

**DECOLONIZATION AND ECONOMIC GROWTH:  
THE CASE OF AFRICA**

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This paper examines growth rates of real GDP per capita during decolonization in sub-Saharan Africa. For each period considered, I divide the sample between those countries that gained independence during the period and those that either remained colonies or were already independent. These newly independent countries grew slower than the control group. However, a more refined categorization shows that decolonizers grew slower than those that received their independence previously but did not grow slower than those that remained colonies. Thus, whether or not one perceives a cost of decolonization depends on what one uses as the control group.

*Keywords:* Sub-Saharan Africa, Economic Growth, Decolonization

*JEL classification:* O55, N17

1. INTRODUCTION

Following World War Two, Africa experienced a rapid transformation as former colonies gained their independence. What effect did these sudden changes have upon growth rates of income per capita? Given the focus placed on the economic development of sub-Saharan Africa (SSA) since 1960, this is an important question and perhaps can explain differences in growth paths. Except for Ethiopia, Liberia, and South Africa, the remaining countries did not become independent until after 1950. Moreover, these countries did not receive independence at the same time. After World War Two, Sudan led SSA in gaining independence in 1956 whereas Namibia did not become independent until 1991. Do differences in the timing of independence help explain different growth trajectories across these countries? Many economic growth regressions stemming from Barro (1991) begin their sample in 1960. Given that some countries achieved independence in or after 1960, mixing colonies, recent decolonizers, and previously

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independent countries might not be a harmless simplification.<sup>1</sup>

This paper examines this issue using two empirical specifications. The first compares growth rates of countries becoming independent in some period to those that did not undergo this political transformation during this same period. The second specification includes three groups: those that remained colonies during the period, those that became independent, and those that were already independent. The first specification attempts to determine whether countries that underwent decolonization (a specific type of political change) experienced different rates of growth than observations that did not change status. That is, they either remained colonies or were already independent. More generally, this methodology examines how this specific type of political transition influences short-run growth outcomes. The second specification uses a more refined classification to make comparisons across three groups. For example, by comparing growth in newly independent countries with growth rates from those remaining colonies, one can see if decolonization lowered growth *relative to the alternative of remaining a colony*. This second specification can also compare growth rates of colonies to those of nascent countries. Finally, there might also be a difference in growth rates for those just becoming independent to those who had previously become independent. In all of these comparisons, the aim is to examine growth rates across countries differing in their political status at that time.

Bertocchi and Canova (1996) examine economic growth in African countries before and after decolonization. They examine whether country *x* grew faster after gaining independence than during the preceding years and find that economic growth increased after independence.<sup>2</sup> An advantage of this methodology is that country specific factors are held constant. A disadvantage is that temporal factors (not related to decolonization) might influence the results. This might be important as growth rates in SSA in the 1970's (roughly 1%) averaged less than growth rates during the 1960's (1.7%). For countries that obtained their independence circa 1970, a continent or global economic slowdown could then distort the findings. Another disadvantage of their procedure is that countries obtaining independence in 1960 cannot be included in the sample as economic growth data is unavailable before 1960.

Unlike their methodology, the procedure considered here holds the temporal dimension constant although country specific factors still might inject noise into the study. A related example is found in Minier (1998) who examines whether countries that democratized experienced different growth rates than otherwise similar countries that did not undergo similar political transformations.

<sup>1</sup> In this paper, the term "decolonization" is equivalent to "transfer of power" and "independence". Although decolonization might also hold economic, psychological, or cultural implications, the term here merely denotes a political transfer of power from the colonial power to the indigenous peoples.

<sup>2</sup> Alam (1994) uses a sample of 22 countries, only twelve of which are from sub-Saharan Africa, and does not find any difference between growth rates before and after decolonization.

In examining the economic costs or benefits of decolonization, I only consider countries in SSA. Given the dismal growth performance of many of these countries, understanding economic growth (or the lack thereof) in this region becomes highly important in finding ways to help these countries foment economic growth. (See Ghura (1995), Savvides (1995), Bloom and Sachs (1998) for more general treatments examining economic growth in SSA.) A second reason to concentrate on this region is to limit the diversity of countries in the sample while still retaining an adequate number of observations.

Summarizing the findings of the paper, countries becoming independent grew slower than did countries not simultaneously undergoing this type of political change. However, there is no strong evidence of a cost to decolonization relative to remaining a colony. Decolonizing countries are not found to grow slower than ones that remained colonies during the same period. In this sense, there is not found to be a cost of decolonizing because growth does not decrease relative to that from the alternative of remaining a colony. Some might consider this surprising given that political transformations are often seen as costly, at least in the short run. Instead, both decolonizing countries and remaining colonies grew slower than previously independent countries.

This paper does not attempt to explore long-run costs or benefits to becoming independent. Both Davidson (1992) and Englebert (2000) discuss how the colonial structure created by Europeans negatively affected Africa's development and why Africa is the poorest region in the world today. Given the political conditions arising from colonialism, leaders could not enact policies more beneficial to development. Lofchie (1971) also presents several cases in which political constraints limited the potential for economic development in SSA. Nevertheless, this paper only focuses on short-run effects of decolonization and how this type of political change might influence economic growth. Although longer-run perspectives are left for other work, I still consider the focus of this paper important since transitional costs need not be small, either upon growth or welfare.

The paper is organized as follows. Section 2 presents a brief outline of decolonization in SSA and discusses previous literature. Section 3 presents a theoretical construct that provides insight into the empirical model. Section 4 presents the empirical model and the data. Section 5 reports the results. Section 6 concludes the paper.

## 2. HISTORICAL CONTEXT AND LITERATURE REVIEW

Table 1 lists the countries in the sample and gives information regarding date of independence and what European country was the colonial power preceding independence. How did such instances of decolonization affect growth outcomes? Several claim that these political changes held negative effects. Chai (1998) argues that leaders in newly independent African nations often enacted socialist policies in order to move away from the capitalist policies more identified with the former colonial powers.

**Table 1.** Country Histories

Country	Colony Of	Year of Independence	t such that $D_t = 1$
Angola	Portugal	1975	4
Benin	France	1960	1
Botswana	Britain	1966	2
Burkina Faso	France	1960	1
Burundi	Belgium	1962	1
Cameroon	France	1960	1
Cape Verde	Portugal	1975	4
Central African Rep.	France	1960	1
Chad	France	1960	1
Comoros	France	1975	4
Congo	France	1960	1
Dem. Congo (Zaire)	Belgium	1960	1
Ethiopia	Independent	NA	$D_t = 0$ for all t
Gabon	France	1960	1
Gambia	Britain	1965	2
Ghana	Britain	1957	$D_t = 0$ for all t
Guinea	France	1958	1
Guinea-Bissau	Portugal	1974	4
Kenya	Britain	1963	2
Lesotho	Britain	1966	2
Liberia	Independent	1847	$D_t = 0$ for all t
Madagascar	France	1960	1
Malawi	Britain	1964	2
Mali	France	1960	1
Mauritania	France	1960	1
Mauritius	Britain	1968	3
Mozambique	Portugal	1975	4
Niger	France	1960	1
Nigeria	Britain	1960	1
Rwanda	Belgium	1962	1
Senegal	France	1960	1
Sierra Leone	Britain	1961	1
Somalia	Italy	1960	1
South Africa	Britain	1910	$D_t = 0$ for all t
Sudan	Britain	1956	$D_t = 0$ for all t
Swaziland	Britain	1968	3
Tanzania	Britain	1964	2
Togo	France	1960	1
Uganda	Britain	1962	1
Zambia	Britain	1964	2
Zimbabwe	Britain	1980	5

Not only might such policies be less conducive to growth but a rapid and substantial change in government policy might have increased the costs of these political transformations. Etamad (2000) states that decolonization led to emigration of colony-born Europeans thereby reducing the amount of human capital in the newly independent nation. Of the four major colonial powers, Britain to a greater degree took steps before 1960 to prepare colonies for independence (see Low (1988)). The more sudden transfers of power in other colonies could have left them less prepared to establish governments that could promote economic development as political issues were less resolved. Young (1986) provides for a more detailed description of the economic and political problems newly independent countries in Africa faced, including internal disruption and civil war.

Others do not necessarily see decolonization as being costly or greatly affecting growth outcomes. If colonialism involves costs upon the host regions as argued in Alam (1994), then decolonizing might thereby remove some of these impediments to economic growth. Coquery-Vidrovitch (1988) argues that many of the technocrats in French Africa remained European and that metropolitan influences and institutions still remained, thereby lessening differences before and after independence. To the extent that colonial bureaucracies contained Africans, then changes stemming from transfers of power should be muted. Finally, dependency theorists state that the era of colonialism was merely replaced by one of 'neocolonialism' in which the newly independent countries were still connected to their colonizing powers and so were still constrained by forces similar to the ones in place during colonialism (see Zartman (1976)). Under such a view, economic outcomes would not be predicted to drastically change. Given these differing hypotheses, it is not clear whether decolonization should decrease economic growth or create transitional costs. The remainder of the paper seeks to address this issue.

### 3. THEORETICAL CONSTRUCT

In examining growth in SSA, Sachs and Warner (1997) base their empirical specification on the equation:  $y(t) = (1 - e^{-jt})y + e^{-jt}y(0)$  where  $y(t)$  is the log of current per capita income,  $y$  is the log of steady state per capita income,  $y(0)$  is the log of initial per capita income, and  $j$  is a parameter affecting the speed of convergence to steady state. Convergence occurs provided  $j > 0$ . Convergence to  $y$  is interpreted not to mean that growth stops but that the growth rate reaches a constant trend. Along the transition path to  $y$ , growth rates are increasing with the gap between initial and steady state income:  $y - y(0)$ . A similar strategy is employed here but with two changes.

The first is to allow for the possibility that colonies and independent countries have different long-run steady states. Let  $y$  be given by  $y(X, p)$  where  $X$  denotes a

vector of exogenous parameters that determines long-run income levels and  $p$  denotes the political status of the entity:  $p=c$  for a colony and  $p=i$  for an independent country. If  $c \neq i$ , then colonies and independent countries are converging to different income levels, ceteris paribus. Given  $y(0)$ , countries with higher  $y$ 's will have faster growth rates since they are further away from their steady states.

The second modification accounts for the effects that political changes can have on current income. Suppose growth along the transition path also depends on political changes. Namely,  $y(t) = (1 - e^{-\beta t})y + e^{-\beta t}y(0) + z h(t)$  where  $h(t)$  equals one if the colony becomes independent during period  $t$  and equals zero otherwise. The shock  $z$  denotes the effect that the political transition has on current income. If  $z < 0$ , the political change exerts a short-run cost in that it lowers current income from what it would have been. If  $z > 0$ , the move to independence has a positive effect in the short run. Even if  $y(\cdot, c) < y(\cdot, i)$ , growth might still decline at independence provided  $z$  is sufficiently large in magnitude.

Two empirical specifications are presented below. The first assumes  $c=i$  so that steady states do not rely on the political status of the observation. If growth rates differ, then it must be because  $z \neq 0$ . The second specification relaxes this assumption and so allows steady states to differ between the two groups.

#### 4. THE METHODOLOGY

Unless otherwise stated, data is taken from Barro and Lee (1994). Output level and growth measures come from version 5.5 of the Summers and Heston data in the Barro and Lee (1994) data set.

Consider the following empirical specification:

$$GROWTH_{n,t} = a_t + x_n + B_t Y_{n,t} + b D_{n,t} + v_{n,t}, \quad (1)$$

where  $n$  denotes the country and  $t = 1, 2, 3, 4, 5$  denotes the period with  $1 = 1960-65$ ,  $2 = 1965-70$ ,  $3 = 1970-75$ ,  $4 = 1975-80$ , and  $5 = 1980-85$ .

GROWTH denotes the average growth rate of real GDP per capita (adjusted for purchasing power parity) over the period. I begin in 1960 as data for many countries is not available before then. I end in 1985 as the majority of countries in SSA gained their independence before Zimbabwe did in 1980. No other country gained independence until Namibia in 1991. I allow average growth rates to differ over time as the intercept is time dependent (with  $a_t$  set equal to zero). Growth differences over time could exist as regional or global shocks alter average growth rates in SSA, but including time dependent intercepts make it less likely that these shocks would be driving the results.

$X_n$  denotes a country specific fixed effect that can take into account such factors as

country histories, geography including natural resource endowments, and ethnic composition (provided that ethnicity remains stable over time). Such fixed effects are likely to be important in determining steady state outcomes. Of note is that colonial heritage does not change after independence and so this fixed effect implicitly controls for who was the colonizing power just before independence as differences in colonial policy or institutions (for example, legal codes) might hold implications for long-run income levels.

Matrix  $Y$  contains variables that differ over time. It includes the natural log of real GDP per capita (GDP) and gross enrollment in primary education (PRIM), both taken from the initial year of the period. The gross enrollment rate in primary education (denoted as Pxx in Barro-Lee (1994) and originally taken from UNESCO) is used as a proxy for human capital since other measures of human capital such as the average education level among the adult population or enrollment in secondary education are less available for African countries. Both GDP and PRIM are included to better coincide with standard empirical specifications in the economic growth literature. Moreover, Grier (1999) argues that controlling for human capital is important in explaining growth differences between former French and British colonies. Linking (1) with the model in Section 3, GDP is included since growth is increasing in the gap,  $y - y(0)$ . PRIM is included as human capital is likely to determine steady state income as argued in Mankiw *et al.* (1991). To keep the specification as general as possible, I allow the coefficients on the human capital and initial income variables to vary over time although this is not crucial for the findings of the paper.

The dummy variable  $D_{n,s}$  equals one if the year that country  $n$  gained independence is closest to the initial year in period  $s$  (where  $s = 1, 2, 3, 4, 5$ ) versus other years divisible by five and equals zero otherwise. As examples:  $D_{n,1} = 1$  if  $n$  decolonized in 1960,  $D_{n,2} = 1$  if  $n$  decolonized in 1966,  $D_{n,3} = 1$  if  $n$  decolonized in 1972,  $D_{n,4} = 1$  if  $n$  decolonized in 1978, and  $D_{n,5} = 1$  if  $n$  decolonized in 1984, and  $D_{n,s} = 0$  for  $s = 1, 2, 3, 4, 5$  if  $n$  decolonized in 1957 or before. Only six of the forty countries in the sample gained independence more than a year away from a year divisible by five (e.g., 1963) and so these five year increments are generally appropriate as windows for examining growth rates following decolonization (see Table 1 for groupings). Of interest is the value of the coefficient  $b$ . If it is negative, decolonizing countries grew slower than ones that did not decolonize during the same period.

I use five year periods so as to consider short-run effects while still allowing time for such effects to be felt. Political transitions are not immediate as it takes time for elections to be held and ministerial offices filled. Moreover, the uncertainty surrounding these political changes might not be resolved within one or two years and such uncertainty regarding policies and political stability could have deleterious effects on growth for several years hence. Thus, if nominal or, more importantly, de facto transitions take several years to complete, then I must use periods spanning several years

in length to capture the effects of these transitions on growth. In addition, if I use periods shorter in duration than what spans the actual transition then it becomes less likely that I can ascertain the effects of the transition on growth as part of the effect will be erroneously placed in non-transitional periods.<sup>3</sup> Averaging over five years also makes it less likely that one or two year aberrations will be driving the results. I refrain from using periods longer than five years since the issue here is examining short-run costs of decolonization and whether such types of political transformations exert negative effects on contemporaneous growth rates.

The unobservable component  $v$  is assumed to have mean zero and finite variance. Since  $v$  might be correlated over time, I estimate the five equations implicit in (1) using a SUR specification but with not necessarily the same number of observations for each period (due to missing data).

The specification in (1) compares decolonizing countries to those that did not undergo such a political transformation during the period. As such, it can help determine if such political transitions are associated with lower economic growth. However, the specification in (1) does not distinguish the control group ( $D_t = 0$ ) between those remaining colonies during  $t$  and those already independent before  $t$ . This is not a problem if  $i = c$  since independent countries are not predicted to have higher long-run income than do colonies.

But another specification is needed if  $c \neq i$ . Consider the following:

$$GROWTH_{n,t} = a_t + x_n + B_t Y_{n,t} + b D_{n,t} + d I_{n,t} + v_{n,t}, \quad (2)$$

where  $I_{n,t} = 1$  if  $D_{n,s} = 1$  for some  $s$  preceding  $t$  ( $s < t$ ) or if  $n$  was independent before 1958. Otherwise,  $I_{n,t} = 0$ . There are now three types of observations: ones that received their independence before the period in question ( $I = 1, D = 0$ ), ones that decolonized during the period ( $I = 1, D = 0$ ), and ones that remained colonies during the period ( $I = 1, D = 0$ ). [Note: the manner in which  $I$  is constructed, relying on the political status of the country in the *preceding* period, precludes the possibility that  $I$  and  $D$  both equal one for the same country in the same period.]

From (2),  $b \neq 0$  implies that decolonization is associated with current growth.  $d \neq 0$  implies that previously independent countries grew at a different rate than did colonies. Finally,  $b \neq d$  implies that previously independent countries grew at a

<sup>3</sup> Of course, using a longer window than the actual transition poses an opposite problem as part of the window that I consider will be of "normal" conditions. However, I believe that this problem is of less concern because at least I will still be capturing all of the transition in a single period. Since the focus is on examining the transition, I prefer that the transitional period not run across my sample periods but is contained in one period even if the transition does not fully span a single sample period. I believe that a five year window provides an adequate length of time for a transition to be contained in a single period.



different rate than did newly independent countries.

As with any empirical model, shortcomings arise. The first concerns what inference should be drawn should  $d$  differ from zero. For example, do independent countries have higher long-run growth rates or would  $d$  differ from zero only because countries are approaching a new steady state income level, i.e., independence has long-run level effects but not long-run growth effects as assumed in the model of Section 3? This is certainly an interesting question although it is not the focus of this paper. Moreover, using a window of 1960 to 1985 probably provides insufficient time to examine long-run questions, especially for countries achieving independence in the second half of the period.

A second shortcoming is that the specification does not contain policy variables or controls that might be more contemporaneous with the different periods and can vary over time aside from GDP and PRIM. For example, estimations of the Solow model often contain population growth rates and savings rates among other variables. Equations (1) and (2) do not contain more contemporary variables since they are likely to be endogenous. Not only would this affect the results in the usual manner when right hand side variables are endogenous but they make it more difficult to interpret the findings. If colonies and newly independent countries launch different policies or have different characteristics, then this is an effect from decolonization but this would not be accounted for in  $D$  or  $I$  if these policies and outcomes are being directly included in the empirical specification. GDP and PRIM are included since income levels and human capital at the beginning of the period should not depend on growth rates during the period. I later include current population growth rates and current investment to GDP ratios to check the robustness of earlier findings.

Perhaps the most important concern is the potential for the date of decolonization to be endogenous. If economic growth influences whether or not a colony becomes independent, then the coefficient estimates should not be interpreted as effects from decolonization and an alternative method of estimation is required. However, given how decolonization occurred, I do not believe that this is a problem as independence drives had greater political than economic motivations in the colonies. Although colonizing powers considered the economic costs of retaining colonies, these concerns seemed to be more related to longer-run costs and not due to the short-run fluctuations considered here.

Three of the countries were independent long before World War Two. France's decision to acquiesce to national movements stemmed from de Gaulle's decision to alter colonial policy given what was happening in Algeria (see Kaba (1988)). Stengers (1982) reports that Zaire's (now Democratic Congo) independence came after a sudden burst of colonial riots in 1959 convinced the Belgian public that a colonial struggle like what was occurring in Algeria or in Southeast Asia would be costly and not winnable in the long run. Given the lack of support, the Belgian government quickly granted independence and Zaire (now Dem. Congo) was created. With the Congo gone, there was little reason to hang on to Burundi and Rwanda. Portugal's decision to leave Africa came following a

usurpation of power in Portugal and although this coup was brought about by frustration with its armed struggle with its colonies, I find it more likely that these frustrations were related to the direct costs on Portugal rather than with the economic growth rates of its colonies. Although Mozambique, Angola, and Cape Verde all had negative growth rates in the period before independence, Guinea-Bissau grew at a 2% rate between 1970 and 1975 but still received independence with the others. Moreover, the previous government had been willing to bear the costs of negative growth in the other three colonies.

British colonies underwent the most diverse experiences. Great Britain left the Sudan once the Egyptian threat subsided (see Daly (1988)). Independence in their West African colonies happened contemporaneously with that of the French colonies. In fact, Ghana's independence helped spark drives to independence in French colonies. Britain soon left its remaining colonies in West Africa as it had previously planned. The situation differed in East Africa as the presence of white settlers complicated the picture. Independence for Uganda, Kenya, and Tanganika occurred when the British government found acceptable individuals such as Kenyatta to whom to transfer power. Zambia and Malawi received independence when they rejected British attempts to form a federation between these two and Southern Rhodesia due to the larger presence of white settlers in the latter (see Gifford (1982)). Zimbabwe underwent a colonial struggle which turned against the white settlers after the Portuguese colonies achieved independence thereby denying the white minority regional support. Independence followed in 1980. Low (1988) provides a more detailed summary of independence movements in former British colonies.

From the above descriptions, I take decolonization to be exogenous to African growth rates.

## 5. RESULTS

The first column of Table 2 presents results from (1). To conserve space, I do not report the coefficients on the country specific fixed effects. Moreover, I only report the coefficients and not the standard errors for the coefficients on initial income and human capital. Full results are available from the author on request.

The coefficients on  $GDP_t$  coincide with previous findings in the empirical growth literature. The coefficients on  $PRIM_t$  are negative, suggesting that those countries having greater enrollment in primary education grew slower although coefficients for the later periods lose statistical significance. The lack of a large positive association between human capital and growth as often reported in the literature might be due to limiting the sample to SSA which diminishes variation across observations. Savvides (1995) also does not find a positive relation between education enrollment (although he uses secondary education) and economic growth in SSA when using panel data. Moreover, other studies have also failed to find large positive associations between measures of human capital and growth. Romer (1989) reports no significant association between literacy rates and economic growth.

**Table 2.** SUR Coefficients and Stan Errors (Dep. Var. is GROWTH)

Variable	(1)	(2)	(3)	(4)
GDP <sub>1</sub>	-0.0832***	-0.0826***	0.0181***	0.0176***
GDP <sub>2</sub>	-0.1094***	-0.0978***	-0.0387***	-0.0349***
GDP <sub>3</sub>	-0.1059***	-0.0950***	-0.0421***	-0.0360***
GDP <sub>4</sub>	-0.1244***	-0.1157***	-0.0629***	-0.0579***
GDP <sub>5</sub>	-0.1289***	-0.1205***	-0.0738***	-0.0687***
PRIM <sub>1</sub>	-0.1206***	-0.1288***	-0.0993***	-0.1043***
PRIM <sub>2</sub>	-0.0584**	-0.0729**	-0.0289	-0.0369
PRIM <sub>3</sub>	-0.0429	-0.0687***	-0.0271	-0.0434
PRIM <sub>4</sub>	-0.0203	-0.0458*	-0.0146	-0.0301
PRIM <sub>5</sub>	-0.0253	-0.0574**	-0.0149	-0.0339
D	-0.0179*** (0.0063)	0.0119 (0.0096)	-0.0181*** (0.0068)	-0.0035 (0.0104)
I		0.0475*** (0.0117)		0.0236* (0.0128)
a <sub>2</sub>	0.1633** (0.0785)	0.0792 (0.0836)	0.3482*** (0.0843)	0.3167*** (0.0885)
a <sub>3</sub>	0.1335 (0.0902)	0.0551 (0.0861)	0.3639*** (0.0888)	0.3281*** (0.0891)
a <sub>4</sub>	0.2486** (0.1040)	0.1831* (0.1028)	0.5588*** (0.0965)	0.5213*** (0.0980)
a <sub>5</sub>	0.2656*** (0.1010)	0.2057** (0.1011)	0.6297*** (0.0955)	0.5826*** (0.0993)
INV <sub>1</sub>			0.0075	0.0029
INV <sub>2</sub>			0.0402	0.0465
INV <sub>3</sub>			0.1162	0.1072
INV <sub>4</sub>			0.1606**	0.1378*
INV <sub>5</sub>			0.2240***	0.1864**
POPG <sub>1</sub>			0.0065	0.0324
POPG <sub>2</sub>			0.0386	0.0315
POPG <sub>3</sub>			-0.0446	-0.1016
POPG <sub>4</sub>			-0.5272***	-0.5130***
POPG <sub>5</sub>			-0.6545***	-0.5587***
b = d <sup>1</sup>	NA	0.0000	NA	0.0016
Countries	41	41	41	41
Total obs.	190	190	190	190

Notes: Results for country level fixed effects not presented in order to save space but available from the author on request.

Standard errors are in parentheses.

<sup>1</sup>P-value from Wald test of Null hypothesis that b = d in Equation (2).

\* denotes significance at 10% level.

\*\* denotes significance at 5% level.

\*\*\* denotes significance at 1% level.

De Gregorio (1992) finds that in Latin America, school enrollment indices were not positively correlated with growth. Therefore, the findings of this paper regarding school enrollment and economic growth are not unique.

The coefficient on  $D$  is  $-0.018$  and is significant at the 1% level. Its magnitude suggests that during the period of decolonization, a country's growth rate was 1.8 percentage points lower than otherwise similar countries but who decolonized before or after this period. These findings indicate that there could certainly be a sizable economic cost during this political transformation. Uncertainty as to the policies of a new government or as to the political stability of nascent institutions could both create disincentives for productive activities and reduce growth rates. The negative coefficient also provides evidence against Coquery-Vidrovitch (1988) who downplayed any negative effects of decolonization, arguing that African bureaucracies remained quite similar before and after independence, at least for some colonies. Given that I explicitly control for human capital and that I am considering short-run effects, it is also unlikely that the negative coefficient on  $D$  is capturing a negative effect from a loss of human capital as hypothesized by Etemad (2000). Instead, there is evidence that the change in political institutions itself exerted a negative effect on growth.

The specification in column two includes the independence dummies found in (2). The control group of countries are those that remained colonies during the period ( $I = 0, D = 0$ ). Findings regarding initial GDP and human capital are similar to those presented above. However, the sign of the coefficient on  $b$  becomes positive although not significant. There is now no evidence of any cost of decolonization on economic growth when one compares these countries to those that remained colonies,  $z = 0$ , and the contentions of Coquery-Vidrovitch (1988) are now supported under this more refined classification. On the other hand, the coefficient on  $I_{n,t}$  is  $0.047$ , significant at the 1% level. There is strong evidence that previously independent countries grew faster than colonies, a finding in line with that from Bertocchi and Canova (1996) although our methodologies greatly differ. This result also supports the notion that growth rates in colonies were sacrificed so as to serve the needs of the mother country. Once colonies became independent, they not only had greater control over economic policy but could shape policy to promote their own interests without worrying about how such policies affected countries in Europe (i.e., the mother countries). In accordance with the model in Section 3, such policy differences imply that  $i > c$  and so these countries grew faster as they were approaching a higher steady state. This finding that independent countries grew faster than colonies also rebuts Zartman (1976) who argued that former colonies were not truly independent as they still relied on their former colonizers and remained subservient. Although these findings do not imply that no such connections existed after independence, such ties (if they existed) were not strong enough to completely dissipate the growth advantages that independent countries have over colonies. Moreover, a Wald test of the null  $b = d$  has a p-value less than 0.01 (significant at 1% level) providing evidence that countries that decolonized grew slower than those that had already gained

independence. Although  $c < i$  implies that independent countries, including newly independent ones, should grow faster than colonies, a possibility is that growth does not immediately increase after independence. The transition does not lower growth since  $b = 0$  implies  $z = 0$ , but the drive to the higher steady state is delayed. In this sense, uncertainty about policies and political stability do not lower growth relative to growth under the previous regime but merely delay the onset of higher growth.

Columns 3 and 4 add two other controls, the population growth rate of the period (POPG) and the investment to GDP ratio (INV) during the period to account for the savings rate. Savings rates and population growth rates are steady state parameters in standard Solow growth models. However, a disadvantage with including these controls is that they are likely to be endogenous, especially investment.

In the first periods considered, there is not a strong relation between investment and growth although the association becomes stronger in periods four and five. Similarly, there is no strong relation between population growth and economic growth until these same two periods where there is evidence of a negative association. One possible explanation for these results is that the political upheavals that mostly occurred during the 1960's and early 1970's were no longer as frequent afterwards and so did not dominate other factors in how they influenced economic growth. Consequently, other factors such as investment rates played larger roles.

The coefficients on GDP and PRIM remain the same with two exceptions. One, the coefficient on  $GDP_1$  becomes positive, implying that growth was positively related to income in the early 1960's. Second, there is now less evidence of a negative association between primary schooling and economic growth although the association remains negative for the early 1960's. Both coefficients have signs similar to those found in Mankiw *et al.* (1991). The results regarding  $d$  change slightly. In column 4,  $d$  remains significant but only at the 10% level and its magnitude is cut in half (0.0236), suggesting that differences in investment levels can explain some but not all of the differences in growth between independent countries and colonies. This implies that uncertainty as to policy and political conditions might not just affect the level of investment but how productive investment becomes. Perhaps greater uncertainty makes it unclear as to where investment would be most productive.<sup>4</sup>

<sup>4</sup> Results regarding the coefficients  $b$  and  $d$  were generally robust when letting  $B_i = B$  in (1) and (2) so that the coefficients on initial GDP per capita, primary enrollment, investment, and population growth were set equal over the five periods. The lone exception occurred in the analog to column (3) where  $b$  is negative but just misses significance at the 10% level. The coefficient on primary education is always negative and sometimes significant. The coefficient in investment is significantly positive whereas the coefficient on population growth is significantly negative in the two specifications where they appeared. The coefficient on initial GDP is negative and significant without INV or GPOP but becomes positive once including these other controls.

## 6. CONCLUSION

These results do not speak to Africa's long-run development problems where political factors could explain many of the disappointing outcomes. Instead, they describe what occurred at decolonization and so can help us better understand general effects from this type of political transformation. This paper finds that there was no decrease in growth relative to the alternative of remaining a colony. The reason why decolonizers exhibited lower growth than did those not concurrently undergoing a political change is that decolonizers grew slower than did nascent countries. These results provide evidence against the claim that this type of political transition caused lower growth than experienced previously. There is no evidence of transitional costs.

The paper also finds that previously independent countries grew faster than did the existing colonies. Whether or not a region is independent or controlled by an external power appear important for growth outcomes. This finding holds implications for the empirical growth literature as controlling for political status (colony or country) appears to be important when undertaking Barro-type growth regressions.

## REFERENCES

- Alam, M. (1994), "Colonialism, Decolonisation and Growth Rates: Theory and Empirical Evidence," *Cambridge Journal of Economics* 18, 235-257.
- Barro, R. (1991), "Economic Growth in a Cross Section of Countries," *Quarterly Journal of Economics* 106, 407-433.
- Barro, R., and J.H. Lee (1994), "Data Set for a Panel of 138 Countries," mimeograph, Harvard University.
- Bertocchi, G., and F. Canova (1996), "Did Colonization Matter for Growth? An Empirical Examination into the Historical Causes of Africa's Underdevelopment," Discussion Paper No. 1444, Centre for Economic Policy Research, London.
- Bloom, D., and J. Sachs (1998), "Geography, Demography, and Economic Growth in Africa," *Brookings Papers on Economic Activity* 0, 207-273.
- Chai, S. (1998), "Endogenous Ideology Formation and Economic Policy in Former Colonies," *Economic Development & Cultural Change* 46, 263-90.
- Coquery-Vidrovitch, C. (1988), "The Transfer of Power in French Speaking West Africa," In: (eds) Gifford, P. and W. Louis, *Decolonization and African Independence: The Transfers of Power, 1960-1980*, Yale University Press: New Haven and London, 105-134.
- Daly, M. (1988), "The Transfer of Power in Sudan," In: (eds) Gifford, P. and W. Louis, *Decolonization and African Independence: The Transfers of Power, 1960-1980*, Yale University Press: New Haven and London, 185-198.

- Davidson, B. (1992), *The Black Man's Burden: Africa and the Curse of the Nation State*, Three Rivers Press: New York.
- De Gregario, J. (1992), "Economic Growth in Latin America," *Journal of Development Economics* 39, 59-84.
- Englebert, P. (2000), *State Legitimacy and Development in Africa*, Lynee Rienner Publishers: Boulder and London.
- Etemad, B. (2000), "L'Europe et le monde colonial: De l'apogee des empires a l'agres-decolonisation," *Revue Economique* 51, 257-268.
- Ghura, D. (1995), "Macro Policies, External Forces, and Economic Growth in Sub-Saharan Africa," *Economic Development and Cultural Change* 43, 759-778.
- Gifford, P. (1982), "Misconceived Dominion: The Creation and Disintegration of Federation in British Central Africa," In: (eds) Gifford, P. and W. Louis, *The Transfer of Power in Africa: Decolonization 1940-1960*, Yale University Press: New Haven and London, 387-416.
- Grier, R. (1999), "Colonial Legacies and Economic Growth," *Public Choice*, 98, 317-335.
- Kaba, L. (1988) "From Colonialism to Autocracy: Guinea under Sékou Touré, 1957-1984," In: (eds) Gifford, P. and W. Louis, *Decolonization and African Independence: The Transfers of Power, 1960-1980*, Yale University Press: New Haven and London, 225-244.
- Lofchie, M. (Ed.) (1971), *The State of Nations: Constraints on Development in Independent Africa*, University of California Press: Berkeley, Los Angeles, and London.
- Low, A. (1988), "The End of the British Empire in Africa," In: (eds) Gifford, P. and W. Louis, *Decolonization and African Independence: The Transfers of Power, 1960-1980*, Yale University Press: New Haven and London, 33-71.
- Mankiw, G., D. Romer, and D. Weil (1991), "A Contribution to the Empirics of Economic Growth," *Quarterly Journal of Economics* 107, 407-438.
- Minier, J. (1998), "Democracy and Growth: Alternative Approaches," *Journal of Economic Growth* 3, 241-266.
- Romer, P. (1989), "Human Capital and Growth: Theory and Evidence," Working Paper No. 3173, National Bureau of Economic Research, Cambridge, MA.
- Sachs, J., and A. Warner (1997), "Sources of Slow Growth in African Economies," *Journal of African Economies* 6, 335-376.
- Savvides, A. (1995), "Economic Growth in Africa," *World Development* 23, 449-458.
- Stengers, J. (1982), "Precipitous Decolonization: The Case of the Belgian Congo," In: (eds) Gifford, P. and W. Louis, *The Transfer of Power in Africa: Decolonization 1940-1960*, Yale University Press: New Haven and London, 305-336.
- Young, C. (1986), "Africa's Colonial Legacy," In: (eds) Berg, R. and J. Whitaker, *Strategies for African Development*, University of California Press: Berkeley and London, 25-51.
- Zartman, I.W. (1976), "Europe and Africa: Decolonization or Dependency?" *Foreign Affairs* 54(2), 325-343.

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