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Firms' investment decisions in fragile states

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Background and Introduction

Objective

The objective of this report is to broaden the literature search beyond the behavioural literature outlined in the review to test the key finding: *that there is a gap in empirical evidence about investment behaviour of private households and firms in developing countries, which is particularly acute in conflict-affected states*.

Methodology

Literature searches were completed both in academic journals databases (such as JSTOR) as well as in Google and Google scholar. The papers listed include published and grey literature and include both single-country and cross-country studies. A wide variety and combination of search terms were used to capture relevant papers outlining investment behaviour in developing countries or conflict affected countries (both in abstracts and in the article contents). Due to the limited number of papers on this topic, the definition for 'conflict affected states' was not narrowed to any particular definition to avoid narrowing the search too much and missing indirectly relevant papers. Papers that focused specifically on FDI and those on standard determinants of investment behaviour have been excluded from the list outlined below.

Findings

Extensive literature searches **validate the overall finding** that there is a gap in empirical evidence both in terms of research on domestic investment behaviour of firms in developing countries and particularly those in conflict-affected states.

A large body of literature exists in relation to Foreign Direct Investment (FDI) decisions in developing countries and in conflict-affected areas. However, there is very little in relation to *domestic* investment and what shapes these decisions.

It is difficult to identify literature that looks specifically at what influences domestic investment decisions in developing countries, particularly in conflict-affected areas. However there are a few papers that outline indirectly related areas such as:

- Explaining *capital flight* from developing countries (sometimes with a focus on conflict affected areas)
- Investigating '*portfolio choice'* in developing countries (usually listing 'capital flight' as a portfolio choice)
- Outlining how *uncertainty* affects investment decisions
- Outlining *volatility* and investment in developing countries
- Outlining *household savings behaviour* in developing countries
- Explaining the effects of *political instability* on private investment
- Outlining the *economic costs* and consequences of *conflict*
- Comparing how *foreign investment* and *domestic investment* relate to each other (and occasionally how they differ)

Even within these areas there are a limited number of papers available and some of the papers are fairly old. There are a few papers that focus on a *specific country* and analyse *domestic investment trends* and the World Bank does *investment climate surveys (*including in *fragile states*) that may be useful as a starting point for extracting information.

A list of papers along with their web links and abstracts (where available for the paper) are outlined in Annex 1. The papers are organised under six headings:

1. Papers on capital flight/portfolio choice/uncertainty/volatility and investment/ household savings behaviour
2. Specific country analyses of domestic investment
3. Impact of political instability on private investment
4. Economic costs/consequences of conflict
5. Foreign and domestic investment
6. World Bank Investment Climate surveys and Doing Business research

Annex 1

Papers on capital flight/portfolio choice/uncertainty/volatility and investment/ household savings behaviour

- **Leo, B., Ramachandran, V. and Thuotte, R. 2012. Supporting Private Business Growth in African Fragile States. A Guiding Framework for the World Bank Group in South Sudan and Other Nations. Center for Global Development.**

http://www.cgdev.org/files/1426061_file_Leo_Ramachandran_Thuotte_fragile_states_FINAL.pdf

Scope and key findings from the executive summary:
First, we examine three key private sector–related factors in African fragile states: what businesses cite as the most binding constraints to private sector growth; what government priorities are for business climate improvements or strategic economic sectors; and what types of projects have been more effective over time. This analysis draws upon World Bank Enterprise Survey data, a newly assembled database of African fragile state government priorities, and World Bank Independent Evaluation Group project outcome rating data. Our summary findings include:

Business constraints
On average, the most frequently cited business constraints in African fragile states include electricity (68 % of survey respondents), access to finance (56 %), political instability (56 %), corruption (48 %), and tax rates (40 %).

Government priorities
African fragile state governments have prioritized the following issues: regulatory framework reforms (100 % of sample countries), transport infrastructure (100 %), electricity (92 %), access to and cost of finance (83 %), and macroeconomic stability (75 %). Our analysis seeks to identify government priorities in a defined set of African fragile states. A separate comparison between fragile and nonfragile low-income country priorities could be useful to World Bank project design staff.

Project outcome performance
The private sector–related subsectors with the highest project outcome ratings include: telecommunications, oil and gas, transport infrastructure, and trade policy reform. At least half of IDA projects had at least "satisfactory" outcome ratings in these subsectors. The worst performing subsectors include: port infrastructure; banking; micro, small, and medium enterprise finance; rail infrastructure; and mining.

- **Hicks, M. and Smith, J. 2011. Warfare, Civil Conflict and the Spatial Impacts on Domestic Investment: Evidence from South America, 1950-2000. Peace Economics, Peace Science and Public Policy 15.1 (2011)**

http://works.bepress.com/jeffrey_smith/1/

Abstract:
This paper reports the effect of intra and international conflict on domestic investment in South America from 1950-2000. We combine data from the Penn World Table 6.1 and the Militarized Interstate Dispute Dataset from the Correlates of War project in a spatial investment accelerator model. We find that the magnitude of conflicts (total fatal casualties) is associated with diminished domestic investment, in magnitudes that range from 0.1 % to one third of total investment across South America's experience in civil wars, conflicts and ethnic wars. We find no evidence of spatial spillovers in South America's civil wars. The paucity of international conflicts in the region leads us to conclude there is no more than suggestive evidence of large impacts and spatial spillovers of international conflicts.

- **Al-Sadig, A. 2010. Corruption and Private Domestic Investment: evidence from developing countries. International Journal of Economic Policy in Emerging Economies**

Abstract:
While there is a large number of empirical studies on the effects of corruption on economic growth, studies on the relationship between corruption and Private Domestic Investment (PDI) are scared. Therefore, the main purpose of this study is to examine empirically the effects of corruption on the rate of PDI. We apply system Generalised

Method of Moments (GMM) to cope with the potential simultaneity between PDI and corruption and we estimate the model based on panel data from 71 developing countries over the period 1984-2000. The empirical results show that corruption has a robust negative effect on the rate of private investment.

- **Wonnenberg, M. 2009. Literature Review: Relationship between Conflict and Investment.**

http://mrgnc.blogspot.com/2009/12/literature-review-relationship-between.html
(Not terribly helpful but refers to several papers that outline conflict and investment)

Abstract:
'What is the relationship between domestic violent conflict (insurgency, civil war) and trade, especially investment? This review looks at various studies of how conflict affects trade, and specific examples of how civil wars and insurgencies have affected various states. It is shown that the presence of internal violent conflict not only drives away foreign direct investment, but also domestic investment, as domestic capital flees to more secure havens. The relationships between violence in the form of civil war, insurgency, or terrorism, and economic effects are considered.'

- **Collier, P. 2007. Post-Conflict Recovery: How Should Policies be Distinctive? Centre for the Study of African Economies, Department of Economics, Oxford University**

http://users.ox.ac.uk/~econpco/research/pdfs/PostConflict-Recovery.pdf

- **Davies, V. 2007. Civil War, Private Portfolios and Growth in Africa. University of Oxford.**

Abstract:
'Civil war, private portfolios and growth in Africa' The thesis will provide analytical insights and empirical evidence on civil war, private portfolios and growth in Africa. It will investigate the following questions. How much capital flows out during civil war? How much comes back and what is that contingent upon? In addition, there will be econometric analysis of the relationship between capital flight and civil war. The thesis will look at the relationship between capital flight and growth using a worldwide sample of countries and the hypothesis of two-way causality will be tested. Finally, a theoretical model will be developed to analyse the implications of attitudes to risk and domestic market access conditions for the exploitation of diamonds in Sierra Leone, a country confronting all the problems studied in the thesis.

- **Montalvo, J. and Reynal-Querol, M. 2004. Ethnic diversity and economic development. Journal of Development Economics 76 (2005) 293 – 323**

www.econ.upf.edu/~Montalvo/wp/jde_marta_jose.pdf

Abstract:
This paper analyzes the role that different indices and dimensions of ethnicity play in the process of economic development. Firstly, we discuss the advantages and disadvantages of alternative data sources for the construction of indices of religious and ethnic heterogeneity. Secondly, we compare the index of fractionalization and the index of polarization. We argue that an index of the family of discrete polarization measures is the adequate indicator to measure potential conflict. We find that ethnic (religious) polarization has a large and negative effect on economic development through the reduction of investment and the increase of government consumption and the probability of a civil conflict.

- **Fielding, D. 2003. How Does Civil War Affect the Magnitude of Capital Flight? Evidence from Israel during the Intifada.**

http://www.le.ac.uk/economics/research/RePEc/lec/leecon/dp03-10.pdf

Abstract:
We use time-series data from Israel to investigate the dynamics of the causal links between the intensity of civil conflict and capital flight. The fraction of Israeli capital wealth held outside the country exhibits considerable variation over time. So also do indicators of the intensity of the Palestinian-Israeli conflict. Using quarterly time-series data, the paper shows that there is a high correlation between the two, conditional on economic conditions. This correlation is a consequence of a causal link that runs in both directions: more violence leads to more capital flight, but more capital flight is also a predictor of higher future levels of violence.

- **Ndikumana, L. and Boyce, J. 2003. Public Debts and Private Assets: Explaining Capital Flight from Sub-Saharan African Countries. World Development Volume 31, Issue 1, January 2003, Pages 107–130**

http://www.sciencedirect.com/science/article/pii/S0305750X0200181X

Abstract
We investigate the determinants of capital flight from 30 sub-Saharan African countries, including 24 countries classified as severely indebted low-income countries, for 1970–96. The econometric analysis reveals that external borrowing is positively and significantly related to capital flight, suggesting that to a large extent capital flight is debt-fueled. We estimate that for every dollar of external borrowing in the region, roughly 80 cents flowed back as capital flight in the same year. Capital flight also exhibits a high degree of persistence in the sense that past capital flight is correlated with current and future capital flight. The growth rate differential between the African country and its OECD trading partners is negatively related to capital flight. We also explore the effects of several other factors––inflation, fiscal policy indicators, the interest rate differential, exchange rate appreciation, financial development, and indicators of the political environment and governance. We discuss the implications of the results for debt relief and for policies aimed at preventing capital flight and attracting private capital held abroad.

- **Collier, P., Hoeffler, A. and Pattillo, C. 2002. Africa's Exodus: Capital Flight and the Brain Drain as Portfolio Decisions. Journal of African Economies Vol. 13 Suppl. 2**

http://jae.oxfordjournals.org/content/13/suppl_2/ii15.abstract

Abstract:
We build a data set on financial and human capital flight for 48 countries for the period 1970–98 and analyse capital flight as a portfolio choice. Financial capital flight is measured as the stock of capital flight relative to domestically held private net wealth and human capital flight as the proportion of a country's educated population that is living outside the country. Our results suggest that the same economic factors influence human and financial portfolio decisions, namely the relative returns and the relative risks in the competing locations. We focus on the estimated model's implications for Africa, finding that the severe financial capital flight that Africa experienced until the late 1980s has started to be reversed. The factors that have accounted for this repatriation are probably the reduction in the parallel market premium and African indebtedness, the reduction in the incidence of civil war (a phenomenon true only of our sample countries, rather than a general African phenomenon) and the decline in real US interest rates. In contrast, we find that human capital flight is rapidly increasing, as the emigration of the educated is subject to much more powerful momentum effects than financial capital flight. Finally, we find that for both types of capital flight policy changes only affect outcomes with long lags, suggesting that Africa's human capital exodus will be an increasingly important problem.

- **Dehn, J. 2000. Private Investment in Developing Countries: The Effects of Commodity Shocks and Uncertainty. Centre for the Study of African Economies. WPS/2000-11.**

http://www.csae.ox.ac.uk/workingpapers/pdfs/20-11text.pdf

Abstract:
The link between ex post discrete shocks and private investment have never been formally tested in a panel data context, while the evidence of a link between ex ante commodity price uncertainty and investment is weak. This paper constructs measures of discrete shocks and uncertainty using a new multi-country data set of aggregate commodity price indices, and tests the relationship between various manifestations of commodity price variability and private investment rates within the context of a canonical empirical investment model estimated on a sample of 44 developing countries. The analysis confirms theoretical predictions that positive ex post commodity price shocks have strong positive effects on private investment rates in low income developing countries, conditional upon the level of commodity prices. It is also shown that the prospect of uncertain future commodity prices and ex post negative shocks do not affect private investment rates.

- **Aizenman, J. and Marion, N. 1998. Volatility and Investment: Interpreting Evidence from Developing Countries. Economica (1999) 66, 157- 179.**

http://economics.ucsc.edu/research/downloads/vol_inv.pdf

Abstract:
We uncover a significant negative correlation between various volatility measures and private investment in developing countries, even when adding the standard control variables. No such correlation is uncovered when

the investment measure is the sum of private and public investment spending. Indeed, public investment spending is positively correlated with some measures of volatility. These findings suggest that the detrimental impact of volatility on investment may be easier to detect using disaggregated data. We provide several possible interpretations for our findings. Nonlinearities in preferences or budget constraints can cause volatility to have first-order negative effects on private investment.

- **Schmidt-Hebbel, K., Webb, S. and Corsetti, G. 1992. Household savings in developing countries: first cross-country evidence. The World Bank Economic Review, Vol. 14, No. 3: 393–414**

Abstract:
This article reviews the current state of knowledge on the determinants of saving rates, presenting the main findings and contributions of the recently completed World Bank research project, "Saving Across the World." The article discusses the basic design of the research project and its core database, the World Saving Database. It then summarizes the main project results and places them in the context of the literature on saving, identifying the key policy and nonpolicy determinants of private saving rates. Special attention is paid to the relationship between growth and saving and the impact of specific policies on saving rates. The article concludes by introducing the studies included in this special issue.

- **Deaton, A. 1992. Household Saving in LDCs: Credit Markets, Insurance and Welfare. Scand. Journal of Economics 94(2), 253-273, 1992**

Abstract:
Some ways in which farmers in LDCs can protect their living standards against fluctuations in income are discussed. After considering the theory of consumption under uncertainty when there is no or limited borrowing, the case where some borrowing is allowed is also examined. Empirical evidence from some LDCs is used to look at (i) household borrowing and lending, their importance and timing, and their role in smoothing consumption, and (ii) the life-cycle behavior of consumption and income. The results suggest that "hump" life- cycle saving is not likely to be a very important generator of wealth in LDCs and provide further evidence on the limited role of credit markets.

- **Alesina, A. and Tabellini, G. 1989. External debt, capital flight and political risk. Journal of International Economics. Volume 27, Issues 3–4, November 1989, Pages 199–220**

http://www.sciencedirect.com/science/article/pii/0022199689900524

Abstract:
This paper explains the simultaneous occurence of large external debts, private capital outflows and low domestic capital formation. We consider a general equilibrium model in which two government types with conflicting distributional goals randomly alternate in office. Uncertainty over the fiscal policies of future governments generates capital flight and small domesticinvestment, and induces the government to overaccumulate external debt. The model also predicts that left-wing governments are more inclined to restrict capital outflows than right-wing governments. Finally, we examine how political uncertainty affects the risk premium and how debt repudiation may occur after a regime change.

- **Asiedu, E. and Freeman, J. Year unknown. The Effect of Corruption on Investment Growth: Evidence from Firms in Latin America, Sub-Saharan Africa and Transition Countries.**

Abstract:
Many of the empirical studies that analyze the impact of corruption on investment have three common features: they employ aggregate (country-level) data on investment, corruption is measured at the country-level, and data for countries from several regions are pooled together.

This paper uses firm-level data on investment and measures corruption at the firm and country level, and allows the effect of corruption to vary by region. Our dependent variable is firms' investment growth and we employ six measures of corruption from four different sources: two firm-level measures and four country-level measures. We find that the effect of corruption on investments varies significantly across regions: corruption has a negative and significant effect on investment growth for firms in Transition countries but has no significant impact for firms in Latin America and Sub-Saharan Africa. Furthermore, among the variables included in the regressions (firm size, firm ownership, trade orientation, industry, GDP growth, inflation and openness to trade) corruption is the most important determinant of investment growth for Transition countries.

Specific country analyses of domestic investment

- **Bhunia, A. and Das, A. 2012. Prediction of Investment Behaviour in India: A Study of Capital Market Development and Gross Domestic Investment.**

www.ijmbs.com/21/amalendu.pdf

Abstract:
This study examines the relationship between Indian capital market and gross domestic investment and also observes whether the Indian capital market has the ability to predict investment behaviour in India, using the vector autoregression framework. Vector Auto-Regression (VAR) models have been applied to assess the relationship between Indian capital market and gross domestic investment. The data series (quarterly) in the analysis are obtained from the database of RBI and statistical bulletins of RBI for the period from 1991-2010. The results show that even though there survives a long run relationship between the Indian capital market and gross domestic investment, the market lacks the predictive power of investment behaviour in India. It indicates that the narrow nature of the market only allows for limited quoted securities in the market policies should be targeted towards increasing the size of the market by increasing the supply of securities to the market and the regulatory authorities should ensure that operations and activities in the market conform to World Stock Exchanges best practices with a view to instilling investors' confidence in the market. This will go a long way in making the market well equipped to predict investment behaviour in the economy.

- **Kehinde Adekunle, A. 2012. Capital Flight versus Domestic Investment in Developing Countries: An Empirical Analysis from Nigeria**

Abstract:
Capital flight is a challenge for many developing countries of the world. The problem is more acute in a country like Nigeria where domestic investment has been severely affected. The study undertakes an empirical investigation of the problem using variables of investment, exchange rates and others in a vector error correction mechanism and the ordinary least regression analyses to test the level of significance of the impacts of each of the adopted variables. The results indicate that capital flight has negative but insignificant impact on domestic investment in Nigeria. This is as a result of the high level of capital flight or low level of investment undertaken over the years in the economy. The basic variable involved in the two is the exchange rate which is significant in investment but insignificant in capital flight. The paper recommends further floating of the exchange rate and transparency in its management. It also recommends that policies to encourage autonomous investment by both private and public sector be put in place.

- **Perry-Kassaris, A. 2011. Indications of India's legal investment climate: Who cares?**

http://www.eastasiaforum.org/2011/05/24/indications-of-india-s-legal-investment-climate-who-cares/

- **Singh, P. 2011. Impact of Terrorism on Investment Decisions of Farmers: Evidence from the Punjab Insurgency. London School of Economics.**

http://mpra.ub.uni-muenchen.de/33328/1/impact_march_7.pdf

This paper provides evidence for a particular channel through which sustained terrorism in rural areas may affect growth in developing countries. Using micro-level data from agricultural surveys during the period of insurgency in Punjab (India), I find significant negative effects of terrorism on the level of investment in long-term agricultural technology but effects are small and insignificant for short-term investment. The presence of a major terrorist incident in a district in a year reduces long-term fixed investment by around 17% after controlling for district fixed-effects, time trends, district trends and other farm-level controls. These negative effects are greater for richer farmers and those living in bordering districts. This results in a farmer losing close to 4% of his income annually because of the insurgency.

- **Akanbi, O. 2010. Role of Governance in Explaining Domestic Investment in Nigeria. University of Pretoria, Working Paper Number 168.**

http://www.econrsa.org/papers/w_papers/wp168.pdf

Abstract:
This study empirically examines the pattern of domestic investment that is consistent with a neoclassical supply-side model of the Nigerian economy. The estimations are carried out with time-series data from 1970 to 2006 using the Johansen estimation techniques. The results conform to the findings of existing literature that real output, user cost of capital, and the level of financial development are significant determinants of domestic investment in Nigeria. The distinctive feature of the study is the significant role played by governance in explaining the long term pattern of domestic investment in Nigeria. The results from the long-run estimation and the impulse responses revealed that a well-structured and stable socio-economic environment will boost domestic investment over the long run. Therefore, in modelling domestic investment for Nigeria, it is imperative to incorporate the significant role played by governance.

- **Donwa, P. and Agbontaen, O. 2010. The trends and dynamics of the determinants of investment in Nigeria. International Review of Business Research Papers. Volume 6. Number 6. December 2010 Pp. 153 –163**

http://www.bizresearchpapers.com/12.%20Pat%20Donwa.pdf

Abstract:
This study analyzes the trends of the determinants of investment within the period 1970-2008. We adopt the cointegration econometrics method to estimate the dynamics of the variables in the study such as, the real and lagged values of investment, exchange rate and capital performance and the real values of market size, macroeconomic stability and political stability. This is in order to assess their behaviors over time and evaluate how these have either hindered or encouraged the growth of investment in the Nigerian economy. These variables indicate basic statistical significance and it was detected that past outcome of domestic investment strongly influence the present levels of investment in Nigeria. It was also observed that market fundamentals do not encourage domestic investment, previous values of the rates of exchange had stronger effects on the levels of domestic investment and that macroeconomic and political conditions reveal reasonable levels of instability that inhibits the progress of domestic investment in the economy both on the long and short term basis. These results have implications for policy makers, investment prospectors, foreign and domestic investors.

- **IFC. 2009. A Rough Guide to Investment Climate Reform in Conflict-Affected Countries.**

www.enterprise-development.org/download.aspx?id=1406

- **Vargas Hill, R. 2008. Understanding the Investment and Abandonment Behavior of Poor Households. An Empirical Investigation. IFPRI.**

http://www.ifpri.org/sites/default/files/pubs/pubs/dp/ifpridp00783.pdf

Abstract:
This paper uses models of irreversible investment under uncertainty to examine the investment and abandonment behavior of poor rural households. It considers the decision of Ugandan coffee-farming households to invest in or abandon coffee trees. The observed levels of investment and abandonment are found to be consistent with models of investment that allow for irreversibility, uncertainty, fixed costs and liquidity constraints. The findings highlight the importance of addressing volatility, irreversibility, fixed costs and liquidity constraints in order to increase households' responsiveness to changes in the fundamentals, and to enable households to recover from shocks to their capital stock.

- **Lin, H. and Chuang, W. 2007. FDI and domestic investment in Taiwan: an endogenous switching model.**

http://onlinelibrary.wiley.com/doi/10.1111/j.1746-1049.2007.00049.x/pdf

Abstract:
The purpose of this paper is to examine the effect of the FDI decision on domestic investment in the case of Taiwanese manufacturing firms. In addition, we also consider the deferral effect of the FDI decision and the role of firm size. To this end, this paper takes advantage of an endogenous switching model from which consistent

estimators are obtained after correcting for the self-selection problem. The empirical results show that the effect of these manufacturing firms' FDI decisions on domestic investment is significant within the firms. Furthermore, a crowding-out effect of FDI on domestic investment is found when Taiwanese firms engage in defensive FDI. Finally, FDI is found to have a positive influence on the domestic investment of the larger firms, while the influence is negative in the case of the smaller firms.

- **Humavindu, M. 2002. An econometric analysis of fixed investment in Namibia. DEA research discussion paper.**

http://www.drfn.info:85/pdf/RDP47.pdf

Abstract:
This paper investigates the determinants of aggregate fixed investment in Namibia. Empirical work on Namibian investment functions has gained momentum only recently. To date, there are only two studies on fixed investment in Namibia. Both studies accounted for nonstationarity in the data by employing the Engle–Granger two-step procedure in their analysis. This work aims to complement the existing work by using a more comprehensive econometric analysis. The main focal point of this analysis is the use of the Johansen–Juselius cointegration technique. In addition the paper also investigates some descriptive issues by applying the Hodrick–Prescott filter analysis. Some policy and future research implications are drawn from the results.

Impact of political instability on private investment

- **Feng, Y. 2002. Political Freedom, Political Instability, and Policy Uncertainty: A Study of Political Institutions and Private Investment in Developing Countries. International Studies Quarterly. Volume 45, Issue 2, pages 271–294, June 2001**

Abstract:
This paper examines whether democracy and other major characteristics of political institutions have any significant consequences for private investment. I isolate three political determinants that may affect property rights and private investment: political freedom, political instability, and policy uncertainty. The major findings in this paper can be characterized as follows: Political freedom promotes private investment, particularly through the channel of improving human capital formation. Political instability, as measured by the variability of political freedom, has a negative effect on private investment. Finally, policy uncertainty, as measured by the variability of government capacity, adversely affects private investment. These findings have been tested rigorously through using variables controlling for both domestic and international conditions.

Economic costs/consequences of conflict

- **Frontier Economics, ISS and SID. 2010. The cost of future conflict in Sudan.**

http://www.frontier-economics.com/_library/pdfs/frontier%20report%20-%20the%20cost%20of%20future%20conflict%20in%20sudan.pdf

- **World Bank. 2009. The Costs of Violence.**

http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/244362-1239390842422/6012763-1239905793229/costs_of_violence.pdf

- **Imai, K. and Weinstein, J. 2000. Measuring the Economic Impact of Civil War. CID Working Paper No. 51**

http://www.hks.harvard.edu/centers/cid/publications/faculty-working-papers/cid-working-paper-no.-51

Abstract
Civil wars impose substantial costs on the domestic economy. We empirically measure the economic impact of such internal wars. The paper contributes to the existing literature both theoretically and methodologically. First, it explores the economic channels through which civil war affects growth. Previous studies have shown the negative growth effects of civil wars. We go a step further by identifying the channels through which war strips a country of

its growth potential. Our argument is that civil war negatively impacts private investment through the process of portfolio substitution.

Methodologically, the paper improves on both the data and statistical models used in the existing literature. Our data set includes better measurements of the intensity and scope of civil war as well as new economic and political data for the 1990s. Moreover, using a multiple imputation technique, we minimize the estimation bias due to missing data. Finally, to improve the model, we apply fixed and random effects models to the panel data. The evidence gives strong support to our argument indicating that the **driving force behind the negative effects of civil war on economic growth is a decrease in private investment**.

- **Collier, P. 1999. On the economic consequences of civil war. Oxford Journals Economics & Social Sciences Oxford Economic Papers. Volume 51, Issue 1Pp. 168-183**

http://oep.oxfordjournals.org/content/51/1/168.short

Abstract:
A model of the economic effects of civil war and the post-war period is developed. A key feature is the adjustment of the capital stock through capital flight. Post-war this flight can either be reversed or continue, depending partly upon how far the capital stock has adjusted to the war. The model is tested on data for all civil wars since 1960. After long civil wars the economy recovers rapidly, whereas after short wars it continues to decline. We then consider the effect on the composition of economic activity, distinguishing between war-vulnerable and war-safe activities. Evidence for Uganda shows such compositional effects to be substantial.

- **Rodrik, D. 1998. Where Did All The Growth Go? External Shocks, Social Conflict, and Growth Collapses. NBER Working Paper No. 6350.**

http://www.nber.org/papers/w6350

Abstract:
This paper argues that domestic social conflicts are a key to understanding why growth rates lack persistence and why so many countries have experienced a growth collapse after the mid-1970s. It emphasizes conflicts interact with external shocks on the one hand, and the domestic institutions of conflict-management on the other. Econometric evidence provides support for this hypothesis. Countries that experienced the sharpest drops in growth after 1975 were those with divided societies (as measured by indicators of inequality, ethnic fragmentation, and the like) and with weak institutions of conflict management (proxied by indicators of the quality of governmental institutions, rule of law, democratic rights, and social safety nets).

- **Stewart, F., Humphreys, F. and Lea, N. 1997. Civil conflict in developing countries over the last quarter of a century: An empirical overview of economic and social consequences. Oxford Agrarian Studies. Volume 25, Issue 1, 1997 Special Issue: War, Economy and Society**

http://www.tandfonline.com/doi/abs/10.1080/13600819708424120

Abstract:
There is a growing number of wars in developing countries and they are concentrated among the least developed countries. This paper explores their economic and social consequences by examining the behaviour of countries worst affected by war from 1970 to 1990. Despite problems about methodology and data some important conclusions emerge. There were invariably large economic and social costs in addition to the direct battle deaths, although the effects varied according to the nature and duration of the conflict and the state of the economy. The costs are indicated by losses in GDP, exports and food production per capita compared with what might have been expected in the absence of conflict. In most cases, trends in infant mortality rates were significantly worse in war-affected than comparable economies. The extent of these losses varied, however, while other effects, such as on savings and investment propensities, government revenue shares and expenditure on social services, differed sharply among economies in conflict, reflecting differences in conditions, in government and donor policy and civil and private initiatives.

- **Dulles, E. 1942. War and Investment Opportunities: An Historical Analysis. The American Economic Review. Vol. 32, No. 1, Mar., 1942**

http://www.jstor.org/stable/10.2307/1815102

Foreign and domestic investment

- **Amadou, A. 2011. The Effect of Foreign Capital on Domestic Investment in Togo. International Journal of Economics and Finance. Vol. 3, No. 5; October 2011**

Abstract:
Theoretically, openness to foreign capital can stimulate domestic investment in developing countries' or harm their economies by raising the risks of financial crises. It's why in this paper, we have analyzed the impact of foreign capital on domestic investment in Togo over the period 1970-2008. The results we have obtained by using error correction models indicate that overall foreign capital affects positively and significantly domestic investment. It also appears that foreign direct investment (FDI) and loans are the main channels through which foreign capital has a positive impact on domestic investment in Togo. The impact of portfolio investment is negative, but not significant.

- **Ndikumana, L. and Verick, S. 2008. The Linkages between FDI and Domestic Investment: Unravelling the Developmental Impact of Foreign Investment in Sub-Saharan Africa**

While the recent increase in foreign direct investment (FDI) to African countries is a welcome development, the question remains as to the impact of these resource inflows on economic development. This study posits that a key channel of the impact of FDI on development is through its effects on domestic factor markets, especially domestic investment and employment. In this context, this study analyses the two-way linkages between FDI and domestic investment in Sub-Saharan Africa. The results suggest that firstly, FDI crowds in domestic investment, and secondly, countries will gain much from measures aimed at improving the domestic investment climate. Moreover, there are alternatives to resource endowments as a means of attracting foreign investment to non-resource rich countries.

- **Boddewyn, J. 1983. Foreign and domestic divestment decisions: like or unalike? Journal of International Business Studies. Vol 14 No. 3 Winter 1983.**

http://www.jstor.org/discover/10.2307/154687?uid=3739368&uid=2&uid=4&sid=21101007338093

Abstract:
The managerial literature on foreign investment and divestment is much less developed than the economic literature on foreign direct investment theory. Nevertheless, surveyed with the purpose of better understanding foreign divestment decisions, the research to date reveals some noticeable differences between investment and divestment decisions- whether foreign or domestic- and even more substantial differences between foreign divestment and domestic divestment decisions. Additional research, however, is clearly in order.

World Bank Investment Climate surveys and Doing Business research

Investment Climate surveys have been conducted in a number of countries, including conflict-affected countries. The below websites contain links to individual reports:

http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/EXTAFRSUMAFTPS/0,,contentMDK:22472299~pagePK:51246584~piPK:51241019~theSitePK:2049987,00.html

https://www.wbginvestmentclimate.org/research-and-diagnostics/

World Bank investment climate surveys in fragile states consistently point to infrastructure deficiencies and costs, particularly in the power sector, as one of the greatest barriers to productive private investment.

Some of the papers on the 'Doing Business' website may are indirectly relevant. The following link lists relevant research on starting businesses, some of which focuses on developing countries: http://www.doingbusiness.org/research/starting-a-business

Relevant papers include:

- **Silvia, A. and Annamaria, L. 2009. Heterogeneity in the effect of regulation on entrepreneurship and entry size. Journal of the European Economic Association.**

We use a micro dataset that collects information across individuals, countries, and time to investigate the determinants of entrepreneurial activity in thirty-seven developed and developing nations. We focus both on individual characteristics and on countries' regulatory differences. We show that individual characteristics, such as gender, age, and status in the workforce are important determinants of entrepreneurship, and we also highlight the relevance of social networks, self-assessed skills, and attitudes toward risk. Moreover, we find that regulation plays a critical role, particularly for those individuals who become entrepreneurs to pursue a business opportunity. The individual characteristics that are impacted most by regulation are those measuring working status, social network, business skills, and attitudes toward risk.

- **Chari, A. Identifying the Aggregate Productivity Effects of Entry and Size Restrictions: An Empirical Analysis of License Reform in India. American Economic Journal: Economic Policy 3 (May 2011): 66–96**

Distortions in the allocation of resources between heterogeneous producers have the potential to generate large reductions in aggregate productivity, a point that has been stressed by recent studies. There is, however, little direct empirical evidence from actual policy experiments on the magnitude of these effects. This paper proposes a simple methodology that empirically identifies the separate effects of entry and size restrictions on aggregate productivity, and uses it to analyse the impact of a policy reform in India.