Social exclusion is represented in different dimensions such as including income, unemployment, participation in activities and by the strength of social support networks. Structural Equation Modelling was used to transport disadvantage, social exclusion and social well being. We will follow this Currie and Delbosc's approach in analysing causal links between transport and social exclusion in our survey. We will broaden the scope of the analysis by firstly analysing *accessibility* disadvantage instead of *transport* disadvantage, thus, incorporating the influence of the spatial distribution of activities on social exclusion. Secondly, we will not only estimate current levels of transport related social exclusion, but also the effect of major changes in the urban transport system, such as the Trans Jakarta BRT, on changes in social exclusion.

Governance and transport infrastructure decision making

The analysis of impacts of governance is a central issue in the research programme. In the past decade, greater autonomy is increasingly delegated to about 500 districts in various areas of governance, including public works, health, education, agriculture, industry, trade and environment. It is however not yet clear how increasing fragmentation of government decision making power and other governance dimensions (e.g. related to corruption) affected transport investment decisions and social inclusion policies in rapidly growing metropolitan areas.

In this part of the project, the study is concerned with the transportation governance. It is not a new issue, but under Indonesia's new decentralisation policy the challenges for urban governance are even more daunting. This policy has made the local governments in both Bandung and Jakarta socio-economically and politically fragmented as has happened in other large cities in Indonesia. Metropolitan regions are usually characterised by both externalities and socio-economic, environmental and political administrative interdependences among local government jurisdictions in the region (Bird and Slack, 2007, p. 736). We will examine the decision making process of transport infrastructure governance in metropolitan areas in Indonesia, in particular Jakarta and Bandung. The questions addressed in this study are the extent to which regional autonomy and fiscal decentralisation reform have affected the development of transportation and the its governance institutions that need to be established for a competitive and effective metropolitan development in the future.

This will be done through interviews with relevant decision makers, urban and transport planners in the Jakarta and Bandung metropolitan areas and a survey among a wider group of local and regional decision makers, urban and transport planners Decentralisation of decision making also implies differences in infrastructure evaluation methods between regions.

d. Scientific Relevance



Metropolitan areas in Indonesia face challenges due to rapid urbanization and motorization in the last 15 years, in combination with insufficient investment in transport infrastructure. These developments are often linked to urban poverty and social exclusion. The causal relationships between urbanization, transport investments and social exclusion are quite complex and little efforts have been made to study this in an Asian or, more specific, Indonesian context. In addition, existing research in this field has methodological flaws. Several researchers have studied the link between the accessibility and social exclusion, but lack demonstrated empirical measures of the causal links between these constructs. Moreover, the majority of studies which consider transport from a social exclusion perspective have been conducted in the context of the developed world so far, and results from these studies cannot be easily transferred to the Indonesian situation. In addition, major investments in public transport in Jakarta and Bandung have been done (i.e., the Trans Jakarta Bus Rapid Transit system and Trans Metro Bandung (TMB) rapid mass transportation service) but its impacts on the functioning of transport systems have not yet thoroughly been examined. This project thus also clearly is relevant from a transport policy and societal point of view.

This project will contribute to improved understanding of the links between changes in urban transport systems, accessibility and social exclusion in Indonesian metropolitan areas.

5. Participation in a graduate School ('onderzoeksschool'):

The Centre for Transport Studies of the University of Twente is member of the Dutch Research School on Transport, Infrastructure and Logistics (TRAIL). Within TRAIL, Erasmus University of Rotterdam, Delft University of Technology, Eindhoven University of Technology, University of Twente and Radboud University Nijmegen collaborate. Twelve faculties and institutes (spanning the fields of economics, technology, policy and management, and the social and behavioural sciences) form a strong concentration of scientific experts in the fields of traffic and transport. Over 200 researchers, of whom about 80 are PhD candidates, are active in TRAIL. TRAIL initiates and participates in research programs, collaborative arrangements with public and private parties, and other collaborative initiatives that aim to connect scientific research and its applications in practice. Since 1997, TRAIL has been officially accredited by the Royal Netherlands Academy of Arts and Sciences as a formal Research School.

The research proposals and projects will meet the requirements as set by the research school TRAIL, and are evaluated accordingly. In addition, all PhD research proposals and research plans established within the Centre for Transport Studies are evaluated on scientific quality by the Civil Engineering Research Council (CERC) of the Faculty of Engineering Technology. The PhD student has to prepare a detailed research plan and present it to the CERC after 6 to 9 months. The plan is refereed internally, among other things in terms of scientific quality, degree of innovation, and feasibility. A member from another research group takes the lead in this refereeing process. Moreover, the student's progress in the education programme is assessed. The judgment of the Department Council is documented, and binding. Hence, both TRAIL and CERC ensure that each PhD research project meets the academic standards.

The Regional and City Planning (RCP) department at ITB was firstly established in September 1959, with initial help of experts from Harvard University under the auspices of the United Nations Technical Assistance Bureau. To keep up with the increasing need for specialized professional expertise, a master program in RCP was established at ITB in August 1982 with technical assistance from the Development Planning Unit, University College London and the Department of Public Works. The establishment of a doctoral program in RCP at ITB was then followed in 1986. Currently, RCP is under the School of Architecture, Planning and Policy Development (SAPPD). The school was established on 29 August 2005, by a decree from Rector of ITB (No. 222/2005) which intends to reorganize academic units of ITB. The school encompasses five main professional disciplines: architecture, regional and city planning, urban design, transportation, and development studies; and aims to produce professionals in the sustainable built environment who are skilled in investigation, analysis, problem solving and communication, and are motivated to contribute significantly to professional and community life. The newly established school began to operate as an academic implementation unit responsible for education, research and community service activities starting from 1 January 2006, administering 12 (twelve) academic programs ranging from undergraduate to doctoral program, 8 (eight) research divisions, 79 (seventy nine) faculty members, 42



(forty two) supporting staffs, and around 1407 undergraduate and graduate students (by December 2010). Advances in scientific knowledge is systematically integrated into roadmaps of 8 research divisions, comprising domains of policy development, planning and design of sustainable built environment, infrastructure, transportation and spatial aspects at regional, rural, urban, human settlement and building scales.

Transportation Program at SAPPD ITB encompasses a wide range of academic disciplines, and is designed as such to satisfy the demand for transportation professionals who comprehend multiple dimensions of transportation planning and management, enabling them to make decisions leading to more economically, socially, and environmentally sustainable transportation systems nationwide at present and in the future. The program has 15 members comprising three professors, 8 Associate Professors and 4 Assistant Professors. The research activities cover a core of essential knowledge from transportation system analysis, transportation planning and policy, transportation operating and control systems, infrastructure management and logistic system, supported by more generic sciences such as modelling system, engineering system, traffic engineering, and economics. Any technical solutions to transportation problems are to be promoted in integration with socio cultural, economic, political and environmental concerns. Research topics are incorporated whenever appropriate into the program.

6. Scientific performance of members of the research group(s) (as defined under 2)

(a limit of 25 publications applies for each research group member referred to. Only list those publications most pertinent to this application.

International (refereed) journals

Karst T. Geurs

Geurs, K., Zondag, B., De Jong, G. , Bok, M. de, 2010. Accessibility appraisal of integrated land-use/transport policy strategies: more than just adding up travel time savings. *Transportation Research Part D* 15, 382-393. Impact factor 1.589

Geurs, K.T., W. Boon , B. van Wee (2009). Social impacts of transport: literature review and state-of-the-practice transport appraisal in the Netherlands and the United Kingdom. *Transport Reviews* 29(1): 69-90. Impact factor 1.722

Geurs, K., B. van Wee (2006) Ex Post Evaluation of 30 Years Compact Urban Development in the Netherlands. *Urban studies*, 41(1). Impact factor 1.513

Geurs, K.T., R. Haaijer, B. van Wee (2006) Option Value of Public Transport: Methodology for Measurement and Case Study for Regional Rail Links in the Netherlands. *Transport Reviews*, 26 (5), 613 - 643. Impact factor 1.722

Geurs, K.T., Van Wee, B., Rietveld, P., 2006. Accessibility appraisal of integrated land-use/transport strategies: methodology and case study for the Netherlands Randstad area. *Environment and Planning B: Planning and Design* 33, 639-660. Impact factor: 1.043.

Geurs, K.T., B. van Wee (2004) Accessibility evaluation of land-use and transport strategies: review and research directions. *Journal of Transport geography*, 12, 127-140. Impact factor 1.706. Most downloaded article of *Transport Geography* Articles in the past three months (March 2012).

Geurs, K.T., B. van Wee (2004) Land-use/transport interaction models as tools for sustainability impact assessments of transport investments: review and research directions. *European Journal of Transport and Infrastructure Research*, 4 (3), 333-355. Impact factor 0.214.

Geurs, K.T., Ritsema van Eck, J.R., 2003. Accessibility evaluation of land-use scenarios: the impact of job competition, land-use and infrastructure developments for the Netherlands. *Environment and Planning B:*



Planning & design 30, 69 - 87. Impact factor: 1.043.

Laird, J., K. Geurs, C. Nash (2009). Option and non-use values and rail project appraisal. *Transport Policy* 16(4): 173-182. Impact factor 1.171

van Wee, B. & K. T. Geurs (2011) Discussing equity and social exclusion in accessibility evaluations. *European Journal of Transport and Infrastructure Research*, 11, 350-367. Impact factor 0.214.

Ibnu Syabri

Anselin L., I. Syabri, and Y. Kho, 2006. GeoDa: An Introduction to Spatial Data Analysis, *Geographical Analysis* 6, pp. 211-231. Impact factor 1.5

Anselin L., Y-W Kim, I. Syabri, 2005. Web-Based Spatial Analysis Tools for the Exploration of Spatial Data. *Journal of Geographical Systems* 6 (2), pp.197-218. Impact factor 1.289

National (refereed) journals

Karst T. Geurs

Geurs, K., Zondag, B., Bok, M.d., 2010. De bereikbaarheidswinst van verstedelijkingsbeleid. *Rooilijn* 43, 254-259.

Geurs, K., Renes, G., Romijn, G., Zwaneveld, P., 2011. Schaalsprong Almere: een kosten-batenanalyse. *Rooilijn* 44, 128-135.

Books or contributions to books

Karst T. Geurs

Geurs, K.T., Krizek, K., Reggiani, A. (Eds.), 2012, *Accessibility and Transport Planning: Challenges for Europe and North America*. Edward Elgar, Northampton, USA (in press)

Geurs, K., Bok, M. de, Zondag, B., 2012. Accessibility benefits of integrated land use and public transport policy plans in the Netherlands, In: Geurs, K.T., Krizek, K., Reggiani, A. (Eds.), *Accessibility and Transport Planning: Challenges for Europe and North America*. Edward Elgar, Northampton, USA (in press)

Geurs, K.T., Wee, B. van, forthcoming. *Accessibility: perspectives, measures and applications*, In: B. van Wee, J. A. Annema, D. Banister (Ed.), *The Transport System and Transport Policy: An Introduction*. Edward Elgar.

7. Literature references (Max. 1 page)

Bird, R., Slack, E., 2007. An Approach to Metropolitan Governance and Finance. *Environment and Planning C: Government and Policy* 25, 729- 755.

Church, A., Frost, M., Sullivan, K., 2000. Transport and social exclusion in London. *Transport Policy* 7, 195-205.

Currie, G., Delbosc, A., 2010. Modelling the social and psychological impacts of transport disadvantage. *Transportation* 37, 953-966.

Currie, G., Richardson, T., Smyth, P., Vella-Brodrick, D., Hine, J., Lucas, K., Stanley, J., Morris, J., Kinnear, R., Stanley, J., 2010. Investigating links between transport disadvantage, social exclusion and well-being in Melbourne – Updated results. *Research in Transportation Economics* 29, 287-295.

Delbosc, A., Currie, G., 2011. The spatial context of transport disadvantage, social exclusion and well-being. *Journal of Transport Geography* 19, 1130-1137.

Geurs, K.T., Boon, W., Van Wee, B., 2009. Social impacts of transport: literature review and state-of-the-practice transport appraisal in the Netherlands and the United Kingdom. *Transport Reviews* 29, 69-90.



- Geurs, K.T., Van Wee, B., 2004. Accessibility evaluation of land-use and transport strategies: review and research directions. *Journal of Transport geography* 12, 127-140.
- Hine, J., 2004. Transport disadvantage and social exclusion in urban Scotland. *Built Environment* 30, 161-171.
- Lucas, K., 2011. Making the connections between transport disadvantage and the social exclusion of low income populations in the Tshwane Region of South Africa. *Journal of Transport Geography* 19, 1320-1334.
- Raje, F., 2003. The impact of transport on social exclusion processes with specific emphasis on road user charging. *Transport policy* 10, 321-338.
- Salon, D., Gulyani, S., 2010. Mobility, poverty, and gender: Travel 'choices' of slum residents in Nairobi, Kenya. *Transport Reviews* 30, 641-657.
- Scott, D.M., Horner, M.W., 2008. Examining The Role of Urban Form In Shaping People's Accessibility to Opportunities: An Exploratory Spatial Data Analysis. *Journal of Transport and Land Use* 1, 89-119.
- Social Exclusion Unit, 2003. Making the Connections: Final Report on Transport and Social Exclusion. Social Exclusion Unit, London.
- van Wee, B., Geurs, K.T., 2011. Discussing equity and social exclusion in accessibility evaluations. *European Journal of Transport and Infrastructure Research* 11, 350-367.

Integration and Cooperation

8. Integration of research and scientific results in the JRP

(Max. 1000 words)

Word count: 131

Project 3 is strongly related to projects 1 and 2. Project 1 provides a frame of reference for understanding the overall development of metropolitan areas such as Jakarta which is important for the analysis of transport related problems in such metropolitan areas. Furthermore, project 3 and project 2 follow complementary approaches to the analysis of metropolitan developments: in project 2 the focus is on the positive agglomeration externalities of these regions, whereas project 3 focuses on the negative ones, related to transport. The two approaches need inputs from each other in order to arrive at a balanced view on metropolitan developments in Indonesia. Data-wise, there will be important spill-overs between projects 1 and 3 when it boils down to collecting information on the quality and quantity of available infrastructure and accessibility.

Management and Administration

9. Information on the managing capacities of the Project Leader(s)

(Max. 250 words)

Word count: 223

Karst Geurs has extensive experience in managing research projects. He has managed many research projects as programme manager at the PBL Netherlands Environmental Assessment Agency up to 2009. He is currently coordinator of a NWO funded programme on Transit Oriented Development within the programme Sustainable Accessibility for the Randstad Region, in which three Dutch Universities (UTwente, VU and Delft University of Technology), regional public authorities (StedenbaanPlus and partners) and the Netherlands Environmental Assessment Agency participate. He currently supervises two PhD students, and coordinates two Master Courses within the UTwente Master Track Transport Engineering and Management, i.e. Land Use and Transport Interactions and Sustainable Transport.

Dr. Syabri is an associate professor in the School of Architecture, Planning and Policy Development, Institute of Technology Bandung (ITB). He has worked the past 25 years at the Department of Regional and City Planning ITB. Since 2009, he serves as the head of the Research Center for Infrastructure and Regional Development (IRD) at Insitute of Technology Bandung, Indonesia, and serves as a member of post-graduate program of Transportation Department, ITB and a member of Indonesia's Transportation Study



Forum. Dr. Syabri has managed many research projects as principal investigator at IRD up to 2011. He currently supervises one PhD student, 5 Master students and teaches two courses in Transportation Program, which are Urban Transportation Planning, and Landuse Transportation Modelling.

Duration and Planning

10. Time table of the project and Milestones

The project consists of five phases:

Phase 1: Preparation phase (September 2012-May 2013)

- Literature review
- Writing and defending a detailed research plan

Phase 2: Accessibility analysis (May 2013-May 2014)

- Secondary data analysis; GIS analysis of population, land use and transport infrastructure changes in Jakarta and Bandung metropolitan areas
- Accessibility analysis of transport and land use changes in Jakarta and Bandung metropolitan areas
- Writing of paper 1

Phase 3: Social cohesion analysis (May 2014-May 2015)

- Set up survey on accessibility disadvantage and social cohesion
- Primary data collection (survey)
- Statistical analysis
- Writing of paper 2
- Visit international conference in 2013/2014

Phase 4: Governance analysis (June 2015-December 2015)

- Data collection, actor analysis
- Interviews with Indonesian local and regional policy makers and stakeholders
- Writing of paper 3
- Visit international conference in 2014/2015

Phase 5: Writing of the thesis (January-September 2016)

11. Research location(s)

The Indonesian PhD student in this project will spend in total 24 months at the Dept. of Urban and Regional Planning, Institut Teknologi Bandung, Bandung, Indonesia, and 24 months at the Centre for Transport studies of the University of Twente, Enschede, the Netherlands. The coordinating post-doc will visit the PhD student during the periods when the PhD student is in Indonesia. This will help to achieve a high level of coherence between the various subprojects.