

POLITIQUE ECONOMIQUE ET DEVELOPPEMENT

MACROECONOMIC AND SOCIAL IMPACTS OF ECONOMIC PARTNERSHIP AGREEMENTS ON IVORIAN ECONOMY: A NEW ASSESSMENT

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PED N° 03/2014



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Resume

This study reassesses the macroeconomic and social impacts of Economic Partnership Agreements (EPAs) on Ivorian economy using Computable General Equilibrium (CGE) model with positive externalities of public investment in education, health and economic infrastructure. Previous studies highlight negative effect of these agreements stressing particularly on losses in government revenues due to the removal of all tariffs on imports. This analysis aims to provide some insight into this question by refreshing the debate to show how this situation could be transformed into opportunities for Côte d'Ivoire in order to promote growth and reduce poverty. To do so, this study postulate that government spendings (investment) in economic infrastructure (roads, bridges, communication network, etc), in education and health sectors produce positive externalities in each industry. This assumption has not been set anymore in previous studies. Simulation results reveal that, despite this decline in government revenues, if it invests in economic infrastructure, health and education sector, EPAs will generate more revenue for government due to the rise in income tax on firms and households, and tax on overall production. Furthermore, household income will increase which will in turn stimulate (final) consumption. There won't also be a decline in economic growth.

Keywords: *externality, economic growth, free trade agreements, imports, macroeconomic and social impacts, public investment, tax.*

Introduction

The economic Partnership Agreements (EPAs) are free trade preferential agreements between developing countries, African Caribbean and Pacific Countries and European Union (EU) countries. They consist in the removal of all taxes on international trade flows between those countries. They were scheduled to start in 2008, the first of January. But the negotiations are still going on because most of ACP countries are afraid of its drawbacks. Indeed, several studies highlight the negative drawbacks for the whole economic in terms of intensifying poverty, reducing government revenues, increasing unemployment, and downing economic growth (Fontagné, Laborde, & Mitaritonna, 2011; BNETD, 2008; Busse & Großmann, 2007; Karingi, Lang, Oulmane, Perez, Jallab, & Hammouda, 2005; Busse & Grossman, 2004; Blein, Hamid, & Baillet, 2004; Nogue, Rampulla, & Vellutini, 2008; Ndela & Tekere, 2003).

Nevertheless, according to various development partners, improving productivity (total factor productivity and labor productivity) is an important determinant of economic growth. Education and health (Nubukpo, 2003) have received great attention as tools to improve labor productivity in developing countries. As a result significant investments have been made in education and health, and major reforms have been implemented to improve education and health conditions in developing countries. In addition, further investment in economic infrastructure (roads, communication network, etc.) can also increase total factor productivity even if their role has been neglected in the context of stabilization and structural adjustment programs (Savard, 2010). In this sense a decline in global factor productivity (in developing countries particularly ¹) would be induced by slow expansion of public investment in economic infrastructure (Bergman & Suan, 1996; Binder & Smith, 1997).

Local government must support this public investment however, EPAs, with the removal of tariffs on imports, will reduce its leeway in funding this investment and various other programs put in place to achieve the MDGs by 2015. The goal of this study is to feed the debate highlighting the extent to which EPAs could be a great opportunity for ACP countries focusing on Côte d'Ivoire one of which has nearly signed an interim EPAs waiting for a global EPAs with ECOWAS (Economic Community of West African States) +Mauritania. Using a Computable General Equilibrium model, the study assumes that there are positive externalities of new economic infrastructure, new investment in education and health in each industry associated with public investments. To our knowledge, there aren't any other papers which take into account positive productive externalities of public investment assessing EPAs impacts using a CGE model. Doing a comparative analysis the study will depart from a situation without such investment in order to cancel the main differences due to externalities.

The study draws on Savard (2010), Estache, Perrault, & Savard,(2009), Fay & Yepes (2003) Savard & Adjovi, (1998). Reading up on these models, these authors explore how positive productivity externalities due to investment in economic infrastructure, education and health can

¹Developing countries are relatively poor in capital factor and that don't allow them to make such investment

be taken into account in a CGE model. They propose several ways to do this and propose parameter values for specific responses of industries to this public investment (Savard, 2010). This study doesn't impose increases in public spending to maintain and repair the new economic infrastructure (Estache, Perrault, & Savard, 2009). These spending are supposed to be a part of the whole government spending. Then, additional assumptions have been considered such as imposing budget equilibrium (without deficit) and the use of all public saving to finance public investment. This assumption excludes potential negative macroeconomic consequences of scaling up aid (Gupta, Powell, & Yang, 2006; Foster & Killick, 2006; McKinley, 2005).

The simulations show that losses of government revenues are lower and those direct taxes on firms, household's consumption and production increase. Moreover, any losses of economic growth that would result will be almost marginal. While unemployment is up slightly despite the demand for labor increases.

The rest of the paper is organized in five sections. The first one presents the model in its main characteristics. The second section describes the model structure and the data used. The third section stresses on the closure rules. Section four presents the simulations scenario and its expected impacts without externalities. Section five describes results before concluding remarks and possible extensions.

Characteristics of the model

A CGE model is used to assess the impact of EPAs on Côte d'Ivoire. The main characteristics of the model in this analysis are twofold. First, the labor market is modeled by considering two categories of workers, unskilled and skilled, and the study assumes that there is unemployment which is due to lack of good education and bad health. Second, as it hasn't been done before in a CGE model assessing the impact of trade reforms, here, positive productive externalities of public investment in economic infrastructure, education and health are taken into account. The following subsections give details about these characteristics.

Modeling labor market, education and health externalities

Equilibrium with unemployment is assumed on the labor market. The rate of unemployment μ_t is set to 24% (National Institute of Statistics, 2008). This rate is supposed to be the same for both skilled and unskilled workers. Public investment in health and education, for example, improves both types of workers' productivity. Improving human capital has a positive impact on economic growth (Lucas, 1988; Savard & Adjovi, 1998; Anderson & Martin, 1998; Fougère & Merette, 1999; Dumont & Mesple-Somps, 2000; Jung & Thorbecke, 2003; Voyvoda & Yeldan, 2005).

Investment in human capital can be evaluated through public spending in education and health. This increases factor productivity and production in each industry. Considering a country like the Côte d'Ivoire, it is obvious that such investments are important for economic growth. In addition, the model considers that unemployment in each category depends on the comparison made by workers between the current wage rate and the wage rate of the base year.

This trade-off is done according to the equation:

$$(1) \quad \mu_l = \left(\frac{w_l}{w_l^0} \right)^\varepsilon \mu_l^0$$

with ε the sensitivity of unemployment compared to the variation of the wage rate of any category and w_l^0 the wage rate of the base year. By considering this specification, the model clearly includes, in the assessment, the consequences of EPAs on the labor market and household incomes. Thus, positive productive externalities will decline with a drop in education and health investment.

Economic infrastructure investment externalities

Public investment in economic infrastructure can act as a source of comparative advantage if the productivity (gains) is sector specific. So, an increase in infrastructure investment will generate positive production externalities in different production sectors in the economy. The sector specific elasticity allows us to capture the different impacts that the investment (economic infrastructure, education and health investments) will have on a particular sector. Investment in economic infrastructure increases overall productivity of production factors (Barro, 1990). Some authors have attempted to take into account the effects of public investment in economic infrastructure (Estache, Perrault, & Savard, 2009; Savard, 2010; Foster, Briceño-Garmendia, Bank, & Diagnostic, 2010). All these works highlight the externalities generated by these expenditures and their macroeconomic impacts. They show that externalities are drivers of economic growth and poverty reduction.

The key assumptions to capture the impact of infrastructure investment concern its production externalities. Here, the model assume that the government expenditures include also a constraint to fund operating and maintenance costs generated by this economic infrastructure. This approach, on this aspect, differs from Estache, Perrault, & Savard, (2009). The budget constraint without deficit is written as follow:

$$SG = YG - G$$

with SG, YG, and G respectively government savings, government total income and government current spending. It is supposed that government savings is entirely used to finance public investments (new economic infrastructure, investments in education and health). So that

$$SG = IG$$

Assuming that government spending are exogenous, public savings are so too. Public savings being equal to public investment, the latter is also exogenous. Hence to fund new public investment, the government will need an endogenous source of revenue such as a tax instrument. Thus, the only adjustment variable that can return to balance budget without deficit is the level of government revenue YG. Here, economic infrastructure lead to an increase of the total productivity of factors in the value added equation. To do so, the model draws on Estache, Perrault, & Savard, (2009), Savard (2010), and a vast literature linking economic infrastructure to private sector factor productivity. The model doesn't include private investment in

the externality function (Estache, Perrault, & Savard, 2009). The function is as follows:

$$(2) \quad \theta_j^e = \left(\frac{SG_j}{SG_0} \right)^{\varphi_j^e}$$

with θ_j^e the externality parameter, SG_j and SG_0 the level of government savings in the current year and the base year, and φ_j^e the economic infrastructure investment's sector-specific elasticity. The values of this parameter (Table 1) were constructed using a combination of data from Estache, Perrault, & Savard, (2009), Harchaoui & Tarkhani, (2003), Savard, (2010). In general, the values of our parameters are consecutive with respect to this literature, ranging from 0.01 to 0.039. Table 1 gives the specific parameter values.

Externalities are introduced into the equation of the added value as follows:

$$(5) \quad VA_j = \theta_j^e A_j^{\nu_a} [\beta_j^{\nu_a} LDC_j^{-\rho_j^{\nu_a}} + (1 - \beta_j^{\nu_a}) KDC_j^{\rho_j^{\nu_a}}] \frac{1}{\rho_j^{\nu_a}}$$

with VA_j the value added of industry j , KDC_j the composite capital demand of industry j , LDC_j the composite labor demand of industry j , $A_j^{\nu_a}$ the scale parameter, $\beta_j^{\nu_a}$ the share parameter, $\rho_j^{\nu_a}$ the elasticity.

Hence an increase in θ_j^e represents a Hicks neutral productivity improvement, like the one modeled by Yeaple & Golub (2007) and the externality acts as a source of comparative advantage. Regarding health and education expenditures, it is supposed that its influence on human capital and is modeled in the same way that infrastructure spending is. Then, the following relationships are considered: $\theta_j^e = \theta_j^s$ and $\varphi_j^e = \varphi_j^s \theta_j^s$ and φ_j^s are the externality parameter and the sector-specific elasticity to changes in health and education investment.

However, it should be noted that the effects of these public investments are noticeable over time. Therefore dynamic models are shown to evaluate the impact of policy in the presence of externalities. But these seem more restrictive due to the possibility of disaggregation of the economy, given the limitations of calculations. This, indeed, limits the scope of such models in their dynamic version (Savard & Adjovi, 1998). As in the proposed model, a disaggregated level is adopted. Here, a static model is used for this first evaluation taking account externalities. Then handling a dynamic model would render it.

Table 1

Externality elasticity by sector

N°	Sectors or industries	
1	subsistence farming	0.01
2	Export agriculture / industrial	0.018
3	Livestock and hunting	0.011
4	Forestry, forestry activities., services schedule	0.003
5	fishing	0.012
6	mining and quarrying	0.027
7	agribusiness	0.025
8	Manufacture of textiles, clothing and leather work	0.038
9	Other industrial activities	0.025
10	Electricity, gas and water	0.039
11	construction	0.021
12	trade	0.022
13	Hosting and catering	0.01
14	Transport and communications	0.018
15	financial activities	0.013
16	Activities of public administration	0.01
17	Education	0.01
18	Health activities and social work	0.01
19	Other services	0.01

Model structure and data

The model is based on the Social Accounting Matrix of 2007. It summarizes economic transactions occurring between the domestic agents on one hand and between the domestic and the rest of the world on the other. The model structure is based on two elements: Economic agents and sectors.

About the first element, there are four groups of economic agents: Domestic households, domestic firms, the government and the rest of the world. Nine household categories were distinguished: Civil servants, employees in the formal private sector, and employees of informal private sector, industrial farmers (for export), Subsistence farmers, Breeders, Fishermen, Independents and non-agricultural employers, inactive. It is considered a representative household that maximizes its utility function under its disposable income constraint. This household provides labor while it is the holder of firms and derivatives; therefore it earns all revenues due to this quality (wages and return on capital). The representative household also receives money transfers from the rest of the world and the government. It pays to the latest income tax and makes money transfers to firms, government and the rest of the world.

Firms determine the level of their production by maximizing their profit function under technological

constraints. They get their income from their gross operating surplus excluding the remuneration of production factors. Firms can also receive transfers from households, the government and the rest of the world. Moreover, they pay taxes on goods and services, production and profit to the government. They also make transfers in favor of the government as well as households and the rest of the world.

Contrary to households and firms, the behavior of the government described in the model is not the result of an optimization process decision. The government's revenue comes mainly from taxes collected from the domestic economy. The model adopts three groups of tax revenue: Direct taxes, indirect taxes and tariffs on imported and/ or exported goods and services.

There are also transfer flows between the government and other economic agents, domestic and foreign (in the rest of the world). According to the rest of the world, commercial and financial transactions between domestic agents and the rest of the world are supposed to be done mainly in two spaces: WAEMU and the rest of the world.

Regarding activity sectors, nineteen branches are included in the model through the Social Accounting Matrix (SAM). Table 2 shows the equivalence with the national account nomenclature and these branches.

Table 2

Equivalence between the SAM and nomenclature of National Accounts

N°	SAM branches	National Accounts branches
1	subsistence farming	1
2	Export agriculture / industrial	2
3	Livestock and hunting	3 and 4
4	Forestry, forestry activities, services schedule	5
5	fishing	6
6	mining and quarrying	7
7	agribusiness	8 to 15
8	Manufacture of textiles, clothing and leather work	16 and 17
9	Other industrial activities	18 to 28
10	Electricity, gas and water	29
11	construction	30
12	trade	31 and 32
13	Hosting and catering	33
14	Transport and communications	34 and 35
15	financial activities	36 to 38
16	Activities of public administration	39
17	Education	40
18	Health activities and social work	41
19	other services	42 to 44

Data used in the analysis come from the National Institute of Statistics of Côte d'Ivoire.

Closure rules

International prices (imports and exports) are assumed to be exogenous. Côte d'Ivoire is a small open country so it can't modify international prices. In the model, skilled labor, unskilled labor and capital are considered as production factors. The operation of each market is different.

Labor market

There is a high unemployment rate certainly because of the previous social and political crisis in Côte d'Ivoire. So there is not a full employment and wage flexibility on the labor market. And nominal wages are fixed at their initial levels. In addition, labor is assumed to be mobile between different sectors. Under this condition, the adjustment variable on the labor markets is the overall employment volume rather than wage rates.

Capital market

Regarding this market, it is assumed that capital volume is set to its initial level given in the SAM. This assumption excludes any mobility between branches. Then a Johansen closure rule is chosen: The level of public investments is set at its initial level as well as public savings. Household and firms savings are endogenous in order to equilibrate ex-post total savings to the total investment into the economy.

Balance of payment

The current account level is fixed. Similarly, the nominal exchange rate is set to ONE. This assumption allows us to incorporate that Côte d'Ivoire's fixed exchange rate with the euro. The nominal exchange rate is chosen as the numeraire, its value is set to ONE. Thus the external deficit is explained by the model.

Government budget

A constraint of equilibrium without deficit for the government budget is supposed into the model. Resources are equal to public spending. Then the model supposes that it is the government's spending that adjusts to any fluctuations in government revenue.

Simulation scenario

The study considers a complete removal of tariffs on imports. Two cases will be analyzed in the

study: A situation with externality effects and a situation without them. EPAs are agreements to full liberalization Côte d'Ivoire's foreign trade in particular its trade with the EU.

On a theoretical level, it is consistent with a reduction of trade barriers that impede Côte d'Ivoire's foreign trade. The decrease in tax on imports usually causes a drop in customs revenue and may lead to a reduction of the government leeway regarding the funding of social programs, where other sources of funding aren't found. Moreover, foreign goods and services will become relatively cheaper and then/thus preferred by domestic consumers. This could result in a decline in demand addressed to domestic enterprises. This constraint may lead them to reduce their production and their input demand (labor and capital). The consequences may be increasing unemployment and lowering growth rates due to lower domestic production. The magnitude of the expected effects depends widely on the initial level of tariffs, the respective proportions of imports and domestic production in domestic total supply and the elasticity of substitution between imports goods and domestic production. The study also assumes that any assessment of imports is equivalently compensated by exports as the current account level is maintained as its initial level. The simulations concern the removal of all tariffs on imports.

Results

The study is interested in the impact on government revenue, tax revenues, foreign trade, domestic demand and production, inputs demand and prices.

Government revenue, tax revenue

The results in terms of tax revenues corroborate our expectations in both cases regarding government revenue, indirect tax, tax on goods and value added tax. The extent of lowering tariffs has the effect of bringing down these categories of tax revenues. But the decline is less considering public investment externality than without it, respectively -13.63% vs -27%, -6.03% vs -13.52%; -39.07% vs -44.34%; -8.51% vs -15.69%. However, tax on firms, households and production increase with the externality effects, contrary to the situation without public investment externality where they decline. These tax revenues increase respectively by 23%, 9% and 13% while decline respectively by 5.41%, 6.23% and 6.44% without externalities (see Table 3).

Table 3

Impact on Government revenue and tax

	Values (Thousand FCFA) Base year	Without external effects		With external effects	
		Sim1 Values (Thousand FCFA)	Variation (%)	Sim2 Values (Thousand FCFA)	Variation (%)
Government revenues	1959323	1430337.59	-27.00	1692148.08	-13.64
Direct tax on firm	278994	263887.14	-5.41	340340.03	21.99
Direct tax on household	146207	137094.43	-6.23	159323.157	8.97
Indirect tax	41443	35841.09	-13.52	38943.2287	-6.03
Tax on goods	1073428	597471.52	-44.34	654061.77	-39.07
VAT	371573	313281.82	-15.69	339959.212	-8.51
Tax on production	49590	46396.30	-6.44	55925.848	12.78

It seems that firms become more productive and the price effect of lower tariffs is offset by an economic activity that generates a significant volume effect due to external effects induced by public investment.

Production and domestic demand

Despite this supposed revival, production, domestic demand and aggregate supply are declining in the presence of externality effects. These variables decline respectively by 14.59%, 15.25% and 8.03% (see Table 4).

Table 4

Impact on Production and domestic demand

	Base year	Without external effects		With external effects	
		Sim1 Values (Thousand FCFA)	Variation (%)	Sim2 Values (Thousand FCFA)	Variation (%)
Production	17,232,241	17,097,627.2	-1.27	14,829,708.3	-14.59
Domestic demand	12,887,405	12,651,763.7	0.14	10,960,767.2	-15.25
Government spending in consumption good	1,297,510.26	1,351,769.06	8.38	811,426.54	-15.74
Investment	969,417	445,582.00	-54.04	844,103.89	-12.93
Household consumption	6,707,025.67	6,860,888.17	2.00	7,011,591.53	4.04
Household income	7,762,154	7,259,796.63	-6.48	8,440,852.62	9.27

Due to the increase in the consumer prices index (+3.89%), the demand for government consumption and total investment fall by 15.74% and 13%, while household demand of final consumption goods increases (+4.04%) due to the increase of their incomes (+9.27%). But as it is noticed, this increase is not quite enough to prevent the decline in production and the aggregate

supply adjusts accordingly with a decline. Without externalities the situation is quite similar. Despite lower revenue (-27%) and household income (-6.48%), because of lower consumer prices (CPI was down by 8.61%), the government and households experience an increase in their consumption volume. There is an increase of public consumption (8.38%) and household consumption (2%).

Foreign trade

This decline in domestic demand leads to a decline in supply. This reduction in supply is offset by higher imports (+22.72%). The decline in production remains significant which also causes the relatively high decline in exports (8.79%) (See Table 5).

Table 5

Impact on the Foreign trade

	Without external effects			with external effects	
	Values (Thousand FCFA) Base year	Sim1 Values (Thousand FCFA)	Variation (%)	Sim2 Values (Thousand FCFA)	Variation (%)
Imports	4,115,644	4,041,388.51	-2.26	4,498,559.57	22.72
Exports	4,344,836	4,440,506.02	2.33	3,868,941.11	-8.79

This decrease is particularly important in mining industries (48.6%) and public administration (49%). Taking into account public investment externalities, the impact of the decrease in imports tax on growth rate will be less than without public investment externalities.

Production factors

As it appears in Table 6, the simulations lead to an increase in labor demand in both cases. But the demand of unskilled labor is higher respectively 1.57% vs 4.14% without externalities and with public investment externality effects. The same result is seen for skilled labor, 0.03% vs 1.66%. This increase in labor demand despite higher wage rates (see Table 6) is explained by higher productivity of human capital due to the externality effects of public investments. The situation is different without these externality effects. In fact, the wage rate declines for each category of workers (see Table 6) and this decline explains the decrease of the unemployment rates in this situation. As the price of labor is declining, firms hire more workers.

This shift in labor demand causes a fall of unemployment among both categories of workers in the case without externality effects of public investment. But unemployment goes up when the study considers these externalities despite the shift in labor demand. Unfortunately, this shift in labor demand does not lead to lower unemployment. Unemployment rises to about 1.03%.

Table 6

Impact on the Demand of the Production factor

	Without external effects			with external effects	
	Values (Thousand FCFA) Base year	Sim1 Values (Thousand FCFA)	Variation (%)	Sim2 Values (Thousand FCFA)	Variation (%)
Labor demand					
Unskilled Labor	3,422, 298	3, 439,409.38	1.57	3, 411,076.16	4.14
skilled Labor	2, 236,451	2, 244,590.59	0.03	2, 224,119.82	1.66
Capital demand	3, 008,624	3, 008,624	0.00	3, 008,624	0.00

These are probably the perverse effects of productivity gains due to public investments in infrastructure, education and health.

Prices

The price analysis takes into account the cost of production factors of firms, the price index (CPI) and GDP deflator.

Table 7

Impact on the Prices

	without external effects			with external effects	
	Values (Thousand FCFA) Base year	Sim1 Values (Thousand FCFA)	Variation (%)	Sim2 Values (Thousand FCFA)	Variation (%)
Wage					
Unskilled labor	1	0.92	-7.67	1.05	5.19
skilled labor	1	0.94	-5.63	1.09	8.73
Deflator	1	0.94	-6.36	1.00	0.00
CPI	1	0.91	-8.61	1.04	3.89
Capital return	1	0.96	-4.12	1.13	13.24

Measuring the reduction of custom duties of 100% on imports had a deflationary effect on the Ivorian economy without considering public investment externality effects. In fact, there is a decline in the GDP deflator (-6.36%). The consumer price index highlights a larger movement to lower prices (-8.61%). On contrary, with these externalities, deflator doesn't change but wage rates (both unskilled and skilled labor) and the consumer price index goes up, and so does capital return respectively, 5.19% (unskilled labor), 8.73% (skilled labor), 3.89% and 13.24% (table 7). Thus, households earn more revenue and they consume more in this case (see Table 4).

Conclusions

In this study a standard CGE model is constructed in order to reassess the effects of the implementation of EPAs on the Ivoirian economy taking into account externality effects likely in industries. The simulations show that losses of government revenues are lower and direct tax on firms, households and production increase. Moreover, any loss of economic growth that would result will be almost marginal. Unemployment is slightly higher despite the increase of labor demand. Capital return, household incomes and final consumption will increase, as well as imports. Finally, EPAs appear to be a real opportunity for Côte d'Ivoire. But care should be taken to identify the sectors most sensitive to productivity gains from public investment and the sectors with high growth potential to drive them effectively.

References

- Anderson, J. E., & Martin, W. (1998). Evaluating public expenditures when governments must rely on distortionary taxation (éd. World Bank Publications, Vol. 1981).
- Barro, R. (1990). Government Spending in a Simple Model of Endogenous Growth. *Journal of Political Economy* , 98 (5), 103-130.
- Bergman, E. M., & Suan, D. (1996). Infrastructure and manufacturing productivity: Regional accessibility and development level effects'. Dans B. D. F., & C. K. (Eds.) (Éd.), *Infrastructure and the Complexity of Economic development*, (pp. 17-35). Heidelberg: Springer-Verlag.
- Binder, S. A., & Smith, S. S. (1997). Politics or Principle ? : Filibustering in the United States Senate. (L. of Congress Cataloging-in-Publication data, Éd.) The Brookings Institution , 1775 Massachusetts Avenue, N.W., Washington D.C. 20036.
- Blein, R., Hamid, A., & Baillet, G. (2004). Etude d'impact des Accords de Partenariat Economique (APE) sur l'économie du Niger. Paris, décembre .
- BNETD. (2008). Etude d'Impact Ex-Anté des APE sur les Recettes Fiscales de la Côte d'Ivoire et Mesures d'Accompagnement. Tech. rep., Republique de Côte d'Ivoire, Ministère de l'Intégration Africaine, Cellule de Coordination des Accords de Partenariat Economique, Rapport provisoire.
- Busse, M. A., & Grossman, H. (2004). The Impact of ACP/EU Economic Partnership Agreements on ECOWAS Countries: An Empirical Analysis of the Trade and Budget Effects. Tech. rep., Hamburg Institute of International Economics.
- Busse, M., & Großmann, H. (2007). The trade and fiscal impact of EU/ACP economic partnership agreements on West African countries. *Journal of Development Studies* , 43 (5), 787-811.
- Dumont, J., & Mesple-Somps, S. (2000). The Impact of Public Infrastructure on Competitiveness and Growth: A CGE Analysis Applied to Senegal. Tech. rep., CREFA, Université Laval, Quebec.

- Estache, A., Perrault, J.-F., & Savard, L. (2009). Impact of Infrastructure Spending in Mali: A CGE Modeling Approach. Working Papers ECARES, ULB (Universite Libre de Bruxelles).
- Fay, M., & Yepes, T. (2003). Investing in Infrastructure: What is Needed from 2000 to 2010? (Vol. 3102). World Bank Publications.
- Fontagné, L., Laborde, D., & Mitaritonna, C. (2011). An Impact Study of the Economic Partnership Agreements in the Six ACP Regions. *Journal of African Economies* , 20 (2), 179-216.
- Foster, M., & Killick, T. (2006). What Would Doubling Aid Do for Macroeconomic Management in Africa ? Tech. rep., Overseas Development Institute, London, Working Paper, n°264.
- Foster, V., Briceño-Garmendia, C., Bank, W., & Diagnostic, A. I. (2010). Africa's Infrastructure: A Time for Transformation. World Bank. Agence Française de Développement.
- Fougère, M., & Merette, M. (1999). Population Ageing and Economic Growth in Seven OECD Countries. *Economic Modelling* , 16, 411-427.
- Gupta, S., Powell, R., & Yang, Y. (2006). Macroeconomic Challenges of Scaling up Aid to Africa: a Checklist for Practitioners. (D. des services multimédias du FMI, Éd.) International Monetary Fund, Publication Services.
- Harchaoui, T. M., & Tarkhani, F. (2003). Le capital public et sa contribution à la productivité du secteur des entreprises du Canada. Série de documents de recherche sur l'analyse économique (AE), Statistics Canada, Direction des études analytiques.
- Jung, H.-S., & Thorbecke, E. (2003). The Impact of Public Education Expenditure on Human Capital, Growth and Poverty in Tanzania and Zambia: A General Equilibrium Approach. *Journal of Policy Modeling* , 25 (8), 701-725.
- Karingi, S., Lang, R., Oulmane, N., Perez, R., Jallab, M., & Hammouda, H. (2005). Economic and Welfare Impacts of the EU/Africa Economic Partnership Agreements. Tech. rep., Africa Trade Policy Centre, Economic Commission for Africa.
- Lucas, R. E. (1988). On the mechanics of economic development. *Journal of Monetary Economics* , 22, 3-42.
- McKinley, T. (2005). Why is the Dutch Disease Always a Disease ? The Macroeconomic Consequences of Scaling Up ODA. Tech. rep., International Poverty Center, Brasilia, Working Paper.
- Ndela, D., & Tekere, M. (2003). Impact Assessment of Economic Partnership Agreements on Southern African Development Community and Preliminary Adjustment Scenarios. Tech. rep., Harare, Zimbabwe: Trade and Development Studies Centre.
- Nouve, K., Rampulla, C., & Vellutini, C. (2008). Impact de l'Accord de Partenariat Economique sur la pauvreté au Mali : Une analyse par MEGC dynamique. Working paper, ECOPA.
- Nubukpo, K. K. (2003). Dépenses publiques et croissance des économies de l'UEMOA.

unpublished.

Savard, L. (2010). Scaling up Infrastructure spending in the Philippines: A CGE top-down/bottom up microsimulation approach. *International Journal of Microsimulation* , 3(1), 43-59.

Savard, L., & Adjovi, E. (1998). Externalités de la santé et de l'éducation et bien-être: Un MEGC appliqué au Bénin. *Actualité Economique* , 74(3), 523-560.

Voyvoda, E., & Yeldan, E. (2005). Managing Turkish debt: An OLG investigation of the IMF's fiscal programming model for Turkey. (Elsevier, Éd.) *Journal of Policy Modeling* , 27 (6), 743--765.

Yeaple, S. R., & Golub, S. S. (2007). International Productivity Differences, Infrastructure, and Comparative Advantage. *Review of International Economics* , 15 (2), 223-242.