Essays on political market failures and elections in developing countries : a contribution to the new political economy

Clémence Vergne

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Université d'Auvergne Clermont-Ferrand I
Faculté des Sciences Economiques et de Gestion
Ecole Doctorale des Sciences Economiques, Juridiques et de Gestion
Centre d'Etudes et de Recherches sur le Développement International (C.E.R.D.I)

ESSAIS SUR LES DEFAILLANCES DES MARCHES POLITIQUES ET LES ELECTIONS DANS LES PAYS EN DEVELOPPEMENT UNE CONTRIBUTION A LA NOUVELLE ECONOMIE POLITIQUE

ESSAYS ON POLITICAL MARKET FAILURES AND ELECTIONS IN DEVELOPING COUNTRIES A CONTRIBUTION TO THE NEW POLITICAL ECONOMY

Thèse Nouveau Régime
Présentée et soutenue publiquement le 26 Octobre 2011
Pour l'obtention du titre de Docteur *ès* Sciences Economiques

Par
Clémence Vergne

Sous la Direction de
M. le Professeur Jean-Louis Combes et M. le Professeur Grégoire Rota-Graziosi

Membres du Jury :

Présidente	Mary-Françoise Renard, Professeur à l'Université d'Auvergne.
Directeurs	Jean-Louis Combes, Professeur à l'Université d'Auvergne.
	Grégoire Rota-Graziosi, Professeur à l'Université d'Auvergne, en disponibilité au département des finances publiques, Fonds Monétaire International.
Rapporteurs	Martial Foucault, Professeur à l'Université de Montréal.
	Mathilde Maurel, Directrice de recherche CNRS, Université de Paris 1 Panthéon-Sorbonne.
Suffragant	Philip Keefer, Lead Economist, Département Recherche, Banque Mondiale.

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La faculté n’entend donner aucune approbation ou improbation aux opinions émises dans cette thèse. Ces opinions doivent être considérées comme propres à leur auteur.

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INTRODUCTION GENERALE

Motivation

La relation entre démocratie et développement économique a fait l'objet de nombreuses études aussi bien en économie qu'en science politique. Les termes du débat s'organisent autour du lien de causalité entre démocratie et développement : le développement précède-t-il la démocratie ou, au contraire, la transition démocratique accélère-t-elle le développement ? Cette question est à l'heure actuelle toujours hautement débattue.

L'un des principaux résultats en économie politique réside dans la corrélation positive entre le niveau de revenu et la démocratie. Cette corrélation a conduit certains économistes et chercheurs en science politique à considérer la démocratie comme un bien normal. La théorie de la modernisation constitue l'approche pionnière abordant le lien entre démocratie et développement. Selon Lipset (1959, p. 80), l'établissement et la consolidation de la démocratie résultent d'un processus global de « modernisation » lequel implique une transformation des « facteurs d'industrialisation, d'urbanisation, d'éducation et du niveau de richesse [lesquels] sont si étroitement liés qu'ils forment un facteur commun. Le développement économique intègre tous ces facteurs et génère l'établissement de la démocratie ». La thèse centrale de la théorie de la modernisation, selon laquelle le développement économique et social favorise l'établissement de la démocratie, a été vérifiée empiriquement par de nombreux travaux consacrés à la démocratie (Dahl, 1971 ; Huntington, 1991 ; Rueschemeyer et al., 1992).

Toutefois, la théorie de la modernisation a été contestée à partir des années 1980s, notamment par Przeworski et Limongi (1997) et Acemoglu et

al. (2005). Przeworski et al. (2000) soutiennent que les démocraties émergent indépendamment du niveau de développement économique et que la relation entre développement et démocratie existe comme conséquence de la capacité des démocraties à se consolider lorsque leur niveau de développement est élevé. Acemoglu et al. (2008) affirment qu'il n'y a pas de preuve établissant un lien causal entre niveau de revenu et démocratie. Des facteurs historiques ont façonné des sentiers de développement économique et social divergents, créant une relation positive entre démocratie et performance économique. De surcroît, Haggard et Kaufman (1995) et Acemoglu et al. (2005) démontrent que les crises économiques favorisent l'établissement de la démocratie. A contrario, Tsui (2011) montre que la richesse provenant de la découverte de ressources pétrolières ralentit la transition démocratique.

Le problème de la définition de la démocratie a engendré de nombreuses controverses[1]. De nombreux travaux ont toutefois adopté la définition proposée par Schumpeter (1947, p.269) selon laquelle la démocratie est « un arrangement institutionnel, aboutissant à des décisions politiques, dans lequel les individus acquièrent le pouvoir de statuer sur ces décisions à l'issue d'une lutte concurrentielle portant sur les votes du peuple ». Au cours des années 1970s, Huntington affirma que « cette définition modeste de la démocratie » était largement acceptée[2]. Des générations successives de politologues ont par la suite cherché à préciser la définition basique proposée

[1] En science politique, il existe une opposition entre une définition « minimaliste » (procédurale) et une définition « maximaliste » (substantive) de la démocratie. Selon la conception procédurale, la démocratie est un ensemble de procédures qui permet aux individus d'exercer leur pouvoir dans le processus de prise de décision politique à travers la tenue d'élections ouvertes, libres, justes et régulières. La conception maximaliste de la démocratie, quant à elle, tient compte de la qualité de la démocratie, notamment en ce qui concerne l'injustice sociale, la participation de la société civile, et l'efficacité relative de la règle de droit.

[2] Huntington affirma que : « les théoriciens établissaient de manière croissante des distinctions entre des définitions rationalistes, utopiques, idéalistes de la démocratie, d'une part, et des définitions empiriques, descriptives, institutionnelles et procédurales, d'autre part, et ils concluairent que seul le second type de définition était assez précis pour rendre ce concept utile » (1991, p. 6-7).

par Schumpeter. Riker (1986, p. 25) affirma par exemple que « l'institution démocratique essentielle réside dans le recours aux urnes électorales et dans tout ce qui l'accompagne ». Quant à Huntington, il définit un régime politique comme démocratique « dans la mesure où les principaux décideurs politiques sont sélectionnés via des élections justes, libres et régulières au cours desquelles les candidats s'affrontent librement pour obtenir le suffrage populaire et où la quasi-totalité de la population adulte peut voter » (1991, p. 29). De même, dans leur étude consacrée à la démocratie dans les pays en développement, Diamond, Linz et Lipset définissent la démocratie comme un système qui remplit trois conditions essentielles : une compétition significative pour le pouvoir politique entre les individus et les groupes organisés, une participation inclusive au processus de sélection des leaders et des politiques, au moins via des élections justes et libres, et un niveau de libertés civiles et politiques suffisant pour assurer l'intégrité de la compétition politique et de la participation » (1995, p. xvi). Cette définition est elle-même un raffinement de la définition « polyarchique » de la démocratie proposée par Dahl selon laquelle la démocratie est un processus de participation et de contestation qui s'approche des idéaux démocratiques plutôt qu'il ne les satisfait pleinement (1971, p. 1-7).

Le prototype de la démocratie qui sous-tend l'analyse menée dans cette thèse reflète la définition de Schumpeter (1942) et se concentre sur les élections comme mécanisme de sélection des décideurs politiques. La démocratie est un système politique dans lequel les leaders politiques sont sélectionnés via des élections justes et compétitives. En d'autres termes, la démocratie est un régime dans lequel les dirigeants au pouvoir perdent les élections et quittent le pouvoir en conséquence. Notre définition de la démocratie est donc schumpetérienne ou « électoraliste » en ce que nous soutenons qu'un pays est démocratique si un certain processus politique est

en place, à savoir si certaines institutions clés, telles que des élections libres et justes, et une entrée libre en politique, sont en place.

La chute de l'Union Soviétique a accéléré « la troisième vague de démocratisation » suite à laquelle de nombreux pays en développement ont mis en place des élections régulières[3]. Les autocrates ont également accepté de tenir des élections afin de répondre aux pressions qui menaçaient leur maintien au pouvoir. De plus, avec la fin de la guerre froide, les donateurs n'étaient plus contraints de fournir de l'aide à des dictateurs en vue de garantir leur alignement politique. Au contraire, ils pouvaient conditionner l'aide à la mise en place du processus de démocratisation. Même si ces pressions n'étaient que temporaires, les autocrates ayant mis en place des élections avaient tout intérêt à ne pas les supprimer. Supprimer les élections aurait envoyé un signal susceptible d'occasionner des protestations de la part des citoyens et des donateurs. Les troubles politiques et sociaux qui ont touché plusieurs pays de la région Moyen-Orient et Afrique du Nord au cours de l'année 2011 pourraient conduire à une nouvelle vague de démocratisation. Toutefois, dans de nombreux pays en développement, l'introduction d'élections ne s'est pas accompagnée de la mise en place de procédures de contrôles et de contrepoids assurant l'équilibre et la séparation des pouvoirs. Par conséquent, même si des élections multipartistes ont lieu, la démocratie est souvent bafouée. Ainsi, si les pays africains ont pris part à la troisième vague de démocratisation dans les années 1990, les changements ont été assez modestes. Selon Bratton et Van de Walle (1997) et Van de Walle

[3] Huntington (1991) distingue trois vagues de démocratisation. La première vague de démocratisation touche l'Europe de l'Ouest et l'Amérique du Nord au XIX^{ème} siècle. Cette vaque est suivie d'une vague de reflux durant la période d'entre-deux-guerres avec l'avènement du fascisme et la multiplication des coups d'Etats militaires. La seconde vague eut lieu au lendemain de la Seconde Guerre mondiale et s'essouffla au début des années 1960 avec les dérives militaires en Amérique latine et en Asie et l'avènement de régimes autoritaires dans les nouveaux pays indépendants d'Afrique. La troisième vague eut lieu à partir de la fin de la dictature portugaise en 1974. Très massive et largement internationale, cette vague gagne, d'abord, l'Europe du Sud (Espagne, Grèce) ; ensuite l'Amérique Latine à la fin des années 1970, et plus particulièrement au cours des années 1980, et le monde communiste.

(2001), la plupart des facteurs sous-jacents expliquant le manque de démocratie dans de nombreux pays en développement par le passé perdurent et il n'est par conséquent pas surprenant que la qualité de la démocratie demeure faible.

Approche

Cette thèse est une contribution à la nouvelle économie politique[4]. Selon Drazen (2000), la nouvelle économie politique se caractérise par « l'usage des techniques formelles de l'analyse économique moderne » afin d'étudier « comment la politique affecte les résultats économiques ». La nouvelle économie politique trouve ses racines dans quatre traditions en sciences économiques et politiques. La première approche à l'origine de la nouvelle économie politique est l'école dite des choix publics (Public Choice) laquelle remonte aux contributions de Buchanan et Tullock (1962) et d'Olson (1965)[5]. La théorie des choix publics présente trois caractéristiques majeures. Tout d'abord, elle entend appliquer la théorie économique à la science politique à l'aide des outils développés par la microéconomie. Par ailleurs, elle souligne le rôle des constitutions en tant que contraintes à la poursuite de l'intérêt personnel (Buchanan, 1989). Enfin, l'école des choix publics propose une analyse des défaillances politiques selon laquelle l'allocation des ressources via le processus démocratique ne remplit pas le test de Wicksell[6]. Le second courant de pensée ayant influencé la nouvelle économie politique renvoie à la théorie de l'électeur rationnel (Downs, 1957 ; Riker, 1962). Cette approche étudie le comportement électoral et l'agrégation des préférences

[4] Ce courant de recherche est également connu sous le terme « political economics » (Alt et Crystal, 1983 ; Persson et Tabellini, 2000).

[5] Frey (1983) et Mueller (1989) proposent des revues de la littérature de l'école des choix publics.

[6] Wicksell (1986) propose de comparer le résultat atteint via le processus politique à un vecteur x_0 qui prévaudrait sans intervention du gouvernement. Il définit alors la défaillance politique comme une situation où le processus politique sélectionne un résultat qui n'est pas Pareto-dominant vis-à-vis de x_0.

individuelles en préférence collective. Selon Downs (1957), les politiques convergent vers les préférences de l'électeur médian. Néanmoins, le théorème d'impossibilité de Arrow (1951) selon lequel il est impossible de construire une théorie des choix collectifs à partir des préférences individuelles a considérablement marqué et désorienté la recherche dans ce domaine. Ainsi, à partir des années 1980, la science politique formelle s'est concentrée sur l'étude des choix collectifs que des institutions politiques précises impliquent (système électoral, procédure législative, etc.…). La troisième approche à l'origine de la nouvelle économie politique est la théorie de la politique macroéconomique avec en particulier les travaux fondateurs de Lucas et de Kydland et Prescott au cours des années 1970. Selon cette approche, les agents ont des anticipations rationnelles et prennent en compte dans leurs comportements les incitations des autorités politiques. Ceci a par conséquent conduit les économistes à spécifier de façon plus précise les déterminants du comportement des autorités politiques. Enfin, la dernière tradition ayant influencé la nouvelle économie politique est la nouvelle économie institutionnelle laquelle étudie les institutions et la manière dont ces institutions interagissent avec les arrangements organisationnels (Ménard et Shirley, 2008).

Il existe à l'heure actuelle un large consensus quant à l'importance de l'économie politique en matière de développement. Toutefois, les avis sont beaucoup plus partagés concernant les modèles d'économie politique pertinents pour l'étude des pays en développement[7]. En d'autres termes, la question est de savoir si les modèles d'économie politique utilisés pour comprendre les performances des pays développés sont également pertinents

[7] Dans les années 1950, Hirchman (1958) a affirmé que des modèles différents devaient être appliqués aux pays en développement. A contrario, Schultz (1980) a avancé que l'économie du développement a souffert de nombreuses erreurs. En particulier, l'erreur fondamentale a consisté à croire que l'économie économique standard n'était pas adaptée à l'étude des pays en développement et qu'une théorie économique alternative était nécessaire.

pour appréhender les résultats des pays en développement[8]. Dans cette thèse, nous soutenons que le cadre théorique général de l'économie politique est pertinent dans le contexte des pays en développement, tout comme les approches méthodologiques. Toutefois, il demeure essentiel de tenir compte des spécificités des pays en développement lorsque l'on applique les modèles d'économie politique. Plus exactement, cette thèse propose d'étudier les imperfections des marchés politiques lesquelles semblent différentes dans les pays développés et dans les pays en développement.

Démarche et Questions de Recherche

Cette thèse aborde une série de questions relatives au lien entre l'économie et les élections dans les pays en développement. Les lacunes de la littérature existante ont constitué le point de départ des essais proposés dans cette thèse.

Les problèmes auxquels se heurtent les pays en développement sont en grande partie imputables aux défaillances des gouvernements et plus généralement aux défaillances politiques (Keefer, 2004). La tenue d'élections régulières étant devenue plus fréquente dans les pays en développement au cours des années 1990, les indicateurs des évaluations des politiques et des institutions des pays (CPIA) de la Banque Mondiale et du Guide International du Risque-Pays (ICRG) se sont nettement améliorés. Ces progrès sont cohérents avec l'idée selon laquelle les élections améliorent la responsabilité politique des gouvernements et les incitent à améliorer les politiques économiques. Toutefois, les pays en développement présentent certaines caractéristiques générant des défaillances des marchés politiques. A titre d'illustration, Keefer et Khemani (2005) affirment que la nature de l'information disponible dans les pays en développement crée une défaillance

[8] Il existe une littérature consacrée à l'application de l'économie politique dans le contexte des pays en développement (Hayami et Godo, 2005).

des marchés politiques en ce qu'elle génère des politiques inefficaces de transferts ciblés sous forme d'emplois dans le secteur public et de subventions, captant ainsi des ressources publiques au détriment des services publiques de base sensés bénéficier à l'ensemble de la population. Ce type d'imperfection des marchés politiques limite le rôle des élections en matière de responsabilité politique. Dans cette thèse, nous présentons une revue critique de la littérature visant à répondre aux questions suivantes :

- *Quelles sont les principales fonctions des élections ?*
- *Comment les imperfections des marchés politiques limitent-elles le rôle des élections dans les pays en développement?*

Les imperfections caractérisant les marchés politiques dans les pays en développement confèrent aux dirigeants politiques la possibilité de recourir à diverses manipulations à des fins électorales. Les pays en développement ont dans l'ensemble des institutions plus faibles et le pouvoir exécutif est moins contraint ce qui lui donne accès à une large gamme d'instruments en vue d'influer sur les résultats électoraux. L'objectif central de cette thèse est d'analyser certaines des stratégies auxquelles les dirigeants politiques des pays en développement ont recours afin de rester au pouvoir.

Premièrement, les gouvernements peuvent manipuler le budget à des fins électorales. Il est largement admis que les cycles politico-budgétaires sont beaucoup plus marqués dans les pays en développement que dans les pays développés (Shi et Svensson, 2006). La littérature sur les cycles politico-budgétaires s'est essentiellement concentrée sur le niveau des dépenses publiques ou sur le déficit public. Toutefois, il a été clairement démontré que l'augmentation des dépenses publiques ou des déficits ne constituent pas une stratégie efficace pour attirer les votes des électeurs. Des travaux récents ont démontré que les déficits en périodes préélectorales ne favorisent pas la réélection des gouvernants que ce soit dans les pays développés ou dans les

pays en développement. Brender et Drazen (2005) réconcilient ces deux points de vue contradictoires sur la manipulation préélectorale en montrant que les cycles politico-budgétaires sont un phénomène propre aux nouvelles démocraties dans lesquelles les électeurs ont peu d'expérience en matière de politique électorale ou n'ont pas l'information nécessaire pour évaluer la manipulation budgétaire. En outre, les cycles politico-budgétaires diminuent au fil du temps, les électeurs se familiarisant avec les processus électoraux. Dans cette thèse, nous proposons une autre approche permettant de réconcilier ces deux points de vue contradictoires sur la manipulation préélectorale. Les dirigeants politiques peuvent modifier l'allocation des dépenses publiques sans pour autant augmenter les déficits publics. L'objectif est de répondre aux questions suivantes :

- *Les gouvernements manipulent-ils l'allocation des dépenses publiques en périodes préélectorales ?*
- *Quel est l'effet des élections sur les différentes composantes des dépenses publiques ?*
- *Les manipulations de l'allocation des dépenses publiques perdurent-elles au fil du temps ?*

Deuxièmement, les gouvernements peuvent utiliser les médias lorsque ces derniers ne sont pas libres. Bien que la littérature étudiant le lien entre médias et développement en soit à ses prémices, de récents travaux consacrés à l'effet de la liberté des médias sur les performances économiques soulignent les bienfaits de l'indépendance des médias (Besley et Burgess, 2002; Besley et Prat, 2006 ; Djankov et al., 2003). L'information diffusée par les médias joue un rôle critique pour les décisions des individus. Leur manipulation peut par conséquent avoir des effets particulièrement dommageables. Djankov et al. (2003) montrent que dans les pays où les gouvernements possèdent les médias, les citoyens sont plus pauvres, meurent plus jeunes, les taux de mortalité infantile sont plus élevés, la corruption est

plus répandue et les marchés de capitaux moins développés. Lorsque les médias sont privés, les auteurs observent le résultat inverse.

La manipulation des médias peut nuire à la crédibilité de l'information, et, par conséquent, à la mise en œuvre des réformes économiques et à la croissance. En d'autres termes, la connaissance politique constitue le canal via lequel l'indépendance des médias influe sur les résultats économiques. Si les citoyens jugent l'information incomplète ou inexacte, ils vont ignorer cette information et ne seront pas à même de prendre des décisions politiques basées sur une évaluation des actions du gouvernement.

Voter constitue la forme de participation politique la plus fondamentale dans une démocratie. La participation électorale peut être le canal par lequel les médias favorisent la responsabilité politique des gouvernements. En effet, les médias fournissent de l'information à caractère politique et économique aux citoyens. Les dirigeants politiques en sont conscients ce qui les incite à être davantage responsables. La plupart des travaux consacrés à l'étude de la participation électorale se sont concentrés sur les pays développés et ont mis en évidence les facteurs économiques, sociaux et institutionnels qui influent sur la participation électorale dans ces pays. Toutefois, ce thème a été très peu abordé dans le contexte des pays en développement. Cette thèse vise à combler cette lacune en abordant les questions suivantes :

- *Les déterminants de la participation électorale identifiés pour les pays développés ont-ils le même effet dans les pays en développement?*
- *Quel est l'effet de la pénétration et de la liberté des médias sur la participation électorale?*

Enfin, dans les pays en développement, les dirigeants politiques peuvent utiliser l'aide internationale en vue de se maintenir au pouvoir.

Récemment, plusieurs travaux ont souligné que l'aide et les ressources naturelles partageaient la caractéristique des « gains tombés du ciel » (windfall gains) lesquels modifient les incitations économiques et politiques (Acemoglu et al., 2004). Les ressources naturelles et l'aide internationale peuvent être accaparées par les dirigeants politiques sans avoir à recourir à des mesures moins profitables et généralement plus coûteuses politiquement telles qu'une hausse des impôts. Quand les recettes publiques ne dépendent pas des taxes prélevées sur les citoyens et les entreprises, les gouvernements sont moins incités à rendre des comptes aux citoyens. Certaines critiques de l'aide au développement soutiennent que cette dernière réduit les chances de démocratisation en contribuant au développement de « mauvaises » institutions (Brautigam et Knack, 2004) ou en augmentant les rentes et en favorisant la concentration du pouvoir aux mains d'une élite (Djankov et al., 2008). D'autres détracteurs de l'aide avancent que cette dernière maintient les dictateurs au pouvoir car les pays donateurs préfèrent la stabilité politique à l'incertitude générée par la démocratisation (Brown, 2001). Cette thèse propose d'aborder la question suivante :

- *L'aide au développement accroît-elle la probabilité de réélection des gouvernements au pouvoir dans les pays en développement ?*

Structure de la Thèse et Principaux Résultats

Cette thèse, intitulée « **Essais sur les défaillances des marchés politiques et les élections dans les pays en développement : une contribution à la nouvelle économie politique** », comporte quatre chapitres.

Le premier chapitre, « **Elections et imperfections des marchés politiques dans les pays en développement** », analyse comment les imperfections des marchés politiques limitent les deux effets clés des élections, à savoir : (i) un effet discipline en menaçant les gouvernements de

ne pas être réélus, et (ii) un effet sélection en permettant de sélectionner les gouvernants compétents.

Ce chapitre propose une revue critique de la littérature et met en lumière cinq imperfections caractéristiques des marchés politiques dans les pays en développement : (i) l'imperfection de l'information, (ii) le vote ethnique, (iii) le manque de crédibilité des promesses électorales, (iv) le recours aux stratégies illicites telles que les fraudes électorales, l'achat de voix et l'intimidation des électeurs, et, (v) la modification de la constitution en abolissant la limitation à un certain nombre de mandats.

La deuxième chapitre, « **Elections et allocation des dépenses publiques** », présente une analyse de cycles politico-budgétaires dans les pays en développement. Dans ce chapitre, nous proposons d'aller au-delà des modèles classiques de cycles politico-budgétaires, lesquels se focalisent sur les agrégats budgétaires, afin de se concentrer sur l'allocation et non sur le niveau des dépenses publiques. Cette question est particulièrement pertinente dans la mesure où ni la théorie ni les études économétriques ne permettent de savoir quel est l'effet des élections sur l'allocation des dépenses publiques. Les termes du débat s'organisent autour des deux arguments suivants. D'une part, la plupart des dépenses courantes permettent de donner à l'électorat des bénéfices immédiats. D'autre part, les dépenses d'infrastructures permettent de cibler certains groupes d'électeurs ou certaines circonscriptions.

Ce chapitre révèle plusieurs résultats. Premièrement, les résultats mettent en évidence une modification de l'allocation des dépenses publiques en périodes préélectorales. Les gouvernements augmentent la part des dépenses courantes, en particulier des salaires et des subventions, au détriment de la part allouée aux dépenses en capital. Deuxièmement, alors

que les cycles politiques caractérisés par un accroissement des déficits diminuent au fil du temps, les cycles en termes de modification de l'allocation des dépenses perdurent. Troisièmement, l'ampleur des cycles varie selon les caractéristiques économiques et politiques des pays. D'une part, les cycles sont plus marqués lorsque les élections sont compétitives et que les ressources naturelles sont plus abondantes. D'autre part, la décentralisation et l'information des électeurs diminuent l'ampleur des cycles.

Le troisième chapitre, « **L'effet des médias sur la participation électorale** », s'intéresse aux déterminants de la participation électorale dans les pays en développement. Plus précisément, ce chapitre propose d'intégrer les développements récents de la théorie informationnelle du vote. Le cadre analytique proposé suggère que la pénétration et la liberté des médias ont un effet positif sur la participation électorale.

Ce chapitre révèle trois résultats. Tout d'abord, la pénétration des médias, mesurée par la possession d'un poste de radio, a un effet positif sur la participation électorale, alors que la télévision et les journaux n'ont pas effet significatif. Par ailleurs, lorsque les gouvernements possèdent une part importante des médias et contrôlent le contenu de l'information, les citoyens sont moins enclins à voter. L'information fournie par les médias est moins crédible quand ces derniers ne sont pas indépendants du pouvoir politique. Enfin, certains facteurs spécifiques aux pays en développement, la violence politique et le niveau de la dette extérieure, exercent un effet négatif sur la participation électorale.

Le dernier chapitre, « **Elections et aide au développement : quel effet l'aide exerce-t-elle sur les chances de réélection ?** », analyse l'impact de l'aide sur la probabilité de réélection des gouvernements au pouvoir dans les pays en développement. D'un point de vue théorique, nous obtenons un effet

ambigu de l'aide sur la probabilité de réélection. D'une part, le gouvernement au pouvoir bénéficie d'un avantage dans la mesure où il peut s'accaparer une partie de l'aide en vue d'augmenter ses chances de réélection. D'autre part, l'aide accroît l'enjeu des élections et incite les autres candidats à challenger le gouvernement en place. Dans ce chapitre, nous proposons d'étudier cette question au niveau empirique.

Ce chapitre révèle trois résultats. Premièrement, l'aide a un effet positif et significatif sur la probabilité de réélection des gouvernements dans les pays en développement. Par ailleurs, l'effet de l'aide sur les chances de réélection est plus modéré dans les pays démocratiques. Enfin, l'aide dite « politique », sous forme d'assistance technique en faveur d'actions soutenant la démocratie, a un effet non significatif sur la probabilité de réélection des gouvernements au pouvoir, alors que l'aide « financière » a un effet positif et significatif.

GENERAL INTRODUCTION

Motivation

The relationship between democracy and long-term economic growth or development has attracted a lot of attention in both the economics and the political science literature. Does development deliver democracy or does a transition to democracy foster development? This question, studied for years by both economists and political scientists, is still hotly debated.

One of the central empirical findings of the political economy literature is the positive cross-country correlation between income and democracy. This correlation has led some economists as well as political scientists to interpret democracy as a normal good. Primary among approaches concerning the relationship between democracy and development is the modernization theory. Lipset (1959, p. 80) suggested that democracy was both created and consolidated by a broad process of "modernization" which involves changes in the "factors of industrialization, urbanization, wealth, and education [which] are so closely interrelated as to form one common factor. And the factors subsumed under economic development carry with it the correlate of democracy." The central tenet of the modernization theory, that higher income per capita causes a country to be democratic, is also reproduced in most major works on democracy (Dahl, 1971; Huntington, 1991; Rueschemeyer et al., 1992).

However, this view has been challenged by Przeworski and Limongi (1997) and Acemoglu et al. (2005). Przeworski et al. (2000) conclude that economic development does not generate democracies, but democracies are much more likely to survive in wealthy societies. Acemoglu et al. (2008) argue that there is no evidence of a causal effect between income and

democracy. Instead, historical factors appear to have shaped the divergent political and economic development paths of various societies, leading to the positive association between democracy and economic performance. Moreover, Haggard and Kaufman (1995) and Acemoglu et al. (2005) show that economic crisis makes democracy more likely. On the other hand, Tsui (2011) provides evidence that wealth generated from oil discovery slows down democratic transition. These findings contradict the modernization theory.

There is a vast literature attempting to define democracy. There has been a great deal of controversy in political science mostly because there is some disagreement over what constitutes a democracy.[9] Many scholars however accept the definition proposed by Schumpeter (1947, p. 269) who argued that democracy is "the institutional arrangement for arriving at political decisions in which individuals acquire the power to decide by means of a competitive struggle for the people's vote." By the 1970s, Huntington argued that "this modest meaning of democracy" was widely accepted.[10] Successive generations of political scientists have attempted to refine or restate Schumpeter's basic definition. Thus Riker (1986, p. 25), for example, argues that "the essential democratic institution is the ballot box and all that goes with it"; while Huntington defines a political system as democratic "to the extent that its most powerful collective decision-makers are selected to fair, honest and periodic elections in which candidates freely compete for votes and in which virtually all the adult population is able to vote" (1991, p.

[9] In the political science field, the main controversy in defining democracy concerns the opposition between "minimalist" (procedural) and "maximalist" (substantive) definitions. According to the procedural definition, democracy is a process used to make up governing institutions, while the substantive definition implies that citizens have equality of political influence and participation.

[10] Huntington argued that: "Theorists increasingly drew distinctions between rationalistic, utopian, idealistic definitions of democracy, on the one hand, and empirical, descriptive, institutional, and procedural definitions on the other, and concluded that only the latter type of definition provided the analytical precision and empirical referents that make the concept a useful one" (1991, p. 6-7).

29). Similarly, Diamond, Linz and Lipset, in their study of democracy in developing countries, define democracy as a system of government that meets three essential conditions: meaningful competition for political power amongst individuals and organized groups; inclusive participation in the selection of leaders and policies; at least through free and fair elections; and a level of civil and political liberties sufficient to ensure the integrity of political competition and participation" (1995, p. xvi). This is itself a refinement of Dahl's much-cited definition of democracy (which he called "polyarchy") as a process of participation and contestation which approximates rather than fully satisfies democratic ideals (1971, p. 1-7).

The prototype of democratic policies that underlies our analysis reflects Schumpeter's (1942) focus on filling governmental offices by elections. Democracy is a political regime in which rulers are selected through free and contested elections. In other words, democracy is a regime in which incumbents lose elections and leave office if they do. Hence, our definition of democracy is Schumpeterian or "electoralist" in the sense that we emphasize that a country is democratic if a certain political process takes place –if certain key institutions, such as free and fair elections, and free entry into politics, are in place.

The fall of the Soviet Union triggered a "third wave of democratization" as a result of which most developing countries now hold regular elections.[11] Autocrats conceded elections because they were faced with pressures that otherwise threatened their retention on power. Further, with the end of the Cold War, donors were no longer locked into supporting

[11] Huntington (1991) defined three waves of democratization. The first one brought democracy to Western Europe and Northern America in the 19th century. It was followed by a rise of dictatorships during the interwar period. The second wave began after World War II, but lost stream between 1962 and the mid-1970s. The third wave describes the global trend that has seen more than 60 countries throughout Europe, Latin America, Asia and Africa undergo some forms of democratic transitions since Portugal's "Carnation Revolution" in 1974.

autocrats in return for their political alignment. Instead, they could demand democratization as a condition for sustaining public finances. Even if this pressures were only temporary, once autocrats has conceded elections they had good reason to maintain them. Cancelling subsequent elections would have constituted a signal which might have again temporarily reduced the costs of coordinated protest from citizens and donors. The social and political unrest witnessed in several Middle East and North Africa countries in 2011 provided the potential for a new democratization wave. However, in many societies the introduction of elections has not been accompanied by institutional checks and balances. Even when regular multiparty elections are held, the day-to-day practise of democracy is characterised by many abuses. Though Africa participated in the third wave of democratization in the 1990s, it is argued that this has led less effect on political patterns in African politics that might have been hoped. Bratton and van de Walle (1997) and van de Walle (2001) suggest that many of the underlying factors that has lead to weak or no democracy historically in many developing countries continue to exist and hence make it not surprising that the quality of democracy remains low.

Approach

This dissertation is a contribution to the New Political Economy.[12] According to Drazen (2000), the New Political Economy is defined by "its use of the formal and technical tools of modern economic analysis" to study "how politics affect economic outcomes." The roots of the New Political Economy can be traced back to at least four different traditions in economics and political science. The first one is the older public-choice school, which goes back to the classical contribution by Buchanan and Tullock (1962) and

[12] The field is also sometimes known as Political Economics (Alt and Crystal; 1983; Persson and Tabellini, 2000).

Olson (1965).[13] To summarize, public choice analysis has three distinctive features. The first key idea is to draw out the implications of rational self-interest for political interactions. The second key idea is the importance of constitutions as constraints on self-interest (Buchanan, 1989). Finally, the public choice approach also offers a particular slant on the concept of political failure −the allocation of resources in a democratic process which does not meet Wicksell's test.[14] A second fundamental tradition for research on political economics is the rational voter theory. This tradition goes back to works such as Downs (1957) and Riker (1962) and is often referred to as rational choice. This approach studies voting rules and how individual preferences are aggregated to form a collective preference. In particular, Downs (1957) explains that politics converge to the preferences of the median voter. However, results in the median voter model and the special refinements thereof, the so-called spatial theory of voting, following the publication of Arrow's (1951) impossibility theorem, disillusioned many researchers about the prospects for a general theory of collective choice based on individual preferences alone. Thus, since the early 1980s, formally oriented political science has changed its emphasis, turning to the study of collective choice within specific political institutions. A third tradition is the theory of macroeconomic policy, dating back to the work by Lucas and Kydland and Prescott in the mid-1970s. This theory gave rational expectations a game-theoretic foundation. Indeed, rational individuals reason strategically and base their expectations on their perception of the policymaker's incentives. A complete theory must thus include specific hypotheses about what governs those incentives. Finally, the last tradition is the New Institutional Economics.

[13] The voluminous literature on early public choice is surveyed by Frey (1983) and Mueller (1989).

[14] Wicksellian political failure is a notion outside the standard welfare economic model. This notion is due to Wicksell (1896) and has been developed by Buchanan. He compares the outcome attained from a political process to a policy vector x_0 which is the outcome that would prevail with no government intervention at all. Then he defines political failure as a situation in which the political process selects a policy outcome which does not Pareto dominate x_0.

This approach studies institutions and how institutions interact with organizational arrangements (Ménard and Shirley, 2008).

There is a wide agreement that politics matters a lot in developing countries, implying that the study of political economy is crucial to the study of economic development. There is far less agreement, however, in the question of which political economy models are important in explaining the experiences in developing countries.[15] Or, in other words, are the same political economy models that are used to explain policy outcomes in developed countries relevant to developing economies as well?[16] The basic thesis of this dissertation is that the general theoretical framework that is used to study the issues in developed countries is relevant in developing countries as are the methodological approaches and the key building blocks of the analysis. However, we argue that we need to take into consideration developing countries' specificities while applying political economy models. More exactly, we propose to analyse political market imperfections, which seem to differ between rich and poor countries.

Research Design and Questions

This research addresses a series of questions related to the nexus between economic and elections in developing countries. Many points not studies by the existing literature have constituted the starting points of the essays provided in this dissertation.

[15] In the 1950s, Hirschman (1958) argued that different models and arguments must be used for developing countries. In contrast, Schultz (1980) argued that development economics has suffered from several intellectual mistakes. According to him, the major mistake has been the presumption that standard economic theory was inadequate for understanding low-income countries and that a separate economic theory was needed.

[16] There is a literature on the general question of how political economy may be applied to developing countries. See, for example, Hayami and Godo (2005) for textbook analysis.

The problem of underdevelopment is in substantial measure one of government failure, and therefore political failure, in developing countries (Keefer, 2004). As regular elections have become more common since the 1990s, the policy ratings from the World Bank and the International Country Risk Guide have both improved markedly. These improvements accord with the fundamental notion that elections discipline governments into good performance. However, developing countries present some characteristics that are responsible for some political market failures. For instance, Keefer and Khemani (2005) argue that the nature of the information likely to be available in developing countries is responsible for a political market failure in that it creates for undue public attention to inefficient, and sometimes ineffective, policies of targeted transfers in the form of public-sectors jobs and price subsidies, shifting effort and resources away from public policies for basic development outcomes. This kind of political market imperfections undermines the role of elections in guaranteeing accountable and responsive government in developing countries. In this dissertation we present a literature review to address the following research questions:

- *What are the key functions of elections?*
- *How do political market imperfections undermine the role of elections in developing countries?*

Political markets imperfections create a scope for political leaders to use different tactics for electoral manipulation. Developing countries have relatively weaker institutions and fewer constraints on executive power, leading to greater executive control over a broader range of instruments for electoral manipulation than in developed countries. The main point of this dissertation is to analyse some of the ways political leaders try to survive in office in developing countries.

First, incumbents can manipulate the budget for electoral purposes. It is widely believed that political budget cycles are a phenomenon of developing countries, or at least far stronger in developing than in developed countries (Shi, Svensson, 2006). Most political budget cycles literature has focused on the level of public spending or the deficit. However, there is significant amount of evidence that increasing aggregate spending or deficits before elections is not an effective tool to gain votes. Recent studies have found no evidence that election-year deficits help re-election in any group of countries, including developed and less developed, and countries with different government or electoral systems. Brender and Drazen (2005) reconcile the two contradictory views of pre-electoral manipulation by showing that political budget cycles are a phenomenon of new democracies because voters are inexperienced with electoral politics or may simply lack the information needed to evaluate fiscal manipulation. Moreover, political budget cycles decrease over time as countries gain experience with electoral processes. In this dissertation, we suggest another way to reconcile these apparently contradictory views. Politicians may change the allocation of public expenditures without necessarily increasing the overall budget deficit. The following research questions emerge:

- *Is there room for electoral manipulation in terms of public expenditures allocation?*
- *What are the effects of elections on the different components of overall public spending?*
- *Do pre-electoral distortions in terms of public spending allocation disappear as countries gain experience with electoral politics*?

Second, governments can manipulate the media where it is unfree. Although the literature addressing the connection between media and economic outcomes is still small, recent works that consider the effect of media freedom on economic outcomes point to the benefits of an

independent media (Besley and Burgess, 2002; Besley and Prat, 2006; Djankov et al., 2003). Because media-provided information plays a critical role in informing individuals' decisions, it can be a blessing or a curse. Djankov et al. (2003) show that where government owns the media, citizens are poorer, die younger, have higher infant mortality rates, less access to sanitation, there is more corruption, and less developed capital markets. Where media is privately owned, the opposite is true.

Media manipulation can destroy information credibility, which in turn destroys the possibility of economic reform and improved economic performance. In other words, political knowledge is the channel through which media dependence impact economic outcomes. Knowing that information is incomplete and inaccurate, voters discount this information and are largely unable to make political decisions that correspond to politicians' pursuit of public or privately interested policy.

Voting is considered as the most fundamental form of political participation in a democracy. Electoral participation may be the channel by which mass media improve government accountability. Media make citizens more politically knowledgeable and active. Politicians realize this, which creates an incentive for them to be accountable. Previous researches on voter turnout have focused attention primarily on developed countries and have identified key economic and institutional factors that influence electoral participation in these countries. However, previous work has paid little attention to turnout in developing countries. This dissertation deals with two main questions:

- *How the determinants of voter turnout that have been identified in the literature play out in developing countries?*
- *What are the effects of mass media penetration and freedom on electoral participation?*

Finally, in developing countries, governments can use foreign aid to maintain power. Several authors have noted that although aid and natural resources rents have some important differences, they share the general character of "windfall gains" that disrupt political and economic incentives (Acemoglu et al., 2004). Natural resources and foreign aid can be appropriated by corrupt politicians without having to resort to unpopular, and normally less profitable, measures like taxation. When revenues do not depend on the taxes raised from citizens and business, there is less incentive for accountability. Some critics of aid regimes argue that aid decreases the likelihood of democratization by contributing to the development of bad institutions (Brautigam and Knack, 2004), or by increasing rents to those who control the state, allowing elites to exclude others from power, and thereby reducing representativeness (Djankov et al., 2008). Others argue that foreign aid props up dictators because Western donors value stability with dictator to democratic uncertainty (Brown, 2001). In this dissertation we deal with the following research question:

- *Does aid affect re-election prospects in recipient countries?*

Thesis Outline and Main Results

This dissertation **"Essays on Political Market Failures and Elections in Developing Countries: A Contribution to the New Political Economy,"** consists of four essays.

Chapter 1, "Elections and Political Market Imperfections in Developing Countries," analyses how political markets imperfections undermine the two key functions of elections: (i) to discipline the elected officials by the threat of not being re-elected; and, (ii) to select competent individuals for public office.

This chapter reviews the literature and highlights five main political market imperfections in developing countries: (i) imperfect information, (ii) ethnic voting, (iii) the lack of credibility of electoral promises, (iv) the resort to illicit strategies such as ballot fraud, vote-buying and voter intimidation, and (v) the modification of constitutions by abolishing term limits.

Chapter 2, "Elections and the Allocation of Public Expenditures," analyses political budget cycles in developing countries. This chapter moves beyond traditional budget cycles models in order to shed light on changes in the allocation rather than in the level of government expenditures, a view consistent with arguments that voters dislike deficits. This question seems particularly relevant insofar as neither theory nor empirical evidence provides a clear-cut answer to electoral effects on the allocation of public expenditures. On the one hand, most current expenditures items give the electorate immediate benefits. On the other hand, infrastructure expenditures are easier to target to particular constituencies.

This chapter establishes several findings. First, the results highlight systematic distortions in the allocation of public expenditures as a function of elections. Election-year public spending shifts towards more immediately visible current expenditures, especially wages and subsidies, and away from capital expenditures. Second, while political deficit cycles disappear as voters gain experience with elections, our dynamic analysis suggests that electoral impacts on the allocation of public spending endure. Third, the size of political cycles depends on the economic and political features of the country. On the one hand, developing countries with competitive elections and more natural resources exhibit larger political cycles. On the other hand, access to information and decentralization lead to smaller distortions in the allocation of public expenditures in election years.

Chapter 3, "The Effect of Mass Media on Voter Turnout in National Elections," deals with the determinants of electoral participation in developing countries. More specifically, this chapter goes beyond the traditional rational voter model to include recent developments of the information theory of turnout. Embedding limited information, our theoretical framework suggests that media access and freedom have a positive impact on voter turnout.

Three main results stand out. First, media penetration, measured by radio ownership, fosters electoral participation in developing countries, whereas newspapers circulation and television ownership don't have a statistically significant impact. Second, our results indicate that when government owns a large share of media outlets and infrastructure, regulates the media industry, and control the content of the news, citizens are less prone to express their views at the polls. Media-provided information has higher value for citizens when government doesn't interfere with the media. Third, our results highlight specific factors –political violence and external debt– that negatively affect turnout in developing countries.

Chapter 4, "Elections and Foreign Aid: How Does Aid Affect Re-election Prospects?" analyses the impact of aid on the re-election probabilities of political leaders in recipient countries. Considering elections as a contest, we highlight that the association between foreign aid and the incumbent's probability of re-election is ambiguous from a theoretical standpoint. On the one hand, the incumbent has a headstart advantage and is able to capture a part of foreign aid, thus increasing his probability of re-election. On the other hand, foreign aid increases the value of the contest itself and then the challenger's incentives to compete. Chapter 4 investigates this issue empirically.

This chapter establishes three main results. First, foreign aid has a positive and significant impact on the incumbent's probability of re-election

in recipient countries. Second, the positive effect of aid flows on the re-election prospects is moderated in more democratic societies. Finally, aid used for political purposes −political aid− has a non- significant effect on the incumbent's probability of re-election, whereas aid for production purposes −financial aid− has a positive and statistically significant effect.

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CHAPTER 1: ELECTIONS AND POLITICAL MARKET IMPERFECTIONS IN DEVELOPING COUNTRIES

Abstract

This paper analyses the different roles of elections in the context of developing countries. Towards this end, this paper first surveys the literature on the mechanisms through which elections perform at least two different functions: (i) to discipline the elected officials by the threat of not being re-elected; and, (ii) to select competent individuals for public office. Then, this paper investigates how specific features of the political economy of developing countries generate political market imperfections that impede elections to properly perform their key functions.

JEL Codes**:** D72; D78; O10.

Keywords**:** Political economy; Elections; Developing countries.

1. Introduction

Economic markets are frequently very imperfect, beset by high transaction costs, and defined by institutions that produce incentives that work against economic efficiency (North, 1990). However political markets are far more prone to inefficiency.

According to North (1990), an efficient political market would be one in which constituents would accurately evaluate the politics pursued by competing candidates in terms of the net effect upon their well-being; only legislation (or regulation) that maximized the aggregate income of the affected parties to the exchange would be enacted; and compensation to those adversely affected would insure that no party was injured by the action. However, it is extremely difficult to measure what is being exchanged-promised for votes; the voter has little incentive to be informed; and there is no direct enforcement mechanism to see that contractual agreements are carried out (North, 1993). The competition comes from periodic elections at which the representative can be held accountable and the opposition candidate has the incentive to promulgate her deficiencies.

Imperfections in the political market distort political incentives. As a result, politicians often have incentives to divert resources to political rents and private transfers that benefit a few citizens at the expense of many. Rents can be thought of as direct appropriation of tax revenues by government officials, but also favors paid to special interests such as public employees or "friends" of the government, often identified along ethnic or religious lines, and so on (Alesina et al., 2008). These kinds of distortions can be traced to imperfections in political markets.

Embedded in all political economics models are assumptions about the extent to which voters have access to the decision-making process, have information about candidate characteristics or performance and to which voters can believe the pre-electoral promises of candidates. These assumptions are crucial because they drive the results and the impact on policy predictions can be significant. For example, in Becker's model of political competition (1983), the key assumptions driving the results are that the players are informed and have equal access to the decision-making process. However, in reality, political markets are characterized by imperfect information and high transaction costs (North, 1990). The affected parties are ill-informed and they don't have equal access to the decision-making process.

The purpose of this chapter is to analyse how political market imperfections undermine the role of elections in guaranteeing accountable and responsive government in developing countries. To our knowledge, this is the first survey on elections in the context of developing countries. The rest of this chapter is organized as follows. The next section reviews the major results in the literature regarding the key functions of elections. Section 3 focuses on political market imperfections that are particularly important to understand government incentives in developing countries. Finally, section 4 concludes.

2. Elections and Representation

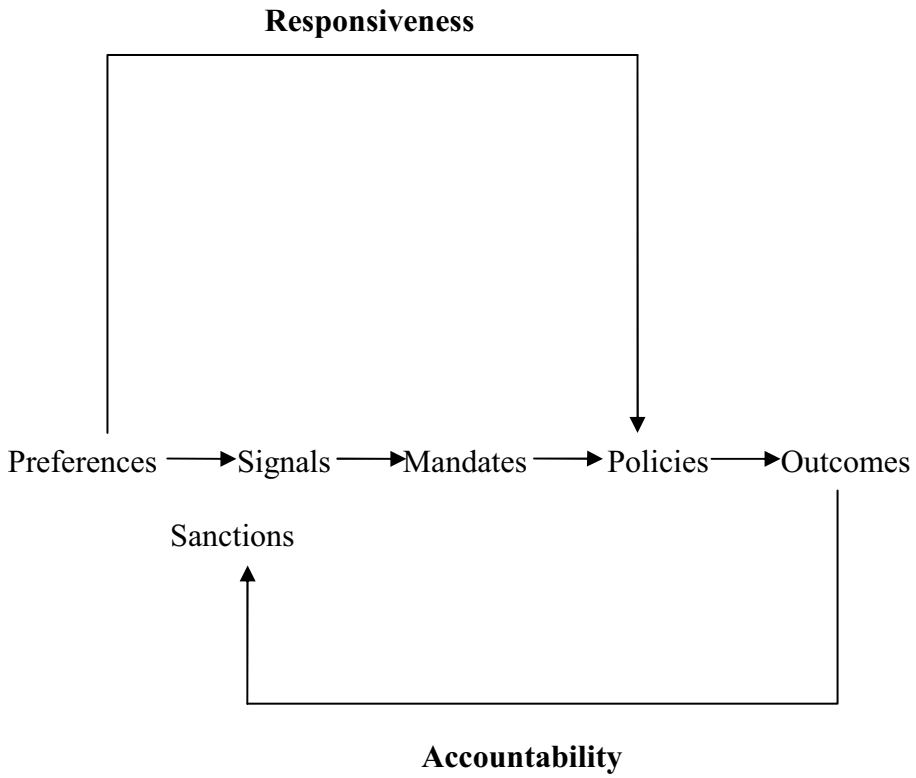
Democracy requires some form of political representation, i.e. a relationship between citizens' interests and political outcomes in which rulers act to meet the interests of the public (Pitkin, 1967). While the concept of representation has a long history, it remains shrouded in ambiguities. This section first specifies the terminology used in the literature. Then, it discusses the key functions of elections.

2.1. *Representation and Its Cognates*

A central claim of democratic theory is that democracy systematically causes governments to be representative. However, different terminologies are used. For instance, Dahl (1971) refers to responsiveness, Riker (1965) to responsibility, Schmitter and karl (1991) to accountability, while Pitkin (1967) speaks of representation.

Following Przeworski, Stokes and Manin (1999), we distinguish two different relations in the policy process: (1) between signals and policies, which we will call responsiveness; and (2) between outcomes and sanctions, which we will call accountability. Figure 1 describes in more detail the policy process.

Figure 1: Policy process



Source: Adapted from Przeworski, Stokes and Manin (1999)

A government is responsive if it adopts policies that are signalled as preferred by citizens. These signals may include public opinion polls; various forms of direct political action, including demonstrations; and, during elections, votes for particular platforms. Governments are accountable if citizens can discern representative from non representative governments and can sanction them appropriately, retaining in office those incumbents who perform well and ousting from office those who do not.

2.2. *The Functions of Elections*

Elections perform at least two different functions. First, elections might work as a sanctioning device that induces politicians to choose in the public interest so they can retain their jobs. Second, elections might work as a selection device that allows the public to choose leaders who will, of their own accord, do what the public wants.[17] These functions are analysed and developed along this section.

2.2.1. *Political Agency Models*

Economic models for studying accountability are mostly based on some form of agency approach. A couple of features of political agency distinguish it from other agency relationships. First, the incentive schemes on offer are typically very crude (Besley, Burgess and Prat, 2002). Monetary and other more nuanced incentive contracts are almost never observed. For example, with politicians, except cases of gross malfeasance, the only sanction available is not to re-elect them. This has the consequence that incentives are almost implicit, with politicians having to guess what the voters would like them to do rather than the latter posting performance criteria in advance. Even in the case of lobbying, a complete contract that specifies the details of

[17] Elections also have a legitimacy effect. This effect is not usually modeled but may also be important. It is that a government which has acquired power through winning an election may have a mandate to implement reform and that the wide recognition of this mandate reduces the ability of those opposed to the reforms to block them.

what the principals (the lobbyists) desire is hard to imagine. From this perspective, the constitution becomes like an incomplete contract, leaving the politicians with some power in the form of residual control rights (Persson, 2002).

The second distinctive feature is the multiplicity of principals. There are many citizens and other actors, such as corporations, that differ in countless ways. Therefore even if the incentives could be made explicit, for the principals to agree on the incentives that they will subject their agents to might be extremely difficult. Thus we can easily find principals with diametrically opposed interests wishing to pull the actions of the agents in different directions.

Finally, in practice the principal-agent ordering may be reversed, as the politician or candidate for political office seeks campaign contributions to facilitate communication of the merits of his policy position or demerits of his opponent to the constituency of voters (Ursprung, 1991). Campaign contributions or political expenditures are then central to the outcome of political competition and the determination of policy. To influence the political −and thereby the policy− outcome, interested parties have an incentive to make campaign contributions to influence the policy pronouncements of political candidates. In this sense, the politician remains the agent, not the principal; but this is not the traditional principal-agent relationship of electoral democracy whereby the voters, or the median voter, designate policy outcomes.

2.2.2. *Disciplining the Incumbent*

The first important role of elections is to hold incumbent politicians accountable for poor performance. The possibility of re-election provides politicians with incentives to exert more effort and refrain from rent-seeking behaviour.

The first generation of political agency models focus on hidden actions, specifically shirking by incumbents, and the role of elections in restraining politicians. The problem of incentives embodied in constitution design is also the main theme in the Public Choice literature pioneered by Buchanan.[18]

The seminal investigation on the control of politicians is Barro (1973). When citizens elect their leaders, they temporally delegate the exclusive decision-making authority over policymaking to the holders of public office. Real world political constitutions are incomplete contracts in the sense that elected politicians are not offered an explicit incentive scheme associating well defined payoffs with actions in all states of the world. The mechanism to punish incumbent is ex-post: to deny him the right to make those decisions in the future, that is, to throw him out of office. This creates scope for abuse of power between elections. Barro finds that voters have more control over officeholders when the value of holding office is relatively high and when the future is less heavily discounted. In both cases the incumbent is induced to be more self-restrained while in office. Moreover, it increases the level of competition for office among non-incumbents.

[18] The following quote from Buchanan captures this idea: "To improve politics, it is necessary to improve or reform rules, the framework within which the game of politics is played. There is no suggestion that improvement lies in the selection of morally superior agents who will use their powers in some public interest" (Buchanan, 1989, page 18).

Built on Barro's model, which is formulated in a world of perfect information, Ferejohn (1986) focuses on the voters' control of the incumbent performance, in the tradition of principal-agent theory but in a model which also contains an informal asymmetry in favour of officials (the electorate is not able to observe the actions of politicians directly) and is formulated in an infinite horizon in order to avoid last-period effects. This also creates scope for potential abuse by the holders of public office which is greater the more difficult the access of voters to information on the alternative policies carried out by policymakers. Electors are only able to assess the effects of governmental performance on their own well-being, which is known to depend jointly on the activities of officeholders as well as on a variety of exogenous and essentially probabilistic factors. In other words, the officeholder is an agent whose behaviour is imperfectly monitored through elections. The result is that if the policymaker's performance is disappointing, he will not be re-elected although this performance may be the consequence of bad luck and not his actions.

Austen-Smith and Banks (1989) extend Barro and Ferejohn's analyses of political accountability to allow for incumbency effects which emerge in equilibrium in an electoral model in which the incumbent and the challenger are identical in all respects. Austen-Smith and Banks show that, under certain conditions, a subgame perfect Nash equilibrium arises where the threat of dismissal (and the potential gain to staying in office) induces the incumbent to exert effort while in office in the first period. The result is that the incumbent has a higher probability of winning the election in the second period, even though the candidates are *ex ante* identical.

Although almost all work on political agency is theoretical and focuses on developed countries, a paper by Chauvet and Collier (2009) shows empirically that elections are a key instrument in achieving accountability on

a sample of 82 developing countries from 1978 to 2004. A higher frequency of elections improves both policy and governance in developing countries.[19] However, the quality of elections, proxied by electoral competitiveness, matters for the efficacy of elections. Low-quality elections have no significant effect and indeed may actually worsen policy. If government are able to win elections by illicit tactics, they are not disciplined by them and won't improve policy and governance.

2.2.3. Selecting a Competent Leader

An important facet of political selection concerns who is picked from among the available pool of candidates. A central role of elections is to ensure the selection of the right (honest, competent, motivated) politicians.

In all regimes except under perfect democracy, the competence of the equilibrium government and the success of the society depend strongly on the identity of the initial members of the government, which is in line with the emphasis in the recent political science and economics literatures on the role that leaders may play under weak institutions. For instance, Jones and Olken (2005) offer some evidence that the low-quality government under democracy is rooted in selection problems. They look at economic growth before and after the death in office of world leaders to provide evidence on whether leader quality matters. Their main finding is that the death of an autocrat leads to a significant change in growth. Democratically elected leaders show no corresponding pattern.

[19] Chauvet and Collier (2009) use the Country Policy and Institutional Assessment (CPIA) of the World Bank to measure economic policy and governance.

Elections are now the most commonly used institution for selecting a political class.[20] The second type of political agency models focuses on adverse selection. The problem faced by the voters is simply to learn which of the potential candidates for public office will provide them with the highest discounted sum of benefits over their time horizon.

The role of elections as a way to select more competent policymakers is studied by Rogoff (1990). A body of empirical evidence indicates that just before elections governments tend to stimulate aggregate demand through monetary or fiscal policy. The question analysed by Rogoff is why rational voters would compensate a government for engaging in pre-electoral cycle. The early literature on political business cycles (Nordhaus, 1975) evaded this question by assuming that voters had adaptive expectations. The answer suggested by Rogoff is that an electoral cycle is a signal of competence. A competent administrator is able to provide a given level of public goods at a lower level of taxes than an incompetent one can. Competence is not observed by the voters, along with some policy choice. All the voters observe is a boom: an expansion in output, or in current government spending.[21] They cannot observe whether this is due to a deliberate policy action, or to having a highly competent incumbent, or both. They do know, however, that a competent incumbent is more likely to engage in a boom than an incompetent one, because an artificial boom is less costly for the competent incumbent. As a result, the boom becomes a signal of competence and it is rewarded by the voters. Here elections distort the policymakers incentives and create an inefficiency. Chapter 2 of this dissertation analyses political budget cycles in

[20] Four main methods of selection to political office are available: drawing lots, heredity, the use of force and voting. For a review of the pros and cons of each method, see Besley (2005).

[21] Other models of opportunistic political business cycles in the literature are those of Cukierman and Meltzer (1986), Rogoff and Sibert (1988) and Persson and Tabellini (1990). The competence of the policymakers is defined as their ability in reducing waste in the budget process (Rogoff and Sibert, 1988), in promoting growth without inflation (Persson and Tabellini, 1990), or in insulating the economy form random shocks (Cukierman and Meltzer, 1986).

developing countries by exploring the effect of elections on the allocation of public expenditures.

3. Political Market Imperfections in Developing Countries

Models designed to describe how elections affect political incentives in developed countries may prove somewhat misleading if applied in the context of developing countries. In this section, we propose to explain how political market imperfections differ between developed and developing countries. From this perspective, we explore the characteristics of political markets in developing countries and analyze five main imperfections. Each imperfection is explored in details in the subsections that follow.

3.1. Imperfect Information

The informational environment surrounding electoral processes is one source of intense variation between elections in developed and developing countries. Keefer and Khemani (2005) argue that the nature of information likely to be available in developing countries is responsible for a political market failure.

Fiorina (1990) emphasizes that most of the information people use to make voting decisions is essentially "free", in that it comes with the ordinary performance of social and economic roles. In developing countries, many voters don't have access to "free" or nearly free information for several reasons. First, Mass media, through radios, televisions, and newspapers, is the principal vehicle which carries information. Developing countries are more susceptible to the drawbacks of the lack of information availability as access to information is circumscribed by the instruments that are made available to the citizens. Typically poor in equipment investment and infrastructure and with underdeveloped media bodies, citizens remain

underinformed about economic activities and political markets. In the same way, the benefits of the information and communication technologies (ICT) are not fully realised as many developing countries have inadequate infrastructure and human capacity to support ICT.

Second, governments are more able to manipulate media provided information in developing countries. Ownership of the media body is a crucial determinant of the nature of the information provided. The effective publication and the credibility of the information depend on the extent to which the media are regulated, captured, or repressed, and outcome of a variety of government actions ranging from policy decisions that affect the regulation of entry and ownership of the media to explicit bribery and threats. The presence of private media outlets is far from sufficient to establish media independence. Even where media infrastructure is privately owned, if government can financially pressure media outlets and infrastructure owners or can restrict entry into these industries, its ability to manipulate media provided information remains strong. Where media is dependent upon government, media provided information is not perceived as credible in the minds of voters. Voters are unable to effectively monitor political agents.[22]

Third, mass media are not neutral devices. Different mass-media technologies change the target group of who has access to political information. This is crucial for developing country citizens, where the incidence of different kinds of media varies tremendously. The content of "free" information can vary widely across the electorate depending on the differentiation of occupations and social settings in the economy and the reach of mass media. Though, broad segments of the population are particularly disadvantaged in accessing information because of illiteracy and

[22] See Chapter 3 of this dissertation for an analysis of the effect of media freedom on voter turnout in national elections.

limited mobility. For instance, urban residents have an information advantage that may arise due to several factors: greater average wealth, higher education, better access to the media as well as stronger urban focus in media coverage (Majumdar et al., 2004). In the same way, poor people may listen to state-controlled radio while well-off groups may read independent newspapers. Only when a large enough part of the electorate is exposed to the same information is there a threat of coordinated voter action in response to underperforming incumbent governments (Ferejohn, 1990; Iyengar, 1990; Ottati and Wyer, 1990).

There are at least four specific forms of imperfect information in political markets. First, voters may make use of very limited information in determining electoral choices, such as behaving myopically and placing greater weight on the most recent decisions of politicians, independent of their effect on voter welfare relative to earlier decisions.

Second, rather than being influenced by independent evaluations of the performance records of competing candidates, voting decisions may be swayed by political campaigns and advertisements, thereby creating a role for special interests to purchase narrowly targeted policies by providing campaign finance (Baron, 1994; Grossman and Helpman, 1996). To the extent that voters in developing countries are less informed, broad public policies are likely to be distorted in favour of special interests.

Third, voters may not be able to disentangle the welfare effect of exogenous events and government decisions. For example, Cole, Healy and Werker (2011) find that elected officials are punished for bad weather in India. If voters are easily confused by noisy signals created by exogenous shocks, political incentives to exert effort on behalf of citizens are correspondingly reduced.

Fourth, even if voters can perfectly observe the effects of government action on their welfare, they may be unsure of which particular government actors were responsible for the action or whether the actors that they personally can elect could influence the action.

Recent empirical studies have found that correcting information asymmetries through the media promotes government responsiveness (Besley and Burgess, 2002), diminishes the electoral success of corrupt incumbents (Ferraz and Finan, 2008), contains opportunistic behaviour (Besley, Pande and Rao, 2005), and prevents widespread theft of public resources (Adsera et al., 2003; Khemani, 2007; Reinikka and Svensson, 2005). Recently, Aker et al. (2011) study the effects of innovative voter-education information interventions in Mozambique, aimed at mobilizing citizens to participate in elections. They find that an SMS electoral education campaign centered on participation and the distribution of a free newspaper door-to-door centered on voter education had a positive impact on voters' political participation and voters' information about politics.

3.2. Ethnic Polarization

In this subsection we discuss the implications of polarization among voters and politicians, in other words, competing views about policy. Esteban and Ray (1994) offer the most persuasive and rigorously developed definition of polarization. They argue that groups in society are polarized with respect to any set of attributes when they exhibit the following three characteristics: the members of each group are homogeneous with respect to the set of attributes; different groups are heterogeneous with respect to these attributes; and the groups are relatively uniform in size. Esteban and Ray conclude that polarization is greater when society is divided into two similarly sized groups, each internally homogeneous but significantly different from the

others on all possible attributes. According to this definition, measures of polarization should account for the distance between groups with respect to particular policy preferences, the homogeneity of group members with respect to these policies, and the relative size of the groups (Keefer, Knack, 2000). However, it is impossible to capture all these dimensions. Therefore, ethnic or linguistic measures of polarization, as well as income differences, are commonly used in the literature on social polarization.

Many developing countries, especially in Africa, are highly ethnically diverse and these sub-national identities trump the relatively recent introduction of national identities (Collier, 2009). The emergence of ethnic political parties in societies which are ethnically polarized is rather a particularity of developing countries.[23] Banerjee and Pande (2007) define ethnic political parties as "political parties which derive their support from, and claim to serve the interests of, an identifiable ethnic group." Western democracies are characterized by a long history of economic development and modernization which favors the supremacy of cleavages based on income classes over ethnic cleavages, even when the degree of ethnic polarization is high.[24] The reasons why political parties tend to divide along ethnic lines in ethnically polarized countries are essentially functional. First, feelings of ethnic belonging facilitate collective action and therefore strengthen the support of grassroots to the ethnic party which represents their interest. Second, ethnic patronage is one of the easiest way for politicians to reward grassroots for their support (see Chandra, 2004). Third, ethnic identities are relatively fixed. From a strategic differentiation point of view, the incentive for a political party to defend the interests of its ethnic

[23] In ethnically fractionalized societies, the division of political parties along ethnic lines would make less sense since none of the ethnic parties would benefit from a sufficiently large support to get power.

[24] Lipset (1960) emphasized: "the principal generalization which can be [about Western democracies] is that parties are primarily based on either the lower classes or the middle and upper classes."

group is strong since there is less risk than others will adopt the same identity in order to get power (Fearon, 1999; Caselli and Coleman, 2006).

Identity voting has specifically become a prominent issue in Sub-Saharan Africa politics, as it has a range of adverse consequences. Ethnically polarized voters tend to vote for those candidates they most closely identify with, irrespective of public performance and policy records (Bossuroy, 2009; Fridy, 2007). Like uniformed voters, ethnically polarized voters are therefore less able to hold politicians accountable for their performance in office. This in turn weakens the incentive for governments to depart from patronage policies to provide public goods. For example, in a field experiment in Benin in which the candidates varied their electoral message randomly across localities, Wantchekon (2003) found that promises of ethnic patronage were more effective than promises of national public goods in attracting votes. As with poor voter information, above some threshold of identity voting, the difference between good and bad policies has too little effect on voting to deter unprincipled politicians from seeking office and the pool of candidates deteriorates. Finally, ethnic voting may shape the constitutional rules which determine how power is distributed. Kimenyi and Shughart (2010) show that this was the case in the Kenyan constitutional referendum of 2005.

3.3. Lack of Credibility

The ability of politicians to make credible pre-electoral promises to voters also provides a persuasive explanation of why policy failures are more likely in some countries than in others. When campaign promises are not credible –when it costs election winners little to abandon them– political competition does little to spur politicians' incentives to satisfy constituents (Keefer, 2004).

In young and poor democracies, political party development and other indicators of credibility in political systems are often weak. The establishment of multiparty systems is recent and political parties have sometimes no identifiable positions on some issues. Individual candidates may be credible on one or two issue dimensions (e.g., religion), but rarely on the broad issues that define efficient government performance.

We can identify three main approaches in the political economics literature to the analysis of non-credibility in electoral politics. In the first approach, voters can coordinate on ex post performance standards, as in Ferejohn (1986) and Persson and Tabellini (2000), and reject incumbents that fail to meet them. Politicians under-provide public goods and engage in greater rent-seeking, relative to when they are fully credible. In the second approach, as in Robinson and Verdier (2002), voters cannot coordinate on such performance standards and no public goods are provided at all. These two approaches explain the poor provision of public goods in developing countries, including the rule of law and the security of property rights. However, they predict indifference on the party of politicians to the provision of targeted goods, even though, in most developing country democracies, politicians are intensely concerned about delivering targeted transfers (Keefer, 2004).). Furthermore, these two approaches assume either that electoral promises are never credible to any voters or always credible to all voters.

Keefer (2004) suggest a third credibility scenario, rooted in the literature on clientelism that describes patron-client relationships as repeated, personalized interactions between patrons and clients. Based on such interactions, politicians can make credible promises to some voters but not to others. Repeated interaction constitutes a basis for reputation building. Politicians with personalized reputations with some voters can make credible

promises to those voters, even if to no others. In countries that exhibit "partial" credibility, the foundation of a politician's credibility is not the policy record of party or politician. Instead, voters believe the politicians who have, for example, shown themselves to be reliable sources of personal assistance. These might be locally influential people who have helped families with loans or jobs or provided assistance with legal or bureaucratic difficulties. In the absence of well-developed political parties or national party leaders who are more broadly credible to voters, voters can only rely on the promises of such influential people in making electoral choices.

Partial credibility explains many of the policy outcomes observed in democracies that might be labeled less credible (or less developed in general). Because the only policy promises that matter prior to elections are those that "clients" (voters) believe, promises of private goods to clients are more politically attractive than public goods that benefit both clients and nonclients. Promises of public works and government jobs become the currency of political competition at the expense of universal access to high-quality education and health care. The former can be targeted to individuals and small groups of clients. Universal access is by definition not easily targeted. Corruption or rent seeking is also high, since an individual client is unlikely to have two patrons; most voters do not have politicians competing for their votes.

3.4. Illicit Tactics

Developing countries tend to have lop-sided democracy because elections, being discrete events, can be introduced much more readily than checks and balances, which are continuous processes. Furthermore, the private incentive for political parties to contest elections is considerable, whereas checks and balances are public goods and so likely to be under-provided by private provision (Collier, Hoeffler, 2009). The under-provision

of checks and balances is compounded because governments have an incentive not to substitute for private actions. The implication is that many developing countries may lack the social and constitutional pre-conditions for elections to provide an effective discipline on government performance.

Due to limited checks and balances, politicians are able to use some tactics that are normally excluded in a conventional election because they are illegitimate. More exactly, governments may win elections through at least three illicit strategies (Collier and Vicente, 2011). First, politicians can use violence and voter intimidation. For instance, Africa has seen a particularly pronounced emergence of political intimidation and violence during election time. Just to focus on recent years, Kenya, Nigeria, and Zimbabwe provide examples of elections marked by thousands of deaths. The use of violence is aimed at discouraging known opponents from voting. Empirical studies find that this strategy is effective, reducing the turnout of those who support other parties (Wilkinson, 2004; Bratton, 2008; Collier and Vicente, 2009).

Second, politicians can resort to ballot fraud. Incumbents are in a better position to influence the results. This strategy is usually feasible when the incumbent controls the way the election is run, i.e., through the electoral commission. For instance, fraud was the main illicit strategy in the 2007 Kenyan elections. The EU electoral observers released a report stating that "the Kenyan elections have fallen short of key international and regional standards for democratic elections" and that "they were marred by a lack of transparency in the processing and tallying of presidential results, which raises concerns about the accuracy of the final result."

Finally, politicians can resort to vote-buying, i.e. the exchange of cash for votes before the elections. In the Angolan election of September 2008 the incumbent party MPLA had a particularly pronounced access to state

resources as a result of the massive oil boom. In the run up to the elections, Roque (2009) reports on a systematic strategy of co-opting local influence figures and traditional rural leaders (Sobas): "The MPLA even created an NGO (Our Soba) to approach the Sobas in the provinces and attract them to the party's patronage network. The ruling party successfully brought in these traditional authorities as well as local administrators and influential citizens, bringing them with money, cars, computers, motorbikes, bicycles, and promises of future benefits. On election day, Sobas and unofficial elements of the MPLA stood near some polling stations, observing how people cast their votes."

Ethnic voting potentially affects all three of the illicit tactics (Collier and Vicente, 2011). Violence aimed at discouraging the turnout of opposing voters may become easier because the allegiance of voters can be readily inferred from their ethnicity. Bribery may become more costly because allegiance based on identity may increase the price of inducing a change of vote. Ballot fraud may depend upon inflating the size of those ethnic groups that support the government, turning voting registration and the population census into key political arenas.

Where these illicit strategies are rife an election may fail to establish the accountability of government for its performance. Moreover, it may also reduce the perceived legitimacy of government. For example, once President Kibaki was perceived to have won the Kenyan election through ballot fraud, opposition to his regime was far stronger than against the former Kenyan autocrats, Kenyatta and Moi. Combined with the undermining of checks and balances as incumbents resort to more costly strategies of power retention, elections might therefore retard policy improvement. A recent result by Kudamatsu (2011) provides some support for this hypothesis that the consequences of elections depend upon how they are conducted. Using

changes in infant mortality as a measure of the performance of African governments, he finds that only in those rare cases in which the incumbent government has lost the election does performance improve. Changes in infant mortality did not occur when dictators stayed in power by winning multiparty elections or when a new chief executive took office non-democratically.

3.5. Changing the Constitution

In recent years, many presidents around the world have chosen to remain in office even after their initial maximum term in office has expired. They have largely done so by amending the constitution, sometimes by replacing it entirely. Such a manipulation of the constitution is not unusual, particularly in Africa. Recently, term-limit reform (in the form of relaxing term limits) has been effected in Algeria, Cameroon, Chad, Djibouti, Gabon, Namibia, Niger, Nigeria, Togo, Tunisia, Tunisia, Uganda and Zambia.

Terms limits present some important advantages. First, term limits make elections more competitive by increasing the number of candidates seeking election (Daniel and Lott, 1997). In particular, term limits enable to overcome incumbent advantage. Second, term limits reduce the value of holding office and induce politicians to implement policies that are closer to their private preferences. Such truthful behaviour by incumbents in turn results in better screening of incumbents. The combination of these two effects can strictly increase the utility of voters (Smart and Sturm, 2006).

Vicente and Wantchekon (2009) review field experiments using voter education initiatives in Benin and Sao Tome and Principe. They find that effective constraints on incumbents include term limits, a strong and independent national electoral commission which supports secret balloting, and clean campaign financing.

4. Concluding Remarks

This chapter reviews the literature highlighting the role that political market imperfections play in development by impeding elections to perform efficiently their two key functions, i.e. (i) to discipline the elected officials by the threat of not being re-elected; and, (ii) to select competent individuals for public office.

Five main political market imperfections emerge from this analysis. First, information constraints reduce the ability of citizens to hold politicians accountable. Second, ethnic polarization makes votes unresponsive to performance and weakens the incentives for governments to depart from patronage politics. Third, the lack of credibility of electoral promises induces voters to rely on the promises of influential people in making electoral choices. Fourth, illicit tactics such as ballot fraud, vote-buying and voter intimidation undermine the disciplining role of elections and reduce the perceived legitimacy of government. Finally, the modification of constitutions by removing term limits biases the electoral competition and reinforces the incumbent advantage.

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CHAPTER 2: ELECTIONS AND THE ALLOCATION OF PUBLIC EXPENDITURES[25]

Abstract

This paper goes beyond traditional political budget cycles models, focusing solely on the dynamics of the overall budget, in order to shed light on electoral composition changes in public spending. Using data on 42 developing countries from 1975 to 2001, I find evidence of electoral impacts on the allocation of public expenditures. The results show that election-year public spending shifts towards more visible current expenditures, in particular wages and subsidies, and away from capital expenditures. Furthermore, the findings suggest that electoral impacts on the allocation of public spending are likely to endure, even though countries gain experience in electoral politics.

JEL Codes**:** D72; E62; O10.

Keywords**:** Political budget cycles; public expenditures composition; developing countries.

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1. Introduction

In the course of the last three decades, many developing countries have conducted democratic political reforms. While democracy appears as an essentially multidimensional process, one of its most important features is unambiguously the setting of free and regular elections. Between 1990 and 2000, the number of countries governed by officials elected in competitive elections rose from 60 to 100 (Beck and al., 2001).

Democratic political institutions would provide political incentive structures able to induce better policy choices. Elections prompt accountability in two ways. They provide political competition, and help governance to be more efficient by alleviating the moral hazard issue (Barro, 1973; Ferejohn, 1986) or by mitigating the adverse selection phenomenon (Rogoff, 1990). By weeding out incompetent politicians and giving those in power an incentive to put in effort, elections provide incentives for efficient governance. However, governments have an additional motive. Indeed, they face a new constraint: they have to renew their legitimacy in the periodical recurrence of elections. Therefore, electoral pressure may lead politicians to manipulate public policy in order to increase their chances of re-election.

Political business cycles theory provides a usefull analytical framework.[26] Based on political-market imperfections, and most notably on information asymmetries, the theory highlights the distortions induced by the recurrence of elections. Empirical studies in the 1970s until the 1990s focused almost exclusively on industrialized countries, and generally do not find regular, statistically significant political budget cycles (see Alesina and al.,

[26] The political business cycles theory, initiated by Nordhaus (1975), studies the effects of elections on the real economy, such as GDP growth rates and unemployment. Most recent studies have changed their focus by shifting away from the real effects of elections, towards policy makers' instruments. Such a move is partly dictated by the lack of empirical evidence (Drazen, 2001), but also by the lack of direct government control over real economic variables (Shi and Svensson, 2003). In this paper, we shall focus on political budget cycles.

1997; Drazen, 2001, for excellent reviews). In contrast, more recent studies (Remmer, 1993; Schuknecht, 1996; Shi and Svensson, 2006, Brender and Drazen, 2005) have not only confirmed the existence of polically-driven budget cycles in developing countries, but have also shown the large magnitude of these cycles. Before elections, public spending increases, while revenues fall, thus leading to a large budget deficit in election years. In addition, in developing countries, much of election-oriented policy affects the expenditure side, because increases in public spending have a very direct and immediate impact on voters' welfare. Indeed, as the tax base is small in such countries, tax cuts would not significantly enhance government support (Schuknecht, 2000).

However, political budget cycle theory seems highly inconsistent with the literature on fiscal preferences of voters. This line of research examines how fiscal policy affects the re-election probabilities of incumbents, and concludes that a government that damages the financial position of the country harms its chances of re-election. Thus, voters are fiscal conservatives, punishing high spending or deficits through polls. Indeed, following Peltzman's work on the United States (1992), recent studies have found evidence that voters punish rather than reward election-year deficit spending in Latin America (Kraemer, 1997), Israel (Brender, 2003) and Colombia (Drazen and Eslava, 2009). The strongest evidence suggesting that deficits do not help re-election prospects comes from Brender and Drazen (2008) in a sample of 74 countries over the period 1960-2003. Indeed, they find no evidence that election-year deficits help re-election in any group of countries, including developed and less developed, and countries with different government or electoral systems. Brender and Drazen (2005) reconcile the two contradictory views by showing that political budget cycles are a phenomenon of new democracies, in which voters lack the necessary information to assess economic policy, as well as the ability to properly

process this information. They further argue that political budget cycles decrease over time, as countries gain experience with competitive electoral processes.

The aim of this paper is to suggest a different approach that also reconciles these apparently contradictory views. Indeed, very few studies have detailed fiscal policy instruments by which governments may try to influence their popularity around elections. Analyses that focus solely on the dynamics of the overall budget are at risk of misinterpreting the evidence, besides missing an important part of the action. In fact, politicians may change the composition of public expenditures in an election year, without increasing the overall budget deficit. In the same vein, another contribution of this paper is to analyse the different effects of elections on the various components of overall public spending.

Such a test is particularly relevant in the context of developing countries. Weak institutional structures or corruption in these countries allow for greater political discretion over policy instruments. Therefore, it is reasonable to expect political budget cycles to be more apparent. Furthermore, the implications may be particularly important for these countries insofar as politically-motivated policies may be at odds with economic reforms.

The remainder of this paper is organized as follows. Section 2 reviews the existing theories, along with previous empirical studies investigating electoral allocation changes in public expenditures. In Section 3, we set up the basic empirical work, discuss a number of data and estimation issues, and present the basic regressions. In Section 4, we test whether the strength of electoral manipulations depends on a country's economic and political

characteristics. Finally, Section 5 concludes and suggests some directions for future research in this area.

2. Electoral Manipulation via Expenditures Allocation: Theoretical Arguments

Political business cycle theories seek to explain that portion of cyclic behavior in macroeconomic variables which is related to the timing, characteristics, and outcomes of elections. Two main approaches explore economic fluctuations around elections. The opportunistic approach initially developed by Nordhaus (1975) assumes that politicians are office-motivated. Governments stimulate their economies with expansionary fiscal or monetary policies before elections in order to increase their popularity. In contrast, the partisan approach (Hibbs, 1977; Alesina, 1987) assumes that parties apply different policies. Specifically, left-wing parties assign greater value to low employment, while right-wing parties value low inflation more highly. As a result, these models predict that right-wing governments consistently generate lower inflation and higher unemployment than do leftist governments.[27] This paper applies the opportunistic approach. The partisan approach is unlikely to be fruitful in studying electoral policy cycles in developing countries, where the differences in economic and ideological preferences among parties are much harder to pin down, and where the pattern of political identification frequently does not exhibit the typical Western left-right distinction.

While political business cycle theory has motivated numerous empirical tests, very few studies have directly tested political budget theory

[27] Traditional partisan theory (Hibbs, 1977) suggests that changes in the partisan orientation of the party in power affect the economy because parties of the Left are more likely than parties of the Right to choose policies that stimulate employment, inflation, and growth. Rational partisan theory (Alesina, 1987) suggests that the uncertainty surrounding the policies conducted after the elections, depending on which party has gained the power, may engender systematic economic fluctuations.

against changes in the composition of public spending, despite the theories' specificity in that regard. It is particularly surprising as recent theoretical models have shifted their focus, from the level of public expenditures to their composition. A review of the relevant strands of the political budget cycles theory pinpoints which components of public spending could be favoured by governments to enhance their prospects of re-election. We first present Rogoff's signaling model in which spending shifts towards current expenditures and away from capital spending before elections. We then consider recent public expenditures targeting model which stresses that investment expenditures expand prior to elections.

2.1. Manipulation of Current Expenditures

Rogoff (1990) designed a signaling model in which a political budget cycle arises due to information asymmetries[28] about the incumbent's competence in administering the production of public goods. This model suggests that observed pre-election expenditures may serve as a signal of the incumbent's competence —meaning his ability to provide more public goods for a given tax revenue— which exhibits some persistence over time.[29]

This model is marked by two key features. First is the information asymmetry regarding the incumbent's level of competence. Citizens are initially uninformed about the type of incumbent, whereas the incumbent

[28] In most traditional models, voters are naive, not simply in the way they form their expectations, but also in the way they assess government performance. Other models (Rogoff and Sibert, 1988; Persson and Tabellini, 1990) attempt to reconcile rational expectations on the part of voters with opportunistic policy manipulation by incumbent politicians. The driving assumption behind these rational opportunistic models is the existence of temporary information asymmetries.

[29] Competency follows a first-order moving average, so that competency persists, but only for one period. Indeed, competence is persistent, although it may change over time. Skills might realistically be thought to vary through time, since leadership abilities may have appeared as well-suited to deal with one set of historical circumstances, but may become outmoded as the problems faced by the country change. Also, even if the same leader stays in power, there may be turnover among his key advisors.

knows his own type. In other words, the incumbent has a temporary information advantage over voters, in the sense that he sees his competence shock contemporaneously. While usual in such models, this information structure is particularly plausible in the context of developing countries, where poor accounting practices, as well as underdeveloped media, prevent voters from evaluating a government's performance. Second, a critical feature of the production function is that public investment decided in time t, an election period, only becomes visible and productive at time t+1. Voters observe taxes and current expenditures contemporaneously, and use this information to form inferences concerning investment spending and the incumbent's competence shock.[30] Such a production structure, combined with the informational asymmetry regarding competence, gives rise to a separating equilibrium, in which the competent incumbent has an incentive to bias pre-election fiscal policy toward easily observed current expenditures, and away from capital expenditures.

Recently, Shi and Svensson (2006) suggested a moral hazard model of the competence approach. In this model, all politicians, independent of their competence levels, face the same incentives prior to the election, implying that the empirical predictions are not conditional on their type or ability. More importantly, the politicians' incentives depend on the politico-institutional environment. In particular, the strength of political budget cycles depends on politicians' rents of remaining in power and the share of informed voters in the electorate.[31]

This type of models throws light on the role of "visibility" in influencing government resource allocation around elections. According to

[30] The economy is continually subject to shocks from various origins, such as economic crisis, union claims, or energy shocks.

[31] To proxy for the share of informed voters, Shi and Svensson (2006) combine data on access to media, measured by the number of radios per capita, with information on whether a country has free media.

Rogoff, "visibility" of public expenditures would be associated in particular with current, rather than capital, expenditures. His argument is not that current expenditures are intrinsically more visible, but rather that they are more immediately visible and hence of more direct political value in the pre-election period. In contrast, capital investments are often long-term projects and their completion may be difficult to coordinate with elections. Moreover, the high potential for having incomplete projects at election time could create political risks for incumbents, who may be seen as unable to deliver promised benefits (Block, 2002).

Block's findings (2002) are consistent with Rogoff's equilibrium budget cycle model. Based on a sample of 69 developing countries, he provides evidence that government spending shifts toward more visible, current expenditures and away from public investment. However, elections were not competitive in many countries during the 1975-1990 period. Moreover, Block limits his analysis to presidential systems, in order to address the potentially biaising effects of endogenously-timed elections. And such a strategy introduces an important selection bias.[32] Finally, and most importantly, some theoretical and empirical analyses highlight another allocation of public spending prior to elections. We consider this literature in section 2.2 below.

2.2. Targeted Investment Expenditures

Contrary to the specific literature on political budget cycles, a larger public choice literature points to the political importance of organized interest groups with the power to lobby politicians for policies favorable to them (Olson, 1965; Buchanan and Tullock, 1962; Bates, 1981; Ursprung, 1990; Krueger, 1993). Grossman and Helpman (1996, 2001) linked the influence of

[32] Block considers elections that take place at regular times in presidential systems. However, presidential regimes have endogeneously timed elections, particularly in developing countries (Shi and Svensson, 2006). Also, selected countries systematically have characteristics that distinguish them from parliamentary regimes (Persson and Tabellini, 2003).

special interests to the process of electoral competition through a model of campaign finance and mobilization of votes. From this perspective, it seems important to link the literature on political budget cycles with that on special interest politics.

Drazen and Eslava (2004, 2009) propose the first formal model that integrates special interest groups into an intertemporal model of political cycle with rational voters.[33] An incumbent can target government spending to specific groups of voters. This view differs from other models of political budget cycles, insofar as voters care about the preferences of incumbents over different interest groups rather than about incumbents' competence.

Politicians have unobserved preferences over groups or types of public expenditures. Voters are unaware both of their weight in the incumbent's objective function, and of how much swing voters they are, meaning how sensitive to expenditures is their group's voting behaviour. Voters will prefer a candidate who assigns higher value to goods they prefer, but only have imperfect information about the politicians' preferences over different voters groups. They therefore need to extract such information about an incumbent's preferences, from her fiscal actions. Since politicians' preferences over types of expenditures are regarded as displaying some persistence through time, high pre-election spending on one good is positively correlated with its provision after the election.

This model suggests the importance of distinguishing between targeted and non-targeted types of public expenditures. Such a classification is not readily available, nor straightforward. However, it has been widely

[33] Lindbeck and Weibull (1987) and Dixit and Londregan (1996) present formal models where, in order to gain votes, candidates make promises of balanced-budget targeting of voter groups. However, they assume that campaign promises are binding commitments to a post-electoral fiscal policy, so that there is no voter inference problem.

argued in the literature that the category of spending that is particularly "targetable" is that of capital spending for investment projects (Ferejohn, 1974; Bates, 1981; Tanzi and Davoodi, 2001, Keefer and Knack, 2002; Eslava, 2005).[34] Opportunistic targeted expenses, close to the so-called *pork barrel* spending, will most likely take the form of infrastructure projects, such as the construction of roads, schools, or water plants, since they are easier to target to particular constituencies because of geographic and sector specificity. Furthermore, infrastructure expenditures appear as a more convenient tool for political patronage of specific groups, since new construction contracts may be given selectively.[35] Finally, public investment projects usually run over several years. Hence, we may consider an incumbent wanting to influence voters by credibly promising groups their favorite kind of expenditures after an election. Such an incumbent may find it useful to target voters with the programs they prefer, and to initiate those programs before an election, but to complete them only after the election.

Many studies find evidence consistent with this model. Khemani (2004) studies state legislative assembly elections in 14 major states of India, and shows that election years have a high positive impact on investment spending, particularly on the construction of roads, to the detriment of current expenditures. Using data on Colombian municipalities, Eslava (2005) also indicates pre-electoral shifts of resources away from current spending, and towards the development of infrastructure-related projects. Finally, Schuknecht (2000) concludes that capital expenditures, expressed as a share

[34] This classification may take different forms in various countries, depending on the population heterogeneity and of the weight of the various sectors of the economy.
[35] Wade (1991) illustrates, for example, how contracts for irrigation projects in India may be selectively provided in exchange for kickbacks and rents.

of GDP, were the preferred instrument to influence election outcomes in a group of 24 developing countries for the 1973-1992 period.[36]

2.3. Discussion

The predictions of the two types of models are highly sensitive to the assumptions about the different categories of public spending. Rogoff's model suggests that "visibility" of expenditures is associated with current, rather than capital, expenditures. Thus, policy manipulations around elections times are undertaken to provide immediate economic benefits to large numbers of voters. The public expenditures targeting model, on the other hand, argues that capital expenditures are easy to target to specific constituencies and locations. From this perspective, cycles in targeted spending reflect greater incentives for politicians around elections to provide targeted benefits to small groups of pivotal voters, in exchange for campaign finance or mobilization of political support. To summarize, we interpret evidence of capital spending cycles as indicative of election-year targeting of special interests, while cycles in current spending are more likely to provide immediate benefits to the mass of voters.

However, the literature has totally ignored that certain components of current expenditures can also generate exclusive benefits that can be directed at specific constituencies. For instance, subsidies could be targeted to specific producer groups. From this perspective, we propose to probe deeper into the choice of policy instruments around elections and to study electoral effects on wages and subsidies. As these types of expenditures combine the two

[36] However, many countries cannot be seen as democratic all over the said period. Moreover, Schuknecht uses Nordhaus' and Rogoff's models without proposing an alternate theoretical analysis justifying its econometric results.

arguments of the theoretical models, we would expect that they are positively affected by elections.

Appendix A summarizes previous empirical studies and theoretical predictions. While there is indisputable evidence of political budget cycles involving aggregate data, neither theory nor empirical evidence provide a clear-cut answer to electoral effects on the allocation of public spending in developing countries.

3. Empirical Evidence

In this section, we present empirical evidence on how elections affect the allocation of public expenditures in order to discriminate between the two theoretical arguments previously presented. We first discuss a number of data and estimation issues. We then present our main results.

3.1. Data

Our sample includes annual data from 42 developing countries for the 1975-2001 period, thus creating a panel of 1134 country-year observations.[37] However, many countries may not be considered as democratic during the entire sample period. Understandably, as Brender and Drazen (2005), Block (2002) and Block et al. (2003) observe, political budget cycles can only make sense in countries in which elections are contested. When elections are not competitive, and incumbents face a near zero probability of loosing office, the ego rents and other benefits are not at risk. Therefore, the incentive to distort is greatly diminished. In contrast, Shi and Svensson (2006) argue that the desire of dictators to eliminate signs of discontent, even before sham

[37] The limited availability of data on the composition of public expenditures restricts the number of countries included in our sample. The characteristics of the political systems of these countries and the dates of elections are set out in Appendix B.

elections, may account for increases in spending and deficits in non-democracies. We consider this point in section 4.2 below.

Data on public expenditures come from the IMF International Financial Statistics (IFS) and Government Financial Statistics (GFS). We shall focus on central, rather than general, government spending for two reasons. First, central data are more reliable and comparable across countries and time. Indeed, comprehensive and consistent general expenditures series, across countries and over time, are not available. Second, results with general spending would be difficult to interpret, as they involve several levels of government, which would respond to different types of elections and in different ways. The IMF classification of government expenditures follows two main lines. The economic classification divides total spending into current and capital expenditures. The former includes expenditures on goods and services, wages and salaries, subsidies and other current transfers, as well as interest payments. The later covers payments for the purchase or the production of new or existing durable goods. By contrast, the functional classification is based on the purpose toward which the expenditure is directed.[38] We shall focus on transport and communication expenditures, which are used as a proxy for spending on economic infrastructure (Devarajan, Swaroop and Zoo, 1996).

Most important for our analysis, a dummy variable is introduced to reflect the impact of elections. Election dates and institutional data on the election process are taken from the Database on Political Institutions, provided by the World Bank (Beck and al., 2001), IDEA (Institute for Democracy and Electoral Assistance, "Voter Turnout Since 1945 to Date") and IFES (International Foundation for Electoral Systems, election guide). For

[38] The functional classification breaks total expenditures into categories such as healthcare, education, social security and welfare, transport and communication, as well as defense, each of which includes both current and capital expenditures.

countries with parliamentary political systems, we include legislative elections, while for countries with presidential systems, we consider executive elections.[39]

In much of the literature, the election dummy is equal to one in the year of the election, no matter the time of the year at which the election took place. If the election took place late in the year, the dummy captures mostly the period before election. However, if the election took place early in the year, then the dummy may capture primarily post-electoral effects. To address this issue, we define the dummy as equal to one in the year before the election, if the election took place in the first half of the year, and equal to one in the year of the election otherwise. The data set includes 213 pre-electoral periods.

3.2. Econometric Specification

The basic specification takes the following form:

$$Y_{it} = \gamma Y_{it-1} + aElect_{it} + \beta X + a_i + \varepsilon_{it} \qquad (1)$$

where $i = 1,...N$ and $t = 1,...T_i$.[40] Y_{it} stands for the share of the different components of expenditure in total government spending, apart from debt interest payments. The main variable of interest is *Elect*, which captures the influence of elections. In addition, the a_i's denote a full set of country

[39] In parliamentary countries, elections of the legislature coincide with those of the executive. In presidential countries, the executive is separately elected, but almost always the legislature is also elected in the same year. In our sample, there are only 24 mid-term elections that take place between years of simultaneous presidential and legislative elections. Our results remain identical when the later are introduced. These findings are available from author upon request.

[40] We indicate the temporal dimension through T_i, since the panel is unbalanced. Insofar as the temporal dimension of series is important, we test their stationarity by administrating the Maddala-Wu test. The null hypothesis of non-stationarity is always rejected in a significant manner, at the threshold of 1%.

dummies[41] and ε_{it} is an error term. Finally, X is a vector of controls. Among them, we include the level of development, measured by the logarithm of real per capita income. As a society becomes wealthier, claims for more public regulation and for a social welfare system may change the composition of public expenditures. We also control for the degree of urbanization. Most public capital spending concerns infrastructures. Now, there exists an urban bias in service provision in developing countries. Moreover, if agglomeration economies increase the return of infrastructure expenditures in urban areas, higher urbanization rates imply higher levels of infrastructure service provision (Bogetic, Heffley, Randolph, 1996). Hence, we hypothesize that a larger degree of urbanization will lead to more infrastructure expenditures.[42] In addition, we control for trade openness, measured by the ratio of imports plus exports to GDP. More open economies are more vulnerable to foreign competition, and they compete for business by offering adequate infrastructures. In a similar vein, in order to attract foreign direct investment, a government could increase public capital spending (Sturm, 2001).[43] Effects of changes in the terms of trade are also examined. Income growth, resulting from improved terms of trade, may reduce the need for social assistance from government, which, in turn, should lower current expenditures. A decline in the terms of trade, on the other hand, could require higher current expenditures if social assistance needs rise (Schuknecht, 2000). We also control for the influence of foreign aid, with an expected positive sign of the coefficient for capital expenditures (Sturm, 2001).[44] Furthermore, we include a dummy variable for proportional representation. Proportional electoral

[41] Years effects were generally insignificant and were dropped from the regressions. The qualitative results in all regressions do not significantly change when we include them.

[42] Demographic variables, indicating the age structure of the population, were tested, but were found to have no significant impact on the allocation of public spending.

[43] Rodrik (1998) argues that an increased trade openness is correlated with greater expenditures on social protection. However, our study does not focus on this type of expenditure.

[44] Foreign aid is critical in financing expenditures in developing countries. A finding that the allocation of public spending changes during election years could thus not be claimed as evidence of political manipulation if it were the result of election-year fluctuations in aid receipts. Controlling directly for foreign aid eliminates this effect.

systems (*Prop*=1) induce politicians to seek support from larger groups in the electorate via broad spending programs. Persson and Tabellini (2003), and Milesi-Ferretti, Perotti and Rostagno (2002) find empirical support to this prediction, showing that social transfers are higher in countries with proportional electoral rules. Finally, any analysis of fiscal policy in developing countries has to take into account programs with the International Monetary Fund (IMF). The IMF usually provides access to increased international financing, and imposes conditionality stressing economic stabilization, including fiscal consolidation. Programs supported by the IMF should, therefore, harden the government's budget constraint and result in lower public expenditures. More importantly, these programs may affect the composition of public spending insofar as 'cuts in public investment are less visible and politically costly than cuts in other spending' during fiscal adjustments (Alesina, Perotti and Tavares, 1998). We include an IMF dummy, which takes the value of one when a program is in place, and equals zero otherwise.[45]

Fixed-effects regressions control for omitted time-invariant country characteristics. However, all estimations include a lagged dependent variable, with an expected positive coefficient.[46] Government administrations are constrained by budgets, and the current budget largely determines the next period's appropriations (Niskanen, 1971). Such inertia provides some stability and predetermines fiscal spending (Schuknecht, 2000). The use of fixed effects estimators in a regression with lagged dependent variable introduces a potential bias. Indeed, the lagged dependent variable Y_{it-1} is correlated with the error term. Since the order of the bias is given by the inverse of the length of the sample *1/T* (Nickell, 1981; Kiviet, 1995), we expect a small bias.[47]

[45] See Appendix C for detailed data sources and descriptive statistics.
[46] The appropriate number of lags on the dependent variable was determined by the Schwartz Information Criterion.
[47] The length of our sample is 27 years, but some countries do not have data for the entire period.

However, to address this issue, we also consider the Generalised-Method-of-Moments (GMM) estimator developed for dynamic models of panel data. Arellano and Bond's (1991) estimation strategy is to first-difference the equations to eliminate fixed effects and to fix the resulting inconsistency by applying instrumental variables consisting of appropriately lagged levels of the variables. However, Arellano and Bover (1995), as well as Blundell and Bond (1998), show that these estimations have poor precision in finite samples. Indeed, when the explanatory variables are persistent over time, lagged levels of these variables are only weakly correlated with differences of these variables in the differenced regression equation. In order to increase the precision of the estimates, they propose to combine the differenced regression with the original regression in levels. The instruments for the regression in differences are those described above, while the instruments for the regression in levels are the lagged differences on the dependent variables. The system GMM estimator controls for unobserved country-specific effects as well as potential endogeneity of the explanatory variables. In the following, we report the results from fixed-effects and GMM estimations.

3.3. Results

We first report the baseline findings. We then probe deeper into the choice of policy instruments around election times by using more detailed breakdowns for the categories of public spending. Specifically, we study the impact of elections on wages and subsidies.

3.3.1. Baseline Findings

Table 1 reports the basic results. We consider the three spending variables defined in Section 3.1, namely current expenditures, capital expenditures and expenditures in infrastructure, expressed as a share of total public spending. It appears that the composition of public spending changes

before elections. More specifically, three regularities stand out. First, the estimated coefficient of elections on current expenditures share is significantly greater than one in FE and GMM estimations (columns 1 and 4). Thus, on average, the current expenditures share is expanded by more than one percentage point in election time. Second, the capital expenditures share is cut prior to elections (columns 2 and 5). Third, elections have neither a significant nor a systematic effect on the share of infrastructure spending (columns 3 and 6).[48]

These findings strongly confirm the predictions of Rogoff's signaling model. Election-year public expenditures shift towards more visible, current expenditures, and away from capital expenditures. Contrary to the predictions of public expenditures targeting models, there is no electoral effect on infrastructure spending. However, these basic results need to be examinated in more detail, insofar as some components of current spending, such as subsidies and wages, could be particularly targeted.

3.3.2. Some Additional Evidence: Wages and Subsidies

As we have already indicated, total public spending is broadly divided into two main categories: current spending and capital expenditures. The category of current spending includes several subcategories: wages and salaries, other purchases of goods and services, interest payments, subsidies, and other current transfers. Table 2 reports election year effects on wages and subsidies, measured as a share of total public expenditures.

As predicted, the pre-electoral increase in current expenditures share seems to be largely caused by an increase in subsidies, and civil servants' and government employees' salaries (columns 1, 2, 4 and 5). Moreover, we don't

[48] We also tested directly the existence of a post-electoral effect by adding a dummy variable for the year after elections. The coefficient of elections on current expenditures is negative but not statistically significant.

observe that the other subcategories of current spending increase in election years.[49] Since wages and subsidies are targetable and immediately visible, it is difficult to distinguish between the two theoretical arguments. However, we argue that our findings are more suggestive of broad-based policies that provide immediate economic benefits to the mass of voters. Indeed, subsidies and wages are generally regarded as more populist categories of spending that need to be substantially increased in order to affect large numbers of voters (Khemani, 2004). Furthermore, when we add all potentially targetable expenditures, namely capital expenditures, subsidies and wages, we find no evidence for significant electoral cycles (columns 3 and 6). This last result is driven by the decline of capital expenditures in election years.

4. Alternative Specifications

Countries differ in many dimensions that may affect politicians' incentives and ability to manipulate fiscal policy prior to elections. Many empirical studies argue that the magnitude of political cycles depends on a country's economic or political characteristics. Such arguments include: the level of economic development (Brender and Drazen, 2005), whether elections dates are predetermined or not (Shi and Svensson, 2006), constitutional rules and form of government (Persson and Tabellini, 2003), the level of democracy (Brender and Drazen, 2005). In this section, we test whether the strength of electoral impacts on the allocation of public spending depends on economic and political factors.

4.1. Potential Endogeneity of Election Timing

The purpose of this paper is to identify the effect of the timing of elections on the composition of public expenditures. Following much of the

[49] These findings are available from author upon request. However, data on other purchases of goods and services, and other current transfers are not available for many countries. Therefore, these results must be interpreted with caution.

literature, we have initially considered that the election variable is exogenous relative to the fiscal variables. However, the scheduling of elections does not usually follow a strict, constitutionally-established pattern in developing countries. This casts doubt on the identification assumption. More exactly, two potential issues arise.

First, the coefficients on the election cycle may be subject to omitted variable bias, if both the timing of elections and the fiscal policies are affected by a common set of unobserved variables, such as crises or social unrest, which are not included in our regression (Shi and Svensson, 2006). In such a case, our coefficient estimate will be biased. In particular, if the omitted variables correlate positively with election timing and negatively with fiscal policy outcomes, there will be a downward bias. For instance, if crises lead to a lower government fiscal balance, as well as early elections, omitting this variable will induce a downward bias in the coefficient estimate on the election variable.

Second, the timing of elections may be strategically chosen by the incumbent politicians. Berument and Heckelman (1998) pointed out that opportunistic cycles may also occur as a result of setting election dates when economic conditions are particularly favorable. This may pose a reverse causality problem if politicians condition the timing of elections on fiscal policy outcomes. In this case, our coefficient estimate does not correspond to the notion of political budget cycles.

Following Brender and Drazen (2005), we separate out those elections whose timing is predetermined.[50] For this purpose, we look at the constitutionally-determined election interval and we take as predetermined those elections held during the expected year of the constitutionally-fixed

[50] This classification is based on www.electionworld.org data that indicate the frequency of elections country by country.

term.[51] Among the 213 election periods, 149 are classified to be predetermined. Table 3 reports the results. The contrast between the effect of scheduled and potentially endogenous elections confirms that we need to distinguish between both, in order to properly identify a causal effect of elections on the composition of public spending. As only the coefficients on predetermined elections are statistically significant, our results effectively reflect the effects of elections on the allocation of public spending.[52]

4.2. Competitive Elections

Initiated in developed countries, the political budget cycles theory assumes the existence of institutional structures that are typical of advanced economies, such as multi-party electoral competition. Indeed, uncertainty as to the outcome of elections is critical in motivating incumbents to engage in pre-electoral economic policy distortions in order to preserve their rents. However, electoral competitiveness is not to be taken for granted in developing countries.

The DPI (Beck and al., 2001) has two variables to capture the competitiveness of elections: *the Executive and Legislative Indices of Electoral Competitiveness* (EIEC and LIEC). To test the hypothesis that political budget cycles are more prevalent in multi-party electoral systems, we include a dummy variable for electoral competitiveness[53] and an interaction term that

[51] The perfect way to deal with this reverse causality issue is to find two instrumental variables that are correlated with the timing of elections, but not with the error term. However, to our knowledge, no study has found such an instrument concerning a cross-country sample. Note that even though our strategy does not eliminate the potential bias, it reduces it. All unexpected early elections are coded as 0 in the predetermined elections dummy.

[52] Rogoff's model (1990) suggests that pre-election fiscal policy distortions are likely to be less severe for opportunistic early elections than for end-of-term elections. The basic reason is that the call for early elections may serve as an additional signal. Incompetent incumbents prefer to wait for end-of-term elections, in order to enjoy a certain extra period of rents. As a result, competent incumbents do not need to distort fiscal policy as much to separate themselves when calling for an early election.

[53] These indicators are scored from one, no elections, to seven, elections in which there are multiple candidates running for office and no candidate obtains more than 75 percent of the

combines this variable with the election variable. Controlling non-interactively for electoral competitiveness ensures that its contribution to any measured election-year effect does not wrongly include an effect that is present in non-election years as well. The data set includes 166 competitive elections. We reestimate our baseline regression. The results are displayed in Table 4. As predicted, the electoral effects on the allocation of public spending are larger than those in Table 1.

4.3. Fiscal Decentralization

An aspect of the political budget cycles that has received no attention in the empirical literature is a comparative analysis of how the size of the political budget cycles might vary with the level of decentralization of fiscal policy. This is particularly surprising as it is a concern amongst institutions such as the World Bank and the IMF that, while fiscal decentralization can have many benefits, it carries the risk of increased macroeconomic instability (Ahmad and al., 2005; Gonzalez and al., 2006).

The classical argument is that fiscal centralization reduces accountability, because to win an election, the policymaker needs only the support of a majority of regions. To test whether the level of decentralization can explain the size of the political budget cycle, we augment the original regression with a variable for the level of decentralization, which is approximated by the share of subnational expenditures on overall state spending (GFS),[54] and an interaction term that combine this variable with the election variable. The conditional findings are reported in Table 5. Fiscal decentralization reduces electoral effect on the allocation of public

vote. In the empirical work below, EIEC and LIEC are dichotomized: they are set equal to one, if they equal 6 or 7 (where 6 indicates that multiple candidates could and did run for office, but the winner received more than 75 percent of the vote), and 0 otherwise.

[54] The share of subnational expenditures on overall state spending is not available for some countries: Botswana, Cameroon, Egypt, Fiji, Kenya and Lesotho.

expenditures. The estimated coefficient of the interaction term (Elections*Decentralization) on current expenditures share is smaller and not statistically significant in FE and GMM estimations (columns 1 and 4).

4.4. The Role of Mass Media

As we have already mentioned, the strength of the electoral cycles depends on the share of informed voters in the electorate (Shi and Svensson, 2006). Indeed, the media provides political information and can reduce information asymmetries. So, we expect that the electoral effects on the allocation of public spending would be smaller in countries where the share of informed voters is large.

To proxy for the share of informed voters, we combine data on access to media with information on whether a country has free media. Access to media is measured by "radios per capita" from World Development Indicators (World Bank). A country-year observation is classified as having free media if the country had "freedom of broadcasting" in that year using information from Freedom House. Finally, we multiply "radios per capita" with the country-year specific indicator of "freedom of broadcasting", and use the product to proxy for the share of informed voters. The variable is denoted as Info.

Table 6 reports the coefficient estimates with the interaction term Elect*Info and Info added to the baseline specification. Consistent with our hypothesis, a greater share of informed voters leads to smaller political cycles. The current expenditures share is expanded in election time but the coefficient is not significantly different from zero.

4.5. The Resource Curse

Resource booms, by increasing the value of being in power, lead politicians to allocate more resources to stay in power. Politicians can use these resources to influence the outcome of elections and increase resource misallocation in the rest of the economy. This is particularly the case for the resources that are publicly owned such as oil, gas and other minerals.

Resource income can be used in either of two ways; the incumbent can consume the income or he can distribute it as patronage to influence the outcome of the election (Robinson, Torvik, and Verdier, 2006). There is a large degree of consensus in the political science literature that 'Patronage refers to the way in which party politicians distribute public jobs or special favors in exchange for electoral support' (Weingrod, 1968). Public employment can be a politically appealing way to distribute rents (Auty, 2001).

Resource booms can lead politicians to increase the extent of patronage in order to stay in power. From this perspective, we expect countries with high resources production to exhibit larger political cycles. We augment the original regression with a variable for the natural resources production (World Resources Institute)[55] and an interaction term that combines this variable with the election variable. The conditional findings are reported in Table 7. We observe large distortions in the allocation of public spending in election years. Indeed, the estimated coefficient of the interaction term (Elections*Resources) on current expenditures share is greater than one and statistically significant in FE and GMM estimations (columns 1 and 4).

[55] Natural resources production is the amount of natural gas, oil and coal produced by a country in a given year.

4.6. Evolution of Political Budget Cycles

Political budget cycles are dynamic processes by their very nature. Yet almost none of the empirical studies have examined temporal effects across elections. Brender and Drazen (2005) analyse the evolution of political deficit cycles, including separate dummy variables for each of the first five competitive elections. Their results suggest that electoral fiscal effects become less strong when there is more experience with elections. Indeed, once we concentrate on the later elections, no statistically significant political deficit cycles are found.[56] We follow the same methodology in order to determine if a similar conclusion may be established concerning the pre-electoral distortions in terms of public spending allocation.

The results are displayed in Table 8. Two main findings stand out. First, founding competitive elections exhibit large public expenditures distortions. In transition elections, incumbent politicians have a greater discretion in manipulating pre-electoral economic policies, and have an incentive to deter the entry of future challengers. Incumbents may attempt to deter potential challengers and to solidify their bases of support before the opposition gains influence on the policy-making process (Block and al., 2003). Second, electoral impacts on the allocation of public spending do not disappear. These forms of pre-electoral distortions are more subtle and are likely to endure.

5. Concluding Remarks

This paper has offered a comprehensive view of electoral cycles in developing countries and also contributes to the political budget cycles literature in three aspects. First, we study the composition of government spending and provide evidence of systematic distortions in the allocation of

[56] Note that, for the countries included in our sample, we find similar results. These findings are available from author upon request.

public expenditures as a function of elections. The empirical analysis indicates that politicians shift the composition of pre-election spending towards current expenditures and away from capital expenditures. Thus, politicians seem to prefer to use broad-based rather than targeted spending at election times.

Second, while political deficit cycles disappear as there is more experience with elections; our dynamic analysis suggests that electoral impacts on the allocation of public spending endure. Taken as a whole, our findings reconcile two contradictory views of pre-electoral manipulation, one that it is a useful instrument to gain voter support and a widespread empirical phenomenon, the other that voters punish rather than reward a spending deficit. As countries gain experience in electoral politics, politicians prefer to change the allocation of expenditures in election years, without increasing the overall budget deficit.

Finally, we believe that we have pointed out an important area for future research, namely, the size of political cycles depends on economic and political features of the country. On the one hand, our empirical results indicate that developing countries with competitive elections and more natural resources production exhibit larger political cycles. On the other hand, a greater share of informed voters and a high level of decentralization lead to smaller distortions in the allocation of public spending in election years.

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Table 1: Electoral effects on the allocation of public expenditures

	FE estimates			GMM		
Dependent variables	Current expenditures	Capital expenditures	Infrastructure expenditures	Current expenditures	Capital expenditures	Infrastructure expenditures
Elections	1.127	-1.000	-0.110	1.210	-0.887	-0.197
	(2.66)***	(2.55)**	(0.51)	(2.42)**	(1.94)*	(0.65)
Y_{t-1}	0.651	0.695	0.629	0.880	0.858	0.773
	(25.78)***	(29.02)***	(20.57)***	(7.03)***	(8.35)***	(6.49)***
(log)GDP per capita	-0.001	0.001	0.001	-0.001	0.001	0.001
	(3.20)***	(3.22)***	(3.44)***	(1.18)	(1.18)	(0.81)
Openness	-0.043	0.038	-0.003	-0.026	0.026	0.019
	(2.83)***	(2.75)***	(0.34)	(0.82)	(0.85)	(1.24)
Urban population	0.250	-0.229	0.250	0.152	-0.170	-0.094
	(5.03)***	(4.96)***	(5.03)***	(1.05)	(1.15)	(1.23)
Terms of trade	-0.015	0.020	0.010	-0.005	0.010	0.002
	(0.08)	(0.09)	(0.73)	(0.33)	(0.35)	(0.47)
Aid	-0.135	0.123	-0.004	-0.106	0.099	0.049
	(3.51)***	(3.44)***	(0.22)	(1.38)	(1.24)	(1.20)
Proportional System	0.213	-0.210	-0.180	0.210	-0.208	-0.180
	(1.94)*	(1.90)*	(1.75)*	(1.95)*	(1.90)*	(1.75)*
IMF-supported program	0.609	-0.481	-0.089	0.744	-0.267	-0.386
	(1.39)	(1.19)	(0.40)	(1.47)	(0.60)	(1.07)
Constant	21.168	12.234	9.182	5.878	7.082	4.099
	(8.96)***	(5.98)***	(7.58)***	(0.80)	(0.84)	(1.13)
R^2	0.54	0.59	0.58			
Breush-Pagan test[a]	6.98	7.65	7.35			
	(0.0001)	(0.0000)	(0.0000)			
F-test[b]	3.24	2.83	2.17			
	(0.0000)	(0.0000)	(0.0001)			
F-test (Elect)[c]	0.09	25.99	25.94	1.25	26.01	25.99
	(0.7645)	(0.0000)	(0.0000)	(0.8085)	(0.0000)	(0.0000)
Sargan test[d]				17.12	16.80	16.33
				(0.250)	(0.267)	(0.293)
2nd order test[e]				1.24	0.11	-0.14
				(0.216)	(0.909)	(0.889)
No. of countries	42	42	42	42	42	42
No. of obs.	878	878	711	878	878	711

Notes: Robust t-statistics reported in parentheses. *significant at 10%, **significant at 5%, ***significant at 1%. The instruments used in the GMM regressions are lagged levels (two periods and more) of the dependent variable and GDP per capita for the differenced equation, and lagged difference (one period) for the level equation.

(a) Breush-Pagan test is a test of the null hypothesis that there is homoscedasticity. Robust standard errors are obtained using White's correction for heteroscedasticity.

(b) F-test is a F test of the null hypothesis that all country-specific effects in the FE-specification are equal.

(c) F-test (Elect) is an F test of the null hypothesis that the coefficients on Elect are equal to one.

(d) Sargan is a test of the over-identifying restrictions, asymptotically distributed as X^2 under the null of instrument validity.

(e) 2nd order test Is a test for second-order serial correlation in the first-difference residuals, asymptotically distributed as N(0,1) under the null of no serial correlation.

P-values for rejecting the null hypothesis are reported in parentheses.

Table 2 : Wages and subsidies

	FE estimates		GMM	
Dependent variables	Wages	Subsidies	Wages	Subsidies
Elections	0.243	0.503	0.267	0.603
	(1.80)*	(1.75)*	(1.82)*	(1.87)*
Y_{t-1}	0.700	0.723	0.735	0.726
	(26.01)***	(27.03)***	(26.20)***	(27.05)***
(log)GDP per capita	1.023	-0.200	1.024	-0.220
	(1.85)*	(0.01)	(1.90)*	(0.01)
Openness	-0.025	0.005	-0.030	0.005
	(2.47)**	(0.40)	(2.50)**	(0.46)
Urban population	-0.044	0.140	-0.050	0.145
	(1.40)	(0.04)	(1.45)	(0.05)
Terms of trade	-0.001	0.200	-0.007	0.200
	(0.95)	(1.12)	(0.95)	(1.15)
Aid	0.005	0.023	0.010	0.025
	(0.45)	(0.70)	(0.45)	(0.70)
Proportional System	0.560	0.500	0.564	0.510
	(0.75)	(0.80)	(0.80)	(0.80)
IMF-supported program	-0.630	-0.404	-0.635	-0.405
	(2.56)**	(1.10)	(2.58)**	(1.10)
Constant	5.001	-0.021	5.001	-0.021
	(6.91)***	(0.01)	(6.95)***	(0.01)
R^2	0.59	0.62		
F-test[a]	2.57	2.67		
	(0.0000)	(0.0000)		
Sargan test[b]			8	12.86
			(0.889)	(0.538)
2nd order test[c]			0.72	0.54
			(0.474)	(0.592)
No. of countries	41	41	41	41
No. of obs.	741	794	741	794

Notes: Robust t-statistics reported in parentheses. *significant at 10%, **significant at 5%, ***significant at 1%. The instruments used in the GMM regressions are lagged levels (two periods and more) of the dependent variable and GDP per capita for the differenced equation, and lagged difference (one period) for the level equation.
(a) F-test is a F test of the null hypothesis that all country-specific effects in the FE-specification are equal.
(b) Sargan is a test of the over-identifying restrictions, asymptotically distributed as X^2 under the null of instrument validity.
(c) 2nd order test Is a test for second-order serial correlation in the first-difference residuals, asymptotically distributed as N(0,1) under the null of no serial-correlation. P-values for rejecting the null hypothesis are reported in parentheses.

Table 3: Predetermined versus endogenous election dates

	FE estimates			GMM		
Dependent variables	Current expenditures	Capital expenditures	Infrastructure expenditures	Current expenditures	Capital expenditures	Infrastructure expenditures
Predetermined elections	1.562	-1.422	-0.261	1.788	-1.449	-0.367
	(3.15)***	(3.09)***	(1.00)	(2.71)***	(2.34)**	(1.26)
Potentially endogenous elections	0.164	-0.334	0.046	0.347	-0.639	0.161
	(0.22)	(0.48)	(0.12)	(0.49)	(0.85)	(0.35)
Y_{t-1}	0.651	0.695	0.700	0.880	0.850	0.700
	(25.80)***	(29.10)***	(20.70)***	(7.05)***	(8.56)***	(7.03)***
(log)GDP per capita	-0.002	0.002	0.001	-0.002	0.002	0.001
	(3.20)***	(3.22)***	(3.45)***	(1.20)	(1.21)	(0.82)
Openness	-0.045	0.038	-0.003	-0.045	0.038	0.004
	(2.83)***	(2.75)***	(0.35)	(0.85)	(0.85)	(0.35)
Urban population	0.252	-0.230	0.250	0.152	-0.170	-0.095
	(5.04)***	(4.96)***	(5.05)***	(1.05)	(1.20)	(1.24)
Terms of trade	-0.015	0.025	0.011	-0.005	0.010	0.003
	(0.09)	(0.11)	(0.75)	(0.30)	(0.35)	(0.45)
Aid	-0.140	0.125	-0.005	-0.100	0.100	0.050
	(3.52)***	(3.45)***	(0.30)	(1.40)	(1.25)	(1.20)
Proportional System	0.213	-0.210	-0.180	0.210	-0.209	-0.180
	(1.94)*	(1.90)*	(1.75)*	(1.94)*	(1.90)*	(1.75)*
IMF-supported program	0.610	-0.490	-0.090	0.745	-0.300	-0.387
	(1.40)	(1.20)	(0.40)	(1.47)	(0.61)	(1.07)
Constant	21.200	12.320	9.190	5.878	7.083	4.100
	(9.01)***	(5.99)***	(7.60)***	(0.80)	(0.85)	(1.13)
R^2	0.54	0.59	0.58			
F-test[a]	3.23	2.81	2.16			
	(0.0000)	(0.0000)	(0.0001)			
Sargan test[b]				17.47	16.76	16.27
				(0.232)	(0.269)	(0.297)
2^{nd} order test[c]				1.11	-0.03	-0.15
				(0.265)	(0.975)	(0.884)
No. of countries	42	42	42	42	42	42
No. of obs.	878	878	711	878	878	711

Notes: Predetermined elections is a dummy variable with the value of 1 in an election year if the elections are in their predetermined dates, and 0 otherwise.
Pontentially endogenous elections is a dummy variable with the value of 1 in an election year if the elections are not in their predetermined dates, and 0 otherwise.
Robust t-statistics reported in parentheses. *significant at 10%, **significant at 5%, ***significant at 1%. The instruments used in the GMM regressions are lagged levels (two periods and more) of the dependent variable and GDP per capita for the differenced equation, and lagged difference (one period) for the level equation.
(a) F-test is a F test of the null hypothesis that all country-specific effects in the FE-specification are equal.
(b) Sargan is a test of the over-identifying restrictions, asymptotically distributed as X^2 under the null of instrument validity.
(c) 2^{nd} order test Is a test for second-order serial correlation in the first-difference residuals, asymptotically distributed as N(0,1) under the null of no serial correlation.
P-values for rejecting the null hypothesis are reported in parentheses.

Table 4 : Competitive elections

	FE estimates			GMM		
Dependent variables	Current expenditures	Capital expenditures	Infrastructure expenditures	Current expenditures	Capital expenditures	Infrastructure expenditures
Elections*Competitiveness	1.232	-1.144	-0.065	1.331	-1.210	-0.430
	(2.63)***	(2.64)***	(0.27)	(2.49)**	(2.30)**	(0.16)
Electoral competitiveness	0.350	-0.300	-0.180	0.450	-0.400	-0.280
	(0.49)	(0.46)	(0.49)	(0.49)	(0.46)	(0.49)
Y_{t-1}	0.651	0.695	0.700	0.880	0.850	0.700
	(25.80)***	(29.10)***	(20.70)***	(7.05)***	(8.56)***	(7.03)***
(log)GDP per capita	-0.002	0.002	0.001	-0.002	0.002	0.001
	(3.20)***	(3.22)***	(3.45)***	(1.20)	(1.21)	(0.82)
Openness	-0.045	0.038	-0.003	-0.045	0.038	0.004
	(2.83)***	(2.75)***	(0.35)	(0.85)	(0.85)	(0.35)
Urban population	0.252	-0.230	0.250	0.152	-0.170	-0.095
	(5.04)***	(4.96)***	(5.05)***	(1.05)	(1.20)	(1.24)
Terms of trade	-0.015	0.025	0.011	-0.005	0.010	0.003
	(0.09)	(0.11)	(0.75)	(0.30)	(0.35)	(0.45)
Aid	-0.140	0.125	-0.005	-0.100	0.100	0.050
	(3.52)***	(3.45)***	(0.30)	(1.40)	(1.25)	(1.20)
Proportional System	0.213	-0.210	-0.180	0.210	-0.209	-0.180
	(1.94)*	(1.90)*	(1.75)*	(1.94)*	(1.90)*	(1.75)*
IMF-supported program	0.610	-0.490	-0.090	0.745	-0.300	-0.387
	(1.40)	(1.20)	(0.40)	(1.47)	(0.61)	(1.07)
Constant	21.200	12.320	9.190	5.878	7.083	4.100
	(9.01)***	(5.99)***	(7.60)***	(0.80)	(0.85)	(1.13)
R^2	0.53	0.55	0.53			
F-test[a]	2.64	2.33	2.79			
	(0.0000)	(0.0000)	(0.0000)			
Sargan test[b]				21.70	18.26	13.23
				(0.185)	(0.195)	(0.509)
2nd order test[c]				1.05	0.09	-0.31
				(0.296)	(0.932)	(0.759)
No. of countries	40	40	40	40	40	40
No. of obs.	687	687	534	687	687	534

Notes: Electoral competitiveness is a dummy variable with the value 1 if EIEC or LIEC equal 6 or 7, and 0 otherwise.
Robust t-statistics reported in parentheses. *significant at 10%, **significant at 5%, ***significant at 1%. The instruments used in the GMM regressions are lagged levels (two periods and more) of the dependent variable and GDP per capita for the differenced equation, and lagged difference (one period) for the level equation.
(a) F-test is a F test of the null hypothesis that all country-specific effects in the FE-specification are equal.
(b) Sargan is a test of the over-identifying restrictions, asymptotically distributed as X^2 under the null of instrument validity.
(c) 2nd order test Is a test for second-order serial correlation in the first-difference residuals, asymptotically distributed as N(0,1) under the null of no serial correlation.
P-values for rejecting the null hypothesis are reported in parentheses.

Table 5: Decentralization and electoral cycles

	FE estimates			GMM		
Dependent variables	Current expenditures	Capital expenditures	Infrastructure expenditures	Current expenditures	Capital expenditures	Infrastructure expenditures
Elections*Decentralization	0.804	-1.790	0.007	0.705	-0.700	0.107
	(0.85)	(1.10)	(0.65)	(0.75)	(1.00)	(0.75)
Decentralization	-0.060	0.033	0.012	-0.080	0.038	0.028
	(0.84)	(0.53)	(0.39)	(0.74)	(0.54)	(0.42)
Y_{t-1}	0.651	0.695	0.700	0.880	0.850	0.700
	(25.80)***	(29.10)***	(20.70)***	(7.05)***	(8.56)***	(7.03)***
(log)GDP per capita	-0.002	0.002	0.001	-0.002	0.002	0.001
	(3.20)***	(3.22)***	(3.45)***	(1.20)	(1.21)	(0.82)
Openness	-0.045	0.038	-0.003	-0.045	0.038	0.004
	(2.83)***	(2.75)***	(0.35)	(0.85)	(0.85)	(0.35)
Urban population	0.252	-0.230	0.250	0.152	-0.170	-0.095
	(5.04)***	(4.96)***	(5.05)***	(1.05)	(1.20)	(1.24)
Terms of trade	-0.015	0.025	0.011	-0.005	0.010	0.003
	(0.09)	(0.11)	(0.75)	(0.30)	(0.35)	(0.45)
Aid	-0.140	0.125	-0.005	-0.100	0.100	0.050
	(3.52)***	(3.45)***	(0.30)	(1.40)	(1.25)	(1.20)
Proportional System	0.213	-0.210	-0.180	0.210	-0.209	-0.180
	(1.94)*	(1.90)*	(1.75)*	(1.94)*	(1.90)*	(1.75)*
IMF-supported program	0.610	-0.490	-0.090	0.745	-0.300	-0.387
	(1.40)	(1.20)	(0.40)	(1.47)	(0.61)	(1.07)
Constant	21.200	12.320	9.190	5.878	7.083	4.100
	(9.01)***	(5.99)***	(7.60)***	(0.80)	(0.85)	(1.13)
R^2	0.68	0.74	0.58			
F-test[a]	2.65	2.13	3.92			
	(0.0000)	(0.0011)	(0.0000)			
Sargan test[b]				21.70	18.26	13.23
				(0.185)	(0.195)	(0.509)
2nd order test[c]				1.05	0.09	-0.31
				(0.296)	(0.932)	(0.759)
No. of countries	36	36	36	36	36	36
No. of obs.	587	587	434	587	587	434

Notes: Decentralization is approximated by the share of subnational expenditures on overall state spending (GFS).
Robust t-statistics reported in parentheses. *significant at 10%, **significant at 5%, ***significant at 1%. The instruments used in the GMM regressions are lagged levels (two periods and more) of the dependent variable and GDP per capita for the differenced equation, and lagged difference (one period) for the level equation.
(a) F-test is a F test of the null hypothesis that all country-specific effects in the FE-specification are equal.
(b) Sargan is a test of the over-identifying restrictions, asymptotically distributed as X^2 under the null of instrument validity.
(c) 2nd order test Is a test for second-order serial correlation in the first-difference residuals, asymptotically distributed as N(0,1) under the null of no serial correlation.
P-values for rejecting the null hypothesis are reported in parentheses.

Table 6: Mass media and electoral cycles

	FE estimates			GMM		
Dependent variables	Current expenditures	Capital expenditures	Infrastructure expenditures	Current expenditures	Capital expenditures	Infrastructure expenditures
Elections*Info	0.855	-0.255	-0.004	0.715	-0.300	0.105
	(1.75)*	(1.84)*	(0.82)	(1.75)*	(1.85)*	(0.75)
Info	0.025	-0.033	0.002	0.070	-0.038	0.020
	(1.30)	(1.84)*	(0.17)	(0.74)	(1.94)*	(0.32)
Y_{t-1}	0.651	0.695	0.700	0.880	0.850	0.700
	(25.80)***	(29.10)***	(20.70)***	(7.05)***	(8.56)***	(7.03)***
(log)GDP per capita	-0.002	0.002	0.001	-0.002	0.002	0.001
	(3.20)***	(3.22)***	(3.45)***	(1.20)	(1.21)	(0.82)
Openness	-0.045	0.038	-0.003	-0.045	0.038	0.004
	(2.83)***	(2.75)***	(0.35)	(0.85)	(0.85)	(0.35)
Urban population	0.252	-0.230	0.250	0.152	-0.170	-0.095
	(5.04)***	(4.96)***	(5.05)***	(1.05)	(1.20)	(1.24)
Terms of trade	-0.015	0.025	0.011	-0.005	0.010	0.003
	(0.09)	(0.11)	(0.75)	(0.30)	(0.35)	(0.45)
Aid	-0.140	0.125	-0.005	-0.100	0.100	0.050
	(3.52)***	(3.45)***	(0.30)	(1.40)	(1.25)	(1.20)
Proportional System	0.213	-0.210	-0.180	0.210	-0.209	-0.180
	(1.94)*	(1.90)*	(1.75)*	(1.94)*	(1.90)*	(1.75)*
IMF-supported program	0.610	-0.490	-0.090	0.745	-0.300	-0.387
	(1.40)	(1.20)	(0.40)	(1.47)	(0.61)	(1.07)
Constant	21.200	12.320	9.190	5.878	7.083	4.100
	(9.01)***	(5.99)***	(7.60)***	(0.80)	(0.85)	(1.13)
R^2	0.68	0.68	0.58			
F-test[a]	1.85	1.84	1.51			
	(0.0021)	(0.0023)	(0.0035)			
Sargan test[b]				21.70	18.26	13.23
				(0.185)	(0.195)	(0.509)
2^{nd} order test[c]				1.05	0.19	-0.31
				(0.296)	(0.932)	(0.759)
No. of countries	42	42	42	42	42	42
No. of obs.	585	585	534	585	585	534

Notes: Info is a proxy for the share of informed voters. We multiply "radios per capita" with the country-year specific indicator of "freedom of broadcasting."

Robust t-statistics reported in parentheses. *significant at 10%, **significant at 5%, ***significant at 1%. The instruments used in the GMM regressions are lagged levels (two periods and more) of the dependent variable and GDP per capita for the differenced equation, and lagged difference (one period) for the level equation.

(a) F-test is a F test of the null hypothesis that all country-specific effects in the FE-specification are equal.

(b) F-test (Elections*Info) is an F test of the hypothesis that the coefficients on Elections*Info are equal to 0.

(c) Sargan is a test of the over-identifying restrictions, asymptotically distributed as X^2 under the null of instrument validity.

(d) 2^{nd} order test Is a test for second-order serial correlation in the first-difference residuals, asymptotically distributed as N(0,1) under the null of no serial correlation.

P-values for rejecting the null hypothesis are reported in parentheses.

Table 7: Natural resources and electoral cycles

	FE estimates			GMM		
Dependent variables	Current expenditures	Capital expenditures	Infrastructure expenditures	Current expenditures	Capital expenditures	Infrastructure expenditures
Elections*Resources	1.137	-1.010	-0.070	1.040	-1.000	-0.075
	(2.76)**	(2.55)**	(1.18)	(2.78)***	(2.55)**	(1.19)
Resources	0.403	-0.362	-0.120	0.355	-0.372	-0.124
	(1.21)	(1.17)	(0.70)	(1.24)	(1.18)	(0.80)
Y_{t-1}	0.651	0.695	0.700	0.880	0.850	0.700
	(25.80)***	(29.10)***	(20.70)***	(7.05)***	(8.56)***	(7.03)***
(log)GDP per capita	-0.002	0.002	0.001	-0.002	0.002	0.001
	(3.20)***	(3.22)***	(3.45)***	(1.20)	(1.21)	(0.82)
Openness	-0.045	0.038	-0.003	-0.045	0.038	0.004
	(2.83)***	(2.75)***	(0.35)	(0.85)	(0.85)	(0.35)
Urban population	0.252	-0.230	0.250	0.152	-0.170	-0.095
	(5.04)***	(4.96)***	(5.05)***	(1.05)	(1.20)	(1.24)
Terms of trade	-0.015	0.025	0.011	-0.005	0.010	0.003
	(0.09)	(0.11)	(0.75)	(0.30)	(0.35)	(0.45)
Aid	-0.140	0.125	-0.005	-0.100	0.100	0.050
	(3.52)***	(3.45)***	(0.30)	(1.40)	(1.25)	(1.20)
Proportional System	0.213	-0.210	-0.180	0.210	-0.209	-0.180
	(1.94)*	(1.90)*	(1.75)*	(1.94)*	(1.90)*	(1.75)*
IMF-supported program	0.610	-0.490	-0.090	0.745	-0.300	-0.387
	(1.40)	(1.20)	(0.40)	(1.47)	(0.61)	(1.07)
Constant	21.200	12.320	9.190	5.878	7.083	4.100
	(9.01)***	(5.99)***	(7.60)***	(0.80)	(0.85)	(1.13)
R^2	0.68	0.68	0.58			
F-test[a]	1.85	1.84	1.51			
	(0.0021)	(0.0023)	(0.0035)			
Sargan test[b]				21.70	18.26	13.23
				(0.185)	(0.195)	(0.509)
2nd order test[c]				1.05	0.19	-0.31
				(0.296)	(0.932)	(0.759)
No. of countries	41	41	41	41	41	41
No. of obs.	736	736	585	736	736	585

Notes: The variable Resources measures the amount of natural gas, oil and coal produced by a country (World Resources Institute).
Robust t-statistics reported in parentheses. *significant at 10%, **significant at 5%, ***significant at 1%. The instruments used in the GMM regressions are lagged levels (two periods and more) of the dependent variable and GDP per capita for the differenced equation, and lagged difference (one period) for the level equation.
(a) F-test is a F test of the null hypothesis that all country-specific effects in the FE-specification are equal.
(b) Sargan is a test of the over-identifying restrictions, asymptotically distributed as X^2 under the null of instrument validity.
(c) 2nd order test Is a test for second-order serial correlation in the first-difference residuals, asymptotically distributed as N(0,1) under the null of no serial correlation.
P-values for rejecting the null hypothesis are reported in parentheses.

Table 8: The evolution of political budget cycles over time

	FE estimates			GMM		
Dependent variables	Current expenditures	Capital expenditures	Infrastructure expenditures	Current expenditures	Capital expenditures	Infrastructure expenditures
1rst election	1.944	-1.709	0.453	1.536	-1.283	0.409
	(1.95)*	(1.85)*	(0.86)	(1.76)*	(1.78)*	(0.49)
2nd election	2.170	-1.415	0.177	2.467	-1.719	0.090
	(2.57)**	(1.81)*	(0.42)	(2.45)**	(1.99)*	(0.17)
3rd election	0.391	-0.285	-0.305	0.652	-0.245	-0.436
	(1.40)	(1.32)	(0.56)	(1.30)	(1.20)	(0.97)
4th election	0.420	-0.520	-0.792	0.520	-0.367	-0.531
	(1.76)*	(1.78)*	(1.41)	(1.56)	(1.62)	(1.12)
5th election	3.569	-3.409	-0.897	3.095	-3.061	-0.942
	(2.43)**	(2.50)**	(1.28)	(1.95)*	(1.87)*	(3.52)***
R^2	0.54	0.58	0.53			
F-test[a]	2.66	2.40	2.41			
	(0.0000)	(0.0000)	(0.0000)			
Sargan test[b]				20.47	17.19	11.71
				(0.216)	(0.246)	(0.629)
2nd order test[c]				1.16	0.90	-0.28
				(0.247)	(0.920)	(0.777)
No. of countries	40	40	40	40	40	40
No. of obs.	687	687	534	687	687	534

Notes: The covariates are as in Table 1. They include one lag of the dependent variable, the log of per capita GDP, trade openness, the degree of urbanization, the terms of trade, foreign aid, proportional political system, and IMF-supported programs.
Dummy variables take the value of 1 in the first, second, third, fourth and later elections, respectively, and 0 otherwise.
Robust t-statistics reported in parentheses. *significant at 10%, **significant at 5%, ***significant at 1%. The instruments used in the GMM regressions are lagged levels (two periods and more) of the dependent variable and GDP per capita for the differenced equation, and lagged difference (one period) for the level equation.
(a) F-test is a F test of the null hypothesis that all country-specific effects in the FE-specification are equal.
(b) Sargan is a test of the over-identifying restrictions, asymptotically distributed as X^2 under the null of instrument validity.
(c) 2nd order test Is a test for second-order serial correlation in the first-difference residuals, asymptotically distributed as N(0,1) under the null of no serial correlation.
P-values for rejecting the null hypothesis are reported in parentheses.

Appendices

Appendix A. Electoral Effects on the Composition of Public Spending: Theoretical Predictions and Previous Empirical Studies.

Theoretical Predictions

Authors	Models	Variables	Electoral Impacts
Rogoff (1990)	Competence signaling	Current expenditures (% total expenditures)	Positive
		Capital expenditures (% total expenditures)	Negative
Drazen and Eslava (2005)	Pork barrel cycles	Current expenditures (% total expenditures)	Negative
		Capital expenditures (% total expenditures)	Positive
		Infrastructure expenditures (% total expenditures)	Positive

Empirical Studies

Authors	Sample	Variables Tested	General Findings
Block (2002)	69 developing countries 1975-1990	Current expenditures (% total expenditures)	Positive
		Capital expenditures (% total expenditures)	Negative
Schuknecht (2000)	24 developing countries 1973-1992	Current expenditures (% GDP)	Positive (not significant)
		Capital expenditures (% GDP)	Positive
Khemani (2004)	India 1960-1992	Current expenditures (% total expenditures)	Negative
		Capital expenditures (% total expenditures)	Positive
		Public service delivery (road construction)	Positive
Eslava (2005)	Colombia 1987-2000	Current expenditures (% total expenditures)	Negative
		Capital expenditures (% total expenditures)	Positive

Appendix B. Sample Characteristics and Descriptive Statistics

Table B1: Sample characteristics

No	Country	Birth of Democracy[1]	Forms of Government[2]	Electoral Rules	Elections Dates[3]
1	Argentina	1983	Presidential	Proportional	83, **89**, **95**, **99**
2	Bolivia	1982	Presidential	Proportional	78, 79, 85, **89**, **93**, **97**
3	Botswana	1966	Parliamentary	Majoritarian	**79**, **84**, **89**, **94**, **99**
4	Brazil	1985	Presidential	Proportional	**85**, **89**, **94**, **98**
5	Burundi		Presidential	Proportional	84, 93
6	Cameroon		Presidential	Majoritarian	75, 80, 84, 88, 92, **98**
7	Chile	1989	Presidential	Majoritarian	89, **93**, **2000**
8	Colombia	1957	Presidential	Proportional	**78**, **82**, **86**, **90**, **94**, **99**
9	Costa Rica	1841	Presidential	Proportional	**78**, **82**, **86**, **90**, **94**, **98**
10	Dominican Republic	1978	Presidential	Proportional	**78**, **82**, **86**, **90**, **94**, **99**
11	Egypt		Parliamentary	Majoritarian	76, 81, **87**, **90**, **95**, **2000**
12	El Salvador	1984	Presidential	Proportional	**77**, 84, **89**, **94**, **99**
13	Ethiopia		Parliamentary (96)	Majoritarian	**96**
14	Fiji	1990	Parliamentary	Proportional	**77**, **82**, 92, **99**
15	Guatemala	1986	Presidential	Proportional	78, 82, 85, **90**, **95**, **99**
16	India	1950	Parliamentary	Majoritarian	**77**, **80**, **84**, **91**, **96**, **98**
17	Indonesia		Parliamentary	Proportional	**77**, **82**, **87**, **92**, **97**, **99**, **2000**
18	Kenya		Presidential	Majoritarian	79, 83, 87, 92, **97**
19	Korea	1988	Presidential	Proportional	**92**, **97**
20	Lesotho		Parliamentary (94)	Majoritarian	93, **98**
21	Madagascar	1992	Presidential	Proportional	77, 82, **89**, **93**, **96**, **2001**
22	Malaysia	1957	Parliamentary	Majoritarian	**78**, **82**, **86**, **90**, **95**, **99**
23	Morocco		Presidential	Majoritarian	77, 84, 93, 97
24	Mauritius	1968	Parliamentary	Majoritarian	**76**, **82**, **87**, **91**, **94**, **2000**
25	Mexico	1994	Presidential	Proportional	**76**, **82**, **88**, **94**, **2000**
26	Nepal	1990	Parliamentary (81)	Majoritarian	81, 86, 91, **95, 97, 99**
27	Nicaragua	1990	Presidential	Proportional	84, **90**, **96**, **2001**
28	Pakistan	1988	Parliamentary (89)	Majoritarian	77, 85, 88, **91**, **94**, **97**
29	Panama	1989	Presidential (85)	Proportional	84, **89**, **94**, **99**
30	Papua New Guinea	1975	Parliamentary	Majoritarian	**77**, **82**, **87**, **92**, **97**
31	Paraguay	1989	Presidential	Proportional	**78**, **83**, **88**, **89**, **93**, **98**
32	Peru	1980	Presidential	Proportional	80, **85**, **90**, **95**, **2000**
33	Philippines	1987	Presidential	Proportional	78, 81, 84, 87, **92**, **95**, **98**
34	Sri Lanka	1948	Presidential	Proportional	**77**, **82**, **88**, **94**, **99**
35	Thailand	1992	Parliamentary (79)	Majoritarian	75, 79, **83**, **87**, **92**, **95**, **96**
36	Trinidad & Tobago	1962	Parliamentary	Majoritarian	**76**, **81**, **86**, **91**, **95**, **2000**
37	Tunisia		Presidential	Majoritarian	89, 94, 99
38	Turkey	1983	Parliamentary	Proportional	77, 83, **87**, **91**, **95**, **99**
39	Uruguay	1985	Presidential	Proportional	84, **89**, **94**, **99**
40	Venezuela	1958	Presidential	Proportional	**78**, **83**, **88**, **93**, **98**
41	Zambia	1991	Presidential	Majoritarian	78, 83, 88, 91, **96**
42	Zimbabwe	1989	Parliamentary	Majoritarian	80, 85, **90**, **96**, **2000**

[1] The birth of democracy in a particular country corresponds to the first year of a string with uninterrupted positive POLITY values. POLITY index assigns to each country and year an interger score ranking from -10 to +10, with higher values associated with better democracies. This index is based on the competitiveness and openness in selecting the executive, on the political participation, and on the constraints on the chief executive.

[2] The classification of the forms of government, based on Beck and al. (2001), and Persson and Tabellini (2003), distinguishes two prototypes, which have two main features. Presidential regimes have a directly elected president, fully in charge of the executive, with the executive not being accountable to the legislature for its survival, and with a clear separation of powers. On the other hand, in parliamentary regimes, the executive is not directly elected, but formed out of the majority of the legislature. Thus, it needs the continued confidence of a majority in the Parliament to maintain its powers throughout the entire election period. Futhermore, there is not a clear separation of powers. Years within parentheses identify significant reforms that have changed the country's classification.

[3] In parliamentary systems, we consider legislative elections, while for presidential regimes, we include executive elections. Highlighted dates correspond to competitive elections, as defined by Beck and al. (2001).

Table B2: Descriptive statistics

Variables	Mean	Std. Dev.	No. Obs.
Capital expenditures	20,6*	11,6	978
Elect = 1	20,0	11,9	192
Elect = 0	20,7	11,6	786
Current expenditures	79,4**	12,0	978
Elect = 1	80,1	12,3	192
Elect = 0	79,3	11,9	786
Expenditures in infrastructure	7,5	4,7	823
Elect = 1	7,4	4,6	159
Elect = 0	7,5	4,7	664
Wages	26,9*	9,4	834
Elect = 1	27,1	9,6	160
Elect = 0	26,7	9,3	674
Subsidies	24,2*	14,2	884
Elect = 1	25,0	14,0	170
Elect = 0	24,1	14,2	714
Openness	60,6	31,9	1101
Urban population	45,2	22,3	1093
Aid	4,3	6,7	1120
GDP per capita	1997,2	1875,5	1120
Fund-supported program	0,4	0,5	1132

** (*) indicates that the difference is statistically significant at 5 (10) percent level.

Sources of data:
Data on public expenditures come from the IMF Government Financial Statistics (GFS). The different components of expenditures are expressed in percentage of total public spending, apart from debt interest payments.
Openness is measured by the ratio of imports plus exports to GDP (World Development Indicators, 2003).
Urban population is expressed in percentage of the total population (WDI, 2003).
Foreign aid is expressed in percentage of GDP (WDI, 2003).
GDP per capita is expressed in constant 1995 US dollars (WDI, 2003).
Data on Fund-supported programs come from various issues of the Annual Report published by the IMF.

CHAPTER 3: THE EFFECT OF MASS MEDIA ON VOTER TURNOUT IN NATIONAL ELECTIONS[57]

Abstract

Previous research on electoral participation has paid little attention to turnout in developing countries. Even more understudied is the effect of mass media, as the main source of political information, on voter turnout in new democracies. This paper argues that voter turnout patterns in developing countries can be explained by extending the traditional rational voter model to include recent developments of the information theory of turnout. Embedding limited information, our theoretical framework suggests that media access and freedom affect turnout. We test our predictions in a sample of 60 developing countries over the period 1980-2005. We find that media penetration, as measured by radio ownership, fosters turnout, whereas newspapers circulation and television ownership are not significant. In addition, we show that when government controls the content of news, citizens are less prone to express their views at the polls. Finally, we highlight specific factors −political violence and external debt− that affect turnout in developing countries.

JEL Codes: D72; O1; P16.

Keywords: Voter Turnout**,** Media**,** Electoral Politics, Political Economy.

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1. Introduction

Following the third wave of democratization in the 1990s, elections are now common in developing countries. However, beyond the widespread belief that the setting of regular elections is a real improvement per se, it seems us essential to understand how elections are supposed to bring about democracy, or rule according to the will of people.

Electoral participation is one of the three main indicators of democratic performance (Powell, 1982).[58] However, electoral turnout is declining in most democracies (Blais, 2000; Gray and Caul, 2000). Moreover, voter turnout varies considerably, both over time and across countries and individuals (Lassen, 2005). This variation is not random and electoral participation seems to be highly unequal and biased in favor of more privileged citizens those with higher incomes, greater wealth and better education and against less advantaged citizens (Lijphart, 1997). We suggest that this may prevent elections to properly perform their three key functions: (i) to discipline the elected officials by the threat of not being reappointed (accountability effect); (ii) to select competent individuals for public office (legitimacy effect); and, (iii) to reflect the preferences of a large spectrum of voters (representativeness effect).

The accountability effect is straightforward. Elections affect the incentives facing politicians. The anticipation of not being reelected in the future leads elected officials not to shirk their obligations to the voters in the present (Barro, 1973; Ferejohn, 1986; Fiorina, 1981; Manin, 1997). In this view, elections are seen as a sanctioning device that induces elected officials to act in the best interest of the people. However, one important condition that affects political accountability is the competitive electoral mechanism, and at

[58] The two others main indicators of democratic performance are government stability and the degree of violence (Powell, 1982).

the core of the electoral mechanism is the vote. The vote is the primary tool for citizens to make their governments accountable. If a large fraction of citizens don't express their opinions, elections would create no incentives for politicians to espouse or implement policies in the public interest. In the mandate view, elections serve to select good policies or political leaders (Rogoff, 1990). There is a legitimacy effect as a government which has acquired power through winning an election has a mandate to implement its commitments and the wide recognition of this mandate reduces the ability of those opposed to these policies to block them. Thus, low and unequal turnout can reduce the perceived legitimacy of government. Finally, elections are seen as a representational instrument since they signaled the voters' conflicting preferences. If turnout is unequal, the interest of some citizens are taken into account in policymaking more strongly than the interests of others. Indeed, unequal electoral participation can distort the pattern of representation necessary for democratic responsiveness, leading to real effects on policy outcomes.[59]

As a result, elections are a representational instrument and an effective mechanism to select and discipline politicians only if individuals show up at the polls to express their views. However, although electoral participation in developed countries has garnered considerable attention, voter turnout in developing countries has been largely ignored. This lack of attention is unfortunate since this issue is of first importance. Elections in developing countries have become a fundamental concern of the international community. Since aid was first used conditionally to promote "Structural Adjustment" in the 1980s, the international community has recognized that policy improvement is fundamental to development. During the 1990s, the

[59] One example that representation matters for outcomes is provided by Ansolabehere, Gerber and Snyder (2002). They study the court-ordered redistricting in the United States in the 1960s. They find that counties that lost legislative seats during the court-ordered redistricting subsequently received a smaller share of state funds per capita.

approach to how good policies should be promoted shifted from conditionality, which was increasingly seen as both ineffective and unacceptable, to the promotion of democracy (Chauvet, Collier, 2009). Electorates rather than donors would coerce governments into good performance. At the core of the promotion of democracy was the promotion of elections: for example, in 2006 donors provided $500 million to finance elections in the Democratic Republic of the Congo (Chauvet, Collier, 2009). Thus, worldwide there has been a drive to make governments more accountable to the needs of citizens. The governance agenda has been pushed by a range of actors from domestic to international NGOs through to the international financial organizations. As there is widespread consensus on the need to improve political accountability, the phenomenon of electoral participation needs to be better understood. Finally, developing countries provide an ideal context to study the determinants of electoral participation. In contrast to the relatively stable old democracies, developing countries exhibit far greater variance in economic performance, level of democracy and institutional arrangements.

This paper proposes a comprehensive analysis of the determinants of political turnout in developing countries. More specifically, this study extends the traditional rational voter model to include recent developments of the information theory of turnout. Embedding limited information, our theoretical framework suggests that media access and freedom affect turnout. This question is particularly relevant in the context of developing countries. While high-income countries have high levels of media penetration and freedom, developing countries vary widely in terms of media access and freedom. We examine 307 national elections held in 60 developing countries, between 1980 and 2005. We find that media penetration, as measured by radio ownership, fosters turnout, whereas newspapers circulation and television ownership are not significant. In addition, we show that when

government controls the content of news, citizens are less prone to express their views at the polls.

Of course, any attempts to specify the effects of media penetration and freedom will raise econometric difficulties. However, the patterns presented in this paper hold true even after controlling for a large set of factors. Moreover, while other studies on the effects of media in a large sample of countries (Islam, 2002; Leeson, 2008) use cross-country data, we use panel data and discuss within-country evidence. Nevertheless, much work remains to be done in sorting out issues of causality, perhaps by figuring out appropriate instrumental variables.

Our findings complement other recent research on the effects of media access and freedom. For example, Besley and Burgess (2002) find that higher newspapers circulation is associated with increased government responsiveness to shocks in India.[60] Djankov, Mcleish, Nenova and Shleifer (2003) find that private media ownership is associated with improved social outcomes; in contrast, where the media is state-owned, they observe poorer education and health indicators. While the empirical literature is in its infancy, existing studies suggest that mass media make governments more accountable and responsive. In this paper, we argue that electoral participation may be the channel by which mass media improve government accountability. Media make citizens more politically knowledgeable and active. Politicians realize this, which creates an incentive for them to be accountable.

[60] Using panel data from Indian states for 1952-1992, they look at two policy response systems: first, public distribution of food as a response to falls in food production associated with droughts, and second, spending on calamity relief as a response to crop damage caused by floods.

The structure of the paper is as follows. In Section 2 we present the evolution of voter turnout in established and new democracies. Then, we depict the raw relationship between media freedom and voter turnout in developing countries. Section 3 reviews previous theoretical and empirical work on the effect of information on voter turnout. Section 4 presents the conceptual framework and emphasizes the main hypotheses that we will test. Section 5 presents the empirical analysis. Section 6 concludes.

2. Unequal Participation: Some Stylized Facts

This section starts with an overview of how turnout is defined in previous studies. Given the heterogeneity observed in the measure of this variable, this enquiry is essential. Then, we provide an overview of voter turnout around the world since 1945 and we investigate the raw relationship between media freedom and voter turnout in developing countries.

2.1. Measuring Voter Turnout

Defining turnout as the absolute number of people voting in the election or as the share of the population that has cast its vote is obviously correct. However, when turnout is defined as a share of 'the population', a clear definition of this population variable is required. Did one take the ratio of the number of voters to the entire population, to the voting age population, to the eligible population or to the number of people registered to vote? This affects the size of −and quite likely the variation in− turnout rates and thus may affect the estimation results.

Almost all previous studies define turnout as some sort of ratio.[61] However, many of these analyses fail to provide a clear and complete definition of the denominator (Geys, 2006). Therefore, we suggest to clarify the different definitions and to discuss advantages and drawbacks in using

[61] For a comprehensive review of the empirical literature on voter turnout, see Geys (2006).

these calculations as the basis for turnout statistics particularly in the context of developing countries.

Many studies use the percentage of registered voters that vote (e.g., Blais and Carty, 1990, Blais and Dobrzynska, 1998; Blais, 2000; Mattila, 2002). This measure presents two key drawbacks. First, in some countries registration figures are inaccurate (as in Guatemala)[62] or unavailable, and sometimes voter registers are not used (as in South Africa in 1994). Thus, the registration rate sometimes exceeds the estimated voting age population. The explanation for this apparent anomaly usually lies in the inaccuracy of the electoral register. The register can also under-represent the true size of the eligible voter pool if, as is often the case, it fails to record the names of new voters who have come of age or migrated to an area. Both of these scenarios represent relatively common problems facing electoral administrators around the world, particularly in developing countries (Gratschew, Pintor, 2002). Second, we argue that there is an even more fundamental problem with using registered voters as the denominator when measuring turnout. Indeed, the act of voting actually requires two separate acts, namely registering to vote and voting per se. If a causal force is to generate greater turnout, it needs to motivate citizens to first register and then follow through with a vote. Obviously, the two acts are correlated since citizens who are sufficiently motivated to register will also be more inclined to vote. If registration and voting are correlated, however, then the ratio of voters to registered voters is a biased measure of citizen's motivation to vote (Endersby, Krieckhaus, 2008). We have essentially eliminated all citizens who were not sufficiently motivated to register in the first place, and this drops from the analysis a large part of the variation in citizens' willingness to engage in voting behavior. As we are ultimately interested in knowing why some citizens vote and others do not, it does not make sense to drop the large number of citizens

[62] Current estimates show that about 25 percent of all inscriptions are incomplete or out of date, or relate to deceased persons and migrants (Boneo, Torres-Rivas, 2000).

who decide to forgo both voting and registration. Put differently, the act of registering is a concrete sign that a citizen does prefer to vote, and is therefore a critical intervening process that lies between the underlying preferences and the act of voting itself. When we divide total votes by the registration rolls we control for the underlying preferences. Given that these preferences are presumably much of the reason that citizens ultimately vote, we do not want to control for such preferences but rather we wish to understand how they are determined by other variables. This problem is mitigated in many countries where registration is mandatory, but even mandatory registration may not motivate otherwise apathetic citizens to register. Mandatory requirements are not still enforced, and registration does in fact vary substantially from country to country. Thus, mandatory registration is a spectrum ranging from a symbolic, but basically impotent, law to a government which systematically implements sanctions against non-voting citizens.

Various other studies divides the number of voters by the voting age population (e.g., Powell, 1980, 1986; Jackman, 1987; Jackman and Miller, 1995; Katz, 1997; Norris, 2002). The denominator thus leaves out those that have not yet reached the age at which one is legally allowed −or in some cases obliged− to vote (18 years in most countries). Therefore, voting age population can provide a clearer picture of participation as it may signal a problem with the voters' register or registration system. However, voting age population suffers two shortcomings. First, voting age population is simply estimated based on the total national population. So, it is not able to exclude those within a population who may not be eligible for registration or voting due to factors such as non-citizenship, mental competence or imprisonment. For example, turnout data is artificially low in countries with a large alien population (Blais, Dobrzynska, 1998). Second, it is likely that population statistics are somewhat inaccurate, since they are approximated through

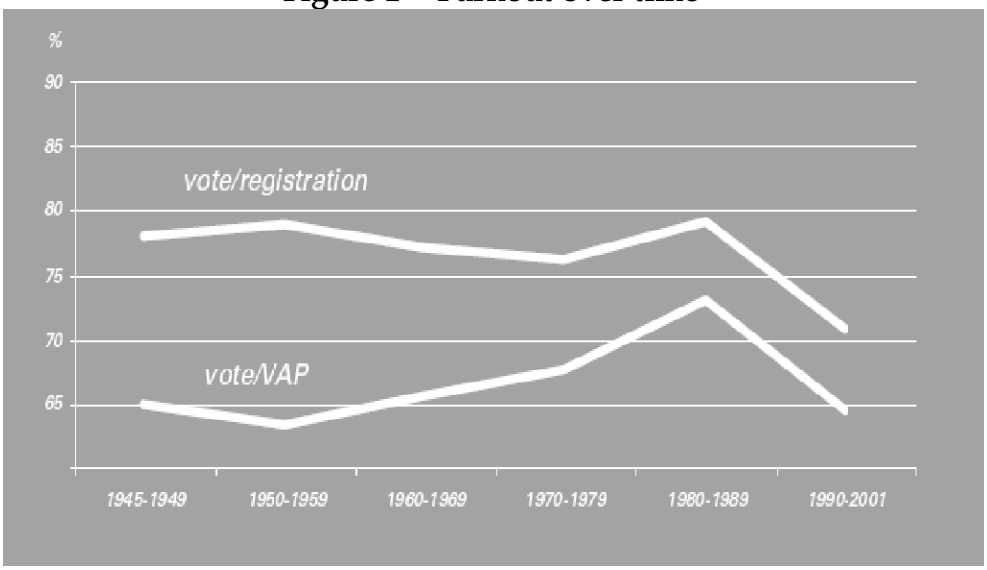
census data. Indeed, registration figures are, in most cases, more often updated than population figures (Gratschew, Pintor, 2002).

Very few studies regard only that part of the population that is eligible to vote (e.g., Matsusaka, Palda, 1993). This not only disregards individuals under the legal voting age, but also ineligible felons and noncitizens. Thus, eligible population appears to be the best measure to compute turnout rates. However, preference of one ratio over the other is often guided by data availability and eligible population figures are not available for most developing countries. For that reason, we will use the percentage of voters on the voting age population to measure voter turnout in our empirical analysis.

2.2. *Worldwide Turnout*

Figure 1 examines the evolution of voter turnout since 1945 for both parliamentary and presidential elections. It is based on the International Institute of Democracy and Electorate Assistance database of elections, which covers 170 independent states and includes data for 1256 parliamentary elections and 412 presidential elections. As aforementioned, voter turnout as a percentage of registration is higher than turnout as a percentage of the voting age population. Figure 1 shows a notable decline in voter turnout since the mid-1980s, whether turnout is measured as a percentage of registration or as a percentage of the voting age population. However, we suggest that this global trend may not be valid in new democracies.

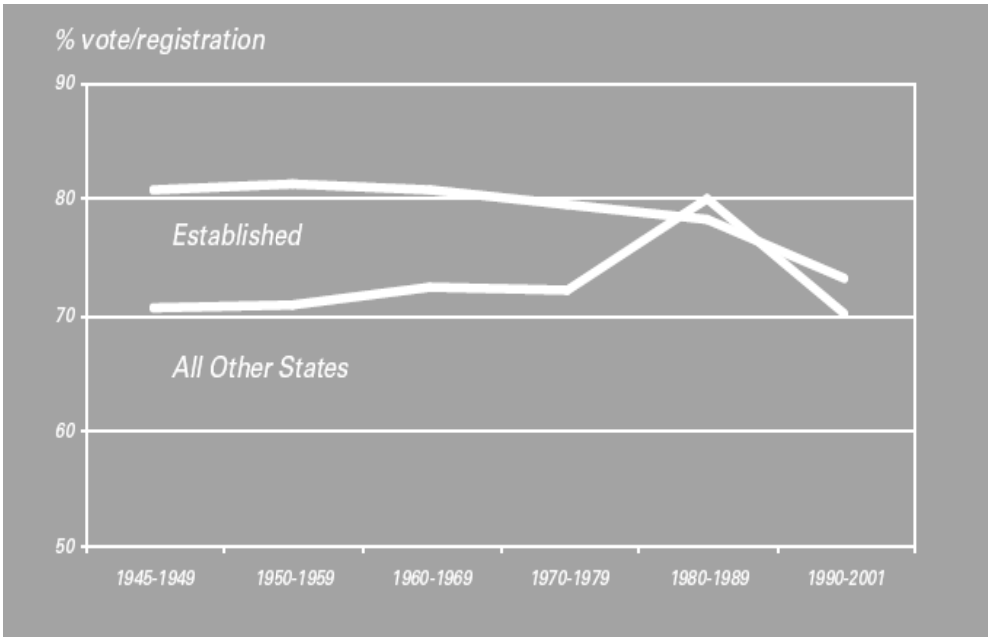
Figure 1 – Turnout over time



Registration: registered voters. VAP: voting age population.
Source: International IDEA voter turnout database.

2.3. New and Established Democracies

Figure 2 – Differences between established democracies and other states



Source: International IDEA voter turnout database.

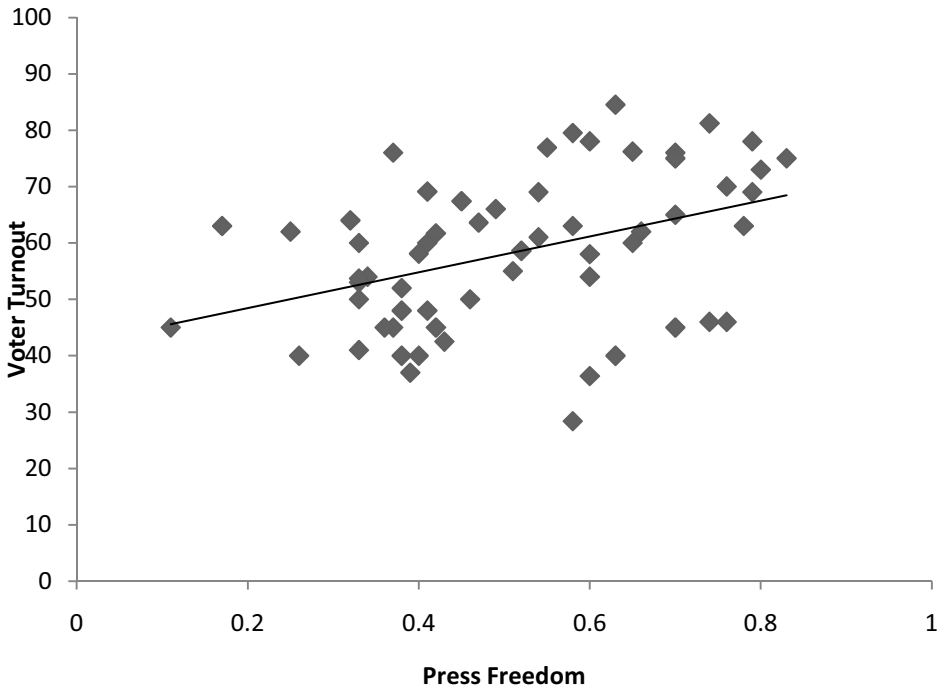
Figure 2 reveals that high-turnout countries are neither exclusively new nor established democracies. Established democracies have seen a slow but steady decline in turnout since the 1970s. During the 1970s, however, as a result of democratization movement, other states experienced an increase in voter turnout, peaking at about 80 percent. The current turnout in new democracies is about 70 percent, lower than the 73 percent in established democracies.

2.4. Media Freedom and Voter Turnout

Figure 3 depicts the raw relationship between media freedom and voter turnout in 60 developing countries. To investigate this pattern, we use the International IDEA data on electoral participation. Voter turnout is measure as the number of votes cast divided by the voting age population. To measure media freedom, we use Freedom House index of media freedom.[63] Each country is rated in three areas of potential state influence over the media: legal environment, political influences and economic pressures, to determine an overall score. This score is rescaled from 0 to 1 where a higher score means more freedom. For each country, we take the average values of voter turnout and media freedom associated with each election between 1980 and 2005. We restrict our analysis to elections held after 1980 as data on media freedom are not available before this year.

[63] Appendix B presents the variables and their sources in detail.

Figure 3 – Media freedom and electoral participation in developing countries



According to Figure 3, a freer media is associated with higher voter turnout in developing countries. Thus, citizens seem to be more politically active when government doesn't control the content of news. This first result suggests that media-provided information affects turnout in developing countries. In the next sections, we propose to investigate this relationship more closely.

3. Related Literature

The literature on voter turnout is voluminous, and no attempt to survey it will be made here. Recent surveys and discussions of the literature are provided in Blais (2000, 2006) and Mutsusaka and Palda (1999). We focus only on studies that analyze the effect of information on voter turnout. After a

look at theoretical work linking information and turnout, we review previous empirical studies.

3.1. Why being Informed Affects Voting Behavior

Individuals are constrained both by a lack of knowledge about the different consequences of their decisions and their limited intellectual capacity to analyze all available options. In other words, the information level of the population is likely to be much less than complete. Recent formal models incorporate this idea of limited information in a theory of voter turnout.

Two works propose a decision-theoretical model of voter turnout. Matsusaka (1995) embeds an information theory in the standard rational voter model. He takes as given that each citizen is predisposed to vote, and then focuses on how information can lead some to follow through on this inclination and others to abstain. The key link is that a person's expected benefit from casting a decisive vote is increasing in her certainty that she is supporting the best candidates. As a result, the person is more likely to vote as she becomes surer about which way to vote. Confidence in a voting decision is increased by raw information about candidates and knowledge about the model of the world. Thus, as the price of information falls and knowledge rises, a person's ability of voting goes up. As stressed by Matsusaka, it is the voter's subjective belief about his information level that guides participation, and this can differ from objective measures of political knowledge. Larcinese (2006) adds that the amount of political information that voters decide to acquire during an electoral campaign depends, among other things, on prior ideological beliefs about candidates. Voters that are *ex ante* indifferent about the candidates attach little value to information because they perceive that voting will have little value. Voters that are *ex ante* very ideological also attach little value to information because they think that the

news would hardly change their opinion. Thus, high incentives to be informed can be found at intermediate levels of ideological strength. Moreover, Larcinese (2006) argues that the impact of increased political knowledge on turnout is asymmetric: new information increases the probability of voting of indifferent voters but decreases that of very ideological voters.

Another effort at incorporating information in a model of voter turnout was made by Feddersen and Pesendorfer (1996, 1999). They propose a game-theoretic model of voting, where turnout decision is influenced by the information structure facing prospective voters. The election they consider is a referendum on whether to adopt a new policy instead of the status quo. In the model, voting is costless for all agents and, thus, abstention cannot be explained by differences in the cost of voting.[64] The difference in the voting behavior among agents comes from the presence of asymmetric information: some agents are informed, some uninformed. The central result of Feddersen and Pesendorfer (1996) is that it can be optimal for uninformed independent voters to abstain from voting even though they may prefer one alternative to the other. The reason is that by abstaining they effectively defer the choice to the informed voters who, by definition, vote for the correct policy. When there is a large number of voters, this will lead to the correct policy being chosen (Feddersen, Pesendorfer, 1997). The central empirical prediction is that more informed agents should vote in the election, while uninformed agents should abstain from voting. At the aggregate level, increasing the expected fraction of informed voters will, then, lead to a lower level of abstention.

The aforementioned models cannot explain the mere existence of voter turnout. In fact, they assume some predisposition to vote and focus on the

[64] This hypothesis contradicts the traditional decision-theoretic literature originating with Riker and Ordeshook (1968).

factors that affect whether citizens translate this preference into action. Therefore, information-based models don't predict an actual level of turnout, but rather explain turnout at the margins (Matsusaka, 1995). Nevertheless, the great advantage of the information theory of voter turnout is its ability to explain most of the empirical regularities identified by previous studies in established democracies. For example, campaign spending and personal contact by campaign workers increase voter turnout because they provide inexpensive information. Public employees and farm owners are more likely to vote as they interact frequently with the government, giving them cheaper access to information. Long time residents in a community are more likely to vote than people who recently move since they have better contextual knowledge to evaluate the local impact of policies. A person's age is positively correlated with her probability of voting as age brings knowledge that is useful in processing information.

From this perspective, mass media and education seem to be important determinants of voter turnout patterns. Education brings knowledge that is useful in processing information. Mass media is the main source of political information. As media coverage increases, electoral participation is expected to rise. In the same spirit, media freedom may increase voter turnout since it improves the quality of political information.

3.2. Empirical Studies

Previous empirical analyses examine the effect of information on voter turnout from two main angles. One body of research concentrates on education. Two recent articles investigate the causal effect of education on voter turnout: following a literature in labor economics, Dee (2004) and Milligan, Moretti and Oreopoulos (2004) use U.S. state government variation in compulsory schooling laws as instruments to identify the effect of education on voter turnout and other aspects of civic participation. Both

studies find that more education causes a higher propensity to vote. Milligan, Moretti and Oreopoulos further find that education also implies greater political knowledge and greater interest in politics. However, this leaves open the question of exactly how education increases turnout. Several reasons are possible, including lowering costs of information processing but also through reducing alienation and increasing compliance with social norms through socialization. A key result of Milligan, Moretti and Oreopoulos (2004) is that the effect of education on turnout in the United States disappears when conditioning on registered voters, suggesting that the role of education is to overcome registration barriers. Moreover, there is no effect of education on turnout in the United Kingdom, where most voters are registered through local governments. Similarly, Lassen (2005) uses survey data from Copenhagen referendum on decentralization and he finds no direct effect of education on voter turnout, but he shows some evidence of an indirect effect, through information. These findings suggest that education enters directly into the calculus of voting by reducing expected utility costs associated with information acquisition and processing, rather than through contextual or socialization effects. Some studies investigate the effect of education on voter turnout in developing countries. However, their findings are contradictory. On the one hand, Lesson (2008) finds that education has a positive impact on political participation in 13 Central and Eastern European countries. In two states in northern India, Krishna (2006) shows that education is more important for democratic participation than wealth and social status. On the other hand, Fornos, Power and Garand (2004) find that education doesn't affect voter turnout in Latin American countries from 1980 to 2000. In the same vein, Birner, Kamijon, Khan and Qureshi (2008) analysis suggests that, in Pakistan, more educated people are less likely to vote. These authors argue that one possible explanation for this finding is that, in a clientelistic environment, the votes of less educated people tend to be cheaper to

purchase by candidates, and less educated people are more vulnerable to intimidation by authorities.

Another strand of research focuses on the effect of media coverage and freedom. Several studies have discussed the role of media-provided information in informing the electorate. In an analysis of the effects of information on New Deal spending in the United States, Strömberg (2004) finds that regions that were more informed, measured by a higher share of radio ownership, had higher turnout in general elections. In addition, regions with a high voter turnout are more successful in attracting redistributive spending. Similarly, Prat and Strömberg (2005) use panel evidence from Sweden to measure the effect of the introduction of commercial broadcasting on voter information and turnout. They find that people who start watching commercial TV news increase their level of political knowledge and their political participation more than those who do not. In contrast, Gentzkow (2006) finds that television's introduction significantly reduced voter turnout in the United States. Gentzkow argues that television's introduction caused substitution away from newspapers and radio, and so reduced citizens' knowledge of politics. Furthermore, since television is a dramatic improvement in the amount of entertainment available to households, it may have also reduced the total time devoted to news consumption. Other studies examine the relationship between press freedom and political participation. Studying 13 Central and Eastern European countries, Leeson (2008) shows that low media freedom is strongly associated with poor political knowledge, low political participation, and low voter turnout.

To sum up, empirical findings on the effect of education on voter turnout in developing countries are not conclusive. Moreover, empirical studies on the impact of media coverage and freedom don't investigate the effect of mass media on electoral participation in developing countries.

4. Theoretical Framework

Consensus on the determinants of turnout is less overwhelming in the case of developing countries (Blais, 2006). The question addressed in this paper is therefore how the determinants that have been identified in the literature, particularly the information, play out in developing countries, where citizens are on average less habituated to vote than citizens in advanced democracies, where socio-economic circumstances are less favorable, and where the institutional context is likely to be less stable and predictable than in advanced democracies. In Section 4.1, we present a theoretical framework, based on the rational voter approach, which incorporates the recent developments of the information theory of voter turnout. In addition, we operationalize this model in the context of developing countries. In Section 4.2, we sum up the different hypotheses that we will test in our empirical analysis.

4.1. Rational-Choice Perspective and Voter Turnout

Understanding the individual voter's decision whether or not to turn out to vote has been a major challenge for public choice. From a pure rational choice perspective, voting is an instrumental act, i.e. a means to influence the election outcome. Thus, voting is irrational because the probability of affecting the election outcome with one's vote is close to zero in most elections and the potential benefits of voting are always lower than the costs of voting. Indeed, voters have to spend time and resources to become well informed on the relative quality of the candidates, decide who to vote for and go to the polls on the Election Day. Nevertheless, citizens do turn out and vote, giving rise to the so-called "paradox of voting" (Downs, 1957).[65] In

[65] Downs' (1957) was not a formal theory of voter turnout. He provides a theory of government behavior based on rationality, i.e. the actions of the government are assumed to arise from the rational pursuit of some goals. The specific goal proposed by Downs is to maximize political support. In this context, the act of voting has special importance. "In order

trying to explain this paradox, many authors have critically examined the underlying motivations of the individual voter. The most fruitful approaches start from the observation −made by Downs himself− that voting may not be instrumental in all circumstances: voting could be motivated by factors other than the desire to determine the outcome of the election. For example, voting may serve as a means to create social solidarity or to express political preferences. Downs' suggestion for resolving the voting paradox stipulated that people vote because of a sense of civic duty. In this case, voters may be gratified by the act of voting rather than the outcome. Later authors have paid still more attention to voting's expressive content. Individual voters thereby derive utility from the very act of expressing their political preferences or their solidarity with a peer group or from performing an ethical act.[66]

We propose to develop a theoretical framework based on the traditional rational voter model in the context of developing countries. There is considerable literature on the merits and weaknesses of rational-choice models of voter turnout (see Green and Shapiro, 1996; Blais, Lapp and Young, 2000). However, even fundamental critics of the rational choice model cannot ignore its usefulness in estimating the marginal impacts of various political and socioeconomic factors on voter turnout. As Green and Shapiro (1996) indicate, one advantage of the rational-choice perspective over competing explanatory approaches is the ability to estimate the marginal impacts of various factors on voter turnout. Those estimates can then be used to make plausible predictions about the effects of changing, for example, the costs of voting on voter turnout.

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to plan its policies so as to gain votes, the government must discover some relationship between what it does and how citizens vote" (Downs, 1957).

[66] The ethical voter hypothesis was first put forward by Goodin and Roberts (1975). Fiorina (1976) first proposed the expressive voter hypothesis, although it has received its most extended development by Brennan and Lomasky (1993), Brennan and Hamlin (2000) and Schuessler (2000). A discussion of the importance of ethical motivations can be found in Blais (2000), who also provides favorable survey evidence.

According to the famous calculus-of-voting model developed by Riker and Ordeshook (1968), voters operate rationally, and their decisions whether to vote are based on the expected utility of the vote. The model takes the following form:

$$R = PB - C + D, \quad (1)$$

where R is the net satisfaction that an individual receives from voting. This depends on the instrumental benefits (PB), costs (C) and expressive benefits (D) from voting. The instrumental benefits term (PB) is the product of two components. The first (P) gives the probability that one's vote is decisive, meaning that it leads one's preferred party to victory. The second factor (B) is the instrumental net benefit, which gives the utility gain that is realized when one's preferred party comes into power. B thus corresponds with the difference between the utility from the preferred party's platform minus the utility from the opponent party's platform. The larger this difference, the higher are the potential gains from casting a vote. The costs C comprise the information costs as well as the opportunity costs of heading to the polls. Finally, D is the voter's social and personal gratification (expressive benefits) from voting. Riker and Ordeshook (1968) suggest five major forms of social and personal gratification people get from voting: complying with civic duty to vote, affirming allegiance to the political system, affirming a partisan preference, verifying an important role in the political system, and displaying general interest in politics. In the calculus-of-voting model, the instrumental benefits (B) are contingent on the probability of affecting the outcome of an election, whereas consumption benefits (D) do not depend on this contingency.

Regarding the expected-utility hypothesis, citizens are expected to weight the benefits of voting against the costs, and only decide to go and vote when the benefits outweigh the costs. Thus, a voter who prefers one of the

candidates should vote rather than abstain only if $R = PB - C + D > 0$ or $PB + D > C$. For those who do not vote, it is reasonable to assume that $PB + D < C$. Further, assuming that $PB \geq 0$ for all voters, one can expect that:

(i) if $D > C$, then the voter always votes; and

(ii) if $D \leq C$, then the voter votes only if $PB > C - D$, and he abstains if $PB \leq C - D$.

While leaving the other predictions of the expected utility model largely unaffected, the addition of consumption benefits (D) to the calculus of voting can explain positive turnout levels. However, it does so at a severe price. As any action can be explained by making the appropriate assumptions *post hoc*, the model loses all predictive value (Grossman and Helpman, 2001; Mueller, 2003). Importantly, the expressive voter hypothesis will necessary be tautological unless we can identify the reasons why some people wish to express a preference and others do not. Therefore, hereafter it is assume that $D = 0$.

Moreover, we suggest extending the traditional rational voter model by including the recent developments of the information theory of voter turnout (Matsusaka, 1995). The mechanisms of this model can be summarized as follows. In order for a person to assess which candidate she prefers, she needs to know what policies each candidate plans to implement if elected, and what are the likely consequences of the policies. Her information and knowledge about these issues are always incomplete. This implies that if she votes for Candidate 1 there is a possibility that she would have preferred to vote for Candidate 2 if she had perfect information. If the probability that she is making the right voting decision is denoted φ, then it is straightforward to show that B in equation (1) is increasing in φ. Roughly speaking, the value of changing the election outcome is higher when the voter is more confident that she is electing the right candidate. As φ rises, then, she is more likely to vote.

The value of φ is shown to be increasing in information about candidates and knowledge about how candidates map into outcomes.

Consider an election with two possible outcomes. Call them "Candidate 1 wins" and "Candidate 2 wins." Let $V(1)$ and $V(2)$ be the utilities a person receives if Candidate 1 wins and Candidate 2 wins, respectively. These are taken to include all forms of payoffs, from government services the individual receives to services to others that she likes for altruistic reasons. It is useful to suppose that these payoffs are determined according to $V(t) = MZ(t)$ where $Z(t)$ represents the characteristics of Candidate t (policies, personal abilities, and so on) and M is the structure of the world, that is, the way candidates map into payoffs. One might think of M as "the model" and Z as the inputs.

Define $Z = Z(1) - Z(2)$ and suppose that $M \in \{-1, 1\}$. Then a voter favors Candidate 1 if $MZ = 1$ and Candidate 2 if $MZ = -1$. The problem confronting a citizen is that neither M nor Z can be observed directly. A voter can never be certain whether $MZ = 1$ or $MZ = -1$ so she can never be certain of supporting the right candidate.

This formulation implies that if a person's vote decides the election, her net payoff is 1 if she chooses the right candidate and -1 if she chooses the wrong candidate. Let I represent the information a person has about M and Z. The probability that Candidate 1 is best can be written $Pr(MZ = 1 \mid I)$ and the probability that candidate 2 is best is $Pr(MZ = -1 \mid I)$. If she goes to the polls, the person casts her vote for Candidate 1 if $Pr(MZ = 1 \mid I) > 0.5$; otherwise she votes for Candidate 2. Then the probability that the candidate who receives her vote is in fact the right candidate for her is:

$$\varphi = max \{Pr(MZ = 1 \mid I), Pr(MZ = -1 \mid I)\},$$

The probability that the candidate who receives a person vote is in fact the right candidate for her (φ) is called her certainty or confidence about her vote.[67] Note that φ takes on values between 0.5 and 1. If φ = 1 then she is absolutely certain that she is supporting the right candidate, while if φ = 0.5 then she is completely uninformed. A more structured formulation of equation (1) can be developed by noting that the expected benefit to casting a decisive vote is:

$$B = \varphi\ (1) + (1-\varphi)\ (-1) = 2\varphi - 1,$$

Given that we assume that $D = 0$, then equation (1) takes the following form:

$$R = P\ (2\varphi - 1) - C, \qquad (2)$$

It follows that the benefit from voting is higher when φ is high, which captures the intuition that uncertain voters are hesitant to vote. Moreover, a person's confidence depends on her general knowledge, which gives insight into the true value of the model of the world, and raw information, which helps to understand the characteristics of the candidates (policies, personal abilities) by delivering a clearer signal. This breakdown of information echoes Downs (1957): "The knowledge (a person) requires is contextual knowledge as well as information." In practice, we might think of raw information as media coverage of campaigns and general knowledge as accumulated learning about history, civics, politics and economics.

Rendering inferences from equation (2) requires measuring each component of the model. Therefore, we propose to discuss the main components of the equation (2) in the context of national elections in developing countries.

[67] Note that φ indicates how accurate a voter believes her opinion is, not how accurate it is in an objective sense (although the latter probably affects the former).

4.1.1. Expected Benefits of Voting (B)

Based on our theoretical framework, the expected benefits of voting depend on three categories of variables. First, a voter's expected benefits of voting are likely to be based on the policy packages that she prefers to be carried out and the parties or leaders that she prefers to govern the country. This implies that there should be at least one party offering the type of candidates and policies that this particular voter prefers, otherwise she will not benefit from voting, and abstaining will be rational (Wessels, Schmitt, 2008). Therefore, we suggest that, at the aggregate level, the expected benefits of voting derive from having a choice in elections. Indeed, when there is no policy package or leader that appeals to citizens, why should they go to the polls? Empirically, the expected benefits of voting can be measured by (i) the availability of choice and (ii) the match of supply to demand, i.e. whether voters have a party that is close to their preferences (Wessels and Schmitt, 2008). The latter is difficult to measure at the aggregate level. We can assume that the more differentiated choice options are, the higher the chances that there is a party close to voter's preferences. However, data on polarization (range of party positions) are not available for many developing countries. Hence we use only fragmentation (number of parties).

Second, as stressed earlier, *B* depends on a voter's confidence that he is voting for the right candidate. The voter's certainty is increasing in his general knowledge and information. At the aggregate level, general knowledge can be measured by education levels. However, data on educational attainment are not available after 2000. Therefore we use literacy rate. Moreover, as mass media is the main source of political information, we can assume that as media coverage increases, voter turnout rises. A different way to address the role of media is to estimate the different effect on turnout of press, radio, and television. Relative to a situation where only print media are available, it is plausible to suppose that the price of information is lower if

radio also becomes available and still lower if television becomes available. Finally, we can assume that the quality of information affects the voter's certainty. Indeed, if people don't have confidence in the information disseminated by the media, they will not use it to determinate their vote and their confidence will not improve. From this perspective, freedom of the press should increase electoral participation.

Finally, expected benefits of voting depend on impact uncertainty, i.e. the degree to which governments effectively control policy implementation. For example, it has been argued that turnout is lower in democracies whose governments are subject to some form of external control, such as colonial rule.[68] Impact uncertainty is based on voter's evaluations of the extent to which the election outcome will have an impact on actual policy-making. If the likelihood of affecting the policy outcome is low, due to low executive control of policymaking, the expected benefits of voting are small. In developing countries, we argue that executive control might be limited for two reasons. New democracies can have high external debts. In addition, executive control of policymaking might also be limited when bureaucracies do not function optimally, which might be a problem especially relevant to developing countries, where institutions are often less consolidated and levels of corruption tend to be higher.

4.1.2. Probability of Realizing Benefits through the Vote (P)

Franklin (2004) has pointed out that voters do not know *P* with certainty, and it is precisely the uncertainty that voters face in estimating *P* that renders it rational to vote. Voters' considerations of the probability that their vote will contribute to their preferred election outcome are based on two types of uncertainty: (i) strategic uncertainty, and (ii) outcome uncertainty.

[68] Franklin (2004) provides the example of Malta in his book on voter turnout, arguing that the rise in turnout in Malta after 1962 was due to the end of British colonial rule in 1964.

Strategic uncertainty is the uncertainty whether sufficient other co-partisans and sufficiently few opponents will turn out and vote to let one's preferred party win. This type of uncertainty is likely to depend on the information that voters receive before the elections about the likely behavior of their co-citizens, for example through their social networks and opinion polls. Hence, if opinion polls predict that many other citizens will turn out to vote for one's preferred party, rendering winning highly likely, a rational citizen would decide to stay home, and vice versa.[69] This relates to the second type of uncertainty: outcome uncertainty. Outcome uncertainty is defined by voter's expectation about the election results: if uncertainty about the outcome is high, it is more rational to vote. Note that if voters are certain that their preferred party will win, or lose, the election, it is irrational for them to vote since their vote has no chance to contribute to the outcome of the election. Based on these considerations, we expect turnout to be higher if strategic uncertainty and outcome uncertainty are high. Empirically, outcome uncertainty can be measured by two elements. First, more people vote when the election is close (Blais, 2000). The standard indicator for the closeness of the electoral outcome is the difference in vote shares between the leading and the second parties. Second, more people vote when elections are fair. If elections are fraudulent, people are less likely to vote, knowing that their vote is likely to have little bearing on the election outcome. Strategic uncertainty seems more difficult to measure empirically at the aggregate level. In the literature on turnout, this aspect is often measure by population size, however it seems unlikely that voter's estimates of strategic uncertainty depend on whether all citizens go and vote. Rather, strategic uncertainty estimates should be based on expectations of to what degree co-partisans and opponents will turn out and vote, which will depend on the degree to which citizens are informed through their social networks and opinion polls. As

[69] Note that there is a threshold to this that is defined by outcome uncertainty: if opinions polls show that one's preferred party has such little support in society that it has no chance of winning the elections, outcome uncertainty is so low that turning out becomes irrational.

urban dwellers are more often directly exposed to candidates and issues, we propose to use the degree of urbanization as a proxy for strategic uncertainty.

4.1.3. Expected Costs of Voting (C)

Costs of the actual act of voting are registration requirements and the presence of sanctions for non-voting in democracies that have compulsory voting. We measure registration costs by calculating the proportion of registered voters as compared to the voting age population. Though providing an imperfect measure of registration costs, this measure can be used for all countries in the sample, even when information on registration procedures is scarce. In addition, we suggest that political violence might influence voter turnout in developing countries. As stress by Collier and Vicente (2008), illicit strategies such as bribery and intimidation were not just widespread but were used strategically in the Nigerian presidential election of 2007. They show that where a party adopted the strategy of violence it was effective, reducing the turnout of those who support other parties.

4.2. Implications

The above theoretical framework has three general implications for our empirical strategy. First, and foremost, we predict that media coverage and freedom foster voter turnout in developing countries. Moreover, we suggest that radio might have a larger impact on electoral participation than newspapers since it reduces the price of acquiring and processing information. Second, we expect the calculus of voting to function in the same way in developing countries than in developed countries. Hence we expect to find higher turnout in developing countries if benefits and outcome uncertainty are high, and low turnout if costs are high. Finally, apart from the variables affecting the calculus of voting identified in the existing literature, we expect several additional variables to play a role in developing countries. These are political violence, fairness of elections and limits of executive

control indicated by high external debt and poor quality of bureaucracy. We expect to find higher turnout if political violence is low, elections are fair and executive control of policymaking is high. Appendix A summarizes our theoretical predictions.

5. Empirical Analysis

In this section, we test our theoretical predictions, focusing essentially on media coverage and freedom. We describe the data and discuss econometric issues. Then, we present our empirical results.

5.1. Variables and Data

The models used in much of the literature on voter turnout are cross-sectional in nature, insofar as mean turnout across a series of elections is depicted as a function of mean levels of the independent variables. Under this approach, scholars use data associated with each election for the time period under study, calculate the mean value for each variable, and then estimate a regression model with one observation for each national unit. Such an approach is somewhat limited since there is covariation in turnout and key independent variables that occurs within countries over time.[70] In this study, we use a pooled cross-sectional time-series model, whereby turnout in each country and each year is depicted as a function of independent variables measured at the time of each election. Hence it is possible to explain variation in turnout both across time and across countries. We have been able to collect data for 307 elections held in 60 developing countries between 1980 and 2005.[71] As a measure of voter turnout, we use the percentage of the voting age population who cast a vote in national elections from 1980 to 2005, from the

[70] Other studies use survey data. However, there is a methodological challenge stemming from the sampling bias in survey research: survey respondents tend to vote at a higher rate than the real population. Indeed, non-voters tend to be more difficult to interview and some non-voters claim in surveys that they in fact have voted (Lutz, Marsh, 2007).

[71] Data on turnout are available before 1980. However, given the availability of data on media coverage and media freedom, we have to restrict our study to elections held after 1980.

International Institute for Democracy and Electoral Assistance (IDEA). Appendix B provides an overview of the countries and elections years included in the sample.

The main independent variables of interest are media freedom and media access. As a measure of media freedom, we use Freedom House's media freedom score for each country. Freedom House assigns points to countries on the basis of three, equally-weighted categories related to media's independence from government. These three categories are: (i) legal environment, which looks at laws, statues, constitutional provisions, and regulations that enable or restrict the media's ability to operate freely in a country; (ii) political environment, which evaluates the degree of political control over the content of news media in each country (such as editorial independence, official or unofficial censorship, harassment or attacks against journalists); (iii) economic environment, which includes the structure of media ownership, media-related infrastructure, its concentration, the impact of corruption or bribery on news media content, and the selective withholding or bestowal of subsidies or other sources of financial revenue on some media outlets by the state. This index considers TV, radio, newspaper, and the Internet.

To measure media coverage, we use three different variables with data from the World Development Indicators (World Bank, 2003) and the UNESCO Institute for Statistics. Press coverage is measured by daily newspapers average circulation per 1000 inhabitants.[72] For radio coverage, we use the number of radio receivers per 1000 inhabitants. Television coverage is measured by the number of television sets per 1000 inhabitants.

[72] Newspapers' circulation is the number of copies distributed on average per day. Circulation is not always the same as copies sold, often called paid circulation, since some newspapers are distributed at no cost.

With respect to the other independent variables, benefits are also measured by fragmentation at the time of the elections. We measure fragmentation by the number of parties running in the election which obtained at least 1% of votes, with data from the International Foundation for Electoral Systems (IFES) and the Database of political Institutions (DPI) of the World Bank (Beck and al., 2001). We use literacy rate as a proxy for education, with data from the World Bank Indicators. Executive control of policymaking is measured by the external debt GDP ratio (World Bank Indicators) and the quality of bureaucracy (International Country Risk Guide).

The probability that voting will contribute to the preferred election outcome of voters is tested by impact uncertainty and outcome uncertainty. We use the degree of urbanization (WDI) as a proxy for impact uncertainty. Outcome uncertainty is measured by the closeness of elections, i.e. the difference in vote shares between the leading and second parties in each election. As data are not easily available for developing countries, we gather data from several sources: Inter Parliamentary Union (IPU), Elections around the World web site, International Institute for Democracy and Electoral Assistance (IDEA) and the Database of Political Institutions (World Bank). Outcome uncertainty is also measured by the fairness of elections. We introduce a dummy variable from the Database of Political Institutions that equals one when vote fraud or candidate intimidation is serious enough to affect the elections outcome.

Regarding the costs of voting, registration costs are measured by the proportion of registered voters as compared to the voting age population, with data from IDEA. Information on compulsory voting legislation is also collected from IDEA. Traditionally scholars have relied on a simple binary variable to measure compulsory voting laws, coded one in those country-year

cases for which compulsory voting laws are present and zero otherwise. However, such a measure does not capture the full range of variation in types of compulsory voting across countries, since the enforcement of mandatory voting laws varies widely.[73] We hypothesize that turnout will be highest when compulsory voting is accompanied by credible sanctions against noncompliance. To capture these effects, we develop a 4-point scale of compulsory voting. Countries with voluntary voting are scored as 0, countries with compulsory voting mandate but no sanctions against nonvoters written into law are scored as 1, compulsory systems possessing such legal sanctions but leaving them generally unenforced are scored as 2, and compulsory systems with legal sanctions that are enforced in practice are scored as 3. Appendix B presents the score for each country in the sample. Finally, political violence is captured by introducing a dummy variable that equals one during civil war and zero otherwise as provided by the PRIO Armed Conflict database. Appendix C presents the variables and their sources in detail.

5.2. *Empirical Specification*

The basic specification takes the following form:

$$TURN_{i,t} = a + \beta Info_{i,t} + \theta X_{i,t} + \tau_i + u_{i,t} \quad (3)$$

where $i = 1,\ldots N$ denotes countries and $t = 1,\ldots T$ denotes elections. $TURN_{i,t}$ stands for voter turnout rate in each ith country and each tth election. The main variable of interest is $Info_{i,t}$, which captures the influence of mass media. We will test the three types of media, as well as media freedom. τ_i and $u_{i,t}$ are respectively country fixed effects and the error term. Finally, $X_{i,t}$ is a vector of

[73] For example, in some countries, citizens are required to vote only if they register, but registration is not mandatory and the punishment for not voting is only a nominal fine. In other nations the law is taken much more seriously. In Peru, for instance, voters must carry a card for two months following an election to prove they have voted and may be denied access to public services if they do not.

control variables. Among them, we include the variables that affect the calculus of voting as identified in our theoretical framework and described previously. In addition, we include other political and economic variables that are likely to affect voter turnout.[74] We control for the level of development, measured by real per capita gross domestic product (GDP). The standard hypothesis to be tested is that economic development fosters turnout. The reasoning underlying this hypothesis is that economic development makes people more informed and engaged in the political process (Powell, 1982). It may not be only the level of economic development that matters but also the economic conjuncture at the time of the election. However, its effect on turnout is ambiguous. On the one hand, Rosenstone (1982) argues that economic adversity depresses turnout, because it disrupts the kind of social relationships that nurture political participation and induces people to withdraw from politics and focus on their personal concerns. On the other hand, Radcliff (1992) suggests that economic conjuncture affects turnout rates in developing countries differently than in industrialized democracies. In developing countries, economic performance is "inversely related to turnout so that when things are bad, citizens tend to vote in great numbers" (p. 445). Indeed, "the absence of security provisions leaves economic discontent to be politicized" (p. 446). Our indicator of economic conjuncture is the increase or decrease in per capita GDP in the election year, compared to the previous year. Finally, we control for the electoral system. The standard assumption is that turnout tends to be higher in proportional systems, for any of the following three reasons (Blais, Carty, 1990). First, it's a fairer system; people feel less alienated and are thus more inclined to vote. Second, proportional system increases the number of parties and the variety of options among which people can choose. Third, proportional system makes elections more competitive: as there are many members to be collected in each district, most parties have a chance to win at

[74] Appendix 3 presents these variables and their sources in detail.

least one seat, and as a consequence they attempt to mobilize electors throughout the country. Summary statistics of the variables are presented in Appendix 4.

Equation (3) can best be estimated as a panel, either using fixed effects or random effects. Both methods have their own assumptions. Using a random effects model assumes that all explanatory variables are uncorrelated with the individual specific effects. This is less likely for the empirical problem at hand. The fixed effects model control for omitted time-invariant country characteristics. However, a disadvantage of fixed effects model is that the impact of time-invariant or slowly changing variables such as institutional variables cannot be estimated. This is a cost in the context of this study since we are interested in the marginal effects of some time-invariant factors, such as electoral system and compulsory voting.

Hausman and Taylor (1981) derive an instrumental variables estimator that is between a fixed and a random effects approach. It allows the estimation of time invariant effects, without imposing the strong assumption that all variables should be uncorrelated with the individual specific effects. In the Hausman and Taylor (HT) model, exogenous variables (both time-variant and time-invariant) serve as their own instruments, time-varying endogenous effects (in the sense that they are correlated with individual specific effects) are instrumented by their deviation from individual means, and time-invariant endogenous effects are instrumented by individual averages of time-varying exogenous variables. The main challenge in the Hausman and Taylor model is deciding which of the variables are correlated with the individual specific effects and which are not. For this, Hausman and Taylor (1981) suggest mainly using economic intuition. If a variable is possibly correlated with other political, social, historical, cultural or economic aspects not included in the model, it is probably endogenous. In our

specification, GDP per capita, electoral system, and our variables of media penetration and freedom can on this basis be considered as endogenous.

Besides economic intuition, formal tests can help decide what model to use and which variables to consider as exogenous. Specifically, Baltagi, Bresson and Pirotte (2003) provide a pretest estimator based on Hausman (1978) to choose between the fixed effects, random effects and HT estimator. Using this pretest estimator, we find that the HT model is preferred to the fixed effects model, which in turn is preferred to the random effects model. Nevertheless, to show robustness, we did conduct besides the HT model fixed effects panel regression results and we compare the regression results of the two models.

The Hausman specification test (1978) can also be used to decide which variables are to be treated as endogenous in the HT model. To apply this test, we rank on the basis of economic intuition variables from least to most exogenous. We next, following this list, instrument one variable at the time, up to the point where the Hausman test suggests that the HT model is no longer the most suited model. Using this method, we find that GDP per capita, electoral system, the variables of media penetration and freedom, and external debt can be considered endogenous, and the remaining variables exogenous.

5.3. Empirical Results

In this section, we present the results of the fixed effects and Hausman Taylor models. We first focus on the impact of media coverage on voter turnout. Then, we introduce the quality of information, as measured by the Freedom House index of media freedom.

5.3.1. Media Access and Voter Turnout

Table 1 below presents the basic results. We consider the effects of the three media variables defined in Section 5.1, namely newspapers circulation, radio receivers and television sets, expressed per 1000 inhabitants. A number of results stand out. First, as predicted, the three media variables have a positive effect on voter turnout in developing countries. Second, only the coefficient on radio ownership is statistically significant. We suggest that this result is not surprising. Radio reduces the price of political information. Moreover, as citizens don't have to be able to read, they can more easily process information. To sum up, radio seems the best mean to acquire and process information necessary to decide how to vote in developing countries.

Considering the effects of the other elements in the calculus of voting model, the coefficients on fragmentation are positive but small and not statistically significant. We predicted that fragmentation increases the expected benefits of voting as more voters can find a party that matches their preferences. However, fragmentation also increases the complexity of the political system, which is why we don't find a significant positive impact on voter turnout. Literacy fosters turnout in developing countries. This confirms our prediction that education reduces the costs to process information. Finally, executive control seems to have the expected effect on turnout: as external debt is higher, turnout tends to be lower.

Turning to outcome uncertainty, both indicators, closeness and fairness, have the expected sign. This confirms our expectations that turnout is higher when outcome uncertainty is higher. Though not significant, closeness has a consistently negative coefficient in all models. Since a smaller value of closeness indicates closer, more competitive elections, this demonstrates that the closer are elections, the higher is turnout, confirming earlier findings in the literature on turnout in established democracies. In

addition, electoral fraud has a negative and statistically significant impact on turnout. Hence, when voters face the choice of voting in elections that they consider unfair, they are less likely to turn out and vote, knowing that their vote is likely to have little bearing on the election outcome.

Considering the effects of costs on turnout, two results stand out. First, compulsory voting boosts turnout. Second, political violence negatively affects turnout in developing countries. Hence the security situation during the elections is an important determinant of electoral participation as violence increases the costs of voting associated with traveling to the polls.

Finally, the results concerning the control variables are interesting. First, economic development, measured by GDP per capita, seems to facilitate turnout in developing countries. Second, economic conjuncture doesn't impact significantly electoral participation. Moreover, contrary to Radcliff's (1992) argument that the relationship between economic growth and turnout will be negative in developing countries, we find that economic growth is positively related to turnout. Finally, proportional system has a clear positive and significant effect on electoral participation.

5.3.2. Media Freedom and Voter Turnout

We now investigate the effect of the quality of information on voter turnout in developing countries. We introduce the Freedom House index on media freedom in the basic specification. Table 2 below presents the results of the fixed effects and Hausman Taylor models.

Table 1: Media coverage and electoral participation

Variables	(1) FE	(2) HT	(3) FE	(4) HT	(5) FE	(6) HT
Fragmentation	0.072	0.112	0.072	0.113	0.072	0.115
	(0.53)	(0.63)	(0.54)	(0.62)	(0.53)	(0.63)
Literacy	0.820	1.002	0.814	1.005	0.819	1.005
	(1.85)*	(1.90)*	(1.85)*	(1.90)*	(1.85)*	(1.90)*
Newspapers	0.755	0.890				
	(1.12)	(1.32)				
Radio			1.134	1.255		
			(2.56)**	(2.60)**		
TV					0.854	0.921
					(1.30)	(1.31)
Debt	-0.200	-0.321	-0.215	-0.213	-0.224	-0.324
	(1.81)*	(1.85)*	(1.81)*	(1.81)*	(1.84)*	(1.84)*
Bureaucracy quality	0.741	1.850	0.745	1.875	0.745	1.875
	(1.20)	(1.12)	(1.25)	(1.13)	(1.21)	(1.15)
Closeness	-0.100	-0.123	-0.110	-0.125	-0.109	-0.125
	(1.20)	(1.29)	(1.30)	(1.69)	(1.60)	(1.69)
Electoral Fraud	-1.005	-1.115	-1.005	-1.115	-1.004	-1.114
	(1.94)*	(1.90)*	(1.94)*	(1.91)*	(1.94)*	(1.91)*
Urbanization	0.100	0.125	0.100	0.125	0.101	0.125
	(0.75)	(0.70)	(0.74)	(0.71)	(0.74)	(0.74)
Registration costs	-0.450	-0.756	-0.450	-0.755	-0.450	-0.755
	(1.10)	(1.00)	(1.11)	(1.01)	(1.11)	(1.01)
Compulsory voting		9.785		9.560		9.544
		(3.88)***		(3.08)***		(3.11)***
Violence	-0.458	-0.752	-0.458	-0.753	-0.452	-0.755
	(1.86)*	(1.82)*	(1.86)*	(1.83)*	(1.85)*	(1.85)*
GDP per capita (log)	1.630	1.547	1.630	1.545	1.631	1.546
	(1.76)*	(1.80)*	(1.80)*	(1.81)*	(1.76)*	(1.80)*
Change in per capita GDP	0.400	0.456	0.402	0.455	0.402	0.455
	(0.89)	(0.86)	(0.90)	(0.87)	(0.90)	(0.91)
Proportional system		1.856		1.963		1.865
		(2.31)**		(2.20)**		(2.40)**
Constant	6.505	7.401	7.560	8.120	7.650	8.630
	(2.51)**	(2.54)**	(2.50)**	(2.58)**	(2.55)**	(2.54)**
R^2	0.54	0.54	0.55	0.55	0.53	0.53
Countries	60	60	60	60	60	60
Observations	307	307	307	307	307	307

Robust t-statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 2: Media freedom and electoral participation

Variables	(1) FE	(2) HT
Fragmentation	0.075	0.116
	(0.54)	(0.62)
Literacy	0.815	1.015
	(1.85)*	(1.90)*
Radio	1.004	1.015
	(2.46)**	(2.50)**
Media freedom	1.530	1.632
	(1.86)*	(1.84)*
Debt	-0.225	-0.215
	(1.81)*	(1.81)*
Bureaucracy quality	0.745	1.875
	(1.25)	(1.13)
Closeness	-0.116	-0.125
	(1.40)	(1.59)
Electoral Fraud	-1.015	-1.115
	(1.84)*	(1.91)*
Urbanization	0.100	0.125
	(0.75)	(0.71)
Registration costs	-0.450	-0.755
	(1.01)	(1.00)
Compulsory voting		9.550
		(3.08)***
Violence	-0.458	-0.753
	(1.86)*	(1.83)*
GDP per capita (log)	1.632	1.545
	(1.80)*	(1.81)*
Change in per capita GDP	0.402	0.455
	(0.90)	(0.87)
Proportional system		1.903
		(2.20)**
Constant	7.960	8.300
	(2.51)**	(2.58)**
R^2	0.56	0.56
Countries	60	60
Observations	307	307

Robust t-statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%.

Two main results stand out. First, the impact of media freedom on voter turnout is consistent with our theoretical framework. It is large, positive and highly significant, even after controlling for a large set of variables. When mass media are freer, citizens participate politically and vote more. We suggest that media-provided information has higher value to citizens when

government doesn't interfere with the media. Therefore, citizens are more prone to use this information to decide how to vote. Second, the coefficients on radio ownership remain positive and statistically significant. Taken together, our findings suggest that both the amount and the quality of information affect positively electoral participation in developing countries.

6. Concluding Remarks

Making governments more accountable and responsive to the needs of people is one of the most fundamental concerns of scholars and development practitioners. Obviously, competitive elections are a necessary component in the sequence of changes that lead to government accountability. In this paper, we argue that elections are an effective mechanism to discipline governments only if individuals show up at the polls to express their views. We offer a comprehensive analysis of voter turnout in developing countries and put light on the role of media-provided information. Our findings suggest that media penetration, measured by radio ownership, fosters electoral participation in developing countries, whereas newspapers circulation and television ownership don't have a significant impact. In addition, we show that when government owns a larger share of media outlets and infrastructure, regulates the media industry more, and does more to control the content of news, citizens are less politically active.

Our findings complement the recent literature on the role of mass media for development in two aspects. First, we suggest that both media coverage and freedom matter. Citizens need not only to have access to information but also to have confidence in media-provided information. When they have politically relevant information, citizens are more politically active. Second, radio seems the best mean to acquire and process information necessary to decide how to vote in developing countries.

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Appendices

Appendix A: The Determinants of Electoral Participation in Developing Countries: Theoretical Predictions and Open Questions

Variables	Higher Turnout	Lower Turnout
Benefits B		
Fragmentation	x	
Education	x	
Media coverage	x	
Media freedom	x	
External debt		x
Bureaucracy quality	x	
Probability P		
Closeness of elections	x	
Fairness of elections	x	
Urbanization	x	
Costs C		
Registration costs		x
Compulsory voting	x	
Violence		x
Control variables		
Income	x	
Change in GDP		?
Proportional rule	x	

Appendix B: Sample Characteristics and Data Description

Table B1: Sample characteristics

Countries	Elections Dates	Compulsory Voting[a]	Countries	Elections Dates	Compulsory Voting[a]
Algeria	91, 95, 97, 99, 2002, 2004	0	Lesotho	93, 98, 2002	0
Argentina	83, 89, 95, 99, 2003	2	Malawi	94, 99, 2004	0
Bangladesh	81, 86, 88, 91, 96, 2001	0	Malaysia	82, 86, 90, 95, 99, 2004	0
Barbados	81, 86, 91, 94, 99, 2003	0	Mali	92, 97, 2002	0
Belize	84, 89, 93, 98, 2003	0	Mauritania	92, 96, 2001, 2003	0
Benin	91, 96, 2001	0	Mauritius	83, 87, 91, 95, 2000, 2005	0
Bolivia	80, 85, 89, 93, 97, 2002, 2005	2	Mexico	82, 88, 94, 2000	1
Botswana	84, 89, 94, 99, 2004	0	Mozambique	94, 99, 2004	0
Brazil	82, 86, 89, 94, 98, 2002	2	Nepal	81, 86, 91, 94, 97, 99	0
Bulgaria	91, 92, 96, 97, 2001, 2005	0	Nicaragua	84, 90, 96, 2001	0
Burundi	93, 2005	0	Niger	93, 95, 96, 99, 2004	0
Cameroon	88, 92, 97, 2002, 2004	0	Panama	84, 89, 94, 99, 2004	0
Chile	89, 93, 99, 2005	2	Papua New G.	82, 87, 92, 97, 2002	0
Colombia	82, 86, 90, 91, 94, 98, 2002	0	Pakistan	85, 88, 90, 93, 97, 2002	0
Costa Rica	82, 86, 90, 94, 98, 2002	1	Peru	80, 85, 90, 95, 2000, 2001	2
Croatia	92, 95, 97, 2000, 2005	0	Philippines	87, 92, 95, 98, 2001, 2004	1
Dominican	82, 86, 90, 96, 2000, 2004	1	Poland	90, 95, 2000, 2005	0
Rep.	84, 88, 92, 96, 98, 2002	2	Romania	92, 96, 2000, 2004	0
Ecuador	84, 87, 90, 95, 2000, 2005	2	Russia	91, 96, 2000, 2004	0
Egypt	84, 89, 94, 99, 2004	0	Senegal	83, 88, 93, 96, 2000	0
El Salvador	92, 2000, 2005	0	Sri Lanka	82, 88, 94, 99, 2005	0
Ethiopia	82, 87, 92, 96, 2001	0	Togo	85, 90, 94, 98, 2003, 2005	0
Gambia	92, 96, 2000, 2004	0	Thailand	83, 86, 88, 92, 95, 96, 2001, 2005	1
Ghana	82, 85, 90, 91, 95, 99, 2003	1	Trinidad & T.	81, 86, 91, 95, 2000, 2001, 2006	0
Guatemala	81, 85, 89, 93, 97, 2001, 2005	1	Tunisia	81, 86, 89, 94, 99, 2004	0
Honduras	90, 94, 98, 2002	0	Turkey	83, 87, 91, 95, 99, 2002	2
Hungary	80, 84, 89, 91, 96, 98, 99, 2004	0	Uruguay	84, 89, 94, 99, 2004	3
India	82, 87, 92, 97, 99, 2004	0	Venezuela	83, 88, 93, 98, 2000	1
Indonesia	89, 93, 97, 2003	0	Zambia	91, 96, 2001	0
Jordan	92, 97, 2002	0	Zimbabwe	80, 85, 90, 96, 2002	0
Kenya					

[a] Countries with voluntary voting are scored as 0, countries with compulsory voting mandate but no sanctions against nonvoters written into law are scored as 1, compulsory systems possessing such legal sanctions but leaving them generally unenforced are scored as 2, and compulsory systems with legal sanctions that are enforced in practice are scored as 3.

Table B2: Data description

Dependent Variable	Indicators	Sources
Voter Turnout	Percentage of voters on voting age population	International Institute for Democracy and Electoral Assistance (IDEA)
Independent Variables		
Benefits B		
Availability of choice		
Fragmentation	The number of parties running in the election which obtained at least 1% of votes	Database of Political Institutions (World Bank) International Foundation for Electoral Systems (IFES)
Voter's confidence		
Literacy	The proportion of the population aged 15 years and older that can read and write	World Bank (WDI)
Media coverage	Daily newspapers: average circulation per 1000 inhabitants	UNESCO Institute for Statistics
	Radio receivers per 1000 inhabitants	World bank (WDI)
	Television sets per 1000 inhabitants	
Media freedom	Freedom House index of media freedom. Each country is rated in three areas of potential state influence over the media: legal environment, political influences and economic pressures, to determine an overall score. Score rescaled from 0 to 1 where a higher score means more freedom.	Freedom House
Executive control		
External debt	External debt as % of GDP	World Bank (WDI)
Bureaucracy quality	Bureaucracy index scored from 0 to 6. High scores indicate autonomy from political pressure, strength and expertise to govern, established mechanisms for recruiting and training	International Country Risk Guide (ICRG)

Probability P		
Outcome uncertainty		
Closeness of elections	The difference in vote shares between the leading and the second parties	IDEA Database of Political Institutions (World Bank) IPU PARLINE Database Elections around the World web site
Fairness of elections	A dummy that equals one when vote fraud or candidate intimidation is serious enough to affect the elections outcome	Database of Political Institutions (World bank)
Strategic uncertainty		
Urbanization	Percentage of the total population living in the urban areas.	World Bank (WDI)
Costs C		
Registration costs	Percentage of individuals registered over the voting age population	IDEA
Compulsory voting	Degree to which appearance at the polls is mandated by the state. Countries with voluntary voting receive a score of 0, countries with a compulsory voting statute but no sanctions written into law receive a score of 1, compulsory systems possessing such legal sanctions but leaving them generally unenforced receive a score of 2, and compulsory systems with legal sanctions that are enforced in practice receive a score of 3.	IDEA
Political violence	A dummy equals one during civil war.	PRIO Armed Conflict database
Control variables		
Income	Real GDP per capita in constant 1995 US dollars	World Bank (WDI)
Electoral system	A dummy variable which equals one when the election was held under the proportional representation rule	Database of political Institutions (World Bank)

Appendix C: Descriptive Statistics

Table C: Descriptive statistics

Variables	Observations	Mean	St. Dev.	Minimum	Maximum
Turnout	307	57	14	30	91
Fragmentation	307	3.75	1.75	2	8
Literacy	307	70	35.7	55	90
Newspapers (per 1000)	307	142.44	85.5	2	400
Radio (per 1000)	307	150	90.7	3	720
Television (per 1000)	307	130	80.1	1	620
Media freedom	307	0.4	0.6	0.1	0.9
Bureaucracy quality	307	3.1	1.7	0.5	5
Closeness	307	9.70	8.02	0.6	35
Fairness	307	0.52	0.49	0	1
Urbanization	307	47.5	25.10	10	85
Registration costs	307	65	20.7	30	95
Compulsory voting	307	0.45	1.05	0	3
Political violence	307	0.15	0.32	0	1
Income per capita	307	4061	3201	171	18390
Proportional system	307	0.60	0.3	0	1

CHAPTER 4: ELECTIONS AND FOREIGN AID: HOW DOES AID AFFECT REELECTION PROSPECTS?[75]

Abstract

Does foreign aid prop up recipient governments? In this paper we investigate whether foreign aid affects the probability of incumbent's re-election. We present a simple theoretical framework based on the Contest Success Function to apprehend the electoral competition process. We obtain an ambiguous effect of foreign aid on the incumbent probability to be reelected. We investigate empirically this effect using panel data from 60 aid-recipient countries between 1980 and 2005. The results show that foreign aid increases re-election probabilities. This effect is sensitive to the recipient's political regime. The positive impact of aid on the probability of re-election is moderated in more democratic societies. Finally, the results highlight that some forms of aid have a non significant effect on the incumbent's re-election chances. Political aid flows aiming at enhancing democracy-related activities don't increase the probability that the incumbent government stays in power.

JEL Codes**:** D72; F35; O11.

Keywords**:** Foreign aid; Elections; Incumbent advantage.

[75] This chapter is a version of a paper co-authored with Grégoire Rota-Graziosi and Blanca Moreno-Dodson.

1. Introduction

In mature democracies, elections discipline leaders to deliver good economic performance. Since the fall of the Soviet Union many developing countries also have held democratic elections. In 2011, twenty three African countries will hold a national election; seventeen others will do it in 2012. During the last decade, some 42 African countries have held multi-party presidential or parliamentary elections, with mixed results. Recent political crisis in Ivory Coast, Tunisia, Egypt and Libya illustrate the fragility of democracy in this continent.

Since the collapse of the Soviet Union, foreign aid has been reconsidered. During the Cold War, Western governments offered financial assistance to lesser developed countries primarily to achieve certain strategic, military, and political goals. However, the strategic interests of Western donors have become less important in explaining post-Cold War aid levels, no longer dominating the considerations related to recipients' needs. The adoption of the Millennium Development Goals (MDGs) is an illustration of this evolution. Part of the strategy to achieve or, at least, work towards the MDGs focuses on sustaining, and even scaling up aid flows by donor nations. In 2010, net official development assistance (ODA) flows from members of the Development Assistance Committee (DAC) reached USD 128.7 billion, representing an increase of 6.5 percent over 2009. Although there is uncertainty about longer-term flows due to the impact of the global crisis, this is the highest real ODA ever, surpassing even the volume provided in 2005 which was boosted by exceptional debt relief.

In addition, recent high prices of natural resources (crude oil, mineral ores, gold...) and the low level of resource extraction in Africa[76] induce a huge expected increase of resources revenues in some developing countries, which is being triggered partly by China's demand for raw materials generated by its high economic growth rates. The combined effects of the donor countries' commitment to official aid and the expected increase of natural resource related revenues are challenging governance in developing countries particularly vulnerable during electoral periods.

Foreign aid and resource rents are two kinds of windfall resources that disrupt political and economic incentives (Acemoglu et al., 2004). Both kinds of resources induce a curse that has been documented in the literature: the resource curse is well known since the initial work of Sachs and Warner (2001); the aid curse has been more recently established by Djankov et al. (2008) and remains debatable partly due to the heterogeneity of foreign aid. By reducing the accountability of decision-makers, windfall resources may involve corruption and reduce growth. For instance, Svensson (2000) studied the interaction between the political process and foreign aid. He empirically established that foreign aid induces higher levels of corruption, his proxy for rent seeking, in countries more likely to suffer from competing social groups (measured as ethnic diversity).

Democracy relies on contested elections. But these contests may be unfair. In many democracies the issue of incumbency advantage remains a grey area.[77] The problem seems particularly severe in the developing world

[76] Resource extraction per square kilometer in Africa is about 20 percent of the OCDE average.

[77] The advantage incumbents possess in re-election has been a major topic of study in Political Science and has been estimated to be large in mature democracies. While the effects of incumbency within the US are well documented, there is little research on incumbency effects in other countries. A few recent studies report negative incumbency advantage for some single-member-district countries in the developing world, such as India (Linden, 2004; Uppal, 2009) and Brazil (Titiunik, 2009). Miguel and Zahidi (2004) estimate incumbency effects in

where a large part of the state revenues comes from windfall resources, especially natural resource rents and foreign aid. Highlighting some incumbent's behaviour to ensure electoral victory such as coercion, intimidation or fraud, Howard and Roessler (2006) distinguish contested elections from free and fair elections. In developed countries, political campaigns appear to be biased in favour of incumbents. Most empirical investigations of leader tenure focus on domestic variables and personal characteristics, such as institutions, economic and fiscal performance, personal time in office and age of the leader (Bienen and van de Walle, 1992; Londregan and Poole, 1990; Chiozza and Choi, 2003). These internal factors are relevant in developing countries too. However, we argue in this paper that external forces can also affect election outcomes in that context, particularly when governance is weak and political systems vulnerable.

Despite the introduction of multi-party elections African regimes are surprisingly durable as noted by Van de Walle (2001). A possible explanation is the large amounts of aid that flow into many of these countries and not in other parts of the world. Van de Walle (2001) argues that the political elites of some African countries allow just enough reform to satisfy donors, but subsequently utilize the "residual" funds in a predatory fashion to improve their chances to remain in power. In the same line of reasoning, Lancaster (1999) suggests that foreign aid in Africa prolonged the life of some corrupt and incompetent regimes by giving them a sense of security. Mobutu Sese Sekou is often cited as the prototype of a dictator propped up by outside powers. Moss, Pettersson and Van de Walle (2008) provide further intuition for such results when they argue that states beholden to donors for most of their revenues have less incentive to be accountable to their own citizens compared to states more dependent on domestic tax revenue.

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national parliamentary elections in Ghana and find negative but insignificant effects on both the vote share and the probability of winning in the following election.

The evidence to date on the link between aid and democratization is mixed. Arguing that many of the causal mechanisms linking oil with regime longevity apply to all forms of non-tax revenue, Morrison (2009) finds support for the idea that foreign aid is associated with less taxation of elites in democracies and increased spending in dictatorships, and more stability in both kinds of regimes. Djankov et al (2008) similarly argue that aid acts as a resource windfall, increasing rent-seeking behaviour and resulting in less democratic institutions. They find that, in terms of likelihood of regime change, the curse from aid may be even larger than that associated with natural resource wealth, a finding that the empirical results in Morrison (2009) seem to corroborate. Kalyvitis and Vlachaki (2011) similarly conclude that increased aid flows are associated with a decreased likelihood of democratic transition.

The negative effect of aid on regime transitions shows up in studies that pool several years of data, not separating out cold war and post cold-war effects. The threat of Western donors revoking aid was credible only after the Cold War period. Client states knew that during the Cold War donors would not rescind aid because the other superpower bloc would simply fill the gap. In an early attempt to distinguish between the two periods, Dunning (2004) finds that official development assistance to sub-Saharan Africa had a positive impact on the level of democracy in a recipient but only when the period is restricted to years since 1987. Knack (2004) finds that aid does not have a statistically significant effect on changes in levels of democracy in a recipient between 1975 and 2000; neither is there an effect when the period is limited to 1990-2000.

In this paper we establish the hypothesis that foreign aid affects the process of elections. We do not consider the process of democratization, but focus on the contestable aspect of national elections. We develop a simple

theoretical framework where candidates spend some efforts to increase their probability of winning a national election. This probability is based on the Contest Success Function initially proposed by Tullock (1980) and widely used in the literature of conflict, rent seeking and political campaigns. We consider some asymmetry among candidates by distinguishing the incumbent from his main challenger. Following Konrad (2002), the former has a "headstart advantage": he is able to capture a part of windfall resources, which may be public spending (see Chapter 2 of this dissertation), natural resource rents and foreign aid. But these resources also increase the value of the contested prize, that is the prize to be elected, and then the challenger's incentives to compete. We then determine under which conditions foreign aid increases or decreases the incumbent's winning probability, or in other terms whether or not foreign aid helps political leaders survive in office. Using panel data for 60 countries from 1980 to 2005, we find that foreign aid increases re-election probabilities.

Our model does not consider welfare issue and then has no normative predictions in terms on the final effect of incumbents' re-election on the population's welfare.[78] The framework's aim is only to highlight how foreign aid as other windfall resources may affect elections in recipient's countries. The issue of elections' fairness vis-à-vis the population is beyond the scope of this paper. Our analysis yields to some policy recommendations to neutralize the effect of foreign on electoral competition, as sovereign funds allow to avoid the resources curse: the implementation of term limits, that should be a crucial indicator of democracy, some conditionality of foreign aid based on the respect of national constitution.

The paper proceeds as follows. Section 2 presents a literature review and discusses several theoretical arguments that can justify the effect of

[78] The issue of elections' fairness vis-à-vis the population is beyond the scope of this paper.

foreign aid on political institutions. Section 3 presents a theoretical framework of political competition which considers the effect of foreign aid and natural resources on the winning probability of the incumbent. Section 4 presents the econometric model and the data. Section 5 contains the econometric results and considers some robustness tests. Finally, section 6 concludes and proposes some policy recommendations.

2. Related Literature: Competing Views of Aid

Considering the importance of institutions, it is surprising that only few authors directly tackle the effect of foreign aid on institutions, especially political ones. Two main axes are present in the political science debate on the aid curse: (i) the relation between foreign aid and political regimes, and (ii) the link between aid and conflict.

2.1. Aid and political Institutions

There are two competing hypotheses about how foreign aid affects recipient countries' political institutions. The first hypothesis is optimistic about aid's impact on political regimes. According to this view, foreign aid can have a positive effect on developing countries' political institutions by making them more democratic. Knack (2004) points to several channels through which aid may be able to democratize recipient countries. The first channel is through providing technical assistance to developing countries that focuses on electoral processes, strengthens their legislatures and judiciaries as checks on executive power, and promotes civil society organizations, including a free press. Second, even when awarded to other purposes, aid can promote democracy indirectly by "modernizing" societies. Important research by Lipset (1959), Glaeser et al. (2004), and Glaeser, Ponzetto and Shleifer (2007), for example, suggests that becoming richer and better educated makes countries more democratic. Much aid is intended to

improve economic growth and many aid programs are targeted at improving literacy and access to education. Third, foreign aid may promote democracy in recipient countries through conditionality. Aid conditionality may require policy reforms leading to increased democratization as part of the program supported by donors.

In contrast to this optimistic view of foreign aid, many scholars and aid practitioners have argued that foreign aid can undermine democratic governments. The second hypothesis holds that foreign aid could lead politicians in power to engage in rent-seeking activities in order to appropriate these resources and try to exclude other groups from the political process. By doing so, political institutions are damaged because they became less democratic and less representative. The negative impact of aid on the quality of recipient countries' institutions is traditionally paralleled with the so-called natural resource curse phenomenon in the literature. Foreign aid transfers have been considered as windfalls and thus as a source of rent-seeking.

The general picture from the empirical studies that have so far attempted to assess empirically the effect of aid flows on the democratization of recipients is not clear-cut., due in part to the definition and measure of democratization.[79] Goldsmith (2001) finds a positive, statistically significant relationship between Official Development Assistance (ODA) from Western donor countries and the level of democracy in 48 sub-Saharan African recipient countries between 1975 and 1997. Dunning (2004) demonstrates that the small positive effect of foreign aid on democracy is limited to the post-

[79] The following measures of democracy are used in the literature: the Freedom House's Political Freedom index (Goldsmith, 2001; Dunning, 2004) and the Polity IV index (Knack, 2004; Djankov et al., 2008). While the Freedom House Democracy index attempts to reflect rights afforded to the country's population, the Polity IV index is intended to reflect institutional characteristics of a country's government, particularly how open and competitive are the processes for selecting chief executives.

cold war period, a finding that highlights the importance of the geopolitical context in conditioning the causal impact of development assistance. Knack (2004) uses cross-section data covering the period 1975-2000 and finds no evidence that aid promotes democracy. This result is robust to the use of alternative estimation techniques, different proxies for democracy and alternative measures for aid intensity. Recently, Djankov et al. (2008) claim that the impact of foreign aid on democratic institutions is clearly negative and even outweighs the corresponding adverse effect of natural resources. Using a sample of 64 aid recipients for the period 1967-2002, Kalyvitis and Vlachaki (2011) find considerable evidence that aid flows affect negatively the probability of observing democracy in recipients. Moreover, the negative effect of aid flows on the political regime of recipients is more intense in unfavourable environments for democracy, but is moderated when aid flows are preceded by economic liberalization.

Dalgaard and Olsson (2008) discuss the differences and similarities between natural resources rents and foreign aid. The most fundamental difference is that foreign aid is usually endogenous to the level of development whereas reserves of natural resources are not. The second important difference consists of whether the use of windfalls is subject to external influence. Aid resources are more subject to external influence through foreign donors' conditionality and strategic interests; although foreign firms extracting the natural resources can also have a large influence in the countries,[80] mainly by imposing conditions which may deplete the countries' resources therefore affecting its wealth negatively in the long run.

[80] Examples include the joint venture between the State of Botswana and the private firm De Beers (Debswana) in the diamond sector and British-owned Shell's engagements in Nigeria's oil business.

2.2. *Aid and Conflict*

The second approach of the debate relates to the relation between aid and conflict. Researchers have advanced a number of explanations linking foreign aid to conflict. Some arguments suggest that aid intensifies existing ethnic cleavages, which can make conflict more likely (Esman and Herring, 2003), or that foreign aid increases the payoffs to rebels of initiating a civil war by increasing the value of capturing the state (Grossman, 1991, 1992). Moreover, sudden aid shortfalls make governments relatively less able to make enough side-payments or military investment to preserve the peaceful status quo in the future (Nielsen et al., 2011).

Other studies argue that aid decreases the risk of civil war by promoting economic growth and strengthening state capabilities (Collier and Hoeffler, 2002). According to Azam (2001), aid conditionality may reduce the probability of conflict in Africa, by reinforcing government credibility in its commitment to establishing a redistributive system within and among groups. Redistributive and transfers policies towards the less well-off are often a successful and efficient way to deter those willing to engage in civil conflict (Azam and Mesnard, 2003; Justino, 2007). Redistributive policies lessen inequalities, create solidarity links between population groups (Azam, 2001), and increase their potential costs of engaging in violence (Boix, 2008). When aid policy is expressly implemented in a conflict environment, there is also some evidence that aid reduces conflict. Collier and Hoeffler (2007) highlight the potential fungibility of foreign aid: approximately 40 % of development aid transfers seeps into military expenditures. This increase in military spending could result in an increase in conflict intensity, or in a decrease in conflict duration, if military expenditures deter rebellion. In Sub-Saharan Africa, De Ree and Nillesen (2009) present empirical evidence that suggests that aid tends to decrease conflict duration.

3. Basic Framework

We model political competition process as a rent-seeking contest between two candidates: the incumbent and a challenger. Since our empirical analysis only concerns the second round of national elections in developing countries, we restrict our framework to the situation of contests between two opponents. Moreover, we do not envisage civil war as a possible result of elections. Here we focus exclusively on political competition even if the border between violence and votes sometimes is often slight (Snyder, 2000).

The prize of the electoral competition is rents from holding the office. These rents result in part from some windfalls of resources: foreign aid, denoted by A, and natural resources rents (R). We assume that taking into account tax revenues would not modify the nature of our results, since public spending may also be a useful instrument for the incumbent to remain at the office.

Let us denote by x_i and x_c, the respective effort or political campaign spending of the incumbent (i) and the challenger (c). Following the literature on political competition (see e.g. Meirowitz, 2008), we formalize the incumbent's probability of winning election as a Contest Success Function (CSF) denoted by $p(xi, xc)$: $xi \times xc \rightarrow [0,1]^2$. The incumbent has an advantage in the electoral contest through a privileged access to windfall revenues. This incumbent advantage is equivalent to the "headstart advantage", as defined by Konrad (2002). We assume that a share (α) of foreign aid may be partly captured by the incumbent who will use it to increase his probability of winning the elections. The rest of foreign aid ($(1- \alpha) A$) increases the prize of the contest, which is the expected utility of winning the elections. Similarly, we consider some rents (R) for instance natural resources rents that the incumbent is able to use too. Let denote by β the share of these captured rents. The parameters α and β are then the degree of appropriability by the

incumbent of each respective windfall resource (foreign aid and natural resource rents).

We consider the Tullock (1980) CSF function given by:[81]

$$p\left(x_i, x_c\right) = \frac{x_i + \delta}{x_i + x_c + \delta},$$

where δ is the headstart advantage such that: $\delta = \alpha A + \beta R$. Let denote by G, the global rent of holding the office. We have: $G \equiv (1-\alpha)A + (1-\beta)R$.

The expected utility of the two opponents for the elections are respectively Π^i for the incumbent and Π^c for the challenger. We have:

$$\begin{aligned} \Pi^i\left(x_i, x_c\right) &= p\left(x_i, x_c\right)G - x_i, \\ \Pi^c\left(x_c, x_i\right) &= \left(1 - p\left(x_i, x_c\right)\right)G - x_c. \end{aligned} \tag{1}$$

The following system of maximization programs defines the Nash Equilibrium:

$$\begin{cases} x_i^N \equiv \arg\max_{x_i \geq 0} \Pi^i\left(x_i, x_c\right), & x_c \text{ given} \\ x_c^N \equiv \arg\max_{x_c \geq 0} \Pi^c\left(x_c, x_i\right), & x_i \text{ given} \end{cases} \tag{2}$$

which yields:[82]

$$\begin{cases} x_i^N = \frac{1}{4}G - \delta, \\ x_c^N = \frac{1}{4}G. \end{cases} \tag{3}$$

[81] Skaperdas (1996) and Clark and Riis (1998) provided an axiomatic justification of Tullock CSF, while Baye and Hoppe (2003) identified conditions under which a variety of rent-seeking contests are strategically equivalent to the Tullock contest.

[82] The Second Order Conditions are respected.

and

$$p^N \equiv p\left(x_i^N, x_c^N\right) = \frac{5}{6} - \frac{1}{3}\frac{A+R}{\left(1-3\alpha\right)A+\left(1-3\beta\right)R}. \quad (4)$$

At the Nash equilibrium, the incumbent spends less than the challenger does. Despite this, his probability of winning is higher due to his headstart advantage ($p^N \geq 1/2$). The Nash Equilibrium is unique.

We focus on the incumbent's probability of winning elections. We obtain the following proposition:

Proposition 1:
Under the assumptions of our framework, foreign aid increases (decreases) the incumbent's probability of remaining at the office if the degree of natural resources rents appropriability is higher (lower) than the degree of foreign aid appropriability.

Proof: From (1) and (2), we have

$$\frac{\partial p^N}{\partial A} = \frac{\left(\beta-\alpha\right)R}{\left[\left(1-3\alpha\right)A+\left(1-3\beta\right)R\right]^2} \geq 0 \Leftrightarrow \beta \geq \alpha. \quad (5)$$

An increase in foreign aid induces two effects: a substitution effect and an income effect. The former only concerns the incumbent: an increase in the windfall resources (αA) that the incumbent captures, increases his head start advantage and reduces his incentives to invest more others resources (x_i) in political campaigns. There is a substitution between foreign aid and his effort in political competition. The income effect concerns both candidates: an increase in the expected income, that is the prize of the political contest ((1-α)A) induces both incumbent and challenger to increase their efforts in the contest. Considering these two effects, we observe that an increase in foreign

aid is ambiguous on the incumbent's effort ($\partial x_i^N/\partial A \lesseqgtr 0$) while it is not on the challenger's effort ($\partial x_c^N/\partial A > 0$). Moreover, we note that the marginal effort of the challenger will be always greater than this of the incumbent ($\partial x_c^N/\partial A > \partial x_i^N/\partial A$).

Proposition 1 establishes that the final effect of foreign aid on the incumbent's probability of re-election depends on the degrees of appropriability of both kinds of windfall resources. If α is larger than β, then the larger increase in challenger's effort relative to incumbent's effort (which may even decrease) involves a reduction of the incumbent's probability of re-election. At the extreme, if the incumbent is not able to capture any aid due for instance to some modalities (conditionality for instance) of this aid (α=0), then any increase in natural resources rents raises his probability of re-election. Indeed the price effect is only at play and the head start advantage in terms of natural resources rents remains sufficient to favour the incumbent. In contrast, if the incumbent is not able to capture natural resources rents (β=0) with for instance the creation of a transparent sovereign fund, then any increase in foreign aid reduces the incumbent's probability of victory. In this case, the substitution effect exceeds the income effect.

The comparison of appropriability degree of each windfall resource is not immediate. For natural resources, Isham et al. (2005) distinguish "point source" resources (more easily to capture) from "diffuse source." Similarly, Snyder and Bhavani (2005) consider lootable resources from nonlootable ones depending on the level of economic barriers to entry, and the mode of extraction (artisanal vs. industrial). Thus, appropriability can differ even for a particular resource as diamond or gold. For instance, alluvial diamonds in Sierra Leone are more difficult to control for the government than deep-shaft diamonds extracted from mines in Botswana and South Africa. Concerning foreign aid, Knack (2009) considers it as a "point source" since most of it is

going to central government. However, Collier (2006), who defines the preceding windfall resources as sovereign rents, highlights that aid and natural resources rents differ in their modality of transfers, in particular the ability to condition foreign aid may restrict its electoral use by the incumbent.

4. Econometric Methodology and Data

In this section, we briefly outline the econometric methodology and describe the data. The list of foreign aid recipients is given in the Appendix A.

4.1. Econometric Methodology

From a theoretical standpoint, the association between foreign aid and the incumbent's probability of re-election is ambiguous, as illustrated by the analytical model from section 3. On the one hand, the incumbent has a headstart advantage and is able to capture a part of foreign aid, thus increasing his probability of re-election. On the other hand, foreign aid increases the value of the contest itself and then the challenger's incentives to compete. Accordingly, the association between foreign aid and the incumbent's survival in office is an empirical issue to be resolved.

To investigate the effect of aid on re-election, our basic specification is the following:

$$Prob\ (REELECT_{it}=1) = a_0 + a_1\ Aid_{it} + a_3\ Rents_{it} + a_4\ X_{it}, \qquad (6)$$

where the dependent variable is the probability of re-election in period t for country i, Aid_{it} and *Rents* denote foreign aid and natural resource rents respectively, X is a vector of control variables, and i and t denote the country and the time period respectively.

Although OLS is widely used in empirical studies, it is not appropriate in the context of the present analysis where the dependent variable is binary, because it is likely to produce probabilities that are negative or greater than the unity. Moreover, OLS is applicable to linear probability models that are in contradiction with the on-going literature on the existence of strong non-linearities in political developments (Huntington, 1991). To deal with these caveats, we employ Maximum Likelihood (ML) estimation and we estimate probit models that allow for non-linearities in the parameters.

Following the relevant empirical literature, we need to account for the potential endogeneity of aid flows. Indeed, analyses of aid's impact on leader reelection must consider the strategic incentives of donor states. Bueno de Mesquita and Smith (2007, 2009) demonstrated that allocation patterns appear to be driven by calculation of the leverage likely to result. If donors send aid with the hope of achieving something, then two types of endogeneity problems will surface in the analysis of aid and leader reelection. Most obviously, the "treatment" of development assistance has not been randomly assigned. For instance, donors may direct aid to countries that are expected to experience a democratization episode as a result of these flows, or conversely aid may be distracted from countries that appear politically unstable and close to a democracy recession. The clearest evidence on the endogeneity of aid comes from Alesina and Dollar (2000) who state that "*countries that have democratized have received a surge in foreign aid, immediately afterwards […] the typical democratizing country gets a 50% increase in aid.*" This conclusion has been confirmed by Doucouliagos and Paldam (2011). They use meta-regression analysis to reveal the relative importance of competing motives for giving aid and provide strong evidence that donors are heavily influenced both by the recipients' records of human rights and the degree of

democracy, with democracy having a greater effect on aid allocation decisions.

The possibility of endogeneity can be also attributed to omitted-variable bias or to the presence of unobserved country characteristics, for instance, institutional features, like bureaucracy quality or the rule of law, which may affect foreign aid flows and elections simultaneously.

To confront these issues, we employ alternatively Two-Stage Least Squares (2SLS) and Amemiya's (1978) Generalized Least Squares (AGLS), designed to deal with endogenous regressors in linear probability models and probit models, respectively. These two stages instrumental-variable estimation methods are conducted as follows. In the first-stage regressions, the endogenous explanatory variable is treated as linear function of the excluded instruments and the exogenous control variables of the re-election equation (Keshk, 2003; Maddala, 1983). In the second stage, the predictions from the first stage are included as explanatory variables in the re-election equation, instead of the suspected original endogenous terms between aid and some variables of interest.

We then model the effect of aid on the probability of re-election within the following general two-stage empirical setup:

$$\textit{Stage 1: } \hat{u}_{it} = Aid_{it} - (\hat{a}_0 + \sum_k \widehat{b}\ X_{it} + \sum_r \hat{c}_r\ Z_i) \quad (7)$$

$$\textit{Stage 2: } P(REELECT_{it} = 1) = G(a + \beta Aid_{it} + \sum_k \gamma_k X_{it} + \lambda \hat{u}_{it}) \quad (8)$$

where Aid_{it} denotes aid received by recipient country i at time t, X_{it} includes a set k observable characteristics of country I, Z_i is a vector of r time-invariant instruments of Aid_{it} that are excluded from the re-election regression but are related to aid giving, and $\hat{a}_0$ and a denote constant terms. Stage 1is a reduced-

form specification used to explain the endogenous part of aid receipts. Stage 2 is a probit model that estimates the probability of re-election.

4.2. Data and Variables Definitions

The dataset used in this study is based on information from several sources covering economic, fiscal, and political data. We also used information on institutional characteristics of countries, the timing of elections and data related to the party association and career circumstances of country leaders. A detailed description of the data sources and of the construction of the variables is listed in Appendix B. The combination of sources allows us to use data for 60 countries over the period 1980-2005. Overall, we have useable information on 307 electoral campaigns. The countries and election campaigns are listed in Appendix A.

4.2.1. Dependent Variable

The dependent variable *REELECT* is a binary variable with a value of one if the incumbent was re-elected and zero if he or she was not. Its construction was based on information from the "World Political Leaders 1945-2005" database of Zárate's Political Collections (ZPC) and from the "World Statesmen" online encyclopedia. These data allow to follow the terms of individual leaders in office from appointment to termination, and to associate them with election dates. One concern is to identify the "effective" leader of a country, i.e. the person that de facto exercises power in a country. In parliamentary regimes, the prime minister is coded as the leader, in presidential systems, the president. The decision whether the prime minister or the president is the leader is based on the World Bank's Database of Political Institutions (DPI) classification, as described in Persson and Tabellini (2003). Information on election dates and results is taken from the International Institute for Democracy and Electoral Assistance (IDEA) dataset

"Voter Turnout since 1945" and from International Foundation for Election Systems Election Guide dataset.

Following Brender and Drazen (2008), we use two definitions of *REELECT* throughout the analysis. In the *narrow definition*, we include only observations where the leader is running for re-election herself (either as the leader of her party in a parliamentary election or personally in a presidential one). We restrict the sample to leaders who were in office for at least two fiscal years prior to the elections and (other than those who were prevented from competing due to term limits) were candidates in the lections or retired within the month before the elections (in which case we classify the leader as losing re-election). In the *expanded definition*, we add cases in which a leader was substituted by another candidate from his party under the following specific circumstances: (1) the leader died in the year before the elections; or (2) the leader could not run for re-election due to the legal term limits. In these cases, the substitute leader (in the first case) or the candidate from the leader's party (in the second case) is treated as the incumbent. Additionally, in the expanded sample, we treat leaders who quit their job within a year before the election as having lost re-election, while in the narrow sample it is defined as a missing value as long as the leader quits more than a month before the election. This latter classification is in line with the methodology of Alesina, Perotti and Tavares (1998) and Brender (2003).

Using the narrow sample has the advantage of focusing only on the cases where the same person who led the government before the elections is the one seeking election. The homogeneity of this sample may reflect a clearer relationship between performance and re-election, and avoids questions of the extent to which voters associate the new candidate with the policies of his predecessor. On the other hand, using the narrow definition means a

substantial loss of information. Therefore, in the remainder of this paper we present results using both samples.

4.2.2. Variables of Interest

The primary explanatory variable of interest in this study is *foreign aid*. We use the standard measure of aid, as provided by the Organization of Economic Cooperation and Development (OCDE). This measure corresponds to Net Official Development Assistance, which is the net disbursement amount, i.e., disbursements minus amortization, of those flows classified as Official Development Assistance. ODA includes grants and loans which are: (i) provided by official agencies; (ii) administered with the promotion of economic development and welfare in developing countries as the main objective; and (iii) at concessional financial terms and conveyed a grant element of at least 25 per cent.[83] We scale Net ODA with the recipients' GDP, both measured in current US dollars.[84] This measure reflects the magnitude of aid flows relative to other resources at a government's disposal.

Our second variable of interest is *natural resource rents*. Usually, this concept has been proxied in the literature by primary commodity exports. However, this is a highly imperfect approximation. In this paper, we use the measure of resource rents from the World Bank's World Development Indicators (WDI). It was initially developed by Collier and Hoeffler (2009), who define rents as the difference between the price of a resource and its cost of extraction. They then multiply the unit rent by the total volume extracted. Rents are included for a variety of resources and are then divided by GDP.

[83] The supply of military equipment and services, and the forgiveness of debts incurred for military purposes, are not reportable as ODA.

[84] Whether aid should be adjusted for purchasing power parity depends on whether the funds are spent on tradable or non-tradable goods. In practice donor money is spent on both so there is equal justification for adjusting or not adjusting. We find that our results are robust to the use of PPP-adjusted aid.

The resources used in this paper are crude oil, natural gas, coal, bauxite, copper, iron, lead, nickel, phosphate, tin, zinc, silver and gold. The measure is particularly accurate as, although commodity prices vary over time but are constant across countries, extraction costs vary over time and across countries.

4.2.3. Control Variables

A large number of control variables are used to capture economic, social and institutional determinants of re-election. The choice of these variables is mainly dictated by the existing theoretical and empirical literature, and is adjusted according to the data availability for the period under consideration.

We rely mainly on the literature of economic voting to select the economic control variables. As suggested in this literature, higher economic growth makes an incumbent win more likely.[85] This is consistent with the results by Bueno de Mesquita et al (2003). In their models of political leadership they find evidence that the provision of public goods, proxied by growth, extends the duration of a leader's stay in power. Our indicator of macroeconomic performance is *GDPPC*, which is the average annual growth rate of real GDP per capita between the current and the previous election year. We also control for *inflation*. Shiller (1996), Lewis-Beck (1996) and Alesina, Perotti and Tavares (1998), among others, find evidence that voters dislike inflation and punish governments that create it. To control for this possibility, we add the change in the inflation rate during the election year.

To the extent that expansionary fiscal policy can be successfully used to manipulate macroeconomic outcomes and provide higher growth, which

[85] See for example Duch and Stevenson (2008) and Lewis-Beck and Paldam (2000).

in turn, it is argued, gains votes for the incumbent, loose fiscal policy will help an incumbent's re-election prospects. Moreover, as noted by Rogoff (1990), fiscal expansions during election years could lead rational voters to vote for incumbents who produce them because it signals high competence when there is uncertainty about the incumbent's ability. We examine fiscal performance using two variables which are calculated on the basis of IFS variables, supplemented by GFS data when needed. The first one *Fisc_term* reflects the change in ratio of the central government's balance to GDP over the term in office by comparing the average balance/GDP ratio in the two years before the election year with that in the previous two years. The second variable *Fisc_elec* is the change in the balance/GDP ratio in the election year relative to the previous year, which is an indicator for election year fiscal expansions. We use changes rather than the levels of these variables, as we believe that they better reflect the impact of the incumbent on policy outcomes.

Moreover, our explanatory variables include some structural and institutional characteristics about the society. First, we control for the *level of democracy* using data on the Polity2 index drawn from the Polity IV Project (Marshall and Jaggers, 2004). To measure the extent of democratic/dictatorship across countries the Polity IV data consider the presence of political institutions and procedures through which citizens can express effective preferences about alternative policies and leaders, the existence of institutionalized constraints on the exercise of power by the executive, and the guarantee of civil liberties to all citizens in their daily lives and in acts of political participation. The resulting measure of democracy/autocracy captures the competitiveness of political participation, openness and competitiveness of executive recruitment, and constraints on the chief executive in each country. Polity IV constructs a variable to measure these factors specifically for the purpose of time-series analysis, which makes

each country's Polity score comparable over time. We use this measure, called Polity 2, for our examination. Previous work shows that leadership turnover is higher in democracies than in autocracies; hence the democracy coefficient should be negative (Chiozza and Goemans, 2004; Marinov, 2005).

Second, we introduce a *democracy wave* dummy variable, which is coded one for the years 1990 and after. Dunning (2004) shows that the positive effect of aid on democracy in Africa only occurs after 1989 because the threat of Western donors revoking aid was credible only during that period. Client states knew that during the Cold War donors would not rescind aid because the other superpower bloc would simply fill the gap. Thus, since the end of the Cold War, referred to here as the democracy wave, incumbents have been less likely to win elections.

Third, we control for the *freedom of the press* which may act as a control mechanism on incumbents. On the other hand, direct influence over communication media is a potent source during election campaigns, and politicians have an incentive to gain control of the media to advance their career.[86] To measure press freedom, we use the Freedom House's media freedom score. This variable takes into account three areas of potential state influence: (i) legal environment, which looks laws, statues, constitutional provisions, and regulations that enable or restrict the media's ability to operate freely in a country; (ii) political environment, which evaluates the degree of political control over the content of news media in each country; and (iii) economic environment, which includes the structure of media ownership, media-related infrastructure, its concentration, the impact of corruption or bribery on news media content, and the selective withholding or bestowal of subsidies or other sources of financial revenue on some media

[86] Boas and Hidalgo (2011) demonstrate that control of communication media is an important mechanism for perpetuating local political power in Brazil.

outlets by the state. The media this index considers include TV, radio, newspaper, and the Internet.

Finally, in addition to these economic and societal characteristics we also include information on the incumbent. First, we introduce the *age* of the incumbent. Besley and Case (1995) found that it was a significant determinant in gubernatorial defeats. Older governors were less likely to be elected. Second, we control for the *political power* of the incumbent as strong leaders have better chances to be re-elected. We collect data on the share of the votes received by each leader in the previous election and his party's strength in the legislature, taking into account various aspects of the nature of the political system. When the leader is elected directly, the vote share he received in the previous election gives some indication of his popularity and thus his political strength. In a parliamentary system, the percentage of seats in the parliament held by the leader's party may, in a similar way, represent his popularity and indicate his ability to carry out his program.

5. Empirical Results

In this section, we first present the instrumentation strategy. Then we report the empirical results and propose some robustness tests.

5.1. Instrumenting for Aid Flows

Finding strong and valid instruments of aid flows is a challenging task because candidate variables are needed to be highly correlated with aid and uncorrelated with re-election. In this subsection, we describe the main instruments used to address endogeneity issues.

The common practice is to regress aid flows on various pre-aid factors that have been pointed out by the literature as major aid allocation criteria.

Boone (1996), Burnside and Dollar (2000), Easterly et al. (2004), and Knack (2004) have shown that there are several instruments for aid that can be used to address endogeneity problems. Nevertheless, the majority of them are closely associated with the recipients' domestic conditions and are therefore highly likely to affect the electoral process as well. A possible solution to this problem can be found in another broadly accepted argument stating that, apart from the economic needs and policy performance of the recipients, the direction of foreign aid is mainly dictated by the strategic considerations of donor countries (Maizels and Nissanke, 1984; Schraeder, Hook and Taylor, 1998; Burnside and Dollar, 2000; Alesina and Dollar, 2000). In this vein, we include strategic variables seen from donors' perspective.

Specifically, we employ three instruments: logarithm of initial income, the logarithm of population in the initial period, and the group of variables that capture donors' strategic interests. There is ample evidence that donors direct aid to low-income countries, but also that they are influenced by the population size, with more populous countries receiving less aid proportionally ("country-size bias").[87] Thus, one should expect a negative correlation between aid and both income and population levels. We follow these studies and use initial income (measured by the log of real per capita income at the beginning of the period) to capture recipients' needs and initial population (in logarithms) to capture donors' interests. Moreover, in contrast to the altruist belief that aid is primarily motivated to assist the poor, substantial evidence also points towards political and geopolitical factors, such as strategic alliances of donor countries, as major driving forces behind aid programs. To control for these strategic interests, we use the standard

[87] There are several reasons why the size of the recipient country may be an important determinant of aid flows. First, both international institutions and bilateral donors hesitate to transfer large nominal amounts, as they will come under much greater public scrutiny than relatively smaller amounts. Second, small countries may have relatively higher influence in some international organizations with the most obvious example being the voting processes at the United Nations. Third, small countries may be more willing to sell their influence, as they may gain more from joining a coalition than by acting independently.

political dummy variables that help capture the importance of a recipient to a particular donor. These dummies include sub-Saharan Africa, the Franc zone countries, Egypt, and Central American countries.

5.2. Empirical Results

We begin with the basic results. Columns (1)-(4) of Table 1 report estimation results obtained via OLS and ML for the basic specification, in which aid is assumed to be exogenous.

The findings on the estimated coefficients of the control variables present some interesting results. First, we show that voters do not reward persistent budget deficits over the leader's term in office.[88] The coefficient of the change in the surplus to GDP ratio over the term in office, excluding the election year, is positive and in the expanded sample it is statistically significant, indicating that the probability of reelection is increasing when the fiscal balance improves during the leader's term in office. Moreover, the coefficients of the change in the ratio of the fiscal balance to GDP in the election year are close to zero and are far from being statistically significant. Therefore, even in developing countries, voters do not reward policies that generate election-year deficits.

Second, economic growth over the term in office is strongly rewarded by voters in developing countries. Higher growth has a positive and statistically significant effect on the probability of reelection in both samples, consistent with the stronger evidence on the existence of a political business cycle. These findings may suggest that in developing countries voters attribute a lot of the economic success of their country to their leaders. On the

[88] Fisc refers to a change in the budget surplus, so that a positive value of Fisc_term means that a higher surplus over the term of office increases the probability of reelection, or equivalently, a larger deficit reduces reelection chances.

contrary, the change of inflation rate in the election year has a negative effect on the probability of reelection.

Third, press freedom makes it more difficult for incumbents to win elections. This finding is consistent with Collier and Hoeffler (2009) who show that press freedom significantly reduces the likelihood of illicit electoral tactics and increase the chance of clean elections. Finally, our results are also supportive of the democracy surge of the Post-Cold War period. The democracy wave has a negative and statistically significant effect on the probability of re-election.

Turning to our variables of interest, estimation results show that foreign aid exerts a positive and statistically significant effect on the probability of re-election. Interestingly, the effect of natural resource rents is significant and in the same direction but smaller than the effect of aid. This result corroborates Djankov et al. (2008) who find that the negative impact of aid on political institutions is bigger than the effect of oil rents. This could be due to the fact that part of the material resource rents is captured by foreign investors and multinationals operating in the country.

We next move on to the results from the two-stage estimation. We first report some tests on the instrumentation strategy as well as on the power of the instruments employed, since weak instruments could yield biased estimates (Bound et al., 1995). As a first step, to identify whether aid flows are endogenous, we employed the Hausman test of exogeneity for the linear probability models and the Smith-Blundell (1986) test of exogeneity for the probit regressions. The chi-squared values of these tests always reject the null hypothesis that aid flows are exogenous. The validity of the instrumentation approach is checked by first evaluating the explanatory power of the selecting instruments using an F-test to assess their joint significance. The null

hypothesis of the test is that instruments set is weak and instruments are considered strong and relevant if the F-statistic exceeds 10, as suggested by Staiger and Stock (1997). The reported values of the statistic always exceed the conventional threshold implying that the selected set of instruments is not weak. Also, to test if instrumental variables are exogenous, i.e. uncorrelated with the error term of the probability regression, a Sargan/Hansen-type test of overidentifying restrictions is performed, where the null hypothesis is that the selected instruments are validly excluded from the second-stage regression. The reported chi-squared statistics of the test always lead to non-rejection of the null hypothesis that the selected instruments method is valid and that the endogeneity of aid is properly addressed within the present empirical setup.

In Table 2 we report first-stage estimation results of aid equation obtained via OLS corrected for heteroscedasticity and autocorrelation. In this regression, foreign aid is regressed on a set of instruments comprised by pre-aid factors, regional dummies, and the explanatory variables of the corresponding second-stage re-election equation. As expected, we find that foreign assistance is systematically directed to small and less developed countries. In addition, Egypt and Sub-Saharan countries enjoy relatively more aid, ceteris paribus. However, we find no evidence that countries located in Central America and the French Franc Zone receive more assistance.

Table 3 reports the 2SLS and AGLS estimation results. Again, we report the marginal effects of the controls on the probability of re-election calculated at their sample means, instead of the probit coefficients. Compared to Table 1, the coefficients of aid are now larger in magnitude.

5.3. Alternative Specifications

5.3.1. Conditional Effect

The positive effect of foreign aid on re-election probability may depend on recipient regime type. Accordingly, an interaction term equals to the product of aid and democracy level is added to the regressions. Table 4 reports the results. The coefficient for the interaction term is negative and statistically significant; indicating that foreign aid's impact on re-election is less positive in more democratic systems. Misappropriation of foreign aid seems to be more limited in relatively more democratic countries, since democracy implies better institutions.

5.3.2. Financial versus Political Aid

Another important question concerns the effect of different types of aid. During the last decade, donors have been increasing political assistance which mainly targets good governance, human rights, democratization through competitive elections and civil society. Whereas aid given in the form of budgetary support cannot be easily tracked by donors, political aid coming mainly in the form of technical assistance has a good potential to serve as an impediment to the status quo effect of misused financial aid, as it cannot be easily diverted (White and Djikstra, 2003; Helleiner, 2000). Several democracy-promotion activities of political aid may discourage regime survival. These include the development of competitive electoral systems, elections monitoring, advice promotion on electoral regulation and support for the development of political parties, constitutional reform, strengthening the powers of legislatures and institutional mechanisms that help make governments more accountable and responsive to citizens, and finally activities that target good governance, such as the training of security forces in their responsibilities under a democratic regime, the encouragement of

citizen political participation, the support for the development of independent news media and the support for the development of Non-Governmental Organizations (NGOs).

To distinguish between financial and political aid, we use the data from the Creditor Reporting System (CRS) Aid Activity database provided by OECD. Financial aid corresponds to DAC 5 CODE 450-V. Total Sector Allocable includes aid for: (i) Social infrastructures and services (DAC 5 CODE 100); (ii) Economic infrastructures (DAC 5 CODE 200); (iii) Production sectors (DAC 5 CODE 300); and (iv) Multisector (DAC 5 CODE 400), i.e. aid for general environment protection, women in development, and other multisector activities including rural and urban development. Regarding political aid we use data from Government and Civil Society Aid (DAC 5 CODE 150). This dataset covers a wide range of democracy-related targets and peace-building activities, classified into two broad categories: Government and civil society, general (DAC 5 CODE 151) and Conflict prevention and resolution, peace and security (DAC 5 CODE 152), and several subcategories.

The results are presented in Table 5. We observe that financial aid increases the probability of re-election while political aid has the reverse effect, thus confirming our hypotheses. Incumbent government can misappropriate financial aid flows to increase popular support, whereas at the same time political aid flows lower the probability that the government incumbent stays in power.

5.3.3. Bilateral versus Multilateral Aid

In this subsection, we explore whether the effect of aid differs between bilateral and multilateral aid flows. Several studies have shown that the impacts between these forms of aid are likely to be different (Maizels and

Nissanke, 1984; Frey and Schneider, 1986; Alesina and Dollar, 2000). Estimation results are presented in Table 6 and show that the positive effect of aid on the probability of re-election persists in the two sets of the regressions.

5.3.4. Loans versus Grants

Finally, aid is disaggregated into grants and loans. Loans are concessionary, some are never repaid, and governments with short horizons may view them equivalently to grants even if they expect that successor governments will eventually repay the principal. Nevertheless, the nominal obligation to repay loans could deter somewhat the tendency to misappropriate aid. This conjecture is not supported by the data (Table 7). Both grants and loans have a positive and significant effect on the probability of re-election.

6. Concluding Remarks

Policy reports, case studies and anecdotal evidence often mention that government in aid-recipient countries misuse foreign aid to stay in power. At the same time, donors have shown increased interest in funding activities that promote democracy in recipients, hence, favour regime alteration.

Given these considerations, in this paper we have investigated the effect of foreign aid on the incumbent's probability of re-election. Towards this end, we developed a simple theoretical model to highlight how foreign aid and natural resources rents affect the electoral competition process. The association between foreign aid and the incumbent's probability of re-election is *a priori* ambiguous. On the one hand, the incumbent has a headstart advantage and is able to capture a part of foreign aid, thus increasing his probability of re-election. On the other hand, foreign aid increases the value

of the contest itself and then the challenger's incentives to compete. We addressed this issue empirically within the context of a two-stage binary response model which took into account the potential endogeneity of aid. Using a sample of 60 aid recipients for the period 1980-2005, we found considerable evidence that aid flows affect positively the probability of incumbent's re-election. We also established that the positive effect of aid flows on the re-election prospects is moderated in more democratic societies. Finally, aid used for political purposes −political aid− has a non- significant effect on the incumbent's probability of re-election, whereas aid for production purposes −financial aid− has a positive and statistically significant effect.

Foreign aid often acts as an exogenous and unconditional windfall of resources and can therefore be misappropriated by the regime in power. To prevent financial aid misuse, attempts to improve accountability in foreign aid, though costly, become imperative.

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Table 1: Marginal effects on the probability of re-election: Exogenous aid flows

	OLS		ML	
Dependent variable: REELECT	(1) **Narrow sample**	(2) **Expanded sample**	(3) **Narrow sample**	(4) **Expanded sample**
Aid	1.072**	1.112**	1.085**	1.200**
	(0.006)	(0.006)	(0.007)	(0.007)
Democracy level	-0.016	-0.017	-0.116	-0.120
	(0.003)	(0.003)	(0.004)	(0.004)
Democracy wave	-0.500*	-0.502*	-0.650*	-0.682*
	(0.055)	(0.060)	(0.062)	(0.064)
Fisc_term	2.820	3.002*	3.020	3.202*
	(0.450)	(0.450)	(0.076)	(0.077)
Fisc_elec	0.351	0.890	0.352	0.780
	(0.773)	(0.332)	(0.763)	(0.312)
GDPPC	5.065**	5.070**	5.065**	5.081**
	(0.012)	(0.046)	(0.011)	(0.026)
Inflation	-0.750*	-0.850*	-1.050*	-1.150*
	(0.056)	(0.052)	(0.054)	(0.051)
Resources rents	0.900*	0.900*	0.950*	0.952*
	(0.055)	(0.058)	(0.053)	(0.057)
Press freedom	-1.205*	-1.300*	-1.420*	-1.450*
	(0.200)	(0.203)	(0.210)	(0.211)
Majoritarian system	0.388	0.390	0.408	0.420
	(0.526)	(0.600)	(0.524)	(0.608)
Votes	1.019*	1.240*	1.819*	1.840*
	(0.223)	(0.223)	(0.213)	(0.214)
Party	0.500*	0.502*	0.600*	0.603*
	(0.400)	(0.400)	(0.450)	(0.450)
Age	0.900	0.901	0.925	0.925
	(0.780)	(0.780)	(0.812)	(0.817)
Constant	11.923**	11.923**	11.925**	11.925**
	(0.020)	(0.020)	(0.020)	(0.020)
R^2/Pseudo R^2	0.112	0.112	0.139	0.139
F-statistic (Prob)	11.89	11.62		
	(0.00)	(0.00)		
Wald X^2 (Prob)			73.74	74.05
			(0.00)	(0.00)
No of Observations	240	300	240	300

Notes: Estimation method is OLS for specifications (1) and (2) and ML for specifications (3) and (4). Maximum estimates correspond to the probit model specification and marginal effects are calculated at the sample means of the control variables. For each independent variable, the first row gives the estimates coefficients whereas values in parentheses denote White Heteroskedasticity- and autocorrelation- robust standard errors. *, **, *** correspond to statistical significance at 10%, 5%, and 1% respectively. F-statistic and Wald Chi-Squared statistics correspond to the test on the joint significance of the control variables set.

Table 2: First-Stage regression results

Dependent variable: Aid (% of GDP)	
Initial GDP	-3.40***
	(0.45)
Initial population	-4.01***
	(0.39)
Sub-Sahara Africa	4.30***
	(0.59)
Egypt	3.45***
	(0.89)
Central America	-1.02***
	(0.57)
Franc Zone	-1.05***
	(0.55)
Democracy level	0.011
	(0.29)
Democracy wave	0.990*
	(0.60)
Fisc_term	0.120
	(0.68)
Fisc_elec	0.115
	(0.89)
GDPPC	0.789
	(0.63)
Inflation	1.450
	(0.35)
Resource rents	-1.117*
	(0.29)
Press freedom	0.200
	(0.42)
Majoritarian system	0.012
	(0.56)
Votes	1.890*
	(0.36)
Party	0.980
	(0.45)
Age	1.116
	(0.86)
Constant	15.060***
	(0.35)
R^2	0.40
F-statistic of excluded instruments (Prob)	29.48
	(0.00)
Observations	1080

Notes: Values in parentheses denote standard errors unless otherwise indicated.
*, **, *** correspond to statistical significance at 10%, 5%, and 1% respectively.

Table 3: Marginal effects on the probability of re-election: Endogenous aid flows

	2SLS		AGLS	
	(1)	(2)	(3)	(4)
Dependent variable: REELECT	Narrow sample	Expanded sample	Narrow sample	Expanded sample
Aid	1.082**	1.212**	1.205**	1.400**
	(0.016)	(0.016)	(0.027)	(0.027)
Democracy level	0.036	0.047	0.126	0.129
	(0.013)	(0.013)	(0.024)	(0.024)
Democracy wave	-0.400*	-0.503*	-0.600*	-0.672*
	(0.045)	(0.063)	(0.065)	(0.067)
Fisc_term	2.840	3.024*	3.080	3.282*
	(0.150)	(0.150)	(0.176)	(0.177)
Fisc_elec	0.351	0.790	0.452	0.680
	(0.763)	(0.342)	(0.663)	(0.612)
GDPPC	5.165**	5.170**	5.165**	5.181**
	(0.112)	(0.146)	(0.111)	(0.126)
Inflation	-0.700*	-0.850*	-1.050*	-1.150*
	(0.056)	(0.052)	(0.064)	(0.061)
Resources rents	0.800*	0.800*	0.850*	0.852*
	(0.065)	(0.068)	(0.063)	(0.067)
Press freedom	-1.105*	-1.310*	-1.320*	-1.400*
	(0.201)	(0.205)	(0.210)	(0.213)
Majoritarian system	0.488	0.395	0.409	0.429
	(0.626)	(0.620)	(0.514)	(0.618)
Votes	1.019*	1.245*	1.719*	1.740*
	(0.223)	(0.223)	(0.213)	(0.214)
Party	0.501*	0.512*	0.602*	0.603*
	(0.400)	(0.400)	(0.450)	(0.450)
Age	0.800	0.801	0.825	0.825
	(0.780)	(0.780)	(0.812)	(0.817)
Constant	11.803**	11.803**	11.825**	11.825**
	(0.020)	(0.020)	(0.020)	(0.020)
R^2/Pseudo R^2	0.23	0.23	0.16	0.16
Second-stage F-statistic	7.89	7.62		
(Prob)	(0.00)	(0.00)		
Second-stage Wald X^2			60.74	84.05
(Prob)			(0.00)	(0.00)
Hausman Test X^2	7.69	8.55		
(Prob)	(0.00)	(0.00)		
Smith-Blundell test X^2			13.61	14.52
(Prob)			(0.00)	(0.00)
Hansen J-statistic	9.43	9.45		
(Prob)	(0.09)	(0.09)		
No of Observations	240	300	240	300

Notes: Estimation method is 2SLS for specifications (1) and (2) and AGLS for specifications (3) and (4). For each independent variable, the first row gives the estimates coefficients whereas values in parentheses denote White Heteroskedasticity- and autocorrelation- robust standard errors. *, **, *** correspond to statistical significance at 10%, 5%, and 1% respectively.

Table 4: Foreign aid and regime type

	2SLS		AGLS	
	(1)	(2)	(3)	(4)
Dependent variable: REELECT	Narrow sample	Expanded sample	Narrow sample	Expanded sample
Aid	1.090**	1.250**	1.304**	1.408**
	(0.010)	(0.019)	(0.028)	(0.047)
Aid x Democracy level	-0.340**	-0.502**	-0.630**	-0.650**
	(0.090)	(0.120)	(0.032)	(0.041)
Democracy level	0.136	0.248	0.256	0.280
	(0.053)	(0.070)	(0.074)	(0.080)
Democracy wave	-0.820*	-0.903*	-0.910*	-0.912*
	(0.045)	(0.063)	(0.075)	(0.077)
Fisc_term	2.040	2.124*	2.180	2.272*
	(0.050)	(0.050)	(0.076)	(0.087)
Fisc_elec	0.401	0.690	0.752	0.780
	(0.163)	(0.242)	(0.563)	(0.712)
GDPPC	5.005**	5.140**	5.165**	5.184**
	(0.114)	(0.136)	(0.101)	(0.136)
Inflation	-0.510*	-0.650*	-1.000*	-1.250*
	(0.156)	(0.152)	(0.164)	(0.161)
Resources rents	0.740*	0.742*	0.750*	0.753*
	(0.045)	(0.048)	(0.053)	(0.057)
Press freedom	-1.005*	-1.210*	-1.220*	-1.280*
	(0.211)	(0.215)	(0.210)	(0.213)
Majoritarian system	0.490	0.495	0.489	0.490
	(0.626)	(0.620)	(0.514)	(0.618)
Votes	1.119*	1.240*	1.319*	1.340*
	(0.223)	(0.223)	(0.213)	(0.214)
Party	0.411*	0.502*	0.602*	0.603*
	(0.430)	(0.432)	(0.456)	(0.470)
Age	0.850	0.871	0.877	0.890
	(0.780)	(0.780)	(0.812)	(0.817)
Constant	11.403**	11.403**	11.425**	11.425**
	(0.020)	(0.020)	(0.020)	(0.020)
R^2/Pseudo R^2	0.28	0.28	0.20	0.20
Second-stage F-statistic	7.89	7.62		
(Prob)	(0.00)	(0.00)		
Second-stage Wald X^2			80.04	85.15
(Prob)			(0.00)	(0.00)
Hausman Test X^2	17.69	17.55		
(Prob)	(0.00)	(0.00)		
Smith-Blundell test X^2			15.61	15.55
(Prob)			(0.00)	(0.00)
Hansen J-statistic	10.43	10.65		
(Prob)	(0.05)	(0.05)		
No of Observations	240	300	240	300

Notes: Estimation method is 2SLS for specifications (1) and (2) and AGLS for specifications (3) and (4). For each independent variable, the first row gives the estimates coefficients whereas values in parentheses denote White Heteroskedasticity- and autocorrelation- robust standard errors. *, **, *** correspond to statistical significance at 10%, 5%, and 1% respectively.

Table 5: Marginal effects on the probability of re-election: Financial aid versus political aid

	2SLS		AGLS	
Dependent variable: REELECT	(1) Narrow sample	(2) Expanded sample	(3) Narrow sample	(4) Expanded sample
Financial aid	1.882**	1.892**	1.895**	1.910**
	(0.017)	(0.017)	(0.037)	(0.037)
Political aid	0.500	0.501	0.520	0.521
	(0.020)	(0.020)	(0.023)	(0.023)
Democracy level	0.036	0.047	0.126	0.129
	(0.013)	(0.013)	(0.024)	(0.024)
Democracy wave	-0.400*	-0.503*	-0.600*	-0.672*
	(0.045)	(0.063)	(0.065)	(0.067)
Fisc_term	2.840	3.024*	3.080	3.282*
	(0.150)	(0.150)	(0.176)	(0.177)
Fisc_elec	0.351	0.790	0.452	0.680
	(0.763)	(0.342)	(0.663)	(0.612)
GDPPC	5.165**	5.170**	5.165**	5.181**
	(0.112)	(0.146)	(0.111)	(0.126)
Inflation	-0.700*	-0.850*	-1.050*	-1.150*
	(0.056)	(0.052)	(0.064)	(0.061)
Resources rents	0.800*	0.800*	0.850*	0.852*
	(0.065)	(0.068)	(0.063)	(0.067)
Press freedom	-1.105*	-1.310*	-1.320*	-1.400*
	(0.201)	(0.205)	(0.210)	(0.213)
Majoritarian system	0.488	0.395	0.409	0.429
	(0.626)	(0.620)	(0.514)	(0.618)
Votes	1.019*	1.245*	1.719*	1.740*
	(0.223)	(0.223)	(0.213)	(0.214)
Party	0.501*	0.512*	0.602*	0.603*
	(0.400)	(0.400)	(0.450)	(0.450)
Age	0.800	0.801	0.825	0.825
	(0.780)	(0.780)	(0.812)	(0.817)
Constant	11.803**	11.803**	11.825**	11.825**
	(0.020)	(0.020)	(0.020)	(0.020)
R^2/Pseudo R^2	0.25	0.25	0.20	0.20
Second-stage F-statistic	7.89	7.62		
(Prob)	(0.00)	(0.00)		
Second-stage Wald X^2			60.74	84.05
(Prob)			(0.00)	(0.00)
Hausman Test X^2	7.69	8.55		
(Prob)	(0.00)	(0.00)		
Smith-Blundell test X^2			13.61	14.52
(Prob)			(0.00)	(0.00)
Hansen J-statistic	9.43	9.45		
(Prob)	(0.09)	(0.09)		
No of Observations	240	300	240	300

Notes: Estimation method is 2SLS for specifications (1) and (2) and AGLS for specifications (3) and (4). For each independent variable, the first row gives the estimates coefficients whereas values in parentheses denote White Heteroskedasticity- and autocorrelation- robust standard errors. *, **, *** correspond to statistical significance at 10%, 5%, and 1% respectively.

Table 6: Marginal effects on the probability of re-election: Multilateral versus bilateral aid

	2SLS		AGLS	
	(1)	(2)	(3)	(4)
Dependent variable: REELECT	Narrow sample	Expanded sample	Narrow sample	Expanded sample
Multilateral aid	1.042**	1.052**	1.065**	1.070**
	(0.015)	(0.015)	(0.017)	(0.017)
Bilateral aid	1.000**	1.005**	1.010**	1.015**
	(0.200)	(0.205)	(0.210)	(0.210)
Democracy level	0.136	0.147	0.136	0.140
	(0.013)	(0.013)	(0.024)	(0.024)
Democracy wave	-0.400*	-0.503*	-0.600*	-0.672*
	(0.045)	(0.063)	(0.065)	(0.067)
Fisc_term	2.440	3.004*	3.082	3.284*
	(0.150)	(0.150)	(0.176)	(0.177)
Fisc_elec	0.351	0.790	0.452	0.680
	(0.763)	(0.342)	(0.663)	(0.612)
GDPPC	5.165**	5.170**	5.165**	5.181**
	(0.112)	(0.146)	(0.111)	(0.126)
Inflation	-0.700*	-0.850*	-1.050*	-1.150*
	(0.056)	(0.052)	(0.064)	(0.061)
Resources rents	0.850*	0.850*	0.860*	0.862*
	(0.075)	(0.078)	(0.063)	(0.067)
Press freedom	-1.105*	-1.310*	-1.320*	-1.400*
	(0.201)	(0.205)	(0.210)	(0.213)
Majoritarian system	0.488	0.395	0.409	0.429
	(0.626)	(0.620)	(0.514)	(0.618)
Votes	1.019*	1.245*	1.719*	1.740*
	(0.223)	(0.223)	(0.213)	(0.214)
Party	0.501*	0.512*	0.602*	0.603*
	(0.400)	(0.400)	(0.450)	(0.450)
Age	0.800	0.801	0.825	0.825
	(0.780)	(0.780)	(0.812)	(0.817)
Constant	11.803**	11.803**	11.825**	11.825**
	(0.020)	(0.020)	(0.020)	(0.020)
R^2/Pseudo R^2	0.21	0.21	0.15	0.15
Second-stage F-statistic	8.89	8.62		
(Prob)	(0.00)	(0.00)		
Second-stage Wald X^2			60.74	84.05
(Prob)			(0.00)	(0.00)
Hausman Test X^2	7.69	8.55		
(Prob)	(0.00)	(0.00)		
Smith-Blundell test X^2			14.61	15.52
(Prob)			(0.00)	(0.00)
Hansen J-statistic	10.45	10.45		
(Prob)	(0.08)	(0.08)		
No of Observations	240	300	240	300

Notes: Estimation method is 2SLS for specifications (1) and (2) and AGLS for specifications (3) and (4). For each independent variable, the first row gives the estimates coefficients whereas values in parentheses denote White Heteroskedasticity- and autocorrelation- robust standard errors. *, **, *** correspond to statistical significance at 10%, 5%, and 1% respectively.

Table 7: Marginal effects on the probability of re-election: Loans versus grants

	2SLS		AGLS	
	(1)	(2)	(3)	(4)
Dependent variable: REELECT	Narrow sample	Expanded sample	Narrow sample	Expanded sample
Loans	1.040**	1.042**	1.045**	1.050**
	(0.017)	(0.017)	(0.037)	(0.037)
Grants	1.010**	1.012**	1.100**	1.102**
	(0.013)	(0.013)	(0.015)	(0.015)
Democracy level	0.036	0.047	0.126	0.129
	(0.013)	(0.013)	(0.024)	(0.024)
Democracy wave	-0.400*	-0.503*	-0.600*	-0.672*
	(0.045)	(0.063)	(0.065)	(0.067)
Fisc_term	2.840	3.024*	3.080	3.282*
	(0.150)	(0.150)	(0.176)	(0.177)
Fisc_elec	0.351	0.790	0.452	0.680
	(0.763)	(0.342)	(0.663)	(0.612)
GDPPC	5.165**	5.170**	5.165**	5.181**
	(0.112)	(0.146)	(0.111)	(0.126)
Inflation	-0.700*	-0.850*	-1.050*	-1.150*
	(0.056)	(0.052)	(0.064)	(0.061)
Resources rents	0.840*	0.840*	0.860*	0.868*
	(0.066)	(0.068)	(0.073)	(0.077)
Press freedom	-1.205*	-1.320*	-1.420*	-1.440*
	(0.205)	(0.205)	(0.220)	(0.223)
Majoritarian system	0.488	0.395	0.409	0.429
	(0.626)	(0.620)	(0.514)	(0.618)
Votes	1.019*	1.245*	1.719*	1.740*
	(0.223)	(0.223)	(0.213)	(0.214)
Party	0.501*	0.512*	0.602*	0.603*
	(0.400)	(0.400)	(0.450)	(0.450)
Age	0.800	0.801	0.825	0.825
	(0.780)	(0.780)	(0.812)	(0.817)
Constant	11.803**	11.803**	11.825**	11.825**
	(0.020)	(0.020)	(0.020)	(0.020)
R^2/Pseudo R^2	0.22	0.22	0.15	0.15
Second-stage F-statistic	7.89	7.62		
(Prob)	(0.00)	(0.00)		
Second-stage Wald X^2			70.75	74.15
(Prob)			(0.00)	(0.00)
Hausman Test X^2	7.69	8.55		
(Prob)	(0.00)	(0.00)		
Smith-Blundell test X^2			13.61	14.52
(Prob)			(0.00)	(0.00)
Hansen J-statistic	9.43	9.45		
(Prob)	(0.09)	(0.09)		
No of Observations	240	300	240	300

Notes: Estimation method is 2SLS for specifications (1) and (2) and AGLS for specifications (3) and (4). For each independent variable, the first row gives the estimates coefficients whereas values in parentheses denote White Heteroskedasticity- and autocorrelation- robust standard errors. *, **, *** correspond to statistical significance at 10%, 5%, and 1% respectively.

Appendices

Appendix A: Sample Characteristics

Table A1: Countries and elections dates

Countries	Elections Dates	Countries	Elections Dates
Algeria	91, 95, 97, 99, 2002, 2004	Lesotho	93, 98, 2002
Argentina	83, 89, 95, 99, 2003	Malawi	94, 99, 2004
Bangladesh	81, 86, 88, 91, 96, 2001	Malaysia	82, 86, 90, 95, 99, 2004
Barbados	81, 86, 91, 94, 99, 2003	Mali	92, 97, 2002
Belize	84, 89, 93, 98, 2003	Mauritania	92, 96, 2001, 2003
Benin	91, 96, 2001	Mauritius	83, 87, 91, 95, 2000, 2005
Bolivia	80, 85, 89, 93, 97, 2002, 2005	Mexico	82, 88, 94, 2000
Botswana	84, 89, 94, 99, 2004	Mozambique	94, 99, 2004
Brazil	82, 86, 89, 94, 98, 2002	Nepal	81, 86, 91, 94, 97, 99
Bulgaria	91, 92, 96, 97, 2001, 2005	Nicaragua	84, 90, 96, 2001
Burundi	93, 2005	Niger	93, 95, 96, 99, 2004
Cameroon	88, 92, 97, 2002, 2004	Panama	84, 89, 94, 99, 2004
Chile	89, 93, 99, 2005	Papua New G.	82, 87, 92, 97, 2002
Colombia	82, 86, 90, 91, 94, 98, 2002	Pakistan	85, 88, 90, 93, 97, 2002
Costa Rica	82, 86, 90, 94, 98, 2002	Peru	80, 85, 90, 95, 2000, 2001
Croatia	92, 95, 97, 2000, 2005	Philippines	87, 92, 95, 98, 2001, 2004
Dominican Rep.	82, 86, 90, 96, 2000, 2004	Poland	90, 95, 2000, 2005
Ecuador	84, 88, 92, 96, 98, 2002	Romania	92, 96, 2000, 2004
Egypt	84, 87, 90, 95, 2000, 2005	Russia	91, 96, 2000, 2004
El Salvador	84, 89, 94, 99, 2004	Senegal	83, 88, 93, 96, 2000
Ethiopia	92, 2000, 2005	Sri Lanka	82, 88, 94, 99, 2005
Gambia	82, 87, 92, 96, 2001	Togo	85, 90, 94, 98, 2003, 2005
Ghana	92, 96, 2000, 2004	Thailand	83, 86, 88, 92, 95, 96, 2001, 2005
Guatemala	82, 85, 90, 91, 95, 99, 2003	Trinidad & T.	81, 86, 91, 95, 2000, 2001, 2006
Honduras	81, 85, 89, 93, 97, 2001, 2005	Tunisia	81, 86, 89, 94, 99, 2004
Hungary	90, 94, 98, 2002	Turkey	83, 87, 91, 95, 99, 2002
India	80, 84, 89, 91, 96, 98, 99, 2004	Uruguay	84, 89, 94, 99, 2004
Indonesia	82, 87, 92, 97, 99, 2004	Venezuela	83, 88, 93, 98, 2000
Jordan	89, 93, 97, 2003	Zambia	91, 96, 2001
Kenya	92, 97, 2002	Zimbabwe	80, 85, 90, 96, 2002

Appendix B: Variables Description and Data Sources

Table B1: Presentation of the data

Dependent Variable	Indicators	Sources
REELECT	Binary variable receiving the value of 1 if the incumbent leader is re-elected and 0 otherwise**.**	World Political Leaders 1945-2005 (Zárate's Political Collections) "World Statesmen" online encyclopedia Database of Political Institutions (World Bank) International Institute for Democracy and Electoral Assistance (IDEA)
Narrow Definition The narrow sample includes observations in which: • The leader has been in office, at least, two budgetary years preceding the election year. • The leader stayed in office at least until one month before the elections, if he quits within the month before the elections Reelect receives the value 0. • There is no legal limit on the leader's term, otherwise the observation is excluded.		
Expanded Definition The expanded sample also includes: • Leaders who left their position less than 365 days before the elections. In these cases, reelect receives the value 0. • Candidates replacing leaders that were subject to a legal limit, forcing them to quit at the end of their term. In these cases, Reelect receives the value 1 if the reigning leader's party is winning in the elections and 0 if it loses. • Leaders replacing a previous leader who died in the election year or in the preceding it. In these cases the replacing leader is considered as continuing the original leader's term.		
Independent Variables		
Age	Age of the political leader.	Archigos (Chiozza, Goemans and Gleditsch, 2009)
Aid	Net Official Development Assistance (ODA): net disbursement amount (disbursements minus amortization).	OECD/DAC
Bilateral aid	ODA from bilateral donors	OECD/DAC

Multilateral aid	ODA from multilateral donors	OECD/DAC
Loans	Net ODA loans	OECD/DAC
Grants	ODA grants	OECD/DAC
Financial aid	Financial aid corresponds to DAC 5 CODE 450-V and includes aid for social infrastructures and services, economic infrastructure, production sectors and multisector.	OECD Credit Reporting System (CRS) Aid Activity database
Political aid	Government and civil society aid (DAC 5 CODE 150).	OECD Credit Reporting System (CRS) Aid Activity database
Democracy level	The polity2 index ranges from -10 to +10 with higher values denoting more freedom and equals the difference between the Polity democracy and Polity autocracy index.	Polity IV Project
Democracy Wave	Dummy variable receiving the value of 1for the years 1990 and after.	
Fisc_term	Change in the average central government balance in the two years preceding the elections (not including the election year) compared to the previous two years.	International Financial Statistics (IFS) Government Financial Statistics (GFS)
Fisc_elec	Change in the balance in the election year relative to the previous year.	International Financial Statistics (IFS) Government Financial Statistics (GFS
GDPPC	Average annual growth rate of the real GDP per capita between the current and the previous election year.	World Bank (WDI)
Income	Gross Domestic Product (GDP) divided by midyear population.	World Bank (WDI)
Inflation	Change in the inflation rate in the election year relative to the previous year.	World Bank (WDI) International Financial Statistics (IFS)
Majoritarian system	A binary variable, for each country in each election year, receiving the value 1 in a country with a Majoritarian electoral system, and 0 otherwise.	Database of Political Institutions (World Bank)

Party	Percent of seats in the parliament held by the leader's party in the year preceding the election year. It receives the value 0 in a presidential system (in cases where data are from IDEA it is the proportion of the public's votes received by the party).	IDEA Database of Political Institutions (World Bank)
Population	Total population	World Bank (WDI)
Pressfreedom	This variable takes the value 1 if there is no press freedom, 2 is the press is partly free and 3 if the press is free. Each country is rated in three areas of potential state influence over the media: legal environment, political influences and economic pressures, to determine the overall score.	Freedom House
Resource rents	We use the same definition as in Collier and Hoeffler (2009). Based on data from the World Bank's adjusted savings project we calculated the rents for each commodity by subtracting the cost from the commodity price. We then multiplied the rents per unit by the amount extracted and summed across the different commodities. We then calculated the share of rents in GDP. Natural resources for which rent data were available are: oil, gas, coal, lignite, bauxite, copper, iron, lead, nickel, phosphate, tin, zinc, silver and gold. Data are available from the World Bank through their 'Adjusted Net Savings' project.	World Bank (WDI)
Votes	Percent of votes for the leader in a presidential system in the first round of the previous elections; receives the value 0 in a parliamentary system.	IDEA Database of Political Institutions (World Bank)

GENERAL CONCLUSION

Main Results

This dissertation has explored the causes and consequences of political market failures in developing countries, focusing on elections as events instead of generalized ratings of the extent to which countries are democratic. During the 1990s the approach to how good policies should be promoted shifted from conditionality to the promotion of democracy. At the core of the promotion of democracy was the promotion of elections. Potentially, elections are the key institutional technology that enables citizens to select competent governments and to hold governments to account. However, in the conditions typical of many developing countries, elections may be two-edged swords. Relying on cross country data, we have investigated some explanations of electoral market failures in developing countries.

In the first chapter of the thesis, we critically reviewed the literature focusing on political market imperfections in developing countries. This review highlighted five main imperfections: (i) information asymmetries, (ii) ethnic voting, (iii) the lack of credibility of electoral promises, (iv) the resort to illicit means of securing electoral victory, such as ballot fraud, vote-buying and voter intimidation, and (v) the modification of constitutions by abolishing term limits. The literature review stressed how these imperfections impede elections to properly perform their double role of selecting competent governments and disciplining politicians by holding them accountable.

In the second chapter, we contributed to the political budget cycles literature and attempted to econometrically assess whether elections affect the allocation of public expenditures. Three results stand out. First, we provide evidence of systematic distortions in the allocation of public

expenditures as a function of elections. Incumbents shift the allocation of pre-electoral spending towards current expenditures and away from capital expenditures. Second, the size of political cycles depends on economic and institutional features of the country. On the one hand, developing countries with competitive elections and more natural resources production exhibit larger political cycles. On the other hand, a greater share of informed voters and a high level of decentralization lead to smaller distortions in the allocation of public spending in the election years. Third, while political deficit cycles disappear as voters gain experience with electoral politics, our dynamic analysis suggests that electoral impacts on the allocation of public expenditures endure.

In the third chapter, we contributed to the recent literature on the role of mass media in development by investigating the effect of mass media on voter turnout in national elections. The hypothesis that information increases electoral participation in developing countries is tested. Two main results emerge from the analysis. First, media penetration, measured by radio ownership, fosters electoral participation in developing countries, whereas newspapers circulation and television ownership don't have a statistically significant impact on voter turnout. Second, when governments own a larger share of media outlets and infrastructure, regulate the media industry, and do more to control the content of news, citizens are less prone to express their views at the polls.

In the last paper, we contributed to the literature on incumbent advantage by investigating whether foreign aid affects the probability of incumbent's re-election. Considering election as a contest, we highlighted that the association between foreign aid and the incumbent's probability of re-election is ambiguous from a theoretical standpoint. Three results stand out. First, foreign aid increases incumbent's probability of re-election. Second,

this effect is sensitive to the recipient's political regime. The positive impact of aid flows on the probability of re-election is moderated in more democratic societies. Finally, some forms of aid have a non significant effect on the probability of the incumbent's re-election chances. Political aid flows aiming at enhancing democracy-related activities don't increase the probability of the incumbent government to stay in power.

Policy Implications and Future Research

The main challenge for developing countries and the international community is to implement reforms to overcome the underlying political markets imperfections that impede elections to achieve accountability. This thesis suggests some policy implications to achieve this objective. However, more research and practical experiments are needed to discover how best to alleviate these imperfections.

First, some reforms can reduce political market distortions caused by information problems. For instance, some policy options may serve to mitigate the potential fiscal disruptions ahead of elections. Around elections, higher transparency and disclosure of the major components of fiscal balance could be valuable in developing countries. Second, independent validation of the quality of public goods and the scope of accomplishment and failure of individual political decision-makers, by clearly communicating to citizens that the information is widely shared, could provide a vehicle for voter coordination (Keefer and Khemani, 2005). Not only that can the media provide this type of validation and coordination but so can external agencies and civil society groups. Third, decentralization can mitigate information asymmetries between voters and politicians by allowing voters' comparisons between what is obtained inside the jurisdiction and what is the case in others –a mechanism now referred to as political yardstick competition.

Second, some policy options may serve to overcome credibility issues. Candidates, could, for example, signal responsible and credible commitments ahead of elections. A consensus among major political parties aiming to reduce the menu of options to a range of credible commitments in the fiscal area could be a way to reduce the uncertainty traditionally generated by upcoming elections, as exemplified by Brazil in 2002 (Chang, 2007).

Third, where sub-national identities are impeding cooperation and the functioning of elections, there are three approaches that might help to address the problem (Collier, 2009a). The first one is to permit secession of some groups. This was for instance adopted in Africa with the secession of Eritrea from Ethiopia, and in Europe with the secession of Slovenia from Yugoslavia. One alternative to secession is to formalize the divisions of the society along the lines adopted by Switzerland, Belgium and Canada. This combines considerable decentralization with rules that divide both the budget and public employment according to quotas for each ethnic group. A third approach is for the political leadership to build a common sense of identity. The crucial role of political leadership in building a sense of shared national identity is demonstrated in a natural experiment analysed by Miguel (2004). Despite similar geography and historical legacies, governments in Kenya and Tanzania have followed radically different language, education, and local institutional policies, with Tanzania consistently pursuing more serious nation building. The evidence suggests that nation building has allowed diverse communities in rural Tanzania to achieve considerably better local public goods outcomes than diverse communities in Kenya.

Fourth, the international community already routinely monitors the conduct of elections in many developing countries and make the results public. However, these assessments need to be linked to credible and powerful incentives that make illicit tactics unattractive. Although the most

obvious way to create an incentive would be to link the conduct of elections to aid flows, there is little reason to expect that such a link would be effective. The long history of donor attempts at aid conditionality suggests that a proposed link would lack credibility. The alternative, proposed in Collier (2009b), is to link election tactics to the international provision of security. Governments that came to power in election judged to be free and fair would be offered protection from the threat of a coup d'état, using AfriCom and European Union forces in conjunction with those of the African Union.

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Abstract:

This dissertation investigates political market failures in developing countries. We deal with the idea that elections, the core institution of democracy, can't fully perform their functions in developing countries. This thesis revolves around four essays. Chapter 1 offers a critical review of the literature highlighting the mechanisms though witch political market imperfections undermine the role of elections in guaranteeing accountable and responsive governments. Chapter 2 moves beyond traditional political budget cycles models to shed light on changes in the allocation of public expenditures in pre-electoral periods. Results suggest that incumbents manipulate the allocation of public expenditures for electoral purposes increasing current expenditures at the expense of capital spending. Chapter 3 deals with the effect of mass media on national voter turnout. Estimations suggest that media penetration, measured by radio ownership, as well as media freedom are positively associated with electoral participation. The last chapter investigates whether foreign aid affects re-election probabilities of political leaders in recipient countries. It reveals that aid flows have a positive and significant impact on the incumbent's probability of re-election.

Keywords: Political economy, Elections, Political market, Democracy, Public expenditures composition, Voter turnout, Media, Foreign aid, Developing countries.

Résumé:

Cette thèse s'intéresse aux défaillances des marchés politiques dans les pays en développement. Nous explorons l'idée selon laquelle les élections, institution centrale de la démocratie, ne peuvent pleinement jouer leurs rôles dans les pays en développement. Cette thèse s'articule autour de quatre essais. Le chapitre 1 présente une revue critique de la littérature soulignant les mécanismes via lesquels les imperfections des marchés politiques limitent le rôle des élections en tant que vecteur assurant la responsabilisation des gouvernements. Le chapitre 2 propose d'aller au-delà des modèles classiques de cycles politico-budgétaires afin de mettre en lumière les modifications de l'allocation des dépenses publiques en périodes préélectorales. Les résultats suggèrent que les gouvernements au pouvoir manipulent l'allocation des dépenses publiques à des fins électorales en augmentant les dépenses courantes au détriment des dépenses en capital. Le chapitre 3 porte sur l'effet des médias sur la participation des électeurs lors des élections nationales. Les estimations indiquent que la pénétration des médias, mesurée par la possession d'un poste de radio, ainsi que la liberté des médias sont positivement liées avec la participation électorale. Le dernier chapitre s'intéresse à l'effet de l'aide internationale sur la probabilité de réélection des dirigeants politiques dans les pays bénéficiaires. Il révèle que l'aide exerce un effet positif et significatif sur la probabilité de réélection des gouvernements au pouvoir.

Mots-Clés : Economie politique, Elections, Marchés politiques, Démocratie, Composition des dépenses publiques, Participation électorale, Médias, Aide internationale, Pays en développement.