

The Impact of Workload on Service Time: Coping Mechanisms in Standardized Government Services

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Abstract

Scholarship in Public Administration has extensively examined how frontline workers cope with workload. However, most studies focus on public services where employees have significant discretion, leaving standardized services – where service time is a critical measure of customer satisfaction – relatively unexplored. This article investigates the relationship between workload and service time across various standardized government services, emphasizing the influence of job design variables. Drawing on data from 41 government service centers in Hungary, encompassing 3,406,152 worker-customer interactions across 36 services delivered by 947 frontline workers, the analysis reveals that increased workload prompts workers to accelerate service times, highlighting a predominant coping strategy regardless of service knowledge requirements. The relation between workload and service time is shaped by factors such as task specialization, task variety, operational volume, and on-the-job breaks. These findings offer valuable insights for managing government services under high workload conditions.

Keywords

frontline worker, workload, coping, job demand-resources, job design

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Introduction

Over the past 30 years, austerity measures in Public Administration (PA) have led to employment downsizing and greater demands on PA workers to “do more with less” (Esteve et al., 2017; Nguyen & Tuan, 2022; Raudla et al., 2015), a trend that persists today (Fernández-i-Marín et al., 2024; Gieske et al., 2020). Increased workloads have created growing concerns of negative impacts on workers’ well-being and outcomes for customers (Gould-Williams et al., 2014). Two streams of PA studies have investigated the impacts of work pressures and workloads. The first has focused on assessing the impact on workers’ well-being (e.g., workers’ satisfaction, intention to quit; Boselie et al., 2021; Kilroy et al., 2017), under the tenet that decreased satisfaction leads to lower productivity and commitment (Cantarelli et al., 2016). The second, which is grounded in street-level bureaucracy (SLB) literature (Lipsky, 1980), has focused on how frontline workers respond to work pressure and workload through “coping” (Maynard-Moody & Musheno, 2000; Tummers et al., 2015).

SLB research has traditionally centered on services where frontline workers exercise considerable discretion, such as healthcare (van Loon & Jakobsen, 2018), education (Jakobsen et al., 2019), and social work (Tummers et al., 2015). By contrast, less attention has been paid to frontline workers’ response to workload in more standardized services. This gap reflects the common assumption that standardized services are delivered uniformly to all clients – for example, in the renewal of driver’s licenses or passports. Yet, evidence from service science challenges this view, showing that workers exercise discretion also in these contexts, particularly by adjusting the time allocated to service delivery (Delasay et al., 2019). Higher workloads have been shown to trigger a range of behavioral responses – such as accelerating, decelerating, or U-shaped patterns – depending on the service context and its level of knowledge intensity (Kc et al., 2020; Staats & Gino, 2012; Tan & Netessine, 2014).

In many government services, service time is a crucial metric affecting customer satisfaction (Vermeeren et al., 2011) and the “doing more with less” logic is likely to lead to longer customer waits and complaints (Mikkelsen et al., 2024). Understanding how PA service time adjusts to workload can complement previous research on coping behavior and shed light on potential impacts on workers’ well-being and customer satisfaction in a wide range of PA services. Therefore, this study aims to answer the following research question:

RQ1: How does workload affect frontline workers’ service time?

When examining the impact of workload on frontline workers’ behavior, it is essential to identify factors that may moderate this relationship. SLB research highlights the role of customer characteristics (Halling & Petersen, 2024), worker attributes (Mikkelsen et al., 2024), and training (Jacobsen et al., 2019). However, the role of job design factors in shaping how workers respond to workload remains relatively under-explored (Oldham & Fried, 2016). Drawing on the Job Demands–Resources (JD–R) framework (Demerouti et al., 2001), job design characteristics can be conceptualized

as resources that buffer the negative effects of high workload. Accordingly, job design is expected to moderate the relationship between workload and frontline workers' service time. For example, task designs that enables workers to balance multiple activities through task variety may reduce strain under high workload conditions, thereby supporting more efficient service delivery (Staats & Gino, 2012). Empirical research examining these moderating effects can provide valuable insights into how work and workplace design can be improved, particularly in contexts characterized by imbalanced workload and limited administrative capacity. Therefore, a second research question is addressed:

RQ2: Is the relation between workload and service time impacted by job design factors?

To answer these questions, testable hypotheses are developed based on SLB literature (Lipsky 1980; Tummers et al., 2015) and the JD-R framework (Bakker & Demerouti, 2017). Specifically, we theorize that any service time variation in response to higher workloads can be regarded as a "coping" mechanism and that job design factors impact the workload to service time relation by either providing job resources or by creating job demands.

An administrative database of services delivered by Hungarian government centers offers unique data, covering customer encounters of more than 900 frontline workers over 26 months (Hajnal & Rosta, 2019; Kovács & Hajnal, 2014). Prior empirical studies have often relied on cross-sectional designs, lacking the temporal dimension needed to establish causal links between workload and workplace behavior (Kilroy et al., 2017).

This study makes novel contributions to PA research by expanding the SLB literature on frontline workers' coping behavior to standardized services. Though the relation between workload and service time has been explored in other disciplines and contexts (Delasay et al., 2019), the public sector ethos makes PA a unique context of investigation (Perry, 2000). Next, the study highlights how job design influences the impact of workload on behavior, offering insights for system-level design and public management practices to better serve citizens (Gieske et al., 2020). Additionally, by using administrative data, the study assesses actual worker behavior, complementing previous research and addressing calls to move beyond self-reported data (Kaplaner & Steinebach, 2024).

The analysis is organized as follows: first, the theoretical underpinnings are presented and testable hypotheses developed. Next, the organizational context is described. This is followed by the methodology and results. The article closes with the discussion and implications of findings.

Theory and Hypotheses Development

The Impact of Workload on Frontline Workers' Service Time

The SLB literature (Lipsky, 1980) examines the behavior of frontline workers who interact directly with citizens and must balance organizational demands with citizens'

needs in their daily work. Integral to frontline workers' response to work pressures during service delivery is the concept of "coping," which defines the "behavioral efforts frontline workers employ when interacting with clients, in order to master, tolerate, or reduce external and internal demands and conflicts they face on an everyday basis" (Tummers et al., 2015, p. 1100). The adoption of coping strategies becomes more likely when frontline workers enter stress states (Edri-Peer & Cohen, 2025; Mikkelsen et al., 2024). Tummers et al. (2015) classify three families of coping: "moving towards clients," encompassing behavior aimed at satisfying the customers' needs, even at the cost of expending own resources; "moving against clients," which implies following rules rigidly; and "moving away from clients," which engenders treating citizens in routinized ways. Evidence reviewed by Tummers et al. (2015), together with more recent studies, supports the citizen-agent narrative. This body of research indicates that frontline workers, regardless of professional identity, predominantly cope by "moving towards clients." However, they also tend to be more responsive to citizens from the ethnic majority (Halling & Pedersen, 2024) and, under conditions of high task uncertainty, marginalized clients are more likely to face discrimination (Andersen & Guul, 2019; Bell & Meyer, 2024; Kolstad, 2026). The prevalence of "moving towards clients" has further been linked to the role that Public Service Motivation (Moynihan & Pandey, 2007) plays in PA workers' behavior (Gould-Williams et al., 2014).

SLB research has largely focused on services where "discretion permeates every decision and every action" (Maynard-Moody & Musheno, 2000, p. 334), with education and social work as prime examples. This focus overlooks other public administration services, where frontline workers carry out standardized sequences of activities to achieve specific goals (de la Riva Agüero, 2022), yet still expend significant physical and mental effort. For these services, the time spent in direct contact with the citizen (service time) is a key metric to evaluate citizens' satisfaction (Vermeeren et al., 2011) and variations of service time represent the main form of discretion in service execution. Building on Tummers et al.'s (2015) conceptualization of coping, we propose that adjusting service time in response to increased workload reflects behavioral coping. We theorize a cognitive mechanism whereby workers weigh the costs and benefits of speeding up service.

For frontline workers, speeding entails private costs in the form of physical and cognitive strain, as well as the risk of being sanctioned in case of errors. At the same time, speeding offers benefits by reducing stress generated by pressure from coworkers or supervisors. For clients, workers' speeding imposes costs in terms of reduced service quality and a higher likelihood of errors, while the primary benefit lies in alleviating frustration from queuing. Workers are more likely to "*cope by speeding*" (i.e., reduce service time) when speeding costs are outweighed by the costs of bearing the congestion. When the costs of speeding are higher with respect to benefits, workers will instead maintain or even extend service times (*copied by slowing down*).

Speeding and slowing strategies may unfold sequentially. Initial speeding can give way to slowing, as sustaining a high pace becomes increasingly resource-intensive and ultimately detrimental to service quality (Hobfoll et al., 2018). At low workloads,

cognitive demands and quality risks are minimal, such that “moving towards the client” translates into shorter service times. As workload increases, service times may initially decline; however, the cognitive effort required to maintain high speed becomes unsustainable at heavier workloads (Delasay et al., 2019). Moreover, workers may perceive speeding as “cutting corners,” that is, skipping discretionary steps, and as increasing the likelihood of errors (Phan et al., 2023; van Loon & Jakobsen, 2018). Consequently, under heavy workload, when attempting to move towards the client, workers slow down rather than speed up. Taken together, coping by moving towards the client yields a U-shaped relationship between workload and service time. Building on the above arguments, the following hypothesis is put forward:

H1: The relation between workload and frontline workers’ service time is U-shaped.

Moderating Effects of Job Design

The Job Demand-Resource (JD-R) model (Demerouti et al., 2001) posits that workers’ well-being and behavior are influenced by job demands and job resources. Job demands refer to the physical, social, or organizational aspects of the job that require sustained physical or mental effort, such as workload and time pressure. Job resources, which range from task-related resources (e.g., task autonomy) to organization-level resources (e.g., supervisor support), reduce the negative impact of job demands (Bakker et al., 2005). If job demands are not compensated by job resources, work stress and burnout result (Steen & Schott, 2019).

When workload increases, workers’ physical and mental resources are temporarily impaired, generating stress states that lead to coping behaviors (Bakker et al., 2004; Im, 2009). JD-R suggests that certain job design characteristics provide resources that help workers cope with demanding environments, by structuring tasks, roles, and environments in ways that reduce stress (Oldham & Fried, 2016). Previous research supports these arguments: for example, burnout rates under high job demands are lower if workers’ jobs are autonomous (Bakker et al., 2005). Similarly, task variety fosters learning, enabling workers to better handle high workload (Schaufeli & Bakker, 2004). However, other job design characteristics, for example, tight work schedules, may exacerbate the effects of workload and create stressful conditions (Bakker, 2015; Bakker & Demerouti, 2017). We propose that two key job design factors – work schedule (Kim et al., 2018; Nanda & Browne, 1977) and task assignment (Noblet et al., 2005; Staats & Gino, 2012) – moderate this relationship. These factors are crucial for standardized services as they impact both service speed and consistency, as discussed in the following sections.

Work Schedule. Designing work schedules that balance workload over time contributes to workers’ well-being by reducing fatigue. Work-related fatigue includes losses caused by physiological and/or psychological efforts. Physiological fatigue arises from using physical resources over time, while psychological fatigue includes boredom and tiredness from performing a task. Occupational health research provides

evidence that schedules involving long hours of consecutive work lead to fatigue and other negative outcomes (Boivin & Boudreau, 2014). Building on JD-R, we posit that when workers are exposed to consecutive hours of work, their cognitive and physical “freshness” is affected, thereby reducing personal resources (Van Yperen & Hagedoorn, 2003). As a consequence, coping by speeding is weakened, resulting in longer service times (Baltes et al., 1999). Formally, the following hypothesis is formulated:

H2a: Working hours cumulated during the day moderate the relation between workload and service time by weakening coping by speeding.

As part of work schedule, on-the-job breaks can impact service time. From the JD-R perspective, breaks are job resources that improve well-being and performance (Demerouti et al., 2012). However, evidence on optimal break duration is mixed (Leroy et al., 2020). In fact, longer breaks may disrupt workflow due to cognitive interference, requiring workers to re-focus on their tasks (Lyubykh et al., 2022). Previous research has seldom examined how on-the-job breaks affect workers under high job demands (Jefferson et al., 2024; Kim et al., 2017), a situation where JD-R suggests that job resources are particularly important (Bakker et al., 2023). Kim et al. (2017) and Kim et al. (2018) support a positive moderating effect of different on-the-job breaks on the relation between workload and workers’ outcomes, while Jefferson et al. (2024) find a positive moderating effect for on-the-job breaks frequency. In analogy with these findings, we propose that a positive moderation effect holds also for on-the job break duration, thus formulating the following hypothesis:

H2b: The duration of on-the-job breaks moderate the relation between workload and service time by reinforcing coping by speeding.

Task Assignment: Variety Versus Specialization. Task variety is the degree to which a job requires different activities and skills. The job design literature generally holds that variety is positively associated with worker satisfaction and performance, as it prevents the monotony of highly specialized tasks and provides mental stimulation (Humphrey et al., 2007; Oldham & Fried, 2016). Variety may further improve performance by increasing workers’ engagement and creating opportunities for knowledge transfer across tasks (Argote, 2013). In JD-R, task variety is a significant job resource that positively impacts workers’ motivation and behavior, especially if associated with skill variety (Schaufeli & Bakker, 2004). Conversely, task specialization may undermine workers’ perception of job control and lead to monotony (Van Veldhoven et al., 2020).

Other streams of literature argue that task specialization and task variety may complement each other: studying bank clerks, Staats and Gino (2012) find that while specialization increases in-task efficiency, task variety raises the worker’s cross-task efficiency. These complementary effects not only make the worker more efficient but are also expected to moderate the impact of workload on service time by reinforcing coping by speeding. Therefore, the following hypotheses are formulated:

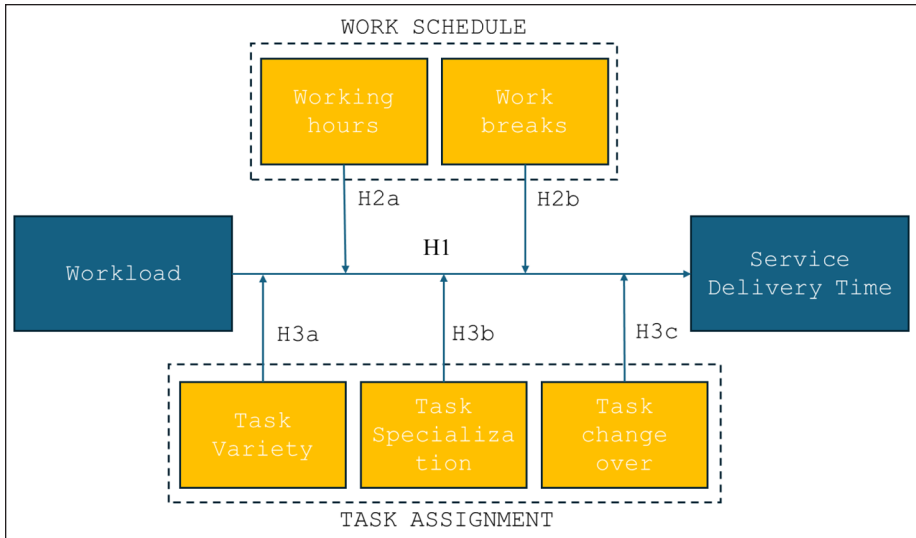


Figure 1. Conceptual model and hypotheses tested.

H3a: Task variety moderates the relation between workload and service time by reinforcing coping by speeding.

H3b: Task specialization moderates the relation between workload and service time by reinforcing coping by speeding.

While task variety can enhance cross-task learning, frequent task switching in the short-term may increase cognitive demands due to the setup and recall of task details (Altmann et al., 2014; Eyrolle & Cellier, 2000). This “learn, forget, and relearn” cycle can be especially taxing for complex tasks but may also apply to simple tasks because task switching might involve changing software, forms, or accessing new databases. Based on these arguments, the following hypothesis is advanced:

H3c: Task change-over moderates the relation between workload and service time by weakening coping by speeding.

Figure 1 summarizes the conceptual model and hypotheses.

Organizational Context

The study takes place within the context of the *Kormányablakok* or “Government Windows” (GW) policy initiative, one of the most visible features of Hungary’s Public Administrative Reform initiated in 2010. GW implemented a one-stop-government (OSG) model (Askim et al., 2011; Howard, 2017) in the Hungarian PA. OSG models generally provide seamless front desks for citizens but can take various forms,

from single front-end of complex government agencies to umbrella structures that are shared by multiple agencies; to integrated and physically co-located services (Askim et al., 2011). OGS are adopted to improve coordination among government agencies, to organize the bureaucracy in a citizen-oriented manner and to streamline service delivery. By creating a single access to services, benefits accrue in terms of the optimization of workforce and the reduction of duplications in service capacity, such as physical and ICT infrastructure. Services become more accessible for the citizen, since the time, number of trips, and resources needed to obtain service are reduced (Fredriksson, 2020).

One-stop, citizen-facing service centers represent an established international trend in public administration. Across Europe, the European Institute of Public Administration (EIPA) has recognized numerous such initiatives through its biannual European Public Sector Award (EPSA). In 2015, under the theme “The Public Sector as Partner for a Better Society,” 266 projects were submitted and 64 received a Best Practice Certificate. Among these recognized initiatives was Hungary’s “One-Stop-Shop Government Windows as the Initiation of Equal Access to Public Services.” While the specific award category does not in itself determine comparability, its inclusion in EPSA highlights the initiative’s alignment with wider European reform trends.

More broadly, Hungary’s GW fits within a global movement toward integrated, citizen-centric public service delivery (Table A1). Comparable physical OSG models operate in Georgia (Public Service Halls), Portugal (Lojas do Cidadão), Brazil (Poupatempo), and Australia (Service NSW), among others. Hybrid models that combine digital portals with in-person assistance, such as France’s *service-public.fr*, Singapore’s SingPass ecosystem, and Abu Dhabi’s TAMM platform, also reflect similar principles of integration, accessibility, and standardization.

Prior to GW, almost every Hungarian municipality and government agency had its own service point, more than 2,000. Services were operated in a fragmented manner, with varying and uncoordinated office hours, non-standardized service quality, and different technical and management systems (Kovács & Hajnal, 2014). Over time, GW has created a network of over 300 centers to cover the entire country (Bosse et al., 2015). Different government organizations remained distinct but integrated portions of their front-ends to provide a single access point within a short distance. Service provision was organized around life events that trigger people’s need for services. The goal was to make it simple for individuals to handle a life event such as marriage, unemployment or losing home. Services delivered by the centers encompass issuing citizen IDs, passports, driving licenses, evaluating and granting social security benefits, housing support, temporary residency to foreigners, business and trade licenses. As part of the program, service definitions were standardized and their content and steps were codified.

While OSG benefits for citizen are unambiguous, implementation has placed additional demands on PA workers, as they are required to embrace a new service-oriented attitude and a higher level of technical integration than before. The heightened job demands have been partially compensated by organizational resources exemplified by initial training characterized by blended learning, which includes lectures, technology-based and

web-based training, online tutorial forums, case studies and on-the-job training. Concerns about inadequate resourcing for the program have been noted (Kovács & Hajnal, 2014). Vastag and Jenei (2019) emphasize the need for increased organizational resources to support workers facing high job demands. Recommendations include weekly staff meetings, increased supervisory support for complex issues, guaranteed breaks, back-office space in all centers, and additional hiring to alleviate pressure on current staff.

Methodology

Data and Measures

This study uses data on the total service operations of 41 centers in the period October 2015 to December 2017. The 41 service centers constituted the only data validated by the government and thus made available to the authors. The sample can be considered representative of Hungary. It includes Budapest (23 districts, of which five districts have two service centers), the capital and by far the largest city in Hungary with about 20% of the country's population. The remaining centers come from Békés county, in the eastern party of the country, a low-density area with population concentrated in small towns, typical of the rest of the country outside the capital.

Data were automatically generated by the centers' information technology (IT) system using a standardized data record structure. Information includes the arrival time of each customer, starting time and ending time of each service encounter carried out in the period considered, by worker, by service, and by government center, therefore allowing the analysis of the single service encounter.

Prior to data analysis, seven field visits to the premises of seven different centers (three in Budapest and four in smaller towns in other regions of Hungary) and five extended interviews with center managers (60–90 min each) were undertaken by two members of the research team, to obtain first-hand understanding about the service provision environment and work organization. Managers were interviewed at their office using a semi-structured interview protocol that probed general information about the manager and the center, human resource management in GW, specific services by complexity and knowledge intensity, and discussion of themes related to the study hypotheses. Though not aimed at generalizability, the interviews provided valuable insights that supported the interpretation of the quantitative findings. Specifically, they shed light on the underlying service processes and the knowledge complexity embedded in the services delivered. Additionally, the interviews enabled the research team to determine whether service time was used in workers' performance assessments and to capture managers' perceptions and experiences regarding how frontline workers responded to increased workloads.

The field visits offered additional insight into appropriate ways to clean data and about the possibility that the IT data collected could reflect workers' gaming behavior. The following data cleaning steps were adopted: the 25th quantile was selected as the lower limit of the distribution of service times, with minimum service time equal to 104 s. (1.733 min), to eliminate cases of no-show, for example, instances in which the

frontline worker called the customer to the window but the customer had left the office. Similarly, abnormally long service times that most probably captured cases in which the worker had not “closed” the service on the IT system were removed, and the 95th quantile of service time (equal to 35.18 min) was chosen as the upper limit of the distribution.

Additionally, frontline workers who had provided fewer than 30 services encounters were removed from the data, as they were considered “temporary frontline workers” (e.g., they are probably back-end officers who were called to replace a colleague who was absent). Finally, infrequent services, that is, delivered less than 100 times over 26 months, were considered outliers and removed from the dataset. The final sample included 3,406,152 service encounters, 36 distinct services (see Table B1 for the list) and 947 frontline workers. Table 1 describes the measures used to estimate the conceptual model and presents descriptive statistics. Table 2 shows correlation coefficients.

Estimation Strategy

Several fixed effects models were estimated (Table 3): Model 1 estimates the main relation between workload and service time, Model 2 adds two control variables (Booked_Service and SpeedPeers), Model 3 adds covariates relating to job design (Specialization, Variety, Changeover, #Operations, Break), while Model 4 adds moderation effects. All models include the squared term for Load (Load²) to account for curvilinear effects. Fixed effects control for center, service, hour of day, day of the week, and month (Wooldridge, 2010). Center-clustered standard errors were estimated.

Results

Main Effects

Table 3 reports model estimates and shows that service time is significantly and negatively related to workload in all model specifications. The relation is curvilinear, as shown by the statistically significant second order term, and concave. Thus, the behavioral response to increasing workload is speeding at a decreasing rate. Table 4 reports marginal and average marginal effects (AME). AME represents the mean change in the dependent variable following a one-standard-deviation increase in the regressor. The effects are calculated by estimating the counterfactual change for each observation, holding all other covariates and fixed effects at their observed levels, and then averaging across the sample. A one standard deviation increase in Load (1.69) leads to a reduction of 1.35 min of service time. Table 4 shows that H1 is broadly supported, although the relation between workload and service time is predominantly negative except when Load is at the 99% percentile value.

Concerning control variables, Table 3 shows a negative and significant coefficient for pre-booked services (-0.285 , $p < .001$), thus hinting that this modality allows

Table I. Model Variables.

Dependent variable		Mean	SD	Min	Median	Max
Service time (continuous)	Time (in minutes) that the client is under the care of a given frontline worker i . It is measured as the difference between the instant the customer is assigned to a worker (i.e., called to the service window) and the instant that the service is closed by the worker. It does not include client's waiting time.	9.98	7.53	1.73	7.73	35.18
Independent Variable						
Load (continuous)	The instantaneous workload of worker i . It is measured as the average number of clients being served or queuing for each service j in the timespan between the start of service and its end. Workload is divided by the number of frontline workers providing service j in center k at time t .	1.81	1.69	0.05	1.27	9.04
Moderating Variables for Work Schedule						
#Operations (continuous)	Work schedule in terms of service encounters performed by worker i . It is measured as the volume of service encounters performed by worker i up to time t since the start of the daily work shift. It is expected to capture fatigue and depletion of personal resources during the workday.	15.97	15.15	1.00	12.00	166.00
Break (continuous)	Duration of on-the-job breaks, measured as the time (in minutes) between the completion of service j and the start of the subsequent service encounter. This variable is considered a job resource.	7.32	14.91	0.00	0.15	61.00
Moderating Variables for Task Assignment						
Specialization (continuous)	Total number of service encounters of type j performed by worker i from the start of the analysis period up to time t .	1,558.54	2,448.48	1.00	704.00	25,035.00
Variety (continuous)	Number of distinct service types assigned to worker i .	14.42	7.79	1.00	12.00	30.00
Changeover (binary)	Short-term effect of task variety. It takes value one when the current service is of a different type with respect to the previous one, and zero otherwise.	0.46	0.50	0.00	0.00	1.00
Control Variables						
Booked_Service (binary)	Control variable indicating whether the service was booked online (equal to one if yes, zero otherwise). Online pre-booking enables the frontline worker to prepare in advance, which may lead to shorter service times.	0.05	0.21	0.00	0.00	1.00
SpeedPeers (continuous)	Percentage of peers who at time t work at a faster rate than their average. Varies between 0 and 1.	0.38	0.21	0.00	0.38	1.00

Table 2. Correlations.

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Service time (1)	1.000								
Load (2)	-.100	1.000							
#Operations (3)	-.191	.046	1.000						
Specialization (4)	-.137	-.033	.263	1.000					
Variety (5)	-.072	.175	.040	-.144	1.000				
Changeover (6)	.038	.051	-.103	-.275	.234	1.000			
Break (7)	.063	-.092	-.151	-.061	-.016	.055	1.000		
Speed Peers (8)	-.008	.115	.054	.022	.001	-.005	-.040	1.000	
Service booked (9)	.012	.016	-.033	-.040	.040	.066	.013	.012	1.000

Table 3. Model Results.

	Model 1	Model 2	Model 3	Model 4
Load	-1.020*** (0.182)	-1.124*** (0.095)	-1.060*** (0.094)	-1.381*** (0.183)
Load ²	0.084*** (0.018)	0.080*** (0.010)	0.073*** (0.010)	0.100*** (0.022)
SpeedPeers		0.126** (0.048)	0.227*** (0.047)	0.228*** (0.048)
Booked_Service		-0.300* (0.145)	-0.290* (0.144)	-0.285* (0.143)
#Operations			-0.053*** (0.005)	-0.058*** (0.007)
Specialization			0.000*** (0.000)	0.001*** (0.000)
Variety			0.003* (0.001)	-0.018* (0.009)
Changeover			0.064* (0.029)	0.221* (0.099)
Breaks			0.002** (0.001)	0.001* (0.001)
Load × #Operations				-0.001* (0.001)
Load ² × #Operations				0.001*** (0.000)
Load × Specialization				0.001* (0.000)
Load ² × Specialization				0.001** (0.000)
Load × Variety				0.016* (0.008)
Load ² × Variety				-0.002** (0.000)
Load × Changeover				-0.109* (0.057)
Load ² × Changeover				0.006** (0.002)
Load × Break				0.001 (0.001)
Load ² × Break				0.001* (0.000)
(Intercept)	11.315*** (0.323)			
Fixed effects for service, center, hour, day, month	No	Yes	Yes	Yes
Num.Obs.	3,406,152	3,406,152	3,406,152	3,406,152
R ² Adj.	.013	.143	.151	.152
AIC	23,372,641	22,890,024	22,857,257	22,855,688

Note. Standard errors in brackets. Fixed effects are not displayed. Within estimator adopted. Cluster-robust standard errors, clustering on centers.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 4. Marginal Effects for Independent Variables.

Percentile	Load	Margin	#Operations	Margin	Break	Margin	Specialization	Margin	Variety	Margin	Changeover	Margin
1st	0.050	-1.058	1.000	-0.053	0.000	0.003	1.000	-0.001	1.000	0.003	0.000	0.063
25th	0.667	-0.966	6.000		1.000		226.000		9.000			
50th	1.273	-0.876	12.000		1.150		704.000		12.000			
75th	2.400	-0.709	21.000		7.367		1,848.000		20.000			
99th	9.000	0.269	166.000		61.000		25,035.000		30.000		1.000	
Average Marginal Effect		-1.346		-0.806				-0.278		0.0223		

Note. Estimates of Average Marginal Effect (AME) are calculated for 1 standard deviation increase in each variable using Model 4. AMEs are computed by averaging the predicted individual-level changes across the sample. The margins for #Operations, Break, Specialization, Variety, and Changeover are constant because they are linear with respect to Service Time.

frontline workers to prepare for the encounter and save time. Conversely, the impact of co-workers' speed on service time is positive, that is, the speedier the other co-workers, the slower the individual worker is ($0.228, p < .001$).

Moderating Effects

Table 3 shows coefficients for co-variables, while interaction effects are shown in Figure 2a–e using the method proposed by Dawson (2014). For each figure, three curves corresponding to the 1st, 50th, and 99th percentile are represented. Figures are represented at the expected value of the other variables and confidence intervals are shown as the shaded area. The moderation of the volume of operations performed (Figure 2a) shows a downward shift of the curves, which is more marked when the number of service encounters is very high. Thus, service time decreases with the cumulative number of service encounters performed during the day, thus disconfirming H2a. The duration of breaks (Figure 2b) has no effect on service time at low workload but longer breaks increase service time at high workload (H2b not confirmed), thus suggesting that longer breaks create a loss of work rhythm in demanding environments. Task variety (Figure 2c) has no effect at low workload but increases service time at high workload, thus dampening coping by speeding (H3a not confirmed). Conversely, Figure 2d confirms H3b by showing that high specialization reduces service time, though the effect is weaker at high workload. Finally, change-over shows no clear moderating effect on the workload-service time relation (Figure 2e), thus disconfirming H3c.

Robustness Test

While the services analyzed in this study share the characteristic that frontline workers perform standardized sequences of activities to achieve specific goals, they nonetheless exhibit heterogeneity in the knowledge complexity required to carry out the tasks involved (de la Riva Agüero, 2022). Indeed, whereas some PA services, such as issuing marriage certificates, do not demand specialized knowledge, others require workers to be familiar with relevant legislation, specific bureaucratic procedures, and, increasingly, digital competencies to access and consult multiple databases (e.g., citizenship applications).

To provide a more nuanced understanding of the relationship between workload and service time that accounts for the varying levels of knowledge embedded in different services, Model 4 has been estimated separately for five distinct services (#8, #12, #15, #25 #28 as per Table B1). The five services exhibit a high frequency of delivery but differ in terms of knowledge intensity (low-medium-high). A qualitative assessment of each service's knowledge content was obtained through interviews with center managers. Service #8 (Delivery of Documents) was considered the simplest, as it merely entails document printout and delivery to citizens after an ID check, with minimal need for interaction. Conversely, service #12 (Motor Vehicle Matters) presents a great deal of heterogeneity and complexities stemming from ownership, types of contracts and the vehicle specifics. Similarly, service #18 (Certificate of Residence for

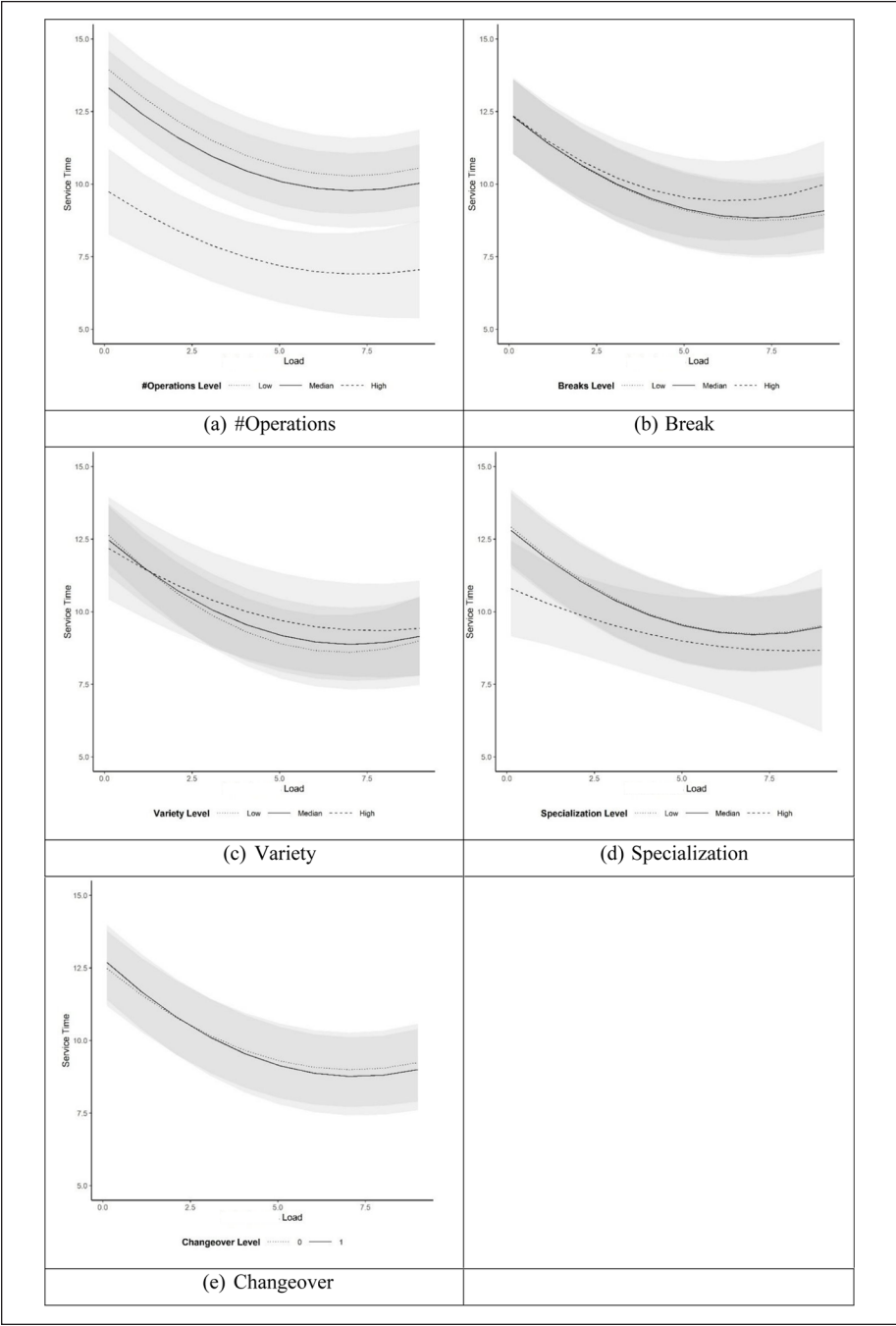


Figure 2. Moderation effects of job design variables (estimates from Model 4). (a) #Operations. (b) Break. (c) Variety. (d) Specialization. (e) Changeover.

Foreigners) requires examination of substantial paperwork, expertise in accessing information from diverse databases, and often the ability to reach ad hoc solutions. Services #15 (Driving Licenses) and #25 (ID Card) exemplify medium knowledge-content services, as the frontline worker has to verify whether the requirements are met and the supporting documentation submitted. Figure 3 shows the workload to service time curve for the five services and confirms the prevalence of “coping by speeding.” Notably, service #12 is the only one that exhibits a clear U-shaped pattern, indicating that service complexity may constrain the ability to accelerate processing under high workload conditions.

Additional insights emerge from the analysis of moderating effects by service (Figures C1–C5). Services #12 and #18 have higher baseline service times and display greater curvature and wider confidence intervals, thus suggesting that higher knowledge complexity raises discretion. Additionally, we observe that specialization matters more for complex services: in simpler services, the curves for low, medium, and high specialization are close together. In more complex services, higher specialization clearly shifts the curve downward and flattens it. For service #18, specialization delays the upward turn in the U-shape, although it does not eliminate it. This suggests that specialization can mitigate but not fully offset complexity-induced limits to acceleration. Variety has little effect in simpler services. However, in more complex services high variety substantially increases service time and confidence intervals widen considerably. Notably, service #18 shows the strongest divergence between low and high variety, indicating that task heterogeneity is especially consequential in this service.

Discussion

This study has provided evidence that frontline workers react to increased workload by reducing service time, although at a declining rate as workload increases. The study also sheds light on how the workload-service time relation is moderated by job design factors and unveils distinct effects according to knowledge content of the service. This section discusses the theoretical and practical implications of these findings.

Implications for Theory

The SLB literature has illuminated frontline workers’ decision-making (Halling & Petersen, 2024; Jacobsen et al., 2019; Mikkelsen et al., 2024). This study contributes to this stream by examining how coping strategies manifest in standardized government services through service time adjustment. Speeding emerges as the dominant coping pattern, which is consistently observed across various services, workers, and government centers. These findings indicate workers’ focus on efficiency in response to workload, aligning with recent findings by Kaplaner and Steinebach (2024).

Since speeding increases cognitive and physical effort, sustained speeding conflicts with workers’ resource conservation, especially in knowledge-intensive services (Hobfoll et al., 2018). While this consideration might be interpreted as workers putting clients’ needs first at their own expense, speeding cannot *per se* be interpreted as

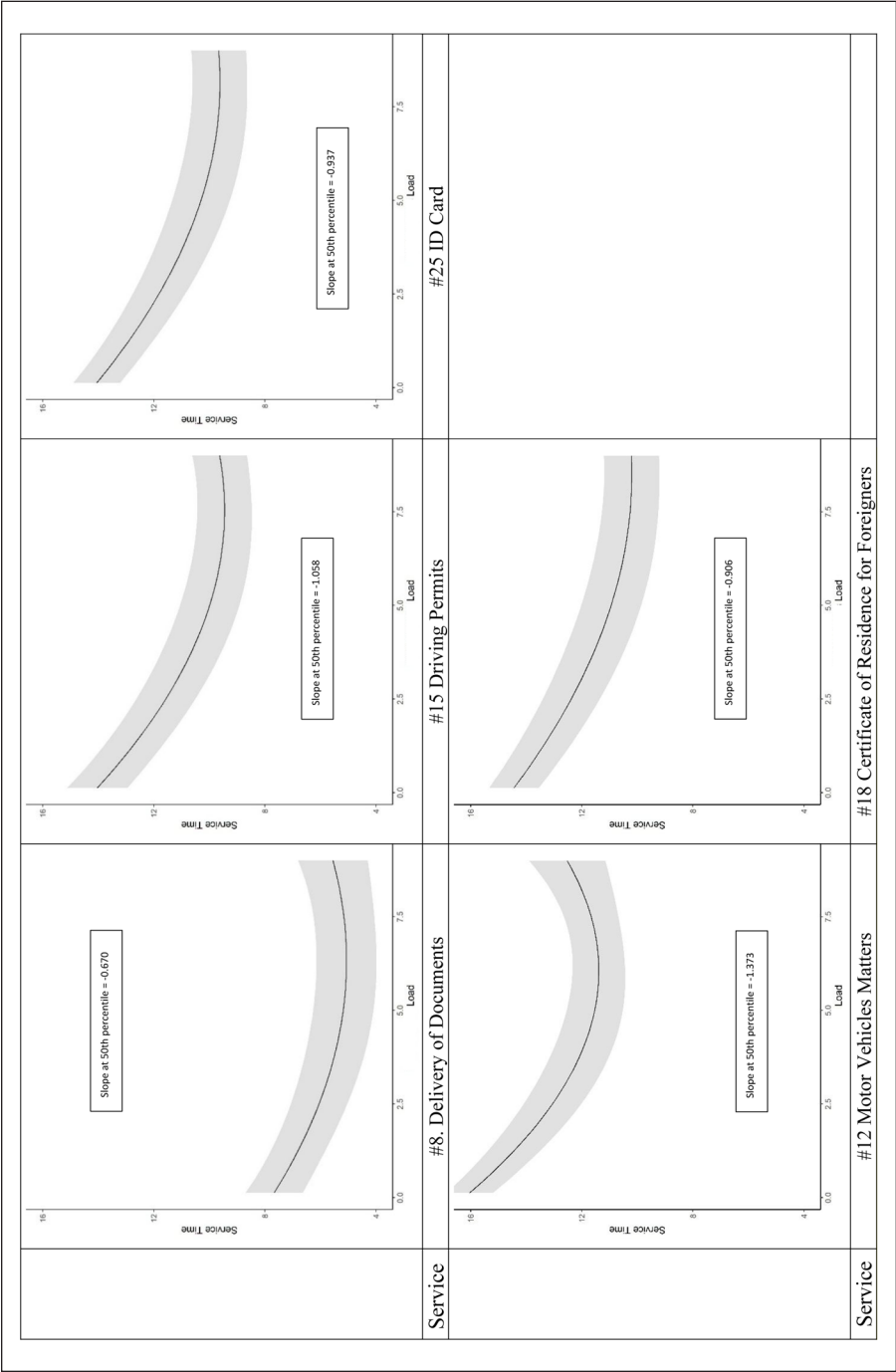


Figure 3. Relation between load and service time for five selected services (estimates from Model 4).

“moving towards the client.” In formulating H1, our theoretical argument was that “moving towards the client” implies a U-shaped relation, that is, speeding at low-medium workloads and slowing down when workload is high. In fact, at high workload, speeding increases the likelihood of errors (Delasay et al., 2019) and may lead to “cutting corners” (Phan et al., 2023), ultimately not serving the customer’s best interest.

To explain the persistence of coping by speeding even under high workload, we suggest that when workers aim to “move towards the client” (Tummers et al., 2015), they face a tension between responsiveness and effectiveness. Speeding increases responsiveness by reducing clients’ waiting time. At the same time, waiting clients are highly visible and create immediate social pressure on workers. By contrast, effectiveness would require slowing down in order to reduce errors and maintain service quality. However, the potential negative consequences of speeding are probabilistic and less salient. As a result, speeding may persist not because workers disregard clients’ interests but because they place greater weight on immediate and visible client’s dissatisfaction than on uncertain future harm. This suggests that, as workload increases, speeding functions less as an effective way of moving towards the client and more as a symbol of responsiveness. Under high workload, responsiveness and effectiveness as dimensions of client orientation may therefore diverge.

Field visits to government service centers and interviews with managers indicated that “workers sense the nervousness of clients waiting to be served.” These qualitative insights support our interpretation of the quantitative findings, suggesting that clients’ dissatisfaction with waiting is more salient to workers than other considerations. Coping by speeding therefore prioritizes the short-term benefit of reducing waiting time to address this immediate dissatisfaction, even when doing so may increase the risk of outcomes that are detrimental to clients (Tao et al., 2024).

Although SLB scholarship does not explicitly distinguish between symbolic and effective “moving towards the client,” this distinction is implicit in Lipsky’s account of street-level bureaucrats’ reliance on routines and simplifications to manage high demands with constrained resources. While routinization is typically interpreted as a form of “moving away from the client” (Edri-Peer & Cohen, 2025), our findings indicate that some routines are oriented toward responsiveness, insofar as they address immediately salient client concerns. However, when such routines become entrenched heuristics rather than reflective responses to clients’ substantive needs, they risk distorting service goals and undermining actual service outcomes.

Additional support for interpreting speeding as a form of client responsiveness rather than “moving away” or “against the client” emerges from situating findings within the context of the Hungarian PA. Notably, speeding is not incentivized by the Hungarian PA’s performance evaluation system, which does not use service time as a performance indicator but instead prioritizes the absence of customer complaints as a key measure of service quality. Our findings reinforce that workers respond to what they feel and see and not only to formal incentives.

The study has also answered calls for more research on how job resources influence workers’ response to workload, by shedding light on how speeding is influenced by job design (Oldham & Fried, 2016). Regarding work schedule variables, speeding

increases with the total volume of operations, thus contradicting previous studies suggesting that long working times deplete workers' resources (Noblet et al., 2005; Van Yperen & Hagedoorn, 2003). Initial speeding may result from cognitive efforts to establish a work rhythm or socialization tactics. Manager interviews indicated that a slow start is accepted, aligning with JD-R theory that the work environment can activate workers' resources (Xanthopoulou et al., 2007). Further, contrary to conventional wisdom according to which speeding cannot be sustained indefinitely when servers are overworked, service time is shortest at the end of the work shift. This result suggests that clients arriving in the later part of a work shift may experience shorter service time compared to those arriving at the beginning. This effect is potentially worrying, because it may hide cutting corners or early discharge of customers by overworked frontline workers who try to reduce workload (Deo & Jain, 2019). Next, by showing that longer breaks between service encounters engender a loss of rhythm at high workloads, the study results invite a re-consideration of what types of on-the-job breaks constitute effective job resources (Lyubych et al., 2022). Further, results challenge JD-R's tenet that resources are more impactful under high demands. Overall, the study calls for more research on how concurrent demands, such as work schedules and high workloads, affect workers' behavior (Kim et al., 2018).

Examining task assignment, results show that workers with a wider range of tasks exhibit longer service times, while those with specialized tasks have shorter service times, a result more in line with the scientific theory of management rather than JD-R (van Veldhoven et al., 2020). The speeding effect is weaker for workers who perform a variety of tasks, entailing their difficulty to sustain coping by speeding over a wide range of services. Similarly, while high specialization reduces service time, speeding cannot be indefinitely sustained at high workload. Overall, these findings suggest that task variety and workload should be viewed as concurrent job demands that require balancing with adequate job resources. As job enlargement and flexibility practices are integral to efficiency-oriented PA reforms, task variety is likely to become increasingly important in public administration. Future research should delve deeper into the variety-workload relationship by examining the mix of services that constitute variety, to determine if it presents "challenge" or "hindrance" demands.

Implications for Practice

Speeding behavior is not evidently "good" or "bad" but simply exposes a trade-off that the worker has to confront with (Beck et al., 2017). Workload accentuates the need for fast, efficient performance, as speeding allows performing larger amounts of work within a given timeframe. However, speeding may either follow from the frontline worker cutting the extra time for customer interaction (e.g., friendly chat) when other customers are waiting (Vermeeren et al., 2011) or from skipping or under-performing service steps (cutting corners), risking reduced service quality, especially for complex services (Phan et al., 2023). It is therefore crucial that the quest for efficiency does not trump the goal of service quality under high workload. Previous research has argued for the importance of clarity of organizational goals and clarity of workers' obligations

(Beck et al., 2017). In this light, the significant speeding effect observed in our sample contradicts the managers' statements that workers' obligation lay in quality not in service time and may attest to conflicting organizational pressures that Hungarian PA workers are subject to.

Yet other ways to avoid that workload fosters cutting corners call for increasing organizational resources (Ancarani et al., 2021), which may be perceived as particularly valuable under high workload. Examples include reducing bureaucracy or upgrading IT capabilities. Further, since job resources such as workers' training are usually bestowed by teaching standard procedures, this may not help workers in dealing with the changes and new demands brought about by the new system (Jakobsen et al., 2019). For instance, training should include "trouble-shooting" exercises that help workers handle more difficult and lengthy procedures that may promote cutting corners under high workload (Phan et al., 2023). In the same vein, speeding suggests that service capacity in public offices is an organizational resource that should be carefully planned. Specifically, if capacity is planned at below peak demand, this will result in speeding and may reverberate into worker's stress, as well as into customers' dissatisfaction. Finally, similar to other coping strategies documented in the literature, speeding may entail cream-skimming (Kaplaner & Steinebach, 2024), as it benefits clients requiring simple services but may disadvantage those needing more time or demanding knowledge-intensive services.

Turning to job design, findings have implications for one-stop-shop models of service delivery (Askim et al., 2011) and on how the managers of government centers can better handle conditions of high workload. The provision of multiple services in the same government premises has entailed enlarging the volume and range of tasks assigned to the single worker, without proportionally increasing organizational resources (Kovács & Hajnal, 2014). Hence, adequately increasing system-level resources to handle the rising demands is an obvious indication from this study. However, much can be done at center-level by means of job design. In the Hungarian government centers, task assignment is the responsibility of center managers, who, especially in centers with high volume – high variety caseloads, could leverage capacity pooling to create a group of flexible workers (capable of handling a variety of cases) and use the others trained for specialized cases to match demand. This way, managers could balance the advantages of workers performing more tasks at a slower pace with the benefits of more specialized workers, who may be able to combine faster service with fewer errors.

Within the Hungarian government center system, the high degree of organizational standardization introduced with the Government Windows suggests that the behavioral mechanisms identified are not specific to a single center, although local conditions may affect their intensity. While the data analyzed pertains only to Hungary, the findings are most likely to generalize to all PA settings characterized by face-to-face interactions, visible client waiting, and delayed feedback on service quality. Beyond the specific services analyzed in this study, the results are relevant for a wide range of frontline public

services, such as social assistance and immigration, where workers face similar tensions between responsiveness and effectiveness. Cross-nationally, the adoption of centralized one-stop shop service models strengthens the generalizability of the findings, even if institutional differences are likely to moderate their magnitude.

Limitations

Despite its contribution, this study has limitations that must be acknowledged to put the findings in context and guide future research. Firstly, in terms of model variables, multiple factors other than job design may influence the relationship between workload and service time, yet remain unaccounted for in this study. These factors include organizational climate, leadership, and managerial discretion, which can be leveraged to strengthen role clarity, foster a problem-solving culture, enable autonomy in front-line decision-making, and facilitate knowledge sharing among frontline workers, even in the absence of additional financial resources. Prior research suggests that these factors may influence public sector workers' behavior through the mediating role of work engagement. In this light, future studies should examine how such variables affect quantitative behavioral outcomes, such as service time. In the same vein, while the study suggests that service type accounts for most data variability, the inclusion of covariates related to workers, such as professional histories, motivation, and job satisfaction, could improve the model's explanatory power.

Secondly, future research could also benefit from mixed method designs that combine objective and perceptual data. To clarify, the study focuses on service time as a single outcome measure, while service quality measures were unavailable in the dataset. Future studies could control for service quality, perhaps through matched server-customer observations obtained via monitoring systems that capture customer satisfaction. Another opportunity for integrating this investigation into the broader PA literature, concerns the potential role of public service motivation. Future research could elucidate its role in coping behavior by integrating administrative data with survey analyses assessing its influence on behavior. Novel designs could also be developed by combining quantitative findings from administrative databases with experimental analyses controlling for individual worker characteristics or interviews accounting for work organization, leadership, and HRM strategies.

Thirdly, future research could examine the impact of customer characteristics on the relationship between workload and service time. In this regard, recent literature has highlighted that the frontline workers tend to be more responsive to citizens from ethnic majorities (Halling & Pedersen, 2024), thus calling for analyses to assess whether service times vary with the citizen's ethnicity.

Finally, we acknowledge that limitations may stem from the single-country nature of this research. While we have endeavored to show that the Hungarian Government Windows initiative is in line with a broader trend in public administration, national politics may influence the organization or delivery of services. Although political

factors influence the broader administrative context, our data indicate that day-to-day service delivery is largely shaped by experienced managers, pointing to predominantly administrative rather than political drivers. The robustness of our findings awaits future comparative studies across different national experiences.

Addressing these limitations and pursuing these suggested research directions could significantly advance our understanding of the dynamics between workload, service time, and service quality in various PA contexts.

Conclusions

In many PA systems, service delivery involves significant human labor, because comparatively little of the production process has been automated. There is consensus that PA reforms and the ensuing work organization practices have increased workload and management's pressures to increase throughput. This study has contributed to knowledge by analyzing how frontline government workers providing standardized services "cope with workload" by adjusting service time. The study demonstrates that "coping by speeding" is ubiquitous, even for more complex services, where speeding may put quality at risk. By demonstrating how job design influences the effects of workload, the study has also unveiled the variables that may be leveraged when frontline workers operate in demanding environments. Results have integrated PA, operational and behavioral perspectives, and provided insights on how PA service systems can be improved to better serve citizens.

Although some results may be specific to the Hungarian context, the majority can be generalized to other European countries characterized by a historically strong bureaucratic model and the implementation of public sector reforms that have imposed new demands on SLBs. In these settings, public employees have been confronted with increasing and often conflicting expectations from citizens, alongside intensified pressures to enhance efficiency and streamline workflows within an environment of fiscal constraint and budgetary austerity. Accordingly, the situation of increased workload and the corresponding coping strategies adopted by public employees constitute critical conditions that warrant further scholarly investigation.

Appendix A

Table A1. Examples of One-Stop Policies.

Country/Program	IDs & civil registry	Vehicles & driver licenses	Business/Registry	Social benefits & tax help	Passports	Governance model
Portugal – Lojas do Cidadão	Civil registry, tax, social security	Some centers	Company registry	Social & tax services	Limited	National multi-agency program
France – Maisons France Services	Help with IDs and démarches	Vehicle registration guidance	Signposting	Taxes, health, pensions	Guidance	National network coordinated by state and municipalities
Denmark – Borgerservice	Civil registration, IDs	Licensing & vehicle registration	Limited	Digital guidance	Guidance	Municipal offices + national portal
Germany – Bürgeramt	ID cards, residence registration	Licensing varies by city	Limited	Municipal administration	Local passport services	Municipal offices
Sweden – Servicekontor	Guidance via national agencies	Limited	N/A	Tax, pensions, insurance	N/A	National government centers
Greece – KEP	Certificates, permits, video appointments	Some vehicle services	Applications	General guidance	Appointments	National network under state
Czech Republic – Czech POINT	Certified extracts, registry services	N/A	Business registry	N/A	N/A	National multi-location system
Slovakia – Client Centers/ PSC	General client services	N/A	Business registration	N/A	N/A	National e-portal + district offices
Georgia – Public Service Halls	IDs, passports, property	Vehicles & licenses	Company registration	N/A	Passports onsite	National service halls under Ministry of Justice
Azerbaijan – ASAN Service	IDs, civil status, property, migration	Driving licenses	Business registration	Utilities & payments	Passports	National agency under presidential authority
Canada – Service Canada	SIN cards	Provincial vehicles	Limited	Social benefits & pensions	Passports	Federal front-office under ESDC
Brazil – Poupatempo	Documents, IDs	Driver & vehicle licensing	Some business tasks	State social services	Federal handled separately	State-run network
Australia (NSW) – Service NSW	State IDs	Licenses, vehicles	Business concierge	Benefits & support	Separate federal passports	State agency network
Singapore – Service SG	Concierge help across agencies	Guidance	Business via GoBusiness	Social benefits, pensions	Guidance	National one-stop centers under Public Service Division
UAE (Abu Dhabi) – TAMM	Civil & personal services	Vehicles & fines	Business licensing	Health, utilities, permits	Residency/visa services	Unified emirate-level platform

Note. N/A = not available.

Appendix B

Table B1. List of Services.

1quartile	Median	Mean	3quartile	Volume of operations (all centers)	Service
5.933	11.333	13.396	19.392	6,963	1. CITIZENSHIP
3.067	5.733	8.718	11.917	5,044	2. REGISTRY (BIRTH CERTIFICATE)
5.917	10.400	12.061	16.600	80,176	3. FAMILY SUPPORT
4.117	6.017	7.963	9.583	138,034	4. STUDENT CARDS
4.267	7.817	9.667	12.883	64,637	5. HEALTH INSURANCE
3.825	7.767	10.427	14.967	31,167	6. OTHER
5.800	10.900	13.055	18.933	47,127	7. SELF-EMPLOYED INDIVIDUALS
2.650	3.833	5.732	6.467	582,224	8. DELIVERY OF DOCUMENTS
3.283	6.967	9.664	13.650	1,115	9. CONSTRUCTION AUTHORIZATION
3.483	6.550	8.993	12.267	1,881	10. EMPLOYMENT
4.567	9.408	11.309	16.383	796	11. CONSUMER PROTECTION
5.800	10.750	12.581	17.733	549,014	12. MOTOR VEHICLES MATTERS
3.600	6.583	8.870	12.004	1,788	13. GUARDIANSHIP, CHILD PROTECTION
4.983	8.500	9.108	11.267	1,119	14. IMMIGRATION
5.033	9.483	10.757	14.450	382,873	15. DRIVING LICENSES
5.013	9.400	12.374	18.200	2,956	16. TRADE, SERVICES
4.050	7.750	9.990	13.658	1,634	17. HOUSING AID
5.550	9.783	11.549	15.833	352,578	18. CERTIFICATE OF RESIDENCE (FOR FOREIGNERS)
3.067	5.817	8.687	11.600	2,527	19. HUNGARIAN IDENTITY CARD MATTERS
4.767	9.067	11.474	16.200	39,676	20. POPULATION REGISTER
5.983	10.950	12.736	17.95	26,984	21. PENSIONS
3.192	6.033	8.648	11.883	783	22. HEREDITARY SUCCESSION
5.483	11.350	13.113	19.317	20,375	23. PARKING CARD
5.450	10.333	12.284	17.483	6,155	24. REHABILITATION AND INVALIDITY BENEFITS (1)
5.050	9.417	10.972	14.917	441,127	25. ID CARD
4.717	8.100	10.010	13.433	58,529	26. SOCIAL AFFAIRS
5.733	10.742	12.561	17.850	14,586	27. TITLE DEEDS, COPIES OF MAPS
5.150	9.483	11.003	14.833	141,468	28. PASSPORT
3.617	5.383	7.696	9.167	272,979	29. SUPPORT WITH DIGITAL SERVICES
5.483	8.500	10.505	13.700	46,571	30. SERVICES FOR PEOPLE WITH HANDICAPS
9.383	16.633	17.342	25.292	2,194	31. REHABILITATION AND DISABILITY BENEFITS (2)
5.333	8.800	10.960	14.600	27,722	32. REHABILITATION EMPLOYER LIASON
3.183	4.733	6.734	8.200	32,240	33. SOCIAL INSURANCE
4.700	8.433	9.630	12.600	9,753	34. EU CARD AND EU FORMS
3.667	6.350	8.121	10.633	10,013	35. LEGAL STATUS SETTLEMENT
					36. SICKNESS BENEFITS

Note. Bold indicates the most frequent services.

Appendix C

Moderating Effects for Five Selected Services

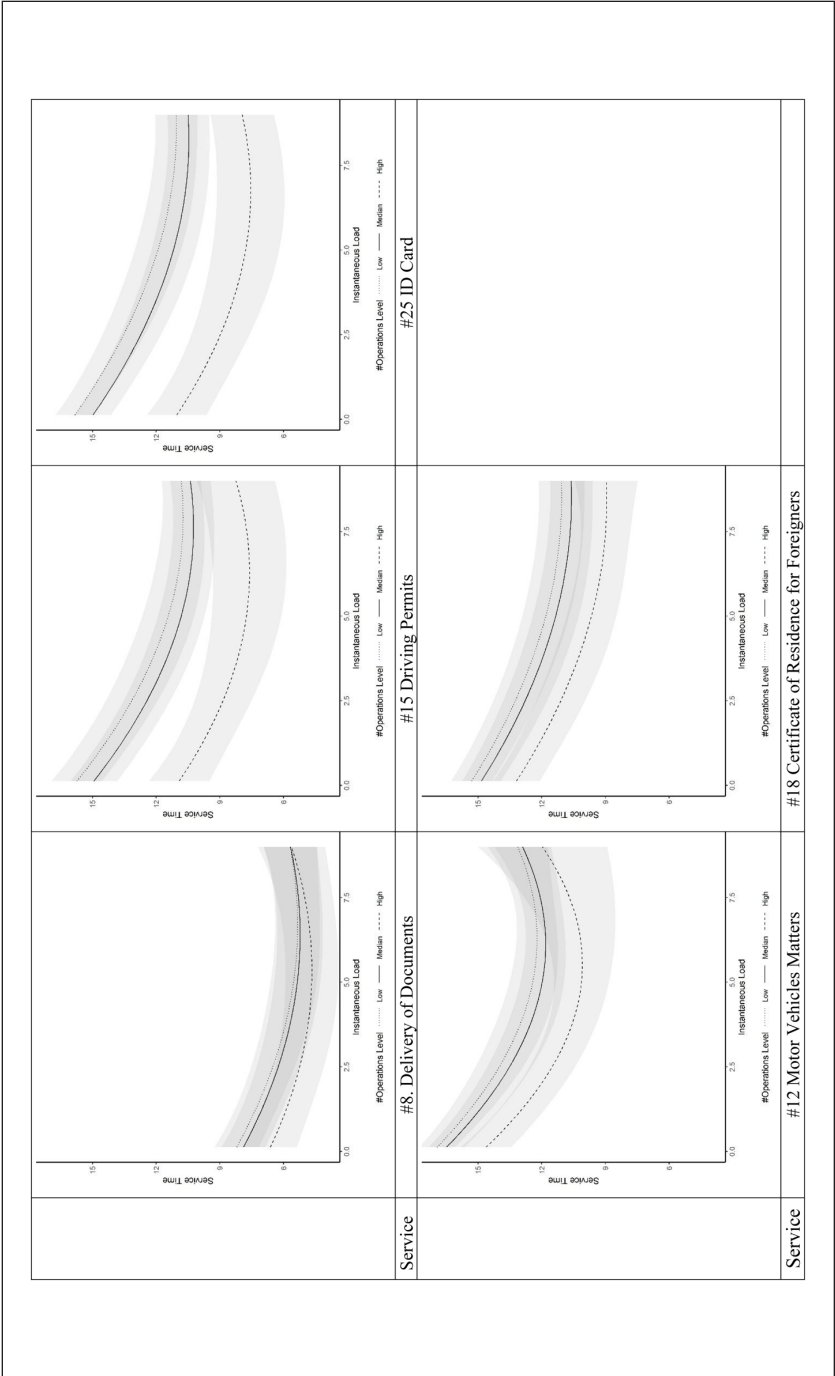


Figure C1. Relations between load, #Operations and service time for five selected services.

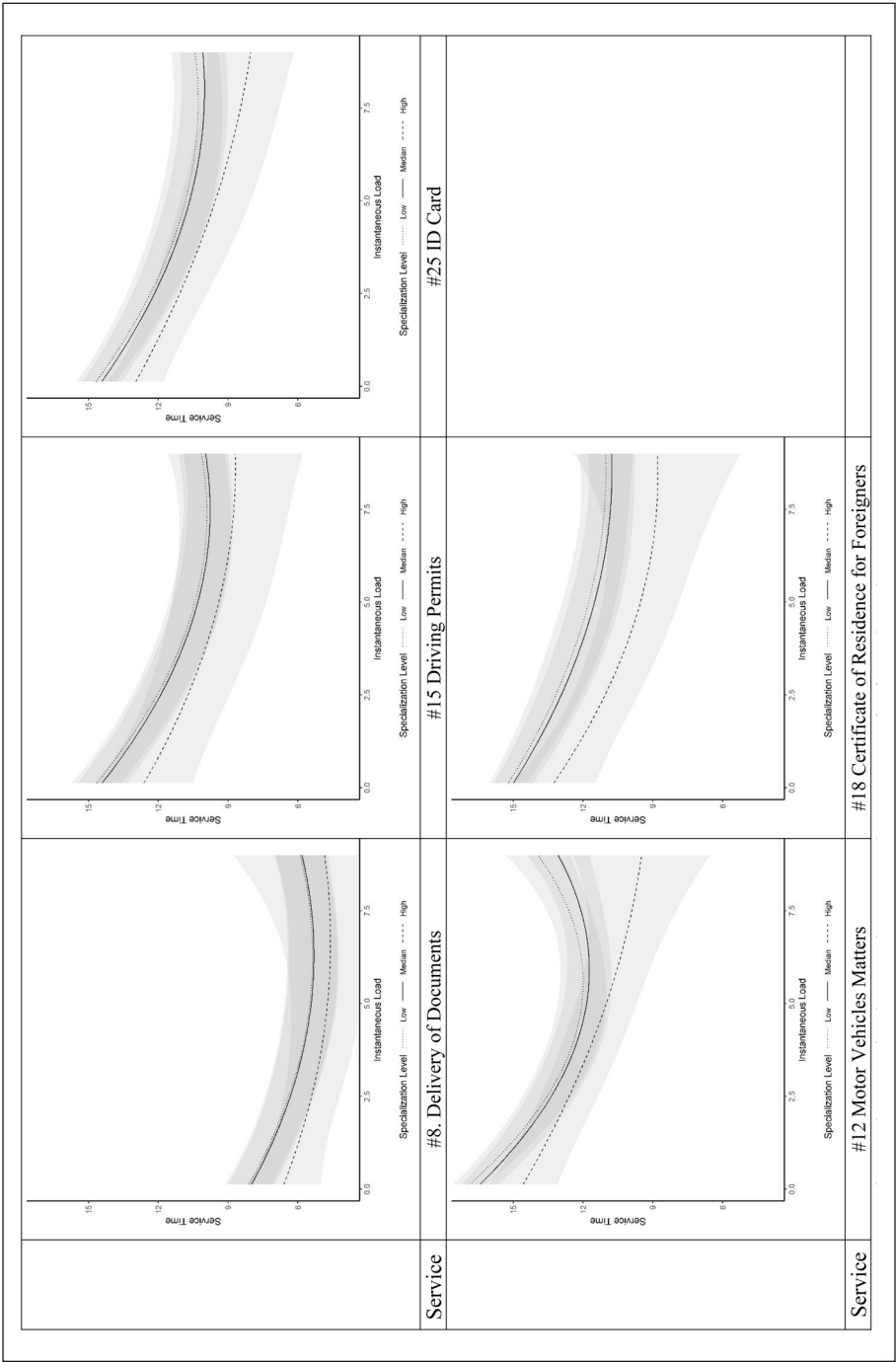


Figure C2. Relations between load, specialization and service time for five selected services.

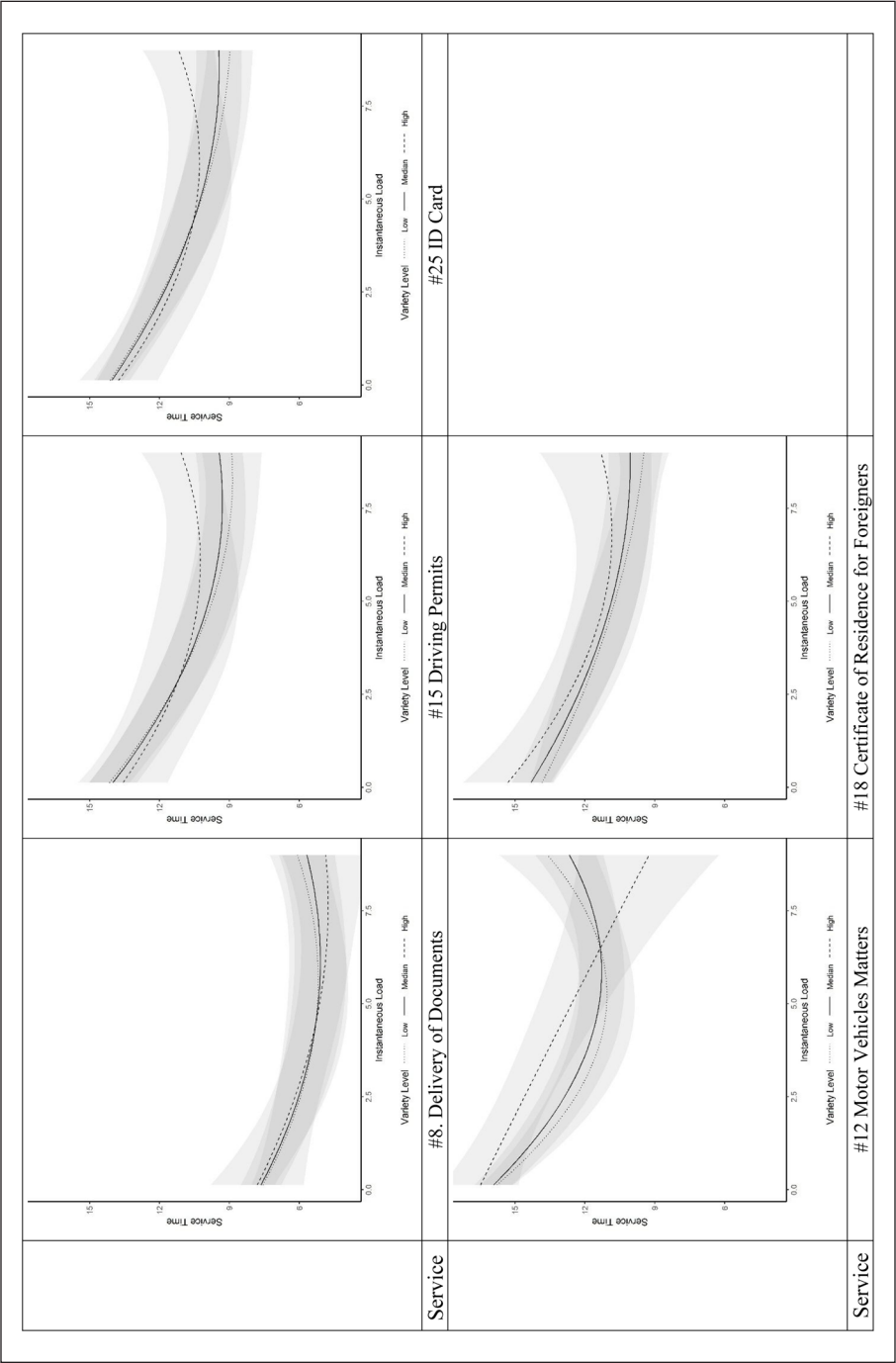


Figure C3. Relations between load, variety and service time for five selected services.

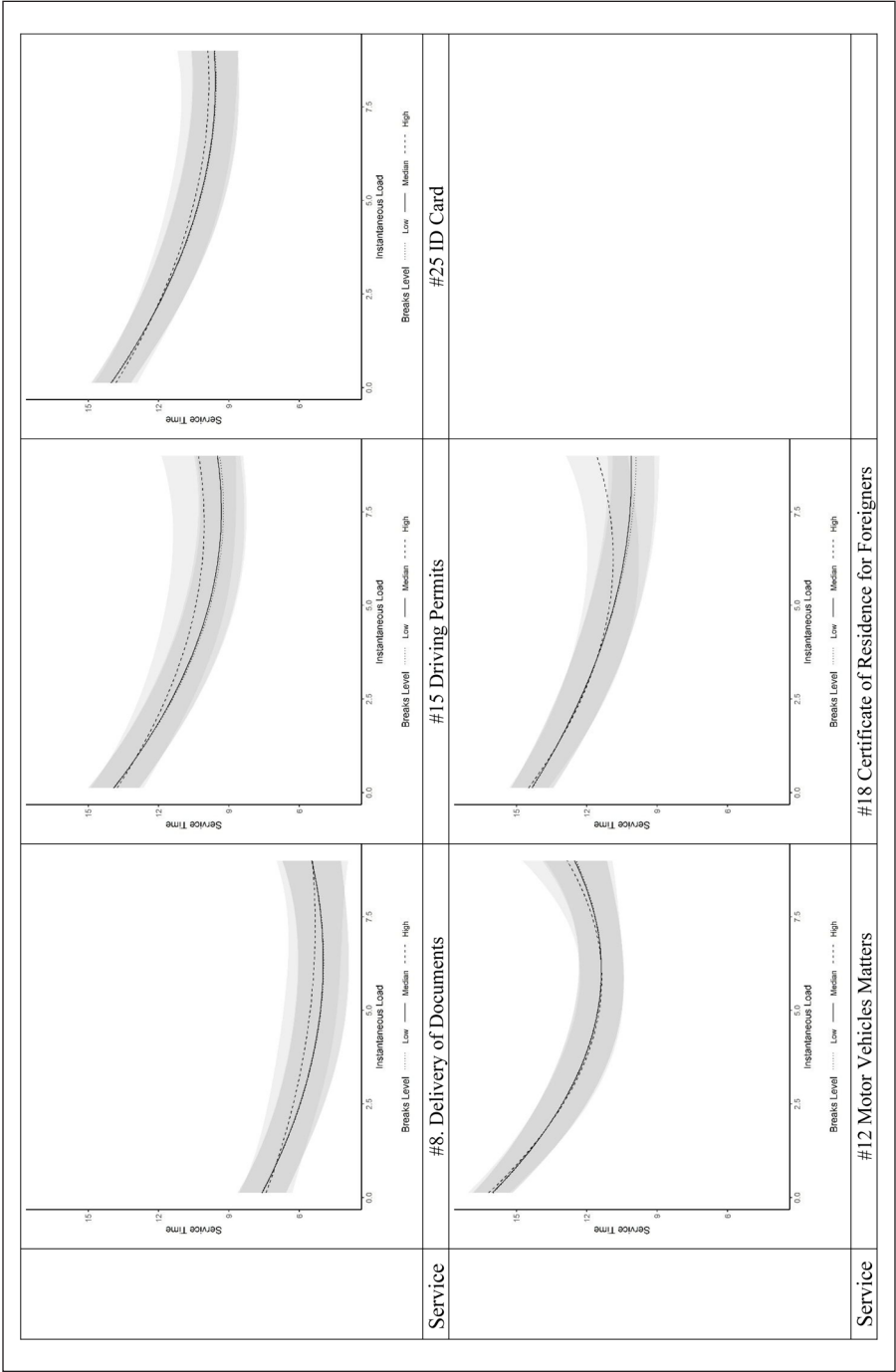


Figure C4. Relations between load, breaks and service time for five selected services.

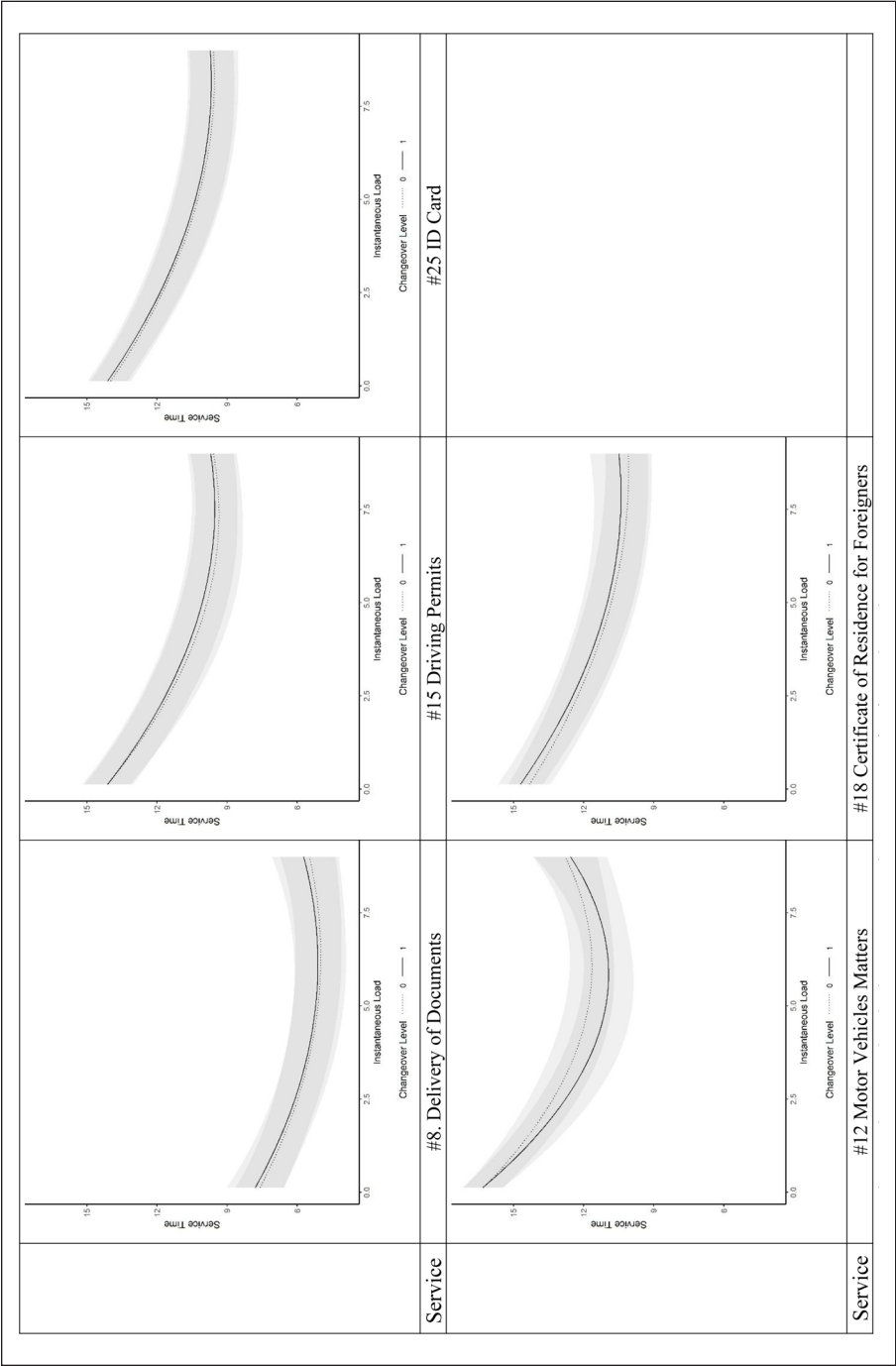


Figure C5. Relations between load, changeover and service time for five selected services.

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