# School autonomy and accountability in Thailand: Does the gap between policy intent and implementation matter?

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**Abstract** This article contrasts policy intent and policy implementation in school autonomy and accountability. The analysis uses a conceptual framework based on the interaction between school autonomy, student assessment, and accountability as elements of a closed system. The article analyzes the implementation of school autonomy and accountability policy, using data collected from 226 schools in Thailand that participated in the 2009 PISA survey. To understand how autonomy and accountability relate to student achievement, the study estimates a linear regression with PISA reading achievement as the dependent variable and indicators of autonomy and accountability (and control variables) as the independent variables. The estimates suggest that students at schools exercising a higher level of operational autonomy than the level ascribed by regulation tend to have PISA reading scores 6.0–8.6 points higher than students at schools that behave less autonomously. These results are consistent with other research findings.

**Keywords** Education policy · School autonomy · School accountability · Thailand

Thailand's education system is in the midst of a reform process that began in 1999, with the aim of establishing a new path for student-centered learning, improving education quality, and moving the country into a more competitive position in the region (Bhaopichitr et al. 2012; Jimenez et al. 2012; Ministry of Education 2008). However, 15 years into the reform process, the education sector is not producing the expected results, leading to

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what some analysts call the "Thai paradox", where the country has made large investments in physical resources and human resources in education are of good quality, but learning outcomes have remained low (Fry and Bi 2013).

Several people have offered explanations for this paradox, including: (1) student-centered learning is yet to be implemented because of strong cultural barriers (Fry and Bi 2013); (2) political instability has led to institutional uncertainties in education (Tan 2007); (3) misalignments exist between national education goals and national education management (Pongwat and Rupavijetra 2011); and (4) stakeholders/policy-makers have treated policy reform as an event instead of as a process (Hallinger and Lee 2011).

Operationally, however, the Thai paradox can be thought of as a problem of low implementation of education innovations requiring school principals to provide instructional leadership. Instructional leadership requires principals to delineate the school's mission, be technical leaders who define classroom instruction, and be managerial leaders who promote a good school environment (Hallinger 2003). There are two problems with these expectations. First, for school principals to be instructional leaders other factors must align, including monitoring of policy implementation; technically sound instructional approaches; appropriate level of financial resources; and internalization of the new policies by teachers and parents (Berman and McLaughlin 1976; Warwick et al. 1991). Second, it takes time to internalize educational reforms (Hall and Hord 2006). Such a transformation can be very difficult for Thai principals accustomed to being civil servants required to follow centralized instructions within a politically unstable environment (Hallinger and Lee 2014).

These explanations of the Thai paradox also imply that the root causes may be institutional (Hallinger 2012) and managerial (Gamage and Sooksomchitra 2004). Along these lines, Arcia and Patrinos (2012) suggest that issues of school autonomy and accountability may affect system performance. If gaps between policy intent and policy implementation in school autonomy and accountability are related to differences in student learning, then decision makers could take actions that would help improve learning systematically.

For this study, it is important to define the meaning and scope of school autonomy and accountability. "School autonomy" refers to a school's authority to make decisions on budget planning and management, on the management and assessment of its personnel, and on its pedagogical practices (Patrinos 2011). Autonomy may include parents' participation in budget planning, in budget approval, and in personnel decisions (Arcia et al. 2011). "School accountability" refers to school authorities' acceptance of responsibility for the school's compliance with the rules and regulations of school governance; for reporting to those with oversight authority over the school; and for implementing rewards and sanctions linked to expected results (Barrera et al. 2009; Heim 1996; Rechebei 2010).

This article tries to answer two related questions: Is the gap between policy intent and policy implementation in school autonomy and accountability associated with Thailand's learning outcomes? If so, which policies related to school autonomy and accountability could be relevant for improving learning outcomes? Answering these questions will help Thai decision makers adjust education policies to align with school-level realities.

These questions are important because, as suggested for the case of Thailand, differences can often be found between the letter of the law and its implementation, and between the intent of the law and its interpretation by principals and teachers (Hallinger 2012; Hallinger and Lee 2014). In a landmark study of school autonomy in Nicaragua, King and Özler (1998, revised 2004) found that autonomous public schools that made more pedagogical and administrative decisions (including hiring, firing, monitoring, and evaluating teachers) had higher student test scores than schools that lagged in their implementation of

autonomy policies. Moreover, test scores in the latter were no different than scores at schools that did not participate in the autonomy program. These results clearly indicate that analyzing the gap between policy intent and policy implementation is important for properly assessing the impact of school autonomy and accountability on educational performance.

## The link between school autonomy and accountability, and school performance

School autonomy is a concept that dates back to nineteenth-century Europe, where educators promoted it in the name of academic freedom, experiencing a revival during the 1980s under the justification of managerial efficiency. During that decade, several countries implemented national strategies that were, in essence, top-down models that gave schools more operational autonomy but had no focus on accountability to parents. Rather, accountability was built into the existing bureaucratic processes that measured and reported school performance as a normal function of the education system (Eurydice 2007).

Outside of Europe, school autonomy made some headway in Central America in the 1990s, when countries in the midst of political conflicts used school autonomy as a means of restoring the social contract between schools and parents (Arcia and Belli 1999) and as a tool for providing education in areas where government had a weak presence (Meza et al. 2004). Over the years, researchers have shown school autonomy to have a positive influence on school performance and student learning (Hahn et al. 2014; Hanushek et al. 2013; Hanushek and Raymond 2005).

As a result, school autonomy and school accountability have become a synergistic policy package that may be implemented in two different but related forms: one in which the state enforces accountability through participatory school-based management (Bruns et al. 2011; Clark 2009; Di Gropello 2006; Figlio and Loeb 2011), and another in which it implements accountability through formal procedures that do not require parental oversight (Arcia et al. 2011; Eurydice 2007). In the former case, parents supplement any weaknesses in the state's oversight functions, while, in the latter, parents trust the existing state mechanisms for enforcing accountability.

Supplementing this policy package of autonomy and accountability is a growing body of evidence that parental involvement in school decisions helps make school autonomy more effective, thus leading to better results (Clark 2009; Patrinos 2011). Also, more effectual accountability can improve school autonomy (Arcia 2014; NORC 2014), thus consolidating school autonomy as the key component of the autonomy-accountability system.

The emerging body of practice in school management suggests that good school and student performance require the right combination of managerial autonomy, assessment of results, and use of that assessment to promote accountability among all stakeholders (Hanushek and Raymond 2005; Patrinos et al. 2013). Together, these components work as a system (Bruns et al. 2011) and, as depicted in Figure 1, may work better when they are linked to school councils, teacher quality, and Education Management Information Systems (Arcia et al. 2011; Demas and Arcia 2015). ("School council" is a generic term for the group of people representing the interests of parents. Other terms used include "parent
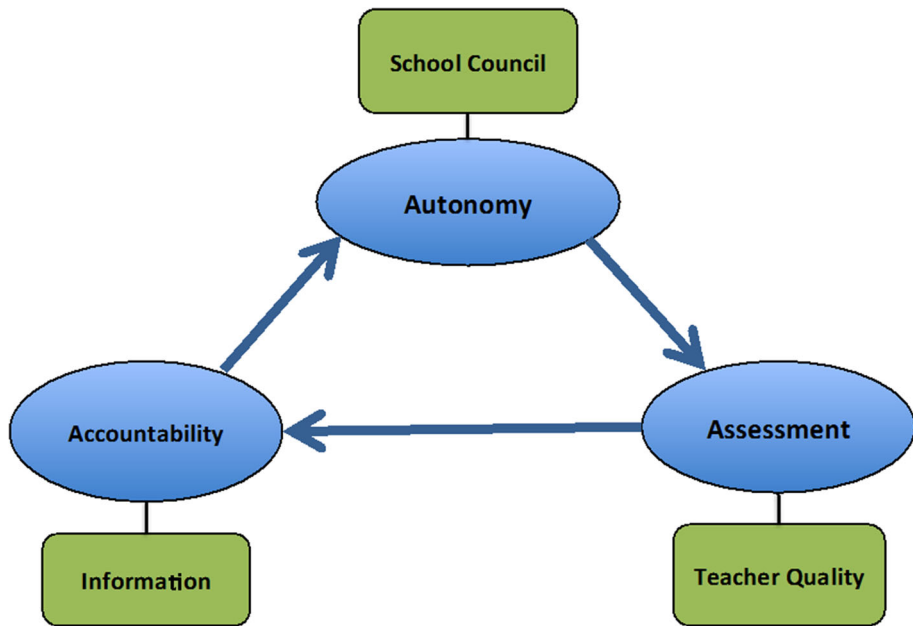
**Figure 1** School autonomy and accountability as a closed system
*Source:* Arcia et al. (2011)

teacher association" and "school management committee". Aside from parents, the body may include members of the community and nongovernmental organizations.)

School councils complement autonomy because they should work in the best interest of students, giving the school the political legitimacy it needs at the local level. As such, the school council can be a resource to school management in tailoring school services (curricula, teaching materials, school calendar, and teacher selection) to the needs of students. A more active role of school councils in school governance can increase the effectiveness of school autonomy; for instance, teacher quality is related to the assessment of teachers and students. The main objective of any assessment system is to monitor learning, which in turn is strongly linked to teacher quality (Figlio and Loeb 2011). Finally, policy-makers link information from such assessments to accountability because it is the vehicle by which schools report their—and their students'—performance. In turn, accountability related to school and student performance is key for the continuation of school autonomy—thus closing the system. Hence, for the education system to achieve closure, one needs to link school and student assessment to teacher performance and teacher quality.

In a closed system, low performance in one of its components would lead to an imperfect solution—where schools could still function, but their degree of effectiveness and efficiency would be lower than if the system closes. Therefore, defining an autonomy and accountability system that can achieve closure is conceptually important, and, in this regard, *school autonomy and accountability can achieve closure when it enforces enough autonomy to evaluate its results and use those results to hold relevant actors accountable.*

We highlight that the above links are conceptual, since the empirical evidence tends to confound these factors. However, in managerial terms it is clear that the point of contact between autonomous schools and their clients is primarily the school council (Corrales

2006). Similarly, schools use school and student assessments as key instruments to evaluate the quality of their teaching, allowing them to evaluate their pedagogical practices and teacher training needs, both of which are crucial determinants of teacher quality (Vegas 2001). Finally, researchers have well established the role of information systems in accountability, and that role is bound to increase as technology makes it easier to report on indicators of internal efficiency and on standardized test scores (Patrinos 2011).

To assess this system, we rely on five indicators of performance: (1) school autonomy in budget planning and approval, which reflects the degree of local control over operational funds; (2) school autonomy in personnel management, which gives the school more managerial control over teacher selection, contracting, and salaries and bonuses; (3) school council's participation in budget planning and management; (4) assessment of school and student performance; and (5) use of accountability mechanisms to hold the school answerable to parents, local authorities, and society at large.

## School autonomy and accountability in Thailand

The education system in Thailand seems to have all the conditions required for success but, despite good indicators of internal efficiency, its learning outcomes lag behind the best-performing countries in East Asia. The country achieved virtual universal primary school enrolment long ago, and enrolment in lower secondary is almost universal. Full coverage in basic education is incomplete because of low access in some areas and among the poor (UNESCO IBE 2011). Upper secondary enrolment is high, at 76 percent. In absolute terms, the education system in Thailand serves nearly 12 million students: 5 million in primary education, 4.7 million in secondary education, and 2.1 million in tertiary education (UIS 2014). In 2012, education funding in Thailand represented 18.7 percent of the government's budget, and about three quarters of this budget went to basic education (Bureau of the Budget 2013).

PISA reading scores among the poor declined between 2006 and 2009, and analysis of these results suggests that the decline reflects a reduction in the effectiveness of the Thai education system rather than any decline in inputs (Patrinos et al. 2012). In 2009 and 2012, Thailand's PISA scores were lower than the average for the Organization for Economic Cooperation and Development (OECD) and about 1 standard deviation lower than the scores of the top performers in Asia (PISA 2013). Considering what Thailand spends on education, these results are disappointing (Tangkitvanich and Sasiwuttiwat 2012). Commentators call for changes in pedagogical practices and more accountability (Fry and Bi 2013).

The decentralization policies of 2002 currently regulate school autonomy (Office of the National Education Commission 2003). Under these policies, the state decentralized school financing and administration to the level of Education Service Areas (ESAs)—approximate to a municipal area (UNESCO 2009). Block grants to ESAs—supplemented with parent contributions—finance the schools. Parents can contribute up to 30 percent of a school's funding and can also participate in some aspects of school governance, although their participation tends to be high only in large cities (Arcia and Patrinos 2012). While teacher management is also decentralized to the ESA level, the Commission for Teachers and Administrative Personnel still has substantial influence—the ESA only has responsibility for teacher recruitment and deployment. Legally, schools have limited powers for managing teacher incentives, but in practice schools exercise some flexibility, working

with parents to implement incentives. At the ESA level, policies are implemented to protect job tenure, and the Civil Service Commission, the ESA, the Local Administrative Organizations, and the school share responsibility for teachers—resulting in a dissipation of supervision and low teacher accountability (Arcia et al. 2011).

Thailand has two government agencies in charge of school accountability: (1) the Office for National Education Standards and Quality Assessment (ONESQA), responsible for school assessment; and (2) the National Institute of Educational Testing Service (NIETS), responsible for student assessment (NIETS 2009). Between 1999 and 2010, ONESQA conducted two complete rounds of school assessments in 40,000 schools, using an "amicable" assessment approach that compares a school's performance with the standards set by the Ministry of Education. A recent analysis of Thai education states that ONESQA's evaluations are too rooted in bureaucracy and do not reflect school quality vis-à-vis student learning (Tangkitvanich and Sasiwuttiwat 2012). NIETS administers three assessments: (1) the Ordinary National Educational Test (O-NET), a standardized achievement test for grades 6, 9, and 12 in eight subject areas; (2) the National Test, a standardized test given to third and sixth graders; and (3) two tests used to screen twelfth-grade students for admission to the university—the General Aptitude Test (GAT) and the Professional and Academic Aptitude Test (PAT).

Thai schools allow parents to have a strong advisory role at the local level and to contribute to fundraising activities. However, school authorities, in direct collaboration with parent-teacher associations, separately manage additional funds raised by parents, which are off-budget. Current practice, therefore, may not promote accountability (Tangkitvanich 2013).

## Data on policy intent and implementation in school autonomy and accountability

In the first trimester of 2011, researchers developed indicators of policy intent in school autonomy and accountability. These indicators were validated by participants in the World Bank's East Asia Regional Conference on Systems Approach for Better Education Results (SABER) in June 2011 (see Patrinos 2012). In 2012, we used these indicators to assess policy implementation of autonomy and accountability in 226 Thai schools sampled by the 2009 PISA. The indicators for policy intent and policy implementation are now included in the SABER battery of education assessment tools (Demas and Arcia 2015).

The Thai version of the SABER questionnaire for assessing autonomy and accountability was verified by Ministry of Education staff to ensure that it interpreted the original English language content correctly; that it was compatible with the Thai school context, and to ensure that school principals would understand the questions to reduce the number of "not applicable" responses. PISA 2009 survey coordinators contacted with every school in the sample, informing them about the project and its objectives, and serving as technical resources for queries on the questionnaire.

The survey coordinators sent the questionnaire by registered post to the schools, enclosing a prepaid envelope and allowing one month for a response. Each school received a 500 Baht (about $5) honorarium for its collaboration. Most schools returned the questionnaire on time; and survey coordinators contacted those that did not by phone, through local education authorities, and in person. We added the questionnaires' answers to the

PISA 2009 school data. In total, 226 out of 230 schools responded, for a response rate of 98 percent.

Following the SABER school autonomy and accountability methodology, our team assigned each questionnaire item a value, following a simple scale: Latent = 1; Emerging = 2; Established = 3, and Advanced = 4. We used those values to identify the indicators for the subsequent analysis. (The score scale is based on a rubric that classifies the level of autonomy associated with each indicator. For access to the rubric, see Demas and Arcia 2015.)

The calculation of an overall implementation score for an indicator is:

$$Implementation\ Score = ((Number\ of\ latent\ scores * 1 + (Number\ of\ emerging\ scores * 2 + (Number\ of\ established\ scores * 3) + (Number\ of\ advanced\ scores * 4))/Number\ of\ school\ responses$$

The results of the survey of the 226 schools that participated in PISA 2009 reveal clear differences between policy intent and policy implementation. Table 1, below, presents the

**Table 1** Intent and implementation scores for indicators of school autonomy and accountability

| Indicator measure | Intent | Implementation |
|---|---|---|
| 1. School autonomy in budget planning and management | 2.3 | 3.0 |
| 1.1 Authority over management of the operational budget | 3.0 | 3.3 |
| 1.2 Authority over the management of nonteaching staff and teacher's salaries | 1.0 | 2.8 |
| 1.3 Authority to raise additional funds for the school | 3.0 | 3.0 |
| 2. School autonomy in personnel management | 1.3 | 2.7 |
| 2.1 Autonomy in teacher appointment and deployment decisions | 2.0 | 2.8 |
| 2.2 School council's role in teacher tenure or transfer | 1.0 | 2.3 |
| 2.3 Autonomy in the hiring and firing of principals | 1.0 | 2.9 |
| 3. Participation of the school council in school finance | 2.6 | 2.8 |
| 3.1 Participation of the school council in budget preparation | 2.0 | 2.8 |
| 3.2 School council's authority to approve the school budget | 2.0 | 2.8 |
| 3.3 Manual for the participation of the school councils in school finances | 3.0 | 2.8 |
| 3.4 Role of the school council in budget implementation | 3.0 | 2.7 |
| 3.5 Use of the budget prepared with the school council's participation | 3.0 | 2.8 |
| 4. Assessment of school and student performance | 4.0 | 3.5 |
| 4.1 Existence and frequency of school and student assessments | 4.0 | 3.6 |
| 4.2 Use of school assessments for making school adjustments | 4.0 | 3.2 |
| 4.3 Frequency of standardized student assessments | 4.0 | 3.7 |
| 4.4 Use of student assessments for pedagogical and personnel adjustments | 4.0 | 3.4 |
| 4.5 Publication of school and student assessments | 4.0 | 3.6 |
| 5. School accountability to stakeholders | 3.0 | 2.8 |
| 5.1 Guidelines for the use of school and student assessments for accountability | 2.0 | 3.1 |
| 5.2 National or regional systems of educational assessments | 4.0 | 3.1 |
| 5.3 Comparisons of school and student performance reports | 3.0 | 3.0 |
| 5.4 School council authority to perform financial audits | 2.0 | 2.6 |
| 5.5 Manual for the participation of the school councils in school audits | 4.0 | 2.5 |

*Source:* Arcia et al. (2014)

scoring for the indicators of school autonomy and accountability, and their corresponding subindicators. In the case of budget planning and management, personnel management, and school council participation, average policy implementation is greater than policy intent. However, for school and student assessment, and school accountability, intent is greater than implementation. We base our descriptive analysis, which follows, on the detailed categorization of school activity by the school principals using the SABER rubric.

## School autonomy in budget planning and management

The objective of using this indicator is to determine the degree of autonomy that schools have in planning and managing their budgets. This indicator has three components: (1) level of autonomy in the management of the school's operational budget; (2) managerial autonomy of schools in managing nonteaching and teaching salaries; and (3) autonomy of principals to raise funds over and above those the school receives from the government. Although the law allows school principals to manage the operational budget under ESA guidelines, school principals report that they tend to manage the operational budget with slightly more autonomy than the guidelines allow. They also report that they use central guidelines only as a reference when deciding on teacher salaries. In practice, ESA officers look to school principals for guidance on setting salaries for new teachers during the hiring process.

## School autonomy in personnel management

This indicator refers to the level of a school's autonomy in the everyday management of its human resources. It includes three factors: (1) school autonomy in hiring and firing teachers; (2) school council's role—as representative of parents—in decisions about teacher tenure or teacher transfers; and (3) school autonomy in hiring and firing school principals.

Thai schools manage teachers under the rules of the Teachers Civil Service Commission, and authority for teacher hiring and deployment is decentralized to the ESA level but subject to central approval. The Teacher's Civil Service Commission rules regulate teacher hiring; these rules tend to protect job tenure. Teachers must meet curricular requirements—such as the completion of a university degree—and the selection process has no provisions for local control over teachers. Because this process is bureaucratic rather than based on qualifications, schools have little room for maneuvering when assigned inadequate teachers. Moreover, since Civil Service rules regulate teacher salaries, only limited scope exists for implementing a system of rewards and sanctions that might improve teacher incentives.

The assessment of policy implementation in personnel management shows significantly more flexibility than the law allows. In practice, ESA offices have more leeway in the hiring of principals and teachers, without waiting for approval by central offices. Also, school principals consult school councils on teacher appointments and transfers in cases of low performance or violations of personnel rules.

## Participation of the school council in school finance

The participation of the school council in school finance allows council members to monitor school management performance, help the principal with cash-flow decisions, and help the school in fundraising efforts. We assess policy implementation in five areas: (1) degree of participation in preparing the school budget; (2) approval of the school budget; (3) use of a manual outlining the participation of the school council in school finances; (4) role of the school council in implementing the school budget; and (5) acceptance of the council-approved budget by higher-level authorities as a guide for detailed fiscal transfers to the school. We measure the degree of autonomy incrementally, from simple expressions of voice on school issues by the school council, to participation in school management decisions, to required approval of the school budget by the council.

Thai school councils participate in budget preparation and have a voice in budget approval, with final responsibility resting with the school principal. Although the law calls for schools to have manuals outlining the role of the school council, school principals report that in practice they pay attention to the procedures for the participation of council in school finance, but are more flexible about its role in school operations. The degree of trust and collaboration that the council develops with the school principal determines the council's role. Principals report school finances to ESA offices and off-budget funds to the school council. In general, policy implementation in terms of the council's participation in school finance is lower than the law intends. School councils participate in budget planning and preparation, but this is done less formally than required by law.

## Assessment of school and student performance

As we describe above, Thailand has two government agencies in charge of system assessment: the Office for National Education Standards and Quality Assessment (ONESQA) (Kingdom of Thailand 2000 and Kingdom of Thailand 2003) and the National Institute of Educational Testing Service (NIETS). For the third round of assessments, ONESQA has developed a different methodology, aimed at producing recommendations for improving education quality. NIETS administers the Ordinary National Educational Test (O-NET), a standardized achievement test for grades 6, 9, and 12 in eight subject areas. O-NET results are published online, although the averages published without login are for the national level only.

In general, the indicator for the principal's assessment of policy implementation shows that this assessment is generally lower than the education law intends. In personal interviews, school principals indicated that the lack of a meaningful analysis of test scores is a problem—which in turn reduces the use of test results for making pedagogical and personnel adjustments, yielding a lower indicator for policy implementation.

## School accountability to stakeholders

This indicator has five components assessing the guidelines that schools can refer to for using student test results, for preparing school comparisons of educational performance, and for financial accountability. Overall, implementation of school accountability is mixed. Some implementation is higher than intended by the law, and some is lower, which does not allow for generalization.

The overall gaps between policy intent and policy implementation suggest that Thailand could be another case where the indicators of policy implementation could reflect the impact of de facto autonomy that King and Özler (2004) analyzed, as mentioned earlier.

## Methodology for measuring the relationship between implementation and learning

We are interested in how key indicators of school autonomy and accountability relate to learning achievement in Thailand. Following cognitive-production function theory, we assume learning achievement to be a function of various inputs including school, household, and individual factors. Researchers and educators are very familiar with the limitations of estimating cognitive-production function using student assessment data, and include model specification error and omitted variable bias (see Todd and Wolpin 2003). We specify a stochastic model relating learning achievement to observed student characteristics and measures of school autonomy and accountability. The conditional expectation of student achievement, $y$, is expressed as a linear function of an observed vector of student, school, and teacher characteristics, $x$, such that:

$$E[y|x] = \beta_0 + \beta_1 x \tag{1}$$

where $\beta_0$ is a scalar constant and $\beta_1$ is vector of coefficients. We interpret the elements of $\beta_1$ as the association between the corresponding variable and learning achievement given a linear conditional expectation model and other variables. Consequently, our null hypothesis is that a particular measure of school autonomy or accountability has no association with learning achievement when controlling for selected school, teacher, and student variables versus having a positive or negative association. To test our null hypotheses, we estimate equation (1) using least squares.

The Thailand PISA assessment follows a multistage sampling design that selects schools within each stratum and then selects a sample of 15-year-old students from each school. Thai statisticians weight the data according to the inverse selection probabilities specified in the PISA dataset and estimate standard errors using Balanced Repeated Replication with Fay's adjustment of 0.5. The OECD in the Thailand PISA dataset provide replicate weights, and the OECD describes estimation procedures (2014).

PISA does not report learning achievement. Instead, an item response model relates students' responses to test items with a latent measure of achievement. The PISA dataset includes five random draws from the posterior distribution of student achievement called "plausible values". Using plausible values, we conducted estimations using Rubin's (1987) combination rules and implemented those estimations using the Stata module that Macdonald (2008) developed.

## Regression estimates of the relationship of policy implementation and PISA scores

In order to estimate the relationship between policy implementation and learning achievement, we specify the conditional expectation of PISA reading achievement as a function of a subset of our indicators of school autonomy and accountability, as well as selected control variables representing school, teacher, and student characteristics. We

select the subset of our indicators based on our conceptual framework and the indicators' correlation structure. In particular, we select indicators that school principals have influence over versus those that are determined at the system level and indicators that are highly correlated with the other indicators in their domain. We selected the following indicators:

*Indicator 1.2: Authority over the management of nonteaching staff and teacher's salaries.* This indicator was selected because salaries represent the largest share of the school budget and because school principals already influence teacher salaries in their respective schools.

*Indicator 2.2: School council's role in teacher tenure or transfer.* This indicator reflects the degree of school autonomy in personnel management, which is a key component of the autonomy-assessment-accountability system outlined above. As such, it links personnel management by schools with accountability to parents.

*Indicator 3.1: Participation of the school council in budget preparation.* We selected this indicator because it links the school's degree of autonomy in budget planning and management with financial and operational accountability.

*Indicator 4.5: Publication of school and student assessments.* This is important because it goes to the heart of measuring school performance and rendering accounts to parents and the community. It relates to school autonomy because schools can use the publication of test results as a tool for personnel and financial planning and management.

*Indicator 5.3: Comparisons of school and student performance reports.* We selected this indicator because the reporting of test results needs further work to enhance accountability: reports should make apt comparisons with other schools with similar characteristics (within and outside of the region) so that parents can better assess the school's performance.

Following cognitive-production theory, we included control variables that represent factors important for student achievement. These include:

*Index of household wealth.* This index represents household possessions and cultural items. The index ranges from −4.5 to 3.3, with a mean of 0 and a SD of 1, using the OECD mean as the 0 reference point.

*Public/private school.* This variable takes a value of 1 if the school is public and 0 if it is private. This variable is significantly correlated with parents' education and home possessions, but the correlation coefficient is less than 0.1.

*Number of schools available in the area.* This variable controls for competition and choice. In areas with more than one school available to a student, a greater possibility exists for more pressure for teacher and school performance, which may induce better test scores. This variable takes the following values: 1 if two or more schools; 2 if one additional school; 3 if no additional schools.

*Teachers' resistance to change.* Research by Hallinger and Lee (2011) shows that, 10 years after the implementation of the education reform act of 1999, the expected changes in teaching methods favoring student-centered learning had failed to take hold. One of the main impeding factors that school principals identified by was their teachers' resistance to change. In the PISA data, this variable takes the following values: 1, if there is no resistance at all; 2, if very little; 3, if to some extent; 4, if a lot.

*School location (province).* A simple classification of schools as urban/rural hides the fact that Bangkok schools are very different from schools in other areas. As a result, this variable takes the value of 1 if the school is in the Bangkok metropolitan area, and 0 otherwise.

The regression results show that *increasing the level of autonomy exercised by Thai schools is associated with higher PISA reading scores* (Table 2). A 1-point increase in the indicator of autonomy in the management of teacher salaries, for example, is associated

**Table 2** The effect of selected indicators of school autonomy on PISA 2009 reading scores

| Independent variable | Coefficients | | | | | |
|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) |
| Management of salaries for teachers and staff | 7.01*** (1.99) | | | | | 4.57** (1.97) |
| School council's role in teacher tenure or transfer | | 7.48*** (1.42) | | | | 4.56*** (1.57) |
| Participation of school council in budget preparation | | | 8.52*** (1.70) | | | 4.35** (1.81) |
| Publication of school and student assessments | | | | 5.69*** (1.88) | | 0.92 (2.01) |
| Comparisons of school & student performance reports | | | | | 6.49*** (1.61) | 3.53** (1.61) |
| Index of household wealth | 23.59*** (1.08) | 23.37*** (1.09) | 23.61*** (1.13) | 23.95*** (1.06) | 23.22*** (1.09) | 22.77*** (1.14) |
| Public school | 15.02*** (3.32) | 17.44*** (3.31) | 14.63*** (3.55) | 9.18*** (3.09) | 8.78*** (3.08) | 20.51*** (3.59) |
| One school available in area | 1.12 (2.81) | 1.82 (2.96) | 2.36 (2.96) | 1.87 (2.8) | 0.53 (2.86) | 2.24 (2.95) |
| No additional schools in area | 17.82*** (3.81) | 18.83*** (3.72) | 17.22*** (4.32) | 18.42*** (4.06) | 18.59*** (4.16) | 17.33*** (3.77) |
| Teacher little change resistant | −2.28 (2.61) | −1.40 (2.52) | −1.42 (2.50) | −1.34 (2.61) | −1.44 (2.65) | −1.36 (2.45) |
| Teacher resistance to change to some extent | 2.61 (4.21) | 3.84 (4.40) | 5.23 (4.37) | 3.12 (4.23) | 5.62 (4.37) | 7.54* (4.44) |
| Bangkok | 10.81*** (3.18) | 9.31*** (3.38) | 8.34*** (3.69) | 10.0*** (3.36) | 8.20** (3.62) | 9.23** (3.68) |
| Intercept | 414.4*** (8.2) | 415.0*** (6.4) | 401.0*** (8.6) | 419.3*** (7.6) | 420.2*** (5.5) | 378.9*** (11.4) |
| Average $R^2$ | 0.137 | 0.142 | 0.141 | 0.134 | 0.138 | 0.15 |
| N | 6,101 | 6,101 | 6,101 | 6,101 | 6,101 | 6,101 |

*Source:* Authors' estimation

*Notes:* Standard errors are in parentheses.

* Significant at the 0.10 level

** Significant at the 0.05 level

*** Significant at the 0.01 level

with a 7-point increase in the PISA reading score. Overall, an increase of 1 point in the SABER autonomy scale—for example, a change in classification from "emerging" to "established"—is associated with an increase in the PISA reading score ranging from 6 to 8.6 points for the selected indicators.

These results may help explain why school principals go beyond the level of authority specified in the education law: as managers, they seem to understand that some flexibility in the decision-making process may increase school and student performance. If the education system is weak in terms of accountability because it tends to rely on bureaucratic rules and compartmentalized oversight, then it makes sense for school principals with leadership qualities to behave more autonomously in order to get better results.

By extension, the results of Table 2 suggest that whenever the indicators of policy implementation are greater than the score for policy intent, parents and principals are bound to associate such indicators with higher test scores. Thus, it's rational for principals to rely on the increased participation of parents in management decisions through the school council, as that would give the school the popular legitimacy that it needs to go beyond policy intent in the education law.

## Discussion and conclusions

Benchmarking school autonomy and accountability seems to be a useful tool for a government that wants to improve system performance and student learning. Until now, studies have suggested that school autonomy helps improve some of the key inputs in education, such as teacher and student attendance, and, in many cases, helped improve student learning (Wößmann 2007; Wößmann et al. 2007).

Our analysis also suggests that the impacts of school autonomy and accountability on student learning tend to vary *within* a country, depending on the school's ability to go beyond the limits placed on autonomy by the education laws. Prior researchers (Hanushek et al. 2013) have found that school autonomy has a positive effect on learning in developed and high-performing countries, but that in developing and low-performing countries school autonomy could have a negative effect on test results. The impact of school autonomy in Thailand—a country with high levels of expenditures and low levels of performance—is more nuanced: whenever school principals take the lead and make more autonomous decisions, test scores seem to be higher; where management remains within bureaucratic limits, test scores seem to be lower. This finding corroborates the broader literature on the implementation of school-based management, where researchers note that, when implementing school autonomy, schools principals who were able to initiate and sustain a focus on learning and teaching obtained better learning outcomes (Hallinger 2003; Leithwood and Menzies 1998; Murphy and Beck 1995; Patrinos 2011). These results for Thailand also mirror King and Özler (2004)'s landmark results in their study of school autonomy in Nicaragua.

The results from our study also reinforce the notion of a closed system where school autonomy, assessment, and accountability reinforce each other. Intuitively, school principals—acting as operational managers of education policy—make decisions on budgets, personnel, and parent participation in an interconnected fashion, not through isolated, unconnected actions. Among school principals who make managerial decisions more in tune with school conditions, our analysis suggests that their decisions are bound to reflect a more autonomous model of school management.

Before 1999, school principals in Thailand were responsible for school management within a politicized environment. The education reform initiated in 1999 defined a new role for principals, asking them to move from being solely school managers to being instructional leaders, responsible for redefining the school's mission toward a goal of improved education quality and learning. This new role calls for technical leadership, for pushing a new model of classroom instruction, for motivating teachers, and for getting parents and teachers to internalize the new education policies (Hallinger and Lee 2014). This is a tall order for principals and teachers working within a political culture where principals were civil servants instead of leaders. It should not be a surprise to find out that, after 15 years of reform, the implementation of educational innovations in Thailand has been slow. This is

especially true where there is no alignment between the new instructional practices required by the reform and the skills required for increasing student learning.

Although the broad adoption of school autonomy and school-based management is a good starting point for helping principals adopt a model of instructional leadership, principals need more time to make this change. However, if school autonomy is paired with school accountability, then education reform may occur more quickly. The findings from our study, in the context of Thailand, suggest more demanding training for principals in instructional and formational leadership, such that principals become a catalyst for internalizing education reform amongst teachers and parents. Only with such leadership can schools begin to successfully implement innovations in classroom instruction.

Operationally, our findings call for increased school-level autonomy to select and manage teachers, and to allow principals and parents to define the school's mission and use financial resources—including salaries—more autonomously. Thai public schools have efficiently published learning outcomes, but are slow in making managerial and personnel decisions that would increase those outcomes. Our findings also make clear that school autonomy efforts must be reinforced with measures for enforcing school accountability. Only with school autonomy *and* accountability can new education policies receive the political legitimacy needed by school principals to enforce personnel and resource management at the school level.

Before making any generalizations about the effects of autonomy and accountability in developing countries—a word of caution. Our analysis is exploratory and represents one of the few times that researchers have examined intent and implementation—or, de jure and de facto—policies. Identifying causal impacts is difficult. What we have shown is that policy implementation matters. We have also shown that there is reason to believe that school autonomy matters in a developing country context. But we have not proven causality. To do that, we need a more rigorous evaluation, with randomized assignment. Here, we show that future evaluations need to measure implementation, not just intent, in order to measure the real effects of school autonomy and accountability. We also demonstrate that, even in sophisticated middle-income countries, a significant different exists between what is intended to happen in schools through policy and what ends up being implemented.

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