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Denis Cogneau, **Léo Czajka**, **Kenneth Houngbedji**

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The triumphant elephant's return? Growth and income inequality in Côte d'Ivoire (1988-2015)[1]

Though Côte d'Ivoire has experienced renewed growth since 2011 and has ambitious plans for development in place, household surveys on standards of living covering the last three decades reveal both a significant improvement in average income and a persistence of inequality. Poverty is therefore higher than in the late 1980s. In addition, access to original income tax data makes it possible to capture the top wages paid in the private sector. Formal jobs in the private and public sectors continue to shield wage earners from poverty and remain over-represented among top incomes. However, the persistent rationing of this type of job has made informal sector the main type of employment among the urban wealthy class and the poor alike.

Following a decade of erratic civil war with multiple and complex causes (Dozon, 2011; Cogneau, 2013), the last episode of which was a violently disputed presidential election, since 2011 Côte d'Ivoire has been in a tense and fragile state of peace, which has gone unchallenged until now. After Alassane Dramane Ouattara's rise to the presidency, several fundamental components of Côte d'Ivoire's traditional political economy once again aligned, giving the appearance of a 'return to the good old days'. The first section of this 'Focus' article challenges that perception using research data on household standards of living over the three last decades. The second section highlights contemporary income inequality by exploiting 2014 income tax data for the first time.

The appearance of a return to the good old days. The Plan national de développement 2012-2015 (National Development Plan, PND) brought together the fundamental elements that allowed the Houphouëtian political economy to flourish in the first two decades of independence: fairly high prices for cocoa and even cotton or coffee, and therefore good profits for producers, in comparison to the 1990s, as well as the 2003-08 period; record production of cocoa (2011) and cotton (2013); substantial foreign aid, particularly from France (C2D); strong government spending on infrastructure; relatively good salaries, and even pay increases, for public servants (2015); a political coalition based on the North/Centre-South axis (RDR and PDCI).
However, sources of foreign revenue have diversified considerably beyond cocoa. The country's agricultural vitality was confirmed with the explosion of cashew nut production in the North and the emergence of rubber tree farming in the Southeast. In addition, oil production, consequential since 2005, increased while prices remained particularly high until 2016; there was even a spike in gold production beginning in 2014[2]. As a result, according to official national records, the growth of the gross domestic product (GDP) per capita reached 6.7 % on average in 2011-2014, 6.4% in 2015, and 6.1% in 2016. These growth rates met the most optimistic goals of the PND, which was entitled 'The Triumph of the Elephant' (République de Côte d'Ivoire, 2012, pp. 46-53).
It is difficult to evaluate these estimates as the Institut national de la statistique (National Institute of Statistics, INS) has not published any detailed national accounts, providing only the aggregate GDP, whereas the sectoral breakdown listed on the website of the regional body AFRISTAT (Economic and Statistical Observatory for Sub-Saharan Africa) stops in 2010.

A strong improvement in average living standards in 2015. A national survey of household living standards was conducted in early 2015 (ENV, 2015), based on the 2014 population census. This survey closely reproduces the format of surveys conducted in 2002 and 2008. A longer series can be established by making use of surveys from 1988, 1993, and 1998.
These surveys are far from exempt from problems of representativeness and measurement. Though the 2015 survey appears to better represent non-Ivorian Africans, in particular Burkinabes and Malians, residents with French citizenship and those of Lebanese origin were not included, as in the other surveys (Guénard, Mesplé-Somps, 2010). Furthermore, the 2015 survey contains a specific problem: the surveyed households appear distinctly smaller (3.6 people on average) than in the census (5.4).
The definition of households is always questionable in surveys conducted in Africa, in particular the way in which non-nuclear households are divided into multiple units of cohabitation or shared expenses (De Vreyer et al., 2008). When it comes to measuring standards of living and inequality, this variation can be an important source of bias if it leads to the underrepresentation of poorer large households or else to the attribution of expenses or incomes to a single 'nucleus', when they are in fact shared by different nucleuses of extended

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households (De Vreyer, Lambert, 2017).

If we consider the results of the 2015 ENV published by the INS, the improvement in household living conditions appears much more disappointing than the GDP growth figures would indicate (République de Côte d'Ivoire, INS, DGPLP, 2015). In particular, the average per capita consumption shrank considerably between 2002 and 2014, suggesting that the progress made in the 2011-14 period was not enough to compensate for the years of civil war (ibid, p. 51). According to the INS, the average per capita annual expenditure reached 461,423 CFA francs in 2002, and 386,215 in 2014, a 16% decrease in nominal terms; if we apply the price changes contained in the changing poverty line (ibid, p. 18), the decrease in real terms amounts to 43%. If poverty does not jump off the pages of the INS analysis, it is because the massive drop in household consumption occurs notably among the wealthiest households, with the share of consumption from the wealthiest 10% dropping from 40% to 29% (ibid, p. 51). The prevalence of poverty, measured with a threshold corresponding to approximately 2.95 2011 dollars (PPP) per day and per capita, increased by eight percentage points between 2002 and 2014, dropping only two points between 2008 and 2014.

Our own assessments lead us to a rather different conclusion. They were obtained by standardizing, as much as possible, the construction of consumption and income variables across the different surveys. We chose specifically to adopt a narrower definition of consumption, excluding purchases (which are infrequent) and use of durable goods, as well as exceptional expenditures, particularly for healthcare (Cogneau, Houngbedji, Mesplé-Somps, 2014, pp. 22-29; on the methodology of variable income: Czajka, 2017, pp. 33-40). The prevalence of poverty is consequently overestimated, but in return, it is more comparable over time[3].

Contrary to the INS estimates, we obtain an average per capita consumption 17% higher in 2014 than in 2002, and an average income that is 21% higher; our poverty rate is six points lower (table 1, right column). These increases are more consistent with that of the GDP per capita (+10%) during the same period, though they are higher, notably because they reflect a portion of 2015 incomes, and not those of 2014[4]. The consistency between estimates of consumption and income, obtained by different methods, as well as with national accounts, lead us to think that our interpretation of changes is closer to factual reality. If that is the case, then the levels estimated here for 2014 indeed suggest a relative return to the good old days—certainly not to the golden age of the 1970s, but to 1998, after the devaluation of the CFA franc and before General Gueï's coup d'état, or even to 1988, before the cocoa crisis and the halving of producer prices (for previous periods: Cogneau, Mesplé-Somps, 2003; Cogneau, Houngbedji, Mesplé-Somps, 2016).

The main beneficiaries of the 2014 recovery appear to be the two pillars of the classic Houphouëtian model: farmers; and formal wage earners, notably civil servants. Consumption by farmer households and civil servant households rose by 24% and 20%, respectively, between 2002 and 2014. The estimated rises in their incomes are in fact even greater, given that part of that increase may have been used for transfers and savings. Unfortunately, the 2014 survey has minimal information regarding the primary types of farming, to the extent that it is impossible to differentiate between cocoa producers and other farmers. It is important, however, to stress that these two social categories are smaller in size than before. The share of households headed by a farmer, over 50% in the late 1980s, has since fallen below 40%. Similarly, civil servants households now only represent 3% of all households, whereas they were twice as numerous in the 1990s, and even more so in the 1980s; the same can be observed in the private sector, with an increasing informalisation of employment. Hiring restrictions, an extension of the structural adjustment programme (1980-1992), also led to an aging civil service, as did the adoption of more selective criteria for entry, the result being that civil servants in 2014 are older and more educated, and therefore better paid on average, than those in the 1980s. It appears that in Côte d'Ivoire, unlike in neighbouring Ghana and other English-speaking East African countries, the budgetary adjustment decisions of the 1990s and 2000s proved detrimental to hiring, especially of teachers or nurses, and fostered instead the relative maintenance of the purchasing power of wages[5].

High income inequality.

Table 2 presents estimates of income distribution, based primarily on the last 'Standards of Living Survey' (2015), which was complemented by tax data on public and private wages gathered from payments of (two) taxes withheld at source by the government and large and medium-sized private companies. The number of civil servants and the number of formal private employees estimated by the two sources are entirely consistent[6]. In addition, the distributions of public sector wages indicated by the ENV 2015 and tax data are very similar. In contrast, the tax data indicate the existence of high private sector wages which are not reflected in the survey,

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Table 1 – Consumption, income, and poverty by household head occupation

	1988	1993	1998	2002	2008	2014	2002-2014
Farmers							
Per capita consumption	3.24	2.39	2.64	2.66	2.27	3.31	+24%
	(0.13)	(0.05)	(0.09)	(0.10)	(0.05)	(0.08)	
Poor (%)	25	45.8	42.4	45.7	53.7	36	-9.7
	(3.3)	(1.7)	(2.2)	(1.9)	(1.5)	(1.2)	
Per capita income	2.66	2.54	2.91	2.35	2.40	3.48	+48 %
	(0.09)	(0.03)	(0.08)	(0.06)	(0.05)	(0.08)	
Number (% total households)	55	54	45	46	42	39	
Informal business owners or employees							
Per capita consumption	5.73	4.30	4.29	4.46	4.15	5.23	+17%
	(0.36)	(0.14)	(0.14)	(0.19)	(0.11)	(0.15)	
Poor (%)	7.3	17.3	16	22	25.8	16.6	-5.3
	(2.2)	(1)	(1.6)	(1.4)	(1.4)	(0.9)	
Per capita income	9.14	5.21	4.69	4.99	4.52	5.24	+5%
	(0.65)	(0.09)	(0.19)	(0.16)	(0.10)	(0.13)	
Number (% total households)	14[(a)]	28[(a)]	26	25	33	40	
Formal private sector employees							
Per capita consumption	8.68	5.77	5.42	6.75	6.67	9.74	+44%
	(1.26)	(0.54)	(0.48)	(0.54)	(0.57)	(1.18)	
Poor (%)	1.3	7.1	10.6	5.8	9.9	6.5	+0.8
	(1)	(2.6)	(2.8)	(1.2)	(2.2)	(1.9)	
Per capita income	9.58	5.98	6.90	8.40	7.60	10.27	+22%
	(1.43)	(0.38)	(0.53)	(0.43)	(0.46)	(0.95)	
Number (% total households)	7(3)	2 [(a)]	9	8	5	3	
Public sector employees							
Per capita consumption	7.04	5.75	5.7	6.73	6.46	8.09	20%
	(0.50)	(0.47)	(0.35)	(0.71)	(0.45)	(0.50)	
Poor (%)	5.9	7.2	6.5	6.0	6.7	3.2	-2.8
	(1.9)	(1.5)	(2.2)	(1.5)	(1.8)	(2)	
Per capita income	5.84	6.03	6.95	7.33	7.37	10.62	45%
	(0.78)	(0.20)	(0.52)	(0.45)	(0.43)	(0.49)	
Number (% total households)	12	6	6	5	4	3	
Total							
Per capita consumption	4.78	3.33	3.73	3.95	3.51	4.64	+17%
	(0.22)	(0.10)	(0.13)	(0.18)	(0.10)	(0.11)	
Poor (%)	17.1	32.7	27.9	31.0	37.0	25.0	-6
	(2.2)	(1.1)	(1.5)	(1.5)	(1.1)	(0.8)	
Per capita income	4.51	3.69	4.17	3.95	3.78	4.78	+21%
	(0.21)	(0.04)	(0.09)	(0.07)	(0.06)	(0.07)	
NR (size sample)	1 597	9 499	4 179	10681	12 450	12430	
GDP per capita	9.08	7.72	8.39	7.52	7.20	8.23	+10%

Consumption, income, and gross domestic product (GDP) are expressed per day and per capita and in 2011 international dollars (purchasing power parity); the poverty line is set at $1.90. (a): employees in the formal private sector: employees in the private sector declaring contributions to the Caisse nationale de prévoyance sociale (National Social Security Fund, CNPS), beginning in 1998. The surveys from 1988 and especially 1993 do not allow for this distinction to be clearly made. Standard errors between brackets. The category of inactive household heads is not reported in the table.

Sources: authors' calculations based on CILSS 4 and ENV1-5.

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Table 2 - Income inequality in 2014[7]

	Poorest 50%	Wealthiest 10%	Wealthiest 1%
ENV Survey 2015	14%	44%	13%
Share of public sector employees (%)	0	13	11
Share of formal private sector employees (%)	1	8	17
Correction for high private sector wages	14%	46%	15%
Share of public sector employees (%)	0	13	9
Share of formal private sector employees (%)	1	10	28
Correction for other incomes	12%	51 %	19%
Share of public sector employees (%)	0	12	4
Share of formal private sector employees (%)	1	9	17

Sources: 2015 ENV Survey and tabulations of 2014 income taxes; authors' calculations. Methodology: Czajka (2017).

and which represent part of the highest 1% of wages. It is possible that some of these high wages are those of private sector employees poorly represented in the sample, notably, but not limited to, French expatriates or members of the Lebanese community who were not surveyed. It is also possible that some of the highest paid employees under-declared their incomes. The middle row of table 2 corrects the income distribution reflected by the survey by introducing these high private sector wages. The lower row is much more hypothetical as it corrects earnings from agricultural or informal labour, as well as all other incomes (ancillary activities, dividends, transfers, etc.), on the assumption that they were as under-declared as high private sector wages. Each row indicates an estimate of the percentage of income received by the poorest 50% of households, the wealthiest 10%, and the wealthiest 1%, as well as the breakdown of formal public and private employees in each of these three income quantiles. Preceding any corrections, income inequality appears much higher in Côte d'Ivoire than in France; while the percentage of income of the wealthiest 10% and 1% reach 44% and 13%, respectively, in Côte d'Ivoire, in France, the equivalent estimated percentages for the same year, 2014, come to 30% and 8%. The first decile (10%) receives approximately the same percentage of income as in the United States, 46%, especially once high private sector wages (middle row) have been corrected. In contrast, inequality is relatively less prevalent in Côte d'Ivoire than in the United States, if we consider the top percentile of Ivorians (1%), whose income percentage falls below 20% regardless of the corrections made, compared to 21% in the United States. In any case, this comparison with the United States shows that Côte d'Ivoire has significant income inequality. In addition, high wages in the public sector, and even more so in the private sector, now constitute a small but significant fraction of top incomes; formal sector employees are as a group not only protected from extreme poverty (see table 1) but also are also completely absent from the poorest half of the population. If we use the estimates from the middle row of table 2, we find that formal sector employees form 37% (9% are civil servants and 28% are private sector employees) of the wealthiest 1%, bearing in mind that these two categories account for no more than 6% of all households. In 1998, these same categories represented well above half of this top percentile (54% according to the survey: 16% for civil servants and 37% for private sector employees), while representing 17% of all households. Expressed as an odds ratio, the chances of formal sector employees belonging to the first decile or the first percentile are five times higher than the other categories taken together, as was already the case in 1998 or even 1988. From all these perspectives, it appears that the dualism of the labour market in Côte d'Ivoire has changed little. Large business owners and large planters still collectively represent more than half of Côte d'Ivoire's wealthy inhabitants. Given the small increase of farmers in that group (13% in 1998, 17% in 2014), urban workers in the informal sector now represent the majority of top income earners (47% versus 27% in 1998).

Denis Cogneau,
Léo Czajka,
Kenneth Houngbedji[8]

1. We thank the Institut national de la statistique de Côte d'Ivoire (National Institute of Statistics, INS) for providing household survey data as well as the Direction générale des impôts (Directorate General for Taxation, DGI) for sharing a tabulation of taxes on compensation and wages for the year 2014.
2. In 2012, oil export revenues exceeded those from cocoa; however, Côte d'Ivoire also imported refined petroleum products. See IMF (2016, p. 26). A recent United Nations ruling dismissed Côte d'Ivoire's request to redefine its territorial waters to

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incorporate offshore deposits exploited by neighbouring Ghana.
3. In table 1, we use a poverty line lower than the INS threshold, which corresponds to the international threshold of 1.90 in 2011 international dollars suggested by the World Bank. Our poverty estimate is also skewed upwards because we do not account for differences in price levels between Abidjan and other areas. However, the price index used is that of the World Bank's World Development Indicators (http://databank.worldbank.org/data/reports.aspx?source=world-developmentindicators#). Oddly enough, this index appears identical to that used by the INS, except for 2002-2008, a period for which the INS uses a higher inflation figure.
4. The survey was conducted in the first half of 2015, however civil servants benefited from wage increases at the beginning of 2015 and the benchmark price for cocoa producers increased by 12%. Overall, compared to the INS estimates, the trajectory of incomes and poverty is more consistent with national figures for the entire 1988-2014 period.
5. On East Africa, see Simson (2017). Our own estimates, based on the 2012 Ghana Living Standards Survey, suggest that civil servants in Ghana represent 6% of workers between the ages of 20 and 69, versus 3% in Côte d'Ivoire. In Ghana, as in East Africa, the relatively positive economic climate in the 2000s allowed for an improvement in wages, while maintaining a number of civil servants per capita distinctly higher than in Côte d'Ivoire. On these comparisons between former British and French colonies, see also Bossuroy and Cogneau (2013).
6. The private sector referred to here comprises all employees who contribute to the Caisse nationale de prévoyance sociale (National Social Security Fund, CNPS). On this tax data and its consistency with the survey data, see Czajka (2017).
7. Households classified according to per capita income. The categories 'public sector employee' and 'formal sector employee' refer to the occupation of the household head, as in table 1.
8. Denis Cogneau works at the Paris School of Economics, the École des Hautes Études en Sciences Sociales (School of Advanced Studies in the Social Sciences, EHESS) and the Institut de recherche pour le développement (French National Research Institute for Sustainable Development, IRD). Léo Czajka is a doctoral student at the Université catholique de Louvain-la-Neuve (Catholic University of Louvain, UCL). Kenneth Houngbedji works for the Agence française de développement (AFD).

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