

school's contribution using a 5-point scale (1 = did not contribute; 5 = a very significant contribution):

- (1) To understand what is going on around me.
- (2) To plan for my future.
- (3) To understand the political system in my country.
- (4) To explore the opportunities for higher education.
- (5) To explore what are the occupations available for me.
- (6) To achieve general knowledge.
- (7) To understand my culture and heritage.
- (8) To learn about interesting subjects.
- (9) To obtain useful knowledge.
- (10) To obtain a suitable job for the future.
- (11) To fulfill my aspirations and dreams.
- (12) To address attractive subjects.
- (13) To have a chance for self-expression.

Note: Some of the variables were recoded.

EDUCATIONAL PATHWAYS INTO THE EVOLVING LABOUR MARKET OF WEST AFRICA

Stephen L. Morgan and William R. Morgan

ABSTRACT

This case study of Kano, Nigeria, examines changes over the past four decades in an education and labor market relationship that has evolved since the 10th century. We first offer an analysis of the historical origins of Kano's current three-layered segmented labor market and its corresponding three distinct, but increasingly overlapping, educational pathways. We then compare the labor market entry pathways reported in 1974 and 1992 by two cohorts of young adult males, the respondents having first been surveyed as 17-year-olds in 1965 and 1979.

Despite higher levels of modern secular education in 1992 for males in all occupational destinations, apprenticeship participation was significantly lower in 1992 only for young men who entered the professional and clerical positions that dominate Kano's public sector. Islamic training remained universal, and in fact increased significantly in years of participation across all occupational destinations. We next show that the jointly educated young men who were part of the first, more traditional sector of the labor market, were less seriously impacted in their earnings by Nigeria's turbulent end-of-the-century economy. Finally, we discuss the possible advantages of an

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apprenticeship system coupled to modern secular education for moderating social inequality and stabilizing economic development in sub-Saharan Africa and other less-developed regions.

INTRODUCTION

At least five interrelated causal narratives for the rapid expansion of modern secular education¹ in developing countries can be found in the literature: (1) An international social movement for Western education led by a transnational cadre of Western-trained educational experts (Boli, Ramirez & Meyer 1985); (2) capitalism's quest for expanded consumer markets (Chase-Dunn, 1982; Sklair, 1991); (3) local demand from political elites seeking equity and universal access for their regional constituents (Fuller & Rubinson, 1992); (4) the belief of national governments that attitudinal modernity in the populace is a critical precondition for economic growth (Inkeles & Smith, 1974); (5) the need for an efficient system of selection and allocation into a division of labor of growing complexity (see Foster, 1987; Smelser & Lipset, 1966).

All five of these explanations have received empirical support in at least some countries. But because the expansion of modern secular education cannot be linked to the economic prospects of a large number of developing countries, especially those in sub-Saharan Africa (see Collier & Gunning, 1999; Freeman & Lindauer, 1999), a case can be made that the first four narratives have the most power.

The challenge for future research is to help generate more empirical support for the fifth narrative, by developing research programs that demonstrate when institutions develop in ways that promote the societal welfare and economic prospects of developing countries and when they do not. In Nigeria, and we suspect in other sub-Saharan African countries, this new research agenda must focus on the relationships between modern secular education, traditional apprenticeship training, and the local labor market.

Partly as a result of the preoccupation with explaining the world-wide expansion of Western-style education, sociologists have given too little attention to pre-existing forms of apprenticeship training.² Where substantial attention has been registered (e.g. Hoselitz, 1966), it has faded over the past 40 years. This has occurred for no apparent reason other than that the "replacement" hypothesis (i.e. increases in the institutional provision of modern secular education lead to a symmetrical decline in the need for and take-up of traditional forms of education) is only partly true, and not nearly as theoretically exciting as the intellectual agendas associated with the political economy literature of underdevelopment (e.g. Wallerstein, 1974) and the world polity literature (e.g. Meyer, Ramirez & Soysal, 1992).

In this article, we first offer a brief historical analysis of the institutional context of our case study of the labor market of Kano, Nigeria, reviewing the development of its 1000-year-old marketplace economy and its educational pathways. We then present findings on the persistence and modifications of these educational and occupational linkages, using second-round data on young adult males from the longitudinal, two-cohort Kano Youth Survey. Comparing survey data from 1974 and 1992, we examine pathways from coexisting traditional and modern forms of education to labor market destinations in an occupational group hierarchy, the origins of which lie in an historically rooted three-layered segmented labor market. This conceptualization permits a more accurate interpretation of our findings than formal-informal labor market characterizations that are more typically employed in similar case settings, and allows us to show that pathways from each form of education to established occupational destinations have remained surprisingly stable even though the earnings from those occupations have not.

THE HISTORICAL DEVELOPMENT OF PATHWAYS TO POSITIONS IN KANO'S SEGMENTED LABOR MARKET

Two pre-colonial institutions continue to shape the occupational destinations of Kano's youth. The ancient *Kurmi* market and its associated system of trade and craft occupations remains the foundation of Kano's labor market. This commercial sector is complemented by a distinct set of religiously legitimated occupations with origins in the rise of an Islamic theocracy in the 19th century. Historically, these two sectors were dominated by separate ethnic groups, with the indigenous Hausa controlling the positions associated with trade and craft work, and with the conquering Fulani controlling the positions associated with religious and governmental authority. Before detailing the impact of colonialism and 20th century capitalism on Kano's labor market, we first describe the origins of the traditional institutions at the center of these complementary sectors.

Kano was built upon economic activity that is now often conceptualized as informal. European explorers traveling through Hausaland in the 19th century provided some of the first outsider accounts of the city's prominence. Writing on his entry into the walled city, Englishman Hugh Clapperton admits:

I had no sooner passed the gates than I felt grievously disappointed; for from the flourishing description of it given by the Arabs, I expected to see a city of surprising grandeur (Denham & Clapperton, 1826, p. 238).

Kano's grand reputation, Clapperton later realized, was based on the economic prominence of *Kurmi* market rather than its aesthetic charm. Based on his travels, Clapperton came to recognize that "there is no market in Africa so well regulated,"

as it was divided into sections by craft and product, carefully managed by a central market authority, and was "crowded from sunrise to sunset every day" (Denham & Clapperton, 1826, pp. 253–256). Leather workers, tanners, blacksmiths, textile workers, and basket makers all produced items of exceptional quality, sought after by traders throughout much of North and West Africa. Lovejoy (1980, p. 66) insists that Kano "had a concentration of craft industry unrivaled in African history."

To support this ancient marketplace economy, the Hausa developed an apprenticeship system to train each new generation of craft workers. The system became an integral part of Kano's pervasive patron-client social structure, serving as the commercial derivative of the Hausa patrilineal kinship system of exchange. When acting as a marketplace patron, a Hausa enterprise owner would award apprenticeship positions to the clients of the patrons whom he sponsored. However, when then acting as a household patron seeking apprenticeship opportunities for his own sons and "adopted" sons, the same enterprise owner would attempt to locate even better positions from the more highly regarded marketplace patrons who sponsored him.

Through the 18th century, the craft industry associated with *Kurmi* market grew within the Hausa quarters surrounding the central city market. In the 19th century, the Fulani jihadists entered Kano, established an Islamic theocracy, and settled to the south in the quarters surrounding the institutions that they developed and staffed: the Emir's palace, city mosque, prison, and Islamic courts.

The Fulani were not city dwellers by custom, having descended from nomads and shepherds, and they initially abstained from profit seeking in the profane marketplace economy. As a consequence, they were less invested in the apprenticeship system and the encompassing patronage networks surrounding *Kurmi* market. Instead, the Fulani established Islamic brotherhoods to provide Islamic instruction and to prepare individuals for positions in the newly consolidated Emirate theocracy (see Clarke & Linden, 1984). More than venues for religious fellowship, these brotherhoods also served as arenas for achievement. Status depended on more than just inherited social rank and could be earned through advanced Islamic learning and skilled practice of sacred but public ritual. Thus, for those young Fulani men who could not expect to inherit an Emirate title, Islamic learning became a pathway through the brotherhood networks to a prestigious position as a teacher, scholar, or judge in the Emirate system.

By the end of the 19th century, cultural assimilation had weakened the Hausa/Fulani division of labor. The language of Hausa, always dominant in the *Kurmi* market, was accepted as the official language for government and Islamic court proceedings. Newly-reformed Islamic brotherhoods became important arenas for inter-ethnic association (Paden, 1973), and the Fulani could no longer abstain from the commercial opportunities offered by the marketplace economy. Accordingly, joint participation in the apprenticeship system and in Islamic

education became increasingly common among both the Hausa and Fulani. As a result, possession of Islamic knowledge created a new source of trust within the marketplace trading networks, and marketplace skills and patronage connections generated additional streams of income for government and judicial functionaries.

A third segment of the labor market emerged during the British colonial rule from 1901 to 1960. Like the Fulani before them, the British accepted Hausa as the *lingua franca* but transcribed it for their own use from Arabic to Roman script. Their strategy of indirect rule required a trained and loyal indigenous staff to channel colonial policy through the existing Emirate system. The British introduced modern secular education to train the future traditional rulers of Kano in the ways of the British empire.

Offended by the introduction of the new schools, the Hausa-Fulani elite refused to send their children for instruction. Concurrently, the Emir founded the Kano Law School to train even more experts in Islamic law. This cool reception was a demonstration of elite opinion that, despite the needs of the bureaucratic colonial regime, Western-style education was neither appropriate nor necessary for the maintenance of the traditional, religiously legitimated authority of the Emirate system. And, as a result, Islamic education continued to dominate throughout the early colonial era. Official Kano State enrollment figures for 1937 claim 49,123 Islamic education pupils compared to 1,178 government primary school pupils and 131 government secondary school pupils (Bray, 1981, p. 44).

A new threat brought change. Gradually, the ruling elite of Kano came to recognize that the preservation of their unique cultural identity within the new political construction called "Nigeria" would depend to a large extent upon the future economic prominence of their city. As a result, the importation of skilled southern Nigerians – previously educated and converted by Christian missionaries – to meet the labor demands of the colonial civil service and British commodity export businesses, aroused a sense of regional competitiveness that led Kano's traditional rulers to support modern secular education as an important pathway toward new and important occupational destinations. Enrollment in government-sponsored modern secular education gradually increased, resulting in a doubling of primary schools between 1940 and 1950 (Bray, 1981).

In summary, the ancient Hausa trading and craft economy centered around the *Kurmi* market (and now also around its satellite markets) is the foundation of Kano's current labor market. In the 19th and 20th centuries, first with the Fulani conquest and introduction of an Islamic theocracy and then with the British conquest and introduction of a colonial bureaucracy, new labor market segments were superimposed upon this foundation. These three labor market segments have retained their separate identities through the maintenance of distinct educational pathways to separate occupational destinations. What changed with time were

recruitment patterns from diverse social origins. By recognizing and following the proper pathways, the Hausa broke into the Fulani theocracy, and the Hausa-Fulani broke into and captured the colonial bureaucracy.

As will be evident from our survey data, the current representations of the three pathways that are described next continue to provide entry into an occupational group hierarchy that is in part defined by this three-part legacy but that has also continued to evolve with changing political and economic realities of the post-independence era.

CURRENT EDUCATIONAL PATHWAYS

Apprenticeship Education

Apprenticeships continue to provide a vital flow of new labor to the craft industries and trading venues associated with Kano's central marketplace. There have never been uniform rules governing these apprenticeships. Their decentralized and particularistic nature has permitted the development of a labor force of differentially skilled workers. On-the-job training, in exchange for food and lodging, is typical.

Entry into this system varies as well. The most common, though perhaps declining, arrangement is for sons to become apprentices to their own fathers and thereby "inherit" their occupations. Smith (1959) notes the higher status that is accorded to those individuals of each occupational group whose fathers formerly held the same positions. However, since the supply of labor must respond to technological progress and variable demand for goods, other arrangements are common as well. Fathers also seek apprenticeships for their sons with other master craftsmen and traders, especially more highly regarded patrons in the marketplace economy.

Islamic Education

Methods of Islamic education in Kano have remained relatively unchanged since the Fulani conquest of 1807. Most children are still placed by their fathers under the instruction of a local Islamic teacher known as a *mallam* by the age of five or six. Primary Islamic education consists of the memorization and recitation of the *Qur'an* and lasts on average for six years, depending on standards and skills. In the language of Hausa, primary Islamic education is *makarantar allo*, translated as "board schools," referring to the wooden tablets on which students learn to write *Qur'anic* verses in Arabic and *Ajami* (Hausa in Arabic script).

Once a student learns to recite the *Qur'an*, he or she moves on to secondary Islamic education, or *makarantar ilmi*, which consists of further study of the *Qur'an*, religious commentaries, Islamic jurisprudence, and some science. Most Hausa men and many Hausa women pursue secondary Islamic education, some for only a few years and others for 10 or more since there are no age restrictions on participation. Adults often return from work in the market or elsewhere and, after evening prayers, study by candlelight with a *mallam* well into the night (Bray, 1981; Clarke & Linden, 1984; Ozigi & Ocho, 1981).

Modern Secular Education

The introduction in 1976 of universal primary education to Kano and the rest of the northern region rapidly expanded participation levels beyond the elite youth normally expected to move into government civil service and other bureaucratic positions. It also greatly increased the demand for secondary education among the growing number of youth who aspired to public sector employment. Employers from all sectors, however, soon realized that the basic literacy and numeracy skills which developed from modern secular education provided human capital that could be broadly utilized, giving all segments of the labor market increased capacity to perform in the modernizing economy.

More recently in Kano as across sub-Saharan Africa, government-supported modern secular education is in a state of acute deterioration, suffering from insufficient instructional materials and a shortage of qualified teachers (see Bradshaw, 1993; Buchmann, 1999). At least in Nigeria, all families who can afford to do so now educate their children in private schools. Yet, because of the general decline in the well-being of middle-income Nigerians over the past two decades, the proportion of families who can afford to opt out of the faltering public education system remains quite small.

KANO YOUTH SURVEY, 1965-1992

Sample

The Kano Youth Survey (KYS) consists of random area samples of two cohorts of young men born in 1947 and 1961 and first interviewed as 17-year-olds in 1965 and 1979, respectively. For each cohort, a second round of interviews was conducted in 1974 and 1992, when they were respectively 26 and 30 years old. The permission and support of local authorities to conduct the surveys precluded the

inclusion of young women in the study. For all rounds of the survey, respondents were interviewed by indigenous Hausa speakers.

The survey of the first cohort had 591 baseline respondents, of which 401 were located and re-interviewed in 1974. The survey of the second cohort, using the identical random area sampling design, yielded 632 baseline respondents, of which 525 were located for the second round in 1992. Of these, 276 were reinterviewed, and for the remainder, basic education and occupation data were obtained from the heads of their wards and family members.³ Tests for possible bias in the cohort comparisons due either to the age difference between the two groups in their respective second round interviews or possible systematic differences in attrition patterns were negative, as explained in the Appendix.

Variables

Each respondent's self-reported educational attainments in apprenticeship, Islamic, and modern secular forms were measured in total years engaged in each form by 1974 or 1992, respectively. As our data will show, these three forms of education are often pursued simultaneously.

Occupational attainment was derived from survey responses coded first into detailed occupations and then assigned to one of five groups corresponding to the traditional prestige hierarchy. These included professional and clerical office workers (government bureaucrats, accountants, university lecturers, bank clerks, etc.), teachers (primary and secondary school teachers, school principals), traders (import-export businessmen, foreign exchange traders, retail goods traders, etc.), skilled workers and artisans (blacksmiths, shoemakers, leather tanners, motor mechanics, etc.), and unskilled workers and drivers (laundry men, factory workers, laborers, taxi cab drivers, minibuses drivers, etc.).⁴ For the earnings differences reported in the last table, we subdivide unskilled workers and drivers into separate categories.

Finally, self-reported weekly earnings were initially recorded in the local currency (the Naira). The earnings reported in 1974 were converted to 1992 earnings, using a multiplier of 35.4 based on annual changes in the consumer price index reported by the International Monetary Fund (IMF, 1964–1992).

PATTERNS OF JOINT EDUCATION

Comparing the participation rates of respondents from each cohort indexes the pattern and degree of educational change in northern Nigeria since independence

Table 1. Joint Participation Rates for Apprenticeship, Islamic, and Modern Secular Education.

	1974	1992
Apprenticeship with		
Islamic only	23.2%	4.3%
Modern secular only	0.7%	0.0%
Islamic and modern secular	24.5%	30.6%
Subtotal ^a	48.4%	34.9%
No apprenticeship		
Islamic only	14.5%	2.3%
Modern secular only	0.7%	0.0%
Islamic and modern secular	36.5%	62.8%
Subtotal	51.7%	65.1%
Total	100.0%	100.0%
<i>N</i>	310	258

^aDecline in rate of apprenticeships across cohorts is significant at $p < 0.01$, using a two-sample test of equality of proportions.

in 1960. As discussed earlier, the educational expansion literature posits that modern secular education expands in developing countries under increasing government provision, gradually replacing all traditional forms of education (Hoselitz, 1966). Contrary to this expectation, Table 1 demonstrates continued participation in traditional forms of education, despite increased participation in modern secular education.

Table 1 presents all possible joint participation rates for Kano's three available forms of education. Approximately 85% of first cohort respondents and 98% of second cohort respondents pursued more than one type of education. Islamic education remained universal from 1974 to 1992; modern secular education became nearly universal; and apprenticeships declined 14 percentage points, pursued by just over a third of the 1992 cohort. In both cohorts the most prevalent combination was Islamic with modern secular education, followed by apprenticeships with Islamic and modern secular education. These two combinations accounted for 61% of the types of educational attainment obtained by the young men in 1974, and 96% of the young men in 1992.

Participation rates only indicate utilization of each form of education. As participation and attainment in modern secular education increased, average attainment in one or the other forms of traditional education might have decreased despite continued joint participation by the majority of respondents. Table 2 addresses this issue with correlation coefficients between years of each form of

Table 2. Correlations Among Respondents' Years of Each Form of Education in 1974 (Below Diagonal) and 1992 (Above Diagonal).

		1992		
		Modern Secular	Islamic	Apprenticeship
1974	Modern secular	—	0.136*	-0.235***
	Islamic	-0.114*	—	0.030
	Apprenticeship	-0.352***	-0.003	—

Note: Numbers of respondents vary by correlation coefficient, ranging from 312 to 328 for the 1974 cohort and from 258 to 259 for the 1992 cohort.

* $p < 0.05$.

*** $p < 0.001$.

education for both cohorts. The correlation coefficient between modern secular and apprenticeship education is moderately negative for both cohorts, indicating a stable tendency for increasing amounts of modern secular education to decrease the likelihood of starting and completing apprenticeship training. Similarly, modern secular education was weakly negatively related to Islamic education in the first cohort. For the second cohort, however, this relationship was reversed.

Equally revealing is the shift in the marginal distributions for these relationships. While pursuing an apprenticeship did continue to decrease the total years of modern secular education, apprentices who undertook modern secular education in 1992 on average obtained double the total years compared to apprentices who undertook modern secular education in 1974 (11.5 years compared to 5.6 years, significant at $p < 0.001$).

Thus, we have only limited support for the replacement hypothesis. Despite rapid expansion of modern secular education, the two traditional forms of education remained important. Participation in traditional apprenticeships did decrease as pursuit of modern secular education increased, and apprentices in 1992 had substantially more years of modern secular education. However, participation in Islamic education remained universal, and attainment levels for Islamic and modern secular education became positively related. A more detailed analysis of this new complementarity, conceptualized as structural accommodation, has been presented in earlier reports from the first rounds of these data (Morgan & Armer, 1988, 1991, 1992).

Clearly, traditional education is still relevant in post-independence Kano. But some important questions remain unresolved. Against the background of Nigeria's faltering economy, to be detailed below, it remains an open question whether or not, in hindsight, apprenticeship education can continue to provide skills that are valued in Kano's segmented yet continually changing labor market. To begin to address

a question such as this one, we must first determine whether or not apprenticeship education retained substantial relevance for labor market allocation processes.

EDUCATIONAL PATHWAYS IN THE MARKETPLACE ECONOMY

Given that both cohorts in our survey participated in all three forms of education, the interest now is the extent to which their selection into Kano's post-independence occupational group hierarchy was guided by their training. Toward this end, we examine for each cohort the educational profiles of the five main occupational groups presented earlier in the description of the Kano Youth Survey data.

Table 3 reports apprenticeship, Islamic, and modern secular educational attainments for each occupational group, decomposed into rates of participation and mean years completed by participants, with values for the full samples of both cohorts also reported. Significance tests are presented for cohort differences in these occupation-specific attainments, since the key issue is whether there has been change or stability in the educational patterns of the successive incumbents of each occupational destination.

Most striking is that the significant overall 14-point decline from 1974 to 1992 in apprenticeship participation was restricted to the single occupational category of professional and clerical office workers. In all other groups, apprenticeship participation was essentially unchanged. Similarly, participation in Islamic education remained unchanged across all occupational groups – it remained universal within each group. This pattern of stability for traditional education participation is even more remarkable when viewed against the significant participation increase in modern secular education across all occupational categories (except among teachers, whose participation levels had already peaked by 1974).

This pattern of robust trends for participation in traditional education is also apparent when viewing duration of participation. Apprenticeships averaged two years longer, although the increase was significant for traders only. For Islamic education there was an average increase of seven years, significant in all occupational groups. Keeping in mind the joint nature of the contemporary Kano educational system, it is still remarkable that both duration increases occurred even though the duration of modern secular education also increased by five years, a universal increase that was also significant for all occupational groups.

Across occupational groups, the variation in educational attainment was as expected. Participation in apprenticeships was greater for skilled workers and artisans, traders, and unskilled workers and drivers for both cohorts. Participation in modern secular education was higher for professionals and clericals and for

Table 3. Cohort Differences in Educational Attainments, by Occupation.

	Participation Rate		Mean of Years		Completed for Participants	
	1974	1992	1974	1992	1974	1992
Professional and clerical office workers						
Apprenticeship education	30.3%	13.5%**	5.0		5.9	
Islamic education	98.5%	100.0%	11.6		19.5***	
Modern secular education	95.2%	100.0%*	9.7		13.9***	
Teachers						
Apprenticeship education	13.0%	27.3%	9.7		8.8*	
Islamic education	100.0%	100.0%	10.8		19.9***	
Modern secular education	100.0%	100.0%	11.1		12.9*	
Traders						
Apprenticeship education	50.5%	46.6%	6.2		8.7*	
Islamic education	98.9%	100.0%	14.6		20.5***	
Modern secular education	58.5%	87.9%***	4.8		11.5***	
Skilled workers and artisans						
Apprenticeship education	66.7%	81.5%	6.5		7.4	
Islamic education	100.0%	100.0%	13.5		19.4***	
Modern secular education	53.4%	84.2%**	5.5		10.3***	
Unskilled workers and drivers						
Apprenticeship education	60.7%	47.6%	6.9		9.4	
Islamic education	98.3%	100.0%	11.1		15.3**	
Modern secular education	25.4%	81.0%***	4.4		10.2***	
Full sample						
Apprenticeship education	49.4%	35.8%**	6.4		7.9**	
Islamic education	99.0%	100.0%	12.8		19.4***	
Modern secular education	61.2%	93.3%***	7.1		12.5***	

Note: Significance tests for across-cohort occupational differences in participation rates are based on coefficients and standard errors estimated from a dummy variable logistic regression equation for each form of education, with $N = 647$. Significance tests of across-cohort occupational differences in years of participants' education are based on a dummy variable OLS regression for each form of education, with $N = 271, 520$, and 480 for the apprenticeship, Islamic, and modern secular equations, respectively. Full sample tests use standard two-sample z -tests of equality of proportions and t -tests of equality of means.

* $p < 0.05$.

** $p < 0.01$.

*** $p < 0.001$.

teachers in the first cohort. In the second cohort, when modern secular education became universal, these two groups obtained, on average, three more years of secular education than the other groups.

Islamic education, which for both cohorts was universally obtained in all occupational groups, showed occupational variation only in duration of participation. In the first cohort, the two marketplace occupational groups of traders and skilled workers and artisans had three more years of Islamic education than the other three groups. In the second cohort, professionals and clericals as well as teachers had caught up to the two marketplace groups in years of Islamic education. Only unskilled workers had less Islamic education – on average four years less than the other groups.

In summary, when viewing cohort changes in education within specific occupational destinations, the joint nature of Kano's educational system is elaborated further. Apprenticeship training remained important in 1992, especially for occupations in the marketplace economy, and the training became longer. Islamic education remained universally valued to an increasing degree, in that young men in all occupational groups pursued it longer. At the same time, modern secular education became increasingly critical for entry into the professional and clerical office and teaching occupations, but was obtained in increasing amounts across all occupations.

EARNINGS IN THE MARKETPLACE ECONOMY

Given that the educational pathways each evolved in service of a different segment of Kano's historic labor market, the gradual elimination of boundaries to participation in each pathway has resulted in the universal participation across occupational groups in two of the pathways, and for the marketplace occupations with substantial apprenticeships, in all three. Of interest now is how the jointly educated incumbents of each occupational group were affected in their earnings by the severe economic decline of the 1980s that devastated Nigeria and the rest of sub-Saharan Africa (Mills & Sahn, 1995; Schultz, 1999). Over this time period the real wages of civil servants have fallen and the number of positions in the formal bureaucratic labor market, primarily in the public sector, have also decreased (Collier & Gunning, 1999; Freeman & Lindauer, 1999). Kano's segmented labor market was not impervious to these trends.

Table 4 presents median weekly earnings for the five occupational groups as before, except that drivers are analyzed separately from the other unskilled workers. Across occupations there were, in fact, variable shifts in earnings levels. Most dramatic was the absolute and relative decline in the wages of professional

Table 4. Median Weekly Earnings in the Marketplace Economy.

	Median in 1974	Median in 1992	Change in Median	Bootstrapped 95% Confidence Interval for Change in Median
Professional and clerical office workers	354	163	-191***	(-256.8, -125.4)
Teachers	460	154	-306***	(-378.6, -234.1)
Traders	177	300	123	(-25.0, 270.9)
Skilled workers and artisans	248	175	-73	(-157.6, 11.9)
Drivers	248	300	52	(-433.6, 537.9)
Unskilled workers (not drivers)	212	138	-74*	(-117.1, -31.8)

Note: $N = 546$. Weekly earnings adjusted for inflation to 1992 Naira. Significance tests and confidence intervals for differences are estimated from a dummy variable median regression with bootstrapped standard errors.

* $p < 0.05$.

*** $p < 0.001$.

and clerical workers and of teachers, and secondarily of the unskilled workers. By contrast, the occupations central to the marketplace economy – traders, skilled workers and artisans – did not share in this decline.

To some degree this differential impact of the 1980s' economic decline can be traced to varying strengths and opportunities in the local economy. To a larger degree, however, the variable impact can be related to the selective availability of local buffering influences, including the institution of apprenticeship.

ADJUSTMENTS IN THE LOCAL ECONOMY

Throughout the economic decline, currency devaluation and an associated decline in indigenous industrial output generated new opportunities for black market trading in hard currency, gasoline, and scarce imported goods. At the same time, consumption of the traditional goods manufactured by skilled workers and craftsman remained stable, since currency devaluation made the purchase of foreign-produced goods prohibitively expensive. And the virtual disappearance of private ownership of cars and motorcycles by the cash-starved lower-income segment of Nigerian society, coupled with long periods of gasoline shortages, generated new sources of revenue for low-skilled taxi, minibuses, and motorcycle drivers with access to black market-traded gasoline. In response to these changes, the weekly earnings of traders and drivers have fared well, the decline in earnings of skilled workers was not significant, and only the unskilled workers of the marketplace economy suffered a significant drop in median earnings.

By contrast, the Nigerian federal government agreed to the International Monetary Fund's mandates for structural adjustment in response to its economic crisis, and the result was a freeze in the wages of public sector employees. This, coupled with rampant inflation, caused the significant wage declines reported in Table 4, all falling within the three occupational categories most engaged in the public sector. A more detailed analysis and explanation of this decline was presented in an earlier report (Morgan & Morgan, 1998).

APPRENTICESHIP AS A SOCIETAL INSTITUTION

Given that apprenticeship education remained most prevalent among workers in the relatively less impacted marketplace economy, the remaining issue is how this traditional institution may have helped buffer the impact of the economic decline. It is certainly possible that this form of workplace education offers a more general and fungible preparation for coping with economic uncertainties that will continue to be prevalent in Nigeria and other developing societies. If so, the comprehensive nature of apprenticeship training needs further elucidation.

More than job training, the premodern apprenticeships we have observed in the Kano marketplace provide communal socialization. Each apprentice begins a process of integration into the community of adult workers through the acquisition of skills and competencies that can be labeled, if one so desires, as cultural and social capital. The cultural capital with widest local currency is Islam, and the social capital that envelops the marketplace community is patron-clientage.

In the strong Islamic culture of Kano, one's status is dependent in no small part on how well one practices the religion, particularly its more public aspects. Use of the proper Islamic greetings and invocations in the workplace is a practiced art that can take years to develop, yet can be critical for one's acceptance as a mature workplace equal. Similarly, knowing how to disengage from work in order to perform the mandatory midmorning and afternoon prayers and then casually re-engage represents a cultural skill that distinguishes novices from veteran workers. The ability to practice Islam in the workplace is a cultural expectation, and if it is done properly it suffuses the most menial occupation with a sacred presence respected universally. These workplace skills presuppose but are distinct from formal Islamic education, since they develop best through practice in the actual workplace under the watchful eye and guidance of one's master. Over time the respect and approval an apprentice receives for his Islamic propriety builds status, and this improved status position signals one's readiness to move into a network of adult relations.

Beyond the development of this form of sacred and relatively diffuse cultural competence, the observance of Islamic ritual in the context of one's

apprenticeship can be important for more directly securing a favorable position in the all-encompassing patron-client network of the marketplace. Market relationships are carefully circumscribed by these social networks. For successful activation of these networks, one needs to be well-placed, but just as importantly, one needs to learn the position of others in order to relate to them properly.

To the extent that apprenticeship is preparation for clientage and eventually patronage, apprenticeships serve as a structural mechanism for the maintenance of patron-client relations. Some may see this as a mixed blessing. The standard Marxist position is that patron-clientage hinders the development of class solidarity. Naive developmental theorists see patron-clientage as both a barrier to democratization and a legitimation of the corruption that prevents external assistance from stimulating economic development. Perhaps more realistic is the position that patron-clientage is a critical transition structure in the aftermath of traditional rule and before modern state bureaucracy has become legitimate. As such it brings to new nations an important degree of social integration and stability.

When viewing apprenticeship education in this way – as an institution capable of much more than simply providing skills relevant for successful performance in narrowly defined task niches – we can now characterize our findings in a more general way. We have suggested that a premodern form of apprenticeship education endures in Kano because of its utility in preparing and selecting new recruits into the complex patron-client network through which business is conducted in the local marketplace economy. The important change in this institution over the past 30 years is that young persons who enter apprenticeships and pursue advanced Islamic studies now also undertake modern secular schooling. This provision of multiple forms of education complies with national educational guidelines, which are heavily influenced by broad goals for modern nation-building and democratic citizenship. At the same time, this menu of educational opportunities remains consistent with the development of Kano's economic and political institutions and, as in the 19th century, affords young persons the opportunity to move away from the marketplace economy and into other sectors of the occupational structure. For an example from the KYS, Table 3 shows that in the second cohort a substantial number of former apprentices moved into primary school teaching.

Furthermore, during the period of economic stagnation, the increased duration of apprenticeships suggests that this institution, within the context of patron-clientage, served as a way station as well as a pathway, providing a subsistence livelihood for young workers in the absence of any formal unemployment insurance program. The maintenance of these young workers retains the future marketplace labor force that will be necessary if and when economic recovery fully takes hold.

Of course, a similar interpretation can be offered for the increased duration of modern secular education, in that this education could also operate – whether by design or simply by practice – as a holding ground for the growing number

of young persons for whom work is unavailable. The major difference is that young persons who are in prolonged apprenticeships are coupled to an actual work experience, and usually also further modern secular education; young persons who are prolonging their modern schooling are likely to have only work aspirations, possibly unrealizable ones.

What is happening in Kano and elsewhere in modernizing Africa is quite different, of course, from the standardized apprenticeship-based vocational training of industrialized nations, Germany in particular (see Blossfeld, 1992; McKernan, 1994). Its further analysis will require a better understanding of productive business relations which are built on patron-client foundations, and in turn an assessment of the viability of both patron-clientage and diffuse apprenticeships as institutions that will inevitably need to respond to the pressures and demands of the global economy. One could predict, for example, that apprenticeships will founder if they operate contrary to new international child labor standards, resist the emerging egalitarian demands of women throughout the Third World, or if they should be reinstated as alternatives to modern secular schooling rather than as supplements. Conversely, if a global postmodern society seeking alternatives to materialist-based status structures is indeed emerging, Africa's signal contribution may be its communal apprenticeship institutions.⁵

CONCLUSION

In conclusion, our speculation on the future of premodern diffuse apprenticeships has moved us to an institutional perspective on the viability of the local economy. If the demise of this traditional pathway would endanger the local economy centered in and around the Kurmi market, more attention needs to be given to the premise that the restoration of this market economy will be facilitated by a reinvigorated apprenticeship pathway that supplements but does not replace modern secular education. Conversely, apprentices must continue to have equal opportunity to pursue a modern secular education, in order both to enhance their apprenticeship skills as broadly outlined here and to acquire more universal knowledge transferable across occupations should their particularized niche in the marketplace economy falter.

It would be counterproductive if the current, internationally supported drive for further expansion of modern secular education in developing countries resulted in the total obliteration of apprenticeship training in sub-Saharan Africa. And, it would be ironic, since industrialized societies have just begun to seriously explore alternatives for the reintroduction of workplace-centered apprenticeship training as a means for more effectively solving the problems inherent in the school-to-work transitions of post-industrial societies.

NOTES

1. We use the phrase "modern secular education" throughout this article to refer what is often labeled "Western education," in deference to our Nigerian colleagues' preference for "modern" to "Western;" and their dislike for the implication that what is not "Western" is somehow "non-modern."

2. Anthropological research on apprenticeship training is substantial (e.g. Coy, 1989; Goody, 1982; Lave, 1977; Lave & Wenger, 1991). However, beyond meticulous accounts of master/apprentice relations, anthropologists have paid relatively little attention to patterns of selection into apprenticeships and subsequent employment allocation.

3. Fieldwork for the two rounds of the first cohort was directed by Armer (1968, 1970). Fieldwork for the first round of the second cohort was directed by W. R. Morgan (Morgan & Armer, 1988, 1991, 1992). S. L. Morgan directed the second round (Morgan, 1993; Morgan & Morgan, 1998), with support from colleagues at Bayero University Kano for both second cohort surveys.

4. We exclude from analysis all *mallams*, farmers, and students. Not only are there few such respondents, but their labor force participation patterns are only weakly tied to Kano's market economy on which we focus in this article.

5. Kano's apprenticeship system, at least in spirit, closely matches the policy dreams of James S. Coleman and the 1974 President's Science Advisory Committee (see Coleman et al., 1974). Coleman and his colleagues argued for the creation of government supported institutions in the United States that offer workplace education in age-heterogeneous groupings. He believed such institutions could provide more than just on-the-job training and could offer more effective workplace socialization than stand-alone vocational programs. This line of argument is an early example of what Coleman later referred to as the "rational reconstruction of society" (see Coleman, 1993).

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APPENDIX

We assessed the robustness of the cohort comparison central to our analysis for possible biases from the age difference of the cohorts and differences in attrition levels. Because of a four-year difference in the time lag of the two follow-up surveys, respondents from 1974 were 26 and 30 in 1992. This difference did not affect participation rates, and the cohort differences in years of participation were only negligibly biased upward. The amount of this bias can be assessed reasonably accurately by knowing how many respondents from the first cohort were still educationally active when surveyed at age 26.

A total of 11.7% of these respondents reported they were currently pursuing modern secular education as a primary or subsidiary activity (a primary activity for 8% in various post-primary programs, subsidiary for the other 3.7% in literacy class); 8.2% were continuing their Islamic education (a primary activity at the advanced level for 1.7%, a subsidiary activity at the primary level for 6.5%); and 1.2% were doing apprenticeships. A plausible upper-bound estimate of bias would be to recompute the mean years of attainment for the 1974 cohort, assuming each of the active respondents were to complete the maximum of four additional years

of education possible between ages 26 and 30. Upper-bound estimates for average years of education among participants are 7.86 years for modern secular education (up 0.76 years from the value in Table 3), 13.13 years for Islamic education (up 0.33 years from the value in Table 3), and 6.5 years for apprenticeships (up 0.10 years from the value in Table 3).

The age difference could bias the cohort differences in median earnings that were reported only if the older cohort also had on average more years of full-time labor force participation. In fact, given that across the three forms of education the second cohort averaged an additional five years over the first cohort, their being four years older helped remove this source of bias.

Since attrition matters only if the attriters are substantially different from the retained sample, we used background data from the first rounds of both cohorts in order to compare attriters and completers. The differences were small, and what differences did exist were similar across cohorts, and so would be unlikely to bias the cohort differences reported.

For example, the proportion with fathers who were professional/clerical, skilled/artisan, or unskilled differed on average from the baseline proportions for each by only 3 percentage points. In the second cohort, the participation rate in post-secondary education differed by one percentage point between the sample of 276 who were reinterviewed and used in the analysis, and the located but not reinterviewed sample of 204 on whom informant data was available. Further details of this analysis, including the estimation of a selection bias equation and a robust regression to check for outlier effects for earnings changes similar to those modeled in Table 4, are available in a prior report (Morgan & Morgan, 1998, pp. 19–22).