Jurnal Keluarga Berencana
P-ISSN: 2527-3132 E-ISSN: 2503-3379
Vol. 9 No. 2, 2024
https://ejurnal.bkkbn.go.id/

SPECIAL ALLOCATION FUNDS FOR FAMILY PLANNING AND MODERN CONTRACEPTIVE PREVALENCE RATE IN INDONESIA

Parti Widiyastuti[1], Khoirunurrofik Khoirunurrofik[2]
[1]National Population and Family Planning Board, Indonesia
[2]Faculty of Economic and Business, University of Indonesia, Indonesia
Corresponding Email: parti.widiyastuti@bkkbn.go.id[1], khoirunurrofik@ui.ac.id[2]

ABSTRACT

The annual increase in the Special Allocation Fund (DAK) for Family Planning (FP) reflects the government's commitment to strengthening population control and family planning programs at the regional level, yet disparities in achieving modern contraceptive prevalence rates (mCPR) persist across regions. This study analyzes the relationship between FP-related DAK—specifically, physical DAK and Operational Assistance for Family Planning (BOKB)—and the prevalence of modern contraceptive use in Indonesia, using data from 508 districts/cities that received FP-related DAK from 2012 to 2021. Secondary data from the Ministry of Finance, the National Population and Family Planning Board (BKKBN), and Statistics Indonesia (BPS) were analyzed using the Kunatitati approach with the Panel-Instrumental Variable (Panel-IV) method, employing the Construction Cost Index as the instrumental variable. The results reveal that physical FP-related DAK is not significantly associated with an increase in mCPR, while BOKB demonstrates a positive and significant association with improved mCPR. These findings highlight the importance of strategically allocating budgets to BOKB programs to achieve effective population control objectives. The government is encouraged to ensure sustainable allocation of FP-related DAK, particularly BOKB, to districts/cities, alongside regular monitoring and evaluation to ensure funds are utilized effectively, disbursed timely, and aligned with performance outcomes.

Keywords: BOKB; DAK for Family Planning; mCPR.

INTRODUCTION

Family planning programs are very important for the quality of life of women and children. The increased use of modern contraceptives makes an important contribution to reducing maternal mortality in developing countries (Stover & Ross, 2014; Utomo et al., 2021) by preventing high-risk births, namely birth spacing that is too close (less than 24 months), mothers who give birth at an age that is too young (under 18 years old) or too old (35 years and older), and births with high parity (parity four and higher) (Stover & Ross, 2014). In Indonesia, it is estimated that between 523,885 and 663,146 maternal deaths were prevented from 1970 to 2017 due to contraceptive use (Utomo et al., 2021).

Indonesia has experienced a demographic transition characterized by a decrease in the total birth rate from 1967 to 2021, from an average of 5.6 to 2.2 children per woman and a decline in the infant mortality rate, which decreased from 124 per 1000 live births in 1967 to 19 per 1000 live births in 2021 (World Bank, 2023). This demographic transition has led to a change in the age structure of the population, shifting from being dominated by a young population (0-14 years old) to being dominated by the working-age population (15-64 years old) (Samosir, 2023). The demographic transition presents the country with an opportunity to reap a demographic dividend in the form of an increased labor force, which is a resource for investment in economic

Coresponding Email
parti.widiyastuti@bkkbn.go.id
Article History
Received: 23-07-2024 Accepted: 31-12-2024

development and family welfare so that per capita income is expected to increase and in the long term, savings and investment can rise, leading to higher national income (Lee & Mason, 2006).

Indonesia, the 4th largest population in the world, is believed to be able to achieve the vision of *Indonesia Emas* 2045 if it manages and empowers the population as an engine of economic growth (Samosir, 2023). In 2045, Indonesia's total birth rate is projected to be 1.97 children per woman (BPS, 2023). Fertility control efforts are needed to achieve this target. The most important major factor in determining fertility is the use of modern contraceptives (Bongaarts, 1978). The modern contraceptive prevalence rate (mCPR) is one of the global indicators of the achievement of the Sustainable Development Goals (SDGs) Goal 3 (three). It is one of the national priority indicators in the National Medium-Term Development Plan for 2020-2024. In 2024, the government targets the national modern contraceptive prevalence rate at 63.4 percent. The achievement of the national modern contraceptive prevalence rate in 2022 is 59.4 percent (BKKBN, 2022).

In the era of decentralization, it is possible to have differences in fiscal capacity between regions. Full independence of regional budgets may have some negative impacts on regionalization because this can cause differences in regional development and disproportionate socio-economic conditions (Tabatadze, 2020). In Indonesia, to reduce fiscal inequality, the government implements fiscal decentralization through transfer policies to the regions, one of which is DAK (Government of the Republic of Indonesia, 2022). DAK is given to regencies/municipalities to fund certain programs, activities, and/or policies that are national priorities and help operationalize public services. To accelerate the achievement of national priority activities of population control and family planning, the government has allocated DAK for FP. The DAK consists of the physical DAK, which has been allocated since 2008 and the BOKB, which has been allocated since 2016.

The DAK for FP is part of the DAK in the health sector. The increase in the budget of DAK for FP every year shows the government's efforts to strengthen the implementation of population control programs and family planning in the regions. However, the increase in the budget is not accompanied by an increase in the achievement of the family planning program, one of which is seen from the achievement of the modern contraceptive prevalence rate. There is still a disparity in the achievement of the modern contraceptive prevalence rate in the region. It raises the question of how the association between the DAK for FP and the achievement of the modern contraceptive prevalence rate in Indonesia.

Several previous studies related to family planning program funding revealed that in Guinea, increased family planning financing succeeded in increasing mCPR (Delamou et al., 2014). The study concluded that one form of strong commitment from the government in the context of repositioning the family planning program is by increasing funding for the family planning program and promoting long-term and permanent contraceptive methods. In Peru, declining funding for family planning programs has led to stagnation in the use of modern contraceptives (Gribble et al., 2007). Other research related to intergovernmental transfers includes DAK population development plays an important role in suppressing the rate of population growth (Samosir, 2021). The health DAK has an impact on the achievement of performance in health development in Indonesia (Apriliani & Khoirunurrofik, 2020). The existence of intergovernmental transfers can help cover the shortfall in funds for necessary expenditures when local real income decreases (Takahata et al., 2021).

Although there are several studies on DAK, as explained earlier, research that uses the DAK for FP as an independent variable to determine the modern contraceptive prevalence rate is still limited, thus opening up opportunities for a study of the association between the DAK for FP and the modern contraceptive prevalence rate. This study aims to analyze the association between the DAK for FP, both physical DAK and BOKB, and the modern contraceptive prevalence rate in Indonesia.

METHOD

This study uses secondary data at the regency/municipality level in Indonesia in 2012-2021, which is sourced from the Regional Financial Information System and data from Directorate General of Fiscal Balance, the Ministry of Finance, BPS statistical publication data and data from the Directorate of Population Control Planning and Statistics Routine BKKBN, so that the data formed is panel data. The analysis in this study uses a sample of all regencies/municipalities that received DAK for FP in 2012-2021, 508 regencies/municipalities.

This study uses the modern contraceptive prevalence rate as a dependent variable, which refers to the percentage of married women aged 15-49 years who use modern contraception consisting of IUD, Implant, MOP, MOW, injection, pill, condom and MAL participants compared to the number of couples of childbearing age (BKKBN, 2022). The mCPR data comes from the calculation results from Directorate of Population Control Planning, BKKBN. Furthermore, the main independent variable is the physical DAK for FP and BOKB, which is the realization of physical DAK for FP expenditure and BOKB in each regency/municipality, sourced from the Ministry of Finance. Variable controls include the human development index, area, population density, percentage of urban population, realization of regional health spending, number of health facilities, number of health workers, and number of PKB/PLKB. The human development index is a summary measure of average achievement in the main dimensions of human development, namely longevity and health, knowledge and a decent standard of living (UNDP, 2023). HDI data comes from BPS. Area is the size of the area between regencies/municipalities calculated in units of area, km2 (BPS, 2023). Population density is the number of people per unit area (BPS, 2023). The percentage of urban population is the result of projections of the population of regencies/municipalities living in urban areas. Data on HDI, area, population density, and percentage of urban population come from BPS. The realization of regional health expenditure is expenditure on health functions in the regions that come from the Regional Revenue and Expenditure Budget (*Anggaran Pendapatan dan Belanja Daerah*, or APBD). This data comes from the Ministry of Finance. The number of health facilities is the number of health service facilities that provide family planning services that are registered in the BKKBN recording and reporting system application. The number of health workers is the number of health workers who provide family planning services registered in the BKKBN recording and reporting system application. The number of PKB/PLKB is a family planning extension worker or family planning field officer who is placed in the target village to find new family planning participants, foster active family planning participants and make a report to the PLKB supervisor at the sub-district level (BKKBN, 2015). This data comes from BKKBN.

This study uses an instrument variable, namely the Construction Cost Index. The Construction Cost Index (CCI) is a price index that describes the level of construction cost of a regency/municipality compared to the reference city (BPS, 2021). The CCI data was obtained from the Construction Cost Survey conducted in all regencies/municipalities in Indonesia, which included the price of building/construction materials, heavy equipment rental, and construction service wages. The calculation of the CCI weighing chart uses data from the Ministry of Public Works and Public Housing's Unit Price Analysis Book, Bill of Quantity (BoQ), and the realization of the Regional Revenue and Expenditure Budget (APBD) (BPS, 2021). The CCI variable was chosen because the determination of the allocation of physical DAK for FP was determined on regional proposals, where in the proposal, there were the results of construction calculations carried out by building consultants, which were calculated based on the price of building materials in each region. The CCI variable used in this study is intended to represent the difference in construction prices based on geographical area. The CCI is used as a proxy to measure the level of geographical difficulty of an area; the more difficult the geographical location of an area is, the higher the price level in that area (BPS, 2021). The CCI variable has been used in several studies, namely Apriliani & Khoirunurrofik (2020) and Arifyani & Khoirunurrofik (2023).

This study analyzes the association between the DAK for FP and the modern contraceptive prevalence rate using the panel-IV method using the Two Stage Least Square (2SLS) analysis. This method was chosen because it is suspected that the physical DAK for FP is endogenous and correlates with the modern contraceptive prevalence rate (mCPR) together or simultaneously because in determining the amount of physical DAK for FP allocation, the regency/municipality considers one of the assessment indicators, namely mCPR in the regency/municipality. A test is carried out using the Hausman Test to test whether there is endogeneity. The instrumental variable method was used to overcome the problems of endogenousness and simultaneity in this study. The Instrument Variable method is usually used to overcome omitted variable bias, measurement error, and simultaneity (Cunningham, 2021). In model IV, 2SLS analysis is used; the first stage is to run a regression to obtain the fitted value, and the second stage is to run a regression using the fitted value (Wooldridge, 2015).

The model specifications in this study are:
First stage regression:

$$FP\_DAK_{it} = \alpha + \gamma CCI_{it} + \varepsilon_i$$

Where FP_DAK_{it} is the amount of realization of expenditures for physical DAK for FP in regency/municipality i and year t. After the first *stage* of regression, the previous one FP_DAK_{it} will be $\widehat{FP\_DAK}_{it}$ on the second stage of regression. CCI_{it} is the construction cost index in regency/municipality i and year t and as an instrument variable in the first stage regression.

Second stage regression:

$$mCPR_{it} = \beta_0 + \beta_1 \widehat{FP\_DAK}_{it} + \beta_2 BOKB_{it} + \beta_3 HDI_{it} + \beta_4 Total\ Area_{it} + \beta_5 Population\ Density_{it} + \beta_6 Health\ Expenditure_{it} + \beta_7 FP\_Health\ Facility_{it} + \beta_8 FP\_Health\ Workers_{it} + \beta_9\ FP\_Field\ Line\ Officer_{it} + \beta_{10} Urban\ Population_{it} + \varepsilon_i$$

Where $mCPR_{it}$ is the modern contraceptive prevalence rate in regency/municipality i and year t. $\widehat{FP\_DAK}_{it}$ is an independent variable of physical special allocation funds after the first stage regression. $BOKB_{it}$ is the realization of FP operational assistance expenditures in regency/municipality i and year t. HDI_{it} is the Human Development Index of regency/municipality i and year t. $Total\ Area_{it}$ is the area of the regency/municipality i and year t. $Population\ Density_{it}$ is the population density in regency/municipality i and year t. $Health\ Expenditure_{it}$ is the amount of realization of health function expenditures in regency/municipality i and year t. $FP\_Health\ Facility_{it}$ is the number of health facilities that provide family planning services registered in the government recording and reporting system in regency/municipality i and year t. $FP\_Health\ Workers_{it}$ is the number of health workers who provide FP services. $FP\_Field\ Line\ Officer_{it}$ is the number of FP extension workers/ FP field officers in regency/municipality i and year t. $Urban\ Population_{it}$ is the percentage of urban population in regency/municipality i and year t.

RESULTS

In this study, there is an initial suspicion that the DAK for the FP variable is endogenous. Therefore, the analysis was carried out using the Panel-IV method. Previously, an endogeneity test had been carried out to see Hausman's value. In the results of the analysis, a Hausman value of 56.5477 (p=0.0000) was obtained, which means that the DAK variable is endogenous. Next, first stage analysis was carried out to test the weaknesses of the instrument variables. The results of the phase 1 analysis show that the CCI is an endogenous regressor that is not weak for physical DAK for FP, indicated by the Prob>F value (0.0005).

Table 1 Estimation Results of the Association between Physical DAK for FP and BOKB with mCPR.

Variables	(1) mCPR	(2) mCPR	(3) mCPR	(4) mCPR	(5) mCPR	(6) mCPR	(7) mCPR	(8) mCPR	(8) mCPR
FP_DAK	47,114	48,881	47,432	69,005	96,868	60,082	19,714	5,001	2,517
	(55,399)	(56,727)	(54,107)	(117.612	(117,612)	(205,373)	(22,692)	(5,186)	(4,604)
BOKB	2,449	2,455	2,401	3,255	4,317	2,754	1,243	0,652***	0,543***
	(2,323)	(2,404)	(2,296)	(459)	(10,734)	(7,856)	(0,909)	(0,225)	(0,208)
HDI		1,315	1,316	1,152	1,062	1,909	1,522***	1,121***	0,934***
		(0,972)	(0,945)	(1,486)	(2,394)	(2,261)	(0,458)	(0,219)	(0,209)
Total Area			0,000	0,000	0,001	0,001	0,000	0,000	0,000
			(0,000)	(0,001)	(0,002)	(0,002)	(0,000)	(0,000)	(0,000)
Population Density				0,003	0,005	0,002	0,000	-0,001*	-0,001**
				(0,009)	(0,109)	(0,012)	(0,001)	(0,001)	(0,000)
Health Expenditure					0,007	-0,001	-0,002	-0,002*	-0,001
					(0,032)	(0,007)	(0,002)	(0,001)	(0,001
FP_Health Facility						-0,050	-0,015	-0,010**	-0,007
						(0,160)	(0,013)	(0,005)	(0,005)
FP_Health Workers							0,003	0,001	0,001
							(0,005)	(0,002)	(0,002)
FP_Field Line Officer								0,008**	0,009**
								(0,004)	(0,004)
Urban Population									-0,039
									(0,077)
i.year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
_cons	20,100	-67,124	-67,241	-76,668	89,156	-117,977	-56,616	-18,747	-1,644
	(42.813)	(56.781)	(55,187)	(89,156)	(168,139)	(313,670)	(41,723)	(13,808)	(14,566)
Observations	4.993	4993	4993	4972	4932	4619	4594	4332	3827
R-squared	.	.	.	.	.	.	.	0,161	0,265

Note: ***, **, *, represent significance effects at 1, 5, and 10%, respectively.
Source: Authors' calculation.

Table 1 presents the results of the estimation between the physical DAK for FP and BOKB with the modern contraceptive prevalence rate by incorporating control variables gradually, as shown by the columns of Model 1 to 9. After including all the control variables used in this study, shown by the Model 9 column, the results showed physical DAK for FP was not significantly associated with the increase in the modern contraceptive prevalence rate, while BOKB was positively and significantly associated with the increase in the modern contraceptive prevalence rate at a significance level of 1%. That means that the increase of one billion *rupiah* and the realization of BOKB will increase the modern contraceptive prevalence rate by 0.54% at a significance level of 1%.

DISCUSSION

The results of the regression estimation in Table 1 of the Model 9 column above show that statistically, physical DAK for FP is not significantly associated with the increase in mCPR, while BOKB is positively and significantly associated with the increase in mCPR. Physical DAK for FP was not significantly associated with the increase in mCPR, can due to the proposed physical DAK menu was different for each region. In the physical DAK, various menus can be selected and proposed by regencies/municipalities, including the provision of family planning service facilities and a warehouse of contraceptive tools and drugs, the provision of transportation facilities for family planning services, and the provision of family information system infrastructure. Intergovernmental fiscal, especially general allocation funds and special allocation funds, can become ineffective because decentralized fund allocation planning is not in accordance with the needs of each region (Wirandana & Khoirunurrofik, 2022). The limitations of the physical DAK for FP ceiling obtained by each region make the region only able to choose a few physical DAK for FP menus even though the area may not be able to meet the access and quality of family planning services and the movement of the family planning field line has not been optimal so that the

achievement of modern contraceptive prevalence rates in several regencies/municipalities has not been maximized.

Statistically, BOKB is positively and significantly associated with the modern contraceptive prevalence rate in Indonesia. The results of this study are in accordance with the research of Samosir (2021), stating that the availability of DAK for population development can be used to improve the quality of access to equal and affordable family planning services and information in the regions so that fertility and mortality rates, as well as population growth rates, can be controlled. The results of this study are also in line with the results of the Delamou et al. (2014) and Gribble et al. (2007) studies, which stated that increased family planning financing has succeeded in increasing the use of modern contraceptives. The activities carried out through BOKB financing are aimed at the public to get education and family planning services so as to increase the demand for the use of modern contraceptives. These activities include the operation of family planning counseling centers, modern family planning services by health workers, family planning mobilization by family planning extension workers, stunting handling operations, fostering family development, population and family planning programs by cadres, as well as information communication and education support for family planning programs to the community. Efforts to improve access to quality family planning services to increase contraceptive prevalence are carried out through various interventions through supply-side and demand-side activities (Keyonzo et al., 2015; Mwaikambo et al., 2011). Demand-side and supply-side interventions are intended to increase knowledge, attitudes, beliefs, and discussions about family planning, as well as increase contraceptive use (Mwaikambo et al., 2011).

The human development index is positively and significantly associated with the modern contraceptive prevalence rate. It means that an increase of 1 HDI value will increase the modern contraceptive prevalence rate by 0.93% at a significance level of 1%. The association between HDI and modern contraceptive use is inseparable from social interaction that starts between individuals, between networks and communities, and then develops between regions. Bongaarts & Watkins (1996) stated that there was a negative relationship between fertility and the human development index when the index exceeded 0.6. This relationship is inseparable from the social interaction of the community. In an area where the level of human development is low, there are fewer channels of cross-community social interaction. However, in areas with a higher level of development, there will be a lot of social interaction. In areas with a higher level of human development, people will be attracted to the area either to receive education or to work there. It allows for a lot of social interaction for the discussion of children's preferences and the use of modern contraceptives from a variety of people's views across ages, genders, ethnicities, education levels, wealth, geography and culture so as to change people's attitudes and views towards their reproductive behavior.

The number of family planning field workers is positively and significantly associated with the modern contraceptive prevalence rate. An increase in the number of 1 PKB/PLKB will increase the modern contraceptive prevalence rate by 0.009% at a significance level of 5%. The role of PKB/PLKB is needed for family planning education, both through interpersonal communication and through counseling activities. The role of family planning field officers as motivators has the greatest influence on the decision-making process of clients to do family planning; therefore, officers need to be provided with facilities and travel allowances for field visits (Rahman & Islam, 1994). Through the DAK for FP, the government provides facilities to support the tasks of PKB/PLKB, including two-wheeled motorized vehicles and counseling/guidance modules for PKB/PLKB that come from physical DAK support, as well as operational cost support for family planning counseling, data processing, the orientation of field line personnel, and the implementation of field line operational mechanisms derived from BOKB support.

The area, population density, health spending, the number of family planning health facilities, the number of health workers serving family planning, and the percentage of the urban population are not associated with the modern contraceptive prevalence rate. The magnitude of the

realization of health spending is not associated with the modern contraceptive prevalence rate. It can be due to there is small allocation of the regional budget from the APBD for family planning programs. Law of the Republic of Indonesia Number 36 of 2009 observes a minimum of 10% of the regional revenue and expenditure budget outside of salaries for the health budget, including for family planning. The number of family planning health facilities and the number of health workers serving family planning are not significantly associated with the increase in the modern contraceptive prevalence rate. This result is in contrast to the analysis of Bongaarts et al. (1990), who state that all family planning efforts require a place for clinic-based family planning care and additional health services and referral services. Lemani et al. (2018) also stated that health facilities and skilled health service providers are very important in family planning programs to meet the supply-side needs for the provision of family planning, especially long-term contraception. The number of family planning health facilities and the number of health workers serving family planning are not significantly associated because the data on family planning health facilities and family planning health workers used in this study are limited to the data registered in the government recording and reporting system, there is a possibility that the number of data on health facilities and family planning workers in the field is still not fully registered in the government recording and reporting system so that it is not included in this study. The percentage of the urban population is not associated with the modern contraceptive prevalence rate. This result is different from the results of Bogale et al. (2011) research that urban women have better power to make decisions about the use of modern contraception compared to rural women.

The impact of a government policy is sometimes indirect in the current year. The physical DAK for FP in the current year is still in the procurement or auction process, so the impact will only be obtained in the following year. Therefore, the authors analyze the physical DAK for FP with the effect of time lag. The results of the regression estimation using the time lag effect are presented in Table 2.

Table 2 Estimation Results with Time Lag Effect.

Variables	Basic Model	t-1	t-2
FP_DAK	2,517		
	(4,604)		
L.FP_DAK		3,816	
		(3,087)	
L2.FP_DAK			3,201
			(3,132)
BOKB	0,543***	0,618***	0,461***
	(0,208)	(0,177)	(0,125)
HDI	0,934	0,860***	1,055***
	(0,209)	(0,239)	(0,311)
Total Area	0,000	-0,000	-0,000
	(0,000)	(0,000)	(0,000)
Population Density	-0,001**	-0,001*	-0,001
	(0,000)	(0,000)	(0,000)
Health Expenditure	-0,001	-0,000	-0,001
	(0,001)	(0,002)	(0,001)
FP_Health Facility	-0,007	-0,003	-0,007
	(0,005)	(0,005)	(0,005)
FP_Health Workers	0,001	-0,000	-0,000
	(0,002)	(0,002)	(0,002)
FP_Field Line Officer	0,009**	0,006	0,004
	(0,004)	(0,004)	(0,005)
Urban Population	-0,039	-0,094	-0,256***
	(0,077)	(0,065)	(0,093)
i.year	Yes	Yes	Yes
_cons	-1,644	4,579	-2,352
	(14,566)	(16,367)	(21,230)
Observations	3,827	3,473	3,083
R-squared	0,265	0,187	0,175

Note: ***, **, *, represent significance effects at 1, 5, and 10%, respectively.

Source: Authors' calculation.

The results of the estimation of the association between the DAK for FP and the modern contraceptive prevalence rate with the time lag effect shown in Table 2. Statistically, physical DAK for FP is not associated with the increase in the modern contraceptive prevalence rate in the time lag t-1 and t-2. The results of this study are in accordance with Sembiring (2020), which analyzes DAK use time lag t-1. His study states that physical DAK does not have a significant influence on the fields of health, education, and living standards. Immature planning, late instructions for the implementation of physical DAK distribution, central government transfers that depend on the realization of revenue in the current year, and problems with the auction process make the implementation of physical DAK potentially late and not completed on time (Sembiring, 2020).

The BOKB policy has been implemented by the government since 2016. A sub-sample analysis was carried out to see the association between the DAK for FP and the modern contraceptive prevalence rate, specifically in 2016-2021. The results of the analysis of the association between the DAK for FP and the modern contraceptive prevalence rate using subsample analysis of data from 2016-2021 are presented in Table 3. The results of the sub-sample analysis showed that physical DAK for FP and BOKB were not significantly associated with the increase in the modern contraceptive prevalence rate.

Table 3 Estimation Result of Sub-Sample Analysis.

Variables	Basic Model	Sub-Sample
FP_DAK	2,517	9,185
	(4,604)	(15,235)
BOKB	0,543***	‘0.458
	(0,208)	(0,335)
HDI	0,934***	0,820
	(0,209)	(0,652)
Total Area	0,000	0,000
	(0,000)	(0,000)
Population Density	-0,001**	-0,000
	(0,000)	(0,001)
Health Expenditure	-0,001	-0,001
	(0,001)	(0,002)
FP_Health Facility	-0,007	-0,023
	(0,005)	(0,021)
FP_Health Workers	0,001	0,001
	(0,002)	(0,004)
FP_Field Line Officer	0,009**	0,007
	(0,004)	(0,008)
Urban Population	-0,039	-0,242
	(0,077)	(0,368)
i.year	Yes	Yes
_cons	-1,644	2,843
	(14,566)	(60,540)
Observations	3,827	2,262
R-squared	0,265	.

Note: ***, **, *, represent significance effects at 1, 5, and 10%, respectively.
Source: Authors' calculation.

From the results of the analysis of this study, it can be seen that BOKB has a positive and significant association when there is a policy transition, from the original no BOKB policy to a BOKB policy in 2016. However, the effect of the BOKB policy on the increase in the modern contraceptive prevalence rate became insignificant after the BOKB policy ran every year. It can be due to the fact that BOKB funds have not been able to meet the ideal needs for the operationalization of family planning program activities in the regions. The DAK for FP, both physical DAK and BOKB provided by the central government, is in the nature of helping regions to support national development priorities, one of which is related to improving family planning and reproductive health services. Therefore, DAK for FP and APBD must synergize to support the achievement of mCPR. The DAK for FP budget requires regular monitoring and evaluation to ensure that the budget is absorbed properly, on time, and oriented towards achieving performance outputs.

CONCLUSION

This study examines the association between DAK for FP and the modern contraceptive prevalence rate in Indonesia from 2012 to 2021. The results of this study are that physical DAK for FP is not significantly associated with the increase in the modern contraceptive prevalence rate, while non-physical DAK or BOKB has a positive and significant associated with the increase in the modern contraceptive prevalence rate. The physical DAK for FP is not significantly associated. It can be due to the difference in menu of the physical DAK for FP that is selected and proposed by the local government to the central government. Immature planning can also hinder the achievement of physical DAK for FP output, thus hindering the implementation of family planning program activities and not supporting the increase in the modern contraceptive prevalence rate. BOKB is significantly positively associated with the increase in the modern contraceptive prevalence rate. With the operational costs of family planning, family planning program activities in the regions can be carried out, and people are exposed to knowledge about family planning and get access to family planning services so that the modern contraceptive prevalence rate increases.

Considering that BOKB plays a role in increasing the modern contraceptive prevalence rate in Indonesia. The government is expected to provide sustainable DAK for FP allocations, especially BOKB, to regencies/municipalities. Regular monitoring and evaluation of the management of DAK for FP is certainly needed to ensure that the budget is absorbed properly, on time, and oriented towards achieving performance output.

REFERENCES

Apriliani, A. P., & Khoirunurrofik, K. (2020). The impact of special allocation fund (DAK) for health on achievements of health development performance in Indonesia. *Economies*, *8*(3), 2020–2024. https://doi.org/10.3390/ECONOMIES8030072

Arifyani, D., & Khoirunurrofik, K. (2023). Education Sector Performance in the Frontier, Outermost and Least Developed (3T) and Non-3T Regions: The Role of the Specific Allocation Fund (DAK) in the Education Sector. Kajian Ekonomi Dan Keuangan, 5(3), 246–256. https://doi.org/10.31685/kpxsfs85

[BKKBN] National Population and Family Planning Board. (2022). *Key Performance Report BKKBN 2022*. Jakarta: Badan Kependudukan dan Keluarga Berencana Nasional.

[BKKBN] National Population and Family Planning Board. (2015). *Panduan Tata Cara Pengelolaan Data Rutin Pengendalian Lapangan Program Kependudukan, Keluarga Berencana dan Pembangunan Keluarga*.

Bogale, B., Wondafrash, M., Tilahun, T. *et al.* Married women's decision making power on modern contraceptive use in urban and rural southern Ethiopia. *BMC Public Health* 11, 342 (2011). https://doi.org/10.1186/1471-2458-11-342

Bongaarts, J. (1978). A Framework for Analyzing the proximate determinants of fertility. *Population and Development Review,* *4*(1), 105-132.

https://doi.org/10.2307/1972149
Bongaarts, J., & Watkins, S. C. (1996). Social interactions and contemporary fertility transitions. *Population and Development Review*, *22*(4), 639–682. https://doi.org/10.2307/2137804
Bongaarts, J., Mauldin, W. P., & Phillips, J. F. (1990). The demographic impact of family planning programs. *Studies in Family Planning, 21*(6), 299–310. https://doi.org/10.2307/1966918 .
[BPS] Central Bureau of Statistics. (2021). *Construction Cost Index Province and Regency/Municipality 2021*. Jakarta: Badan Pusat Statistik.
[BPS] Central Bureau of Statistics. (2023). *Indonesia Population Projection 2020-2050 Result of Population Census 2020*. Jakarta: Badan Pusat Statistik.
[BPS] Central Bureau of Statistics. (2023). *Istilah Kepadatan Penduduk dan Luas Wilayah*. Jakarta: Badan Pusat Statistik https://www.bps.go.id/index.php/istilah/index?Istilah%5Bkatacarian%5D=kepadatan+penduduk&yt0=Tampilkan.
Cunningham, Scott. (2021). *Causal Inference: The Mixtape*. New Heaven: Yale University Press.
Delamou, A., Koivogui, A., Dubourg, D., & Delvaux, T. (2014). Family planning in Guinea: A need for better public commitment. *Tropical Medicine and International Health*, *19*(1), 65–73. https://doi.org/10.1111/tmi.12219.
Government of the Republic of Indonesia. (2022). *Undang-Undang No. 1 Tahun 2022 Tentang Hubungan Keuangan antara Pemerintah Pusat dan Pemerintah Daerah*. https://djpk.kemenkeu.go.id/?p=22499
Gribble, J. N., Sharma, S., & Menotti, E. P. (2007). Family planning policies and their impacts on the poor: Peru's experience. *International Family Planning Perspectives*, *33*(4), 176–181. https://doi.org/10.1363/3317607.
Keyonzo, N., Nyachae, P., Kagwe, P., Kilonzo, M., Mumba, F., Owino, K., Kichamu, G., Kigen, B., Fajans, P., Ghiron, L., & Simmons, R. (2015). From project to program: tupange's experience with scaling up family planning interventions in urban Kenya. *Reproductive Health Matters*, *23*(45), 103–113. https://doi.org/10.1016/j.rhm.2015.06.010.
Lee, R. D., & Mason, A. (2006). What is the demographic dividend? *Finance and Development*, *43*(3), 16–17. https://www.imf.org/external/pubs/ft/fandd/2006/09/basics.htm
Lemani, C., Kamtuwanje, N., Phiri, B., Speizer, I. S., Singh, K., Mtema, O., Chisanu, N., & Tang, J. H. (2018). Effect of family planning interventions on couple years of protection in Malawi. *International Journal of Gynecology and Obstetrics*, *141*(1), 37–44. https://doi.org/10.1002/ijgo.12439.
Mwaikambo, L., Speizer, I. S., Schurmann, A., Morgan, G., Mwaikambo, L., Speizer, I. S., Schurmann, A., Morgan, G., & Fikree, F. (2011). *What works in family planning interventions : a systematic review*. *Stud Fam Plann, 42*(2), 67–82. https://doi.org/10.1111/j.1728-4465.2011.00267.x
Rahman, M. & Islam, N. (1994). Role of service providers, programme managers and family planning field workers in the sterilization procedure of Bangladesh. *Genus, 50*(3), 65–74. https://www.jstor.org/stable/29789163
Samosir, O. B. (2021). Total specific allocation grant for population development and population growth in Indonesia. *Proceedings of the International Conference on Industrial Engineering and Operations Management*, *Haub 1989*, 1308–1314. https://scholar.ui.ac.id/en/publications/total-specific-allocation-grant-for-population-development-and-po
Samosir, O. B. (2023). *Demography as a Science for Human Welfare*. Speech at the Inauguration Ceremony as Professor in Population Economics, Faculty of Economics and Business, University of Indonesia. Depok: FEBUI.
Sembiring, T. (2020). Pengaruh pendapatan asli daerah (PAD), dana alokasi umum (DAU), dan dana alokasi khusus (DAK) fisik terhadap pembangunan manusia di Provinsi Sumatera Utara (Periode 2016 – 2018). *Indonesian Treasury Review: Jurnal Perbendaharaan, Keuangan Negara Dan Kebijakan Publik*, *5*(1), 77-91. https://doi.org/10.33105/itrev.v5i1.167
Stover, J., & Ross, J. (2014). Erratum: How increased contraceptive use has reduced maternal mortality. *Maternal and Child Health Journal*, *18*(1), 333. https://doi.org/10.1007/s10995-

009-0521-y.
Tabatadze, M. (2020). Priorities of Spatial Economy and Fiscal Mechanism of Decentralisation. In *6th International Scientific Symposium "Economics, Business & Finance"* (p. 13). https://www.researchgate.net/publication/351904022_PRIORITIES_OF_SPATIAL_ECONOMY_AND_FISCAL_MECHANISM_OF_DECENTRALISATION
Takahata, J., Dartanto, T., & Khoirunurrofik, K. (2021). Intergovernmental transfers in indonesia: The risk sharing effect of dana alokasi umum. *Journal of Southeast Asian Economies*, *38*(1), 81–99. https://doi.org/10.1355/ae38-1d.
UNDP. 2023. *Human Development Reports*. https://hdr.undp.org/about/human-development.
Utomo, B., Sucahya, P. K., Romadlona, N. A., Robertson, A. S., Aryanty, R. I., & Magnani, R. J. (2021). The impact of family planning on maternal mortality in Indonesia: what future contribution can be expected? *Population Health Metrics*, *19*(1), 1–13. https://doi.org/10.1186/s12963-020-00245-w.
Wirandana, P. A., & Khoirunurrofik, K. (2022). Educational inequality in Indonesia : are intergovernmental fiscal transfers effective in reducing the gap? Educational inequality in Indonesia : are intergovernmental fiscal transfers effective in reducing the gap? *Educational Studies*, *00*(00), 1–20. https://doi.org/10.1080/03055698.2022.2103647.
Wooldridge, J. M. (2015). *Introductory Econometrics 6th Edition. In Economica* (Vol. 42, Issue 165). Boston: Cengage Learning.
World Bank. (2023). *Fertility Rate, Total (Births per Woman)-Indonesia*. https://data.worldbank.org/indicator/SP.DYN.TFRT.IN?locations=ID&view=chart.