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Participation of African Women in Science, Technology, Engineering and Mathematics (STEM): What has fertility got to do with it?

Aisha Nanyiti and John Sseruyange

Makerere University Kampala, Uganda

ABSTRACT
The underrepresentation of women in STEM is of interest to development practitioners as it contributes to untapped intellect and creativity, and lower investment in human capital. Studies assessing lower participation of women in STEM mainly conceptualise and explain reasons for women's underrepresentation based on data and experiences from the global north. Many of these studies highlight women's family care roles as a key factor behind their low participation in STEM fields. The objective of this paper is to empirically examine the effect of fertility on participation of African women in STEM. We use panel data on 18 Sub-Saharan African countries for the period 2000 to 2017, using the percentage share of female graduates of STEM from tertiary education to measure women's participation in STEM, and fertility rate and birth rate to measure fertility. Results show that fertility has a negative correlation with women's participation in STEM. Thus, we conclude that increasing women's participation in STEM requires policy interventions to aim at making STEM occupations more accommodating to those with family care responsibilities.

KEYWORDS
Women, STEM, fertility, panel data, Sub-Saharan Africa

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INTRODUCTION

Women are underrepresented in Science, Technology, Engineering and Mathematics (STEM) fields. Lower participation of women in STEM fields constrains the development process in many countries. Besides restricting the potential of relaxing supply side rigidities in STEM and related industries, missing women in STEM fields imply untapped intellect and creative potential (Dasgupta & Stout, 2014; Jean et al, 2015). Limited engagement of women in STEM implies unutilized human capital that is vital to enhance production and productivity in STEM related industries. Greater involvement of women in STEM fields is associated with higher productivity and creativity (Dasgupta & Stout, 2014).

Previous studies that examine drivers of gender disparities in STEM fields document and conceptualise the reasons explaining this gap (Blickenstaff, 2005; Dasgupta & Stout, 2014; Xie et al., 2016; Liani et al., 2020). While biological explanations have been discarded (Blickenstaff, 2005; Brainard & Carlin, 1998; Whitelegg, 2001), social constraints on women's participation in STEM persist (Aguele & Agwagah, 2007; Miller et al., 2018; Sonko, 1994).

Moreover, empirical studies on STEM participation are mainly based on data and experiences from the United States and Europe (Alexander & Hermann, 2016; Ellis et al., 2016; Makarova et al., 2016; Miller et al., 2018; Sheltzer & Smith, 2014 among others). Patterns and drivers of women's engagement in STEM, however, vary across countries..

There are a few studies using data and experiences from Sub-Saharan Africa (Aguele & Agwagah, 2007; Liani et al., 2020; Masanja, 2010; Morley, 2005; Ogunjuyigbe et al, 2006; Okeke et al., 2017; Jean et al., 2015). These studies document the challenges of female participation in STEM, perceptions regarding STEM and the consequences of women's limited engagement in STEM fields, and the findings mainly point to family demands on women as a major constraint to participation.

African societies, like the majority of societies globally, tend to be patriarchal meaning that women are expected to prioritise domestic and family care roles (Ogunjuyigbe et al, 2006). High fertility levels in some African countries are a consequence of this priority given to reproduction (Caldwell & Caldwell, 1987; Sonko, 1994). Combining work and family care are considered incompatible within some STEM occupations, particularly those stereotyped as masculine, meaning that women are more likely to work in occupations that are perceived to fit better with their reproductive, home making and caregiving roles. Some occupations in STEM like construction and engineering may also be presumed to be too physically demanding and therefore not suitable for women (Diekman et al., 2015; Sonko, 1994; Wang & Degol, 2013).

This study contributes to literature on women's participation in STEM, by examining fertility in relation to women's engagement in STEM in Sub-Saharan African countries. Although motherhood in STEM has been well researched (Herman & Lewis 2012; Kmec 2013), the correlation of fertility and birth rates with women's engagement in STEM has not been empirically analysed before. We use data from 18 Sub-Saharan African countries, for the years 2000 – 2017[1] to examine fertility in relation to women's participation in STEM. To measure women's participation in STEM, we use the percentage share of female graduates of STEM from tertiary education. To measure fertility we use two indicators, namely fertility rate and birth rate.

LITERATURE REVIEW

STEM refers to science, technology, engineering and mathematics. While the complete list of STEM occupations is constantly changing, professional and technical support jobs in computer science, mathematics, engineering and life sciences as well as physical sciences, and management jobs in computer and information systems, engineering and natural sciences should be included (Beede et al, 2011). Beede et al. (2011) further categorise STEM occupations into four, namely: computer and maths constituting about 47% of all STEM occupations, engineering and surveying contributing about 33%, physical and life sciences making up 12% and STEM managerial occupations accounting for 8%.

According to Fayer, Lacey and Waston (2017), STEM occupations include computer occupations (software developers, computer user support specialists, computer systems analysts), engineering (mechanical and civil engineers), drafters, engineering technicians, mapping technicians, STEM related management and sales, life scientists, physical scientists, STEM related post-secondary teachers, architects, surveyors, cartographer and mathematical occupations. It is reported that STEM occupations made up 6.2% of all employment in United States in 2015 (Fayer et al., 2017).

Compared to men, women's participation in STEM has remained a challenge over time, with the proportion consistently remaining low. While globally the gender gap in STEM has narrowed over the past five decades (Leaper, 2015), women remain underrepresented in these fields. For example, in the United States, while women hold 48% of all jobs, they only hold 24% of the STEM jobs (Beede et al, 2011). In Uganda, women constitute only 12% of students enrolled in science faculties (MoES, 2016). Likewise, very few girls compared to boys offer science subjects at lower secondary and high school. In Ghana, only 29 out of 855 girls at senior high schools in Jasikan District, studied physics, chemistry and biology (UNESCO, 2016). The low enrolment, feeds into lower participation of women in STEM fields. For instance, only 23.6% of the secondary school teachers and 30% of the lecturers in public universities in Uganda are women (MoES, 2016). Women continue to leak out of the STEM pipeline, to the extent that more women graduates with STEM degrees end up working in different fields. Beede and others (2011) report that only 26% of the 2.5 million United States female STEM graduates held a STEM job, and 14% were in education, and 19% were in healthcare. In contrast up to 40% of the 6.7

[1] The study period depended on data availability.

million male STEM graduates held a STEM job, and only 6% were in education, and 10% were in healthcare.

Furthermore, very few women of those who continue with STEM careers reach top leadership levels (Diekman et al., 2015). Being in a minority, the women who persist in STEM suffer exclusion in some activities and/or penalties in the form of frequent calls for administrative service that is often time consuming. Such demands on these women's time may delay or preclude opportunities for career and leadership advancement (Diekman et al., 2015).

Various social reasons, have been put forward as explanations for women's low participation in STEM. Some parents view STEM fields as masculine and less accommodating to the parent's expectation about their children's aspirations of life, particularly, the domestic role of women (Aguele & Agwagah, 2007; Ogunjuyigbe et al., 2006; Cheryan et al., 2017). Parents perceptions are in turn determined by socio-cultural norms (Aguele & Agwagah, 2007; Liani et al., 2020). Negative parental perceptions about STEM careers limit girls' introduction to instruction and involvement in STEM. Diekman and others (2015) report that at infancy stages, parents more frequently explain scientific concepts to boys than to girls. This right away impedes girls from developing an inclination to STEM. Moreover, Cheryan et al. (2017) find lack of adequate early familiarity with STEM concepts to lead to lower participation of girls in STEM subjects. This reinforces negative self-efficacy regarding abilities for STEM, which leads to girls dropping out of STEM subjects.

While student's perceptions can be related to parental expectations, students also possess negative perceptions regarding STEM. These negative perceptions may be related to the student's peer group (Leeper, 2014; Robnet, 2016), in particular the values upheld by a girl's peer group may conflict with interest in STEM. Since the peer group provides social identity, girls end up leaning to the group's interests at the expense of any STEM ambitions. Boehnke (2008) and Kessels (2005) for instance, report reduced motivation for mathematics and physics from girls, as a response to avoiding rejection from peers. The peer group members may hold gender stereotyped beliefs about STEM, perceiving it as masculine and not an appropriate route for women. Furthermore, Leaper (2015) reports that girls suffer hostility from peers, for good achievements in STEM subjects. Such effects create a sense of lack of belonging for girls in STEM subjects. Many girls end up trading participating in STEM for social identity with peers. Since secondary school plays a pivotal role in recruiting participants into STEM fields, awareness information delivered by female role models or peer mentors at this level, can improve girls' perception of STEM (Weisgram & Diekman, 2015).

At early stages, girls may receive little or no inspiration from current women role-model participants in STEM. This effect is reinforced by gender stereotyping in curriculum materials, delivery by teachers, and through the media (Aguele & Agwagah, 2007). At this crucial stage girls develop views about who they are and will be, a self-image they are more likely to adhere to going forward (Weisgram & Diekman, 2015). Since STEM subjects may involve quite engaging activities like field trips and group projects, lack of interaction with female role models that have made it through the same process, limits girls' ambition in STEM.

Moreover, some STEM occupations like site construction and engineering may involve unfriendly working hours or heavy loads that may be difficult for pregnant or lactating women. The high concentration of men in these occupations further makes the working environment unpleasant or hostile for some women. In male dominated work environments, women may receive less understanding from colleagues regarding work-family demands (Aguele & Agwagah, 2007). STEM working environments therefore may undermine the sense of belonging, and consequently women drop out of these occupations. Increasing congruity between own family goals and perception about STEM occupations to deliver these goals is necessary to increasing women's interest in STEM fields (Weisgram & Diekman, 2015).

Besides extrinsic motivations, intrinsic and self-image motivations are important in the selection of tasks (Fehr & Schmidt, 1999; Fehr & Falk, 2002; Benabou & Tirole, 2006). Certain STEM fields are associated with less communal appeal, because they signal less collaborative and altruistic traits (Kanny et al., 2014; Sax & Bryant, 2006; Diekman et al., 2015; Staut and Camp 2014; Watermeyer 2012). More communal appealing fields like pharmacy and medicine enjoy larger representation of women compared to other STEM fields like physical or software engineering. Emphasising the communal attributes of STEM fields may thus be worthwhile to increase gender parity.

Gender parity in STEM is relevant for the development of global South countries for three main reasons. To begin with, women present a pool from which labour resources for STEM industries can be obtained. Women constitute 49.6% of the world's population (Ritchie & Roser, 2019). Such a formidable pool should not be ignored by managers in STEM. Secondly, women may have distinctive contributions to make. Dasgupta and Stout (2014) presume greater involvement of women in STEM fields to be associated with higher productivity and creativity. In addition, women have distinct ways of analysing and interpreting events (Aguele & Agwagah, 2007). Women also lookout for value to the community (Diekman et al., 2015).

Lastly, women's engagement in STEM promises higher investment in health and education. Besides being higher paying occupations, STEM fields experience higher growth rates compared to other fields (Diekman et al., 2015). While investment in health and education propagate expenditure multipliers that are essential for attaining development in the long run, women's incomes are positively associated with higher health and education expenditures (Bhupal & Sam, 2014; Hong et al, 2019). Engaging more women in the steadily expanding STEM fields is therefore important to propagate high health and education investment multiplier effects to enhance the development process.

In order to further the understanding of barriers to women's participation in STEM in Sub-Saharan African countries, the following study analyses statistical data to examine the relationship between fertility and participation of women in STEM.

METHODS

Data used for the analysis in this paper was obtained from the Gender Statistics dataset of the World Development Indicators database, reported by the World Bank. To measure women's participation in STEM, we use the percentage share of female graduates on STEM programmes from tertiary education in Sub-Saharan African countries. We use two indicators to measure fertility; fertility rate and birth rate. Fertility rate is the number of children that would be born to a woman if she were to live to the end of her childbearing years. Birth rate is the crude birth rate which indicates the number of live births occurring during the year, per 1,000 population estimated at midyear. We control for female share of wage and salaried employees and Real GDP per capita. Table 1 gives descriptive statistics of variables used, and Table 2 presents pairwise correlation coefficients of the variables. The detailed description of variables used in the analysis is given in Appendix A, and the list of countries included in our sample is in Appendix B.

Table 1: Descriptive Statistics of Variables

Variable	*Number of observations*	*Mean*	*SD*	*Min*	*Max*
STEM	45	26.967	12.860	7.818	54.885
Fertility rate	45	4.651	1.058	2.309	6.866
Birth rate	45	34.811	6.890	17.2	48.584
Wage employment	43	22.713	25.498	2.899	87.931
Real GDP per capita	44	2066.685	3247.779	193.867	14142.81

Gender statistics dataset, World Development Indicators Database.

Table 1 shows that on average 27% of graduates on STEM programmes from tertiary education institutions of the Sub-Saharan African countries in our sample are female. Women in the sampled countries, if they live to the end of their child bearing years, give birth to about 5 children on average, with total live births of about 35 on average per 1000 population during a year. As shown by Table 2, the variable used in the analysis are highly correlated.

Table 2: Correlation between Variables

	STEM	*Fertility rate*	*Birth rate*	*Wage employment*	*Real GDP per capita*
STEM	1.00				
Fertility rate	-0.65*	1.00			
Birth rate	-0.55*	0.91*	1.00		
Wage employment	0.61*	-0.81*	-0.77*	1.00	
Real GDP per capita	0.54*	-0.69*	-0.83*	0.93*	1.00

Pairwise correlation coefficients. * indicates statistical significance at 5% level.

EMPIRICAL MODEL

To examine the effect of fertility on women's participation in STEM, we estimated the following empirical model:

$$STEM_{it} = \beta_1 STEM_{it-1} + \beta_2 FERTILITY_{it} + \beta_3 \ X_{it} + \alpha_i + \mu_t + \varepsilon_{it} \qquad (1)$$

Where $STEM$ is percentage share of female graduates of STEM from tertiary education for country *i* in year *t.* To control for autoregressive tendencies, we include the lag of the dependent variable $STEM_{it-1}$. $FERTILITY_{it}$ is fertility rate for country *i* in year t. X_{it} is a vector of control variables while α_i is the country specific effects. Parameter μ_t is the time invariant effects and ε_{it} is the error term.

The lagged dependent variable in specification (1) is correlated with the error term, and a pooled OLS estimation yields inconsistent results. OLS-Fixed effects estimator removes fixed effects by transforming the data, but does not completely eliminate the inconsistency, since the transformed lagged dependent variable is still correlated with the error term (Anderson and Hsiao; 1982; Nickell, 1981). Besides the transformed lagged dependent variable being dependent on the error term, a potential reserve relation between share of female graduates of STEM and fertility level also poses threat of endogeneity which may cast doubt to the validity of our results. Instrumental variable (IV) estimator is handy in such situations; however, obtaining valid instruments applicable to panel analyses is quite a challenge (Bound et al. 1995). We therefore apply the System Generalised Method of Moments (system GMM). System GMM is widely applied in economics literature, with studies including and not limited to Christiaensen and Kuhl (2011), Klomp (2016, 2018), and Rodrik (2008). After transforming the model by taking first differences, higher order lags of regressors are valid instruments for the lagged dependent variable (Arellano and Bond, 1991; Arellano and Bover, 1995), and first differences of instruments are not correlated with fixed effects (Bludell & Bond, 1998). First differences of instruments are applied as additional instruments in the system GMM estimator, in order to increase efficiency. in terms of implementation, the system GMM estimator constructs a system of regression equations in levels and differences, each with its specific set of instruments. Differences are valid instruments for the model in levels, and Levels are valid instruments for the model in differences. System GMM is implemented as single-equation estimation problem, since an identical linear relationship applies both to the model in levels and the differenced model (Roodman, 2006). Because properties of system GMM estimator are weakened by limited time periods, we estimate model (1) by system GMM, and apply the Windmeijer, (2005) small-sample correction for two-step standard errors. We then test the hypothesis $\beta_2 > 0$.

RESULTS

In this section, we present the empirical results. In Table 3, we report pooled OLS results as baseline results in columns (1) and (2), and report system GMM results as main results in columns (3) and column (4). Columns (1) and (3) reports results for the estimations without control variables, and columns (2) and (4) report results for the estimations with control variables.

Table 3: Effect of fertility rate on women's participation in STEM

	Women's participation in STEM			
	(1)	*(2)*	*(3)*	*(4)*
STEM (lagged)	0.667***	0.812***	0.007	0.929
	(0.10)	(0.06)	(0.47)	(0.67)
Fertility rate	-2.661**	-2.697**	-7.109*	-2.554*
	(1.24)	(1.28)	(3.62)	(1.31)
Wage employment		-0.213		-0.300
		(0.15)		(0.48)
Real GDP per capita		0.002		0.002
		(0.00)		(0.00)
Constant	21.213**	19.626**	60.112*	17.007
	(8.05)	(8.19)	(29.42)	(10.31)
Method	OLS	OLS	System GMM	System GMM
Number of Obs	45	42	45	42
R-squared	0.706	0.732		
Number of Countries			18	17
Number of Instruments			20	21
Arellano-Bond AR (2)			[0.860]	[0.553]
Hansen			[0.995]	[0.953]

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, p-values in brackets.

Results in column (4) show that fertility has a negative effect on women participation in STEM. Specifically, a one unit increase in number of children that would be born by women if they were to live to the end of their child bearing years, reduces the percentage share of female graduates of STEM from tertiary education by 2.55. These results confirm that the values pertaining fertility work against women's participation in STEM. These results are in line with findings of previous studies (Aguele & Agwagah, 2007; Cheryan et al., 2017; Leeper, 2014; Robnet, 2016; Weisgram & Diekman, 2015). STEM occupations are viewed as less accommodative to the domestic responsibilities of women (Aguele & Agwagah, 2007; Cheryan et al., 2017), and participation in STEM subjects signals less concern to the domestic roles (Leeper, 2014; Robnet, 2016; Weisgram & Diekman, 2015).

Robustness Analysis

As a robustness check, we re-estimate model (1) using birth rate as a proxy for fertility. Results are given in Table 3. Columns (1) and (2) report pooled OLS results, and columns (3) and column (4) report system GMM results. Likewise, Columns (1) and (3) reports results for the estimations without control variables, and columns (2) and (4) report results for the estimations with control variables. Results in Table 4 are consistent with results in Table 3. Results in Table 3 are consistent with results of an interaction term specification (see Appendix C). Likewise results in Table 4 are consistent with those of the interaction term specification (see Appendix D).

Table 4: Effect of birth rate on women's participation in STEM

	Women's participation in STEM			
	(1)	*(2)*	*(3)*	*(4)*
STEM (lagged)	0.718***	0.852***	0.317	1.159***
	(0.09)	(0.06)	(0.37)	(0.28)
Birth rate	-0.321	-0.320	-1.253*	-0.507*
	(0.19)	(0.23)	(0.65)	(0.29)
Wage employment		-0.201		-0.380**
		(0.15)		(0.17)
Real GDP per capita		0.002		0.002*
		(0.00)		(0.00)
Constant	18.625**	16.856*	61.486*	18.465
	(8.54)	(9.58)	(31.92)	(11.32)
Method	OLS	OLS	System GMM	System GMM
Number of Obs	45	42	45	42
R-squared	0.700	0.725		
Number of Countries			18	17
Number of Instruments			6	9
Arellano-Bond AR (2)			[0.963]	[0.380]
Hansen			[0.640]	[0.667]

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, p-values in brackets.

DISCUSSION AND CONCLUSIONS

Underrepresentation of women in STEM constrains development as it denotes untapped intellect and creativity, and lower investments in human capital development. To date literature assessing underrepresentation of women in STEM mainly uses data and experiences from the global North. This paper used panel data on 18 Sub-Saharan African countries for the period 2000 to 2017, to examine the effect of fertility on participation of women in STEM. Results show that increased fertility correlates with low participation of women in STEM. Specifically results show that a unit increase in number of children that would be born if the women were to live to the end of their child-bearing years or number of live births occurring during the year per 1000 population, reduces the percentage share of female graduates of STEM from tertiary education.

These results suggest that increasing women's participation in STEM requires interventions aimed at making STEM workplaces more accommodating to women's domestic responsibilities. The provision of family friendly policies and awareness programmes to target both women and men are needed and should be delivered by female role models or peer mentors.

Interventions to encourage girls into STEM study and work can begin with adolescents in schools. Exposure to role models and mentors in schools builds a positive perception regarding STEM's family friendliness (Fennema & Peterson, 1985; Baker & Leary, 1995; Weisgram and Diekman, 2015). Mentoring workshops incorporating women role-models can support students to successfully engage in

STEM subjects and show that qualifications can enable them to practice in STEM fields and at the same time live successful lives.

To ensure that women persevere in STEM careers, a welcoming environment is needed from both managers and colleagues at workplaces. Employers should implement family friendly policies such as scheduling meetings in core hours to accommodate school drop off and collection, providing onsite childcare or information about local childcare provision, and encouraging all workers, female and male to use these policies to reduce stigma on users. Gender coaching for all workers in STEM helps to build a supportive and a collegial relationship between male and female peers (Robnet, 2016). Dasgupta and Stout (2014) further suggest that creating peer support groups of women in male-dominated STEM fields, motivates and keeps women engaged in STEM.

While some women are no doubt motivated by prestige associated with STEM occupations (Allen & Zhang; 2016) others have noted that women are motivated by the community appeal of occupations (Diekman et al., 2015; Staut & Camp 2014; Watermeyer 2012). Employers should therefore make attempts to highlight the community attributes as well as prestige of STEM occupations with appropriate recognition and rewards.

Limitations of this paper; our analysis only considers female graduates in STEM from tertiary education. It therefore does not assess the further leaks along the pipeline, specifically the level of women STEM graduates who end up in non-STEM occupations.

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Appendix A: Variable Description and Data source

Variable Name	*Description*	*Data source*
STEM	Female share of graduates in science, Technology, Engineering and Mathematics programmes from tertiary education.	World Development Indicators, World Bank website. Gender Statistics Database.
Fertility rate	Fertility rate; represents the total number of births per woman if she were to live to the end of her childbearing years and bear children in accordance with age-specific fertility rates of the specified year.	World Development Indicators, World Bank website. Gender Statistics Database.
Birth rate	Birth rate (crude) is the number of live births occurring during the year, per 1,000 population estimated at midyear.	World Development Indicators, World Bank website. Gender Statistics Database.
Wage employment	Female share of wage and salaried employees. Wage and salaried workers are those who hold paid employment jobs with explicit written or oral or implicit employment contracts that give them a basic remuneration that is not directly dependent upon the revenue of the unit for which they work.	World Development Indicators, World Bank website. Gender Statistics Database.
Real GDP per capita	Real GDP per capita is real gross domestic product divided by midyear population. Real GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2010 U.S. dollars.	World Development Indicators, World Bank website. Gender Statistics Database.

Appendix B: List of Countries in the Sample

	Country	*Years of STEM data*
1	Burundi	2
2	Benin	2
3	Burkina Faso	5
4	Cabo Verde	2
5	Eritrea	5
6	Ethiopia	5
7	Ghana	3
8	Gambia, The	2
9	Kenya	2
10	Madagascar	8
11	Mozambique	6
12	Mauritania	2
13	Namibia	3
14	Swaziland / Eswatini	5
15	Seychelles	3
16	Uganda	2
17	South Africa	3
18	Zimbabwe	3

Appendix C: Effect of Fertility rate on Women participation in STEM, Interaction term Estimation

	Women's Participation in STEM	
	(1)	*(2)*
STEM (lagged)	0.783***	0.991*
	(0.07)	(0.54)
Fertility rate*Wage employment	0.050	0.026
	(0.04)	(0.07)
Fertility rate	-3.388**	-2.804**
	(1.29)	(1.26)
Wage employment	-0.412**	-0.424*
	(0.19)	(0.24)
Real GDP per capita	0.002	0.003
	(0.00)	(0.00)
Constant	22.955***	16.511
	(8.11)	(9.69)
Method	OLS	System GMM
Number of Obs	42	42
R-squared	0.736	
Number of Countries		17
Number of Instruments		22
Arellano-Bond AR (2)		[0.486]
Hansen		[0.943]

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, p-values in brackets.

Appendix D: Effect of Birth rate on Women participation in STEM, Interaction term Estimation

	Women's participation in STEM	
	(1)	(2)
STEM (lagged)	0.828***	1.175***
	(0.06)	(0.23)
Birth rate*Wage employment	0.006	0.001
	(0.01)	(0.01)
Birth rate	-0.452*	-0.537*
	(0.25)	(0.29)
Wage employment	-0.416*	-0.391*
	(0.23)	(0.21)
Real GDP per capita	0.002	0.002*
	(0.00)	(0.00)
Constant	21.820**	19.167
	(10.42)	(11.79)
Method	OLS	System GMM
Number of Obs	42	42
R-squared	0.729	
Number of Countries		17
Number of Instruments		10
Arellano-Bond AR (2)		[0.365]
Hansen		[0.677]

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1, p-values in brackets.